

RICS PROFESSIONAL STANDARD



Boundaries: procedures for boundary identification, demarcation and dispute resolution

England and Wales

4th edition, February 2021

Effective from 1 May 2021

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RICS professional standard, England and Wales

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Acknowledgements

This standard was prepared by the members of the RICS Boundaries Expert Working Group working under the auspices of the RICS Boundaries and Party Walls Working Group (B&PWWG). The B&PWWG is a cross-sector specialist panel of RICS members and related professionals from the building, geospatial (land surveying) and rural areas of practice focussed on neighbour disputes. The group's remit includes boundaries, party walls and certain easements such as rights-of-way and rights-of-light. All of these are crucial to the physical and legal extent of property ownership and their determination governs matters of use, adaptation, transactability and value.

The B&PWWG also produces professional guidance and information, RICS public guides, RICS client guides, policy responses and journal articles. It is also actively involved with RICS Dispute Resolution Service (DRS) and Neighbour Disputes orientated alternative dispute resolution and policy. The B&PWWG exists to promote understanding and best practice in the areas of land transfer, registration and administration, encroachments, cadastre and boundary issues, this remit extending to an overview of the relevant laws, both within the home nations of the United Kingdom and overseas.

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B&PWWG output can be found on the [RICS Land web page](#).

Contents

Acknowledgements	ii
RICS standards framework	1
Document definitions	2
Boundary terminology	3
1 Introduction	6
1.1 Effective date	7
2 Professional conduct	8
2.1 Conflicts of interest	8
2.2 Acting with integrity	8
2.3 Competence	9
2.4 Standards of service and complaints-handling procedure	9
2.5 RICS investigations	10
3 Stage 1 – Setting up the project	11
3.1 Initial contact	11
3.2 Anticipated role	12
3.3 Identifying the requirements	14
3.4 The contract	14
4 Stage 2 – Research	16
4.1 Research and sources	16
4.2 Title deeds	16
4.3 The registered title	17
4.4 Extrinsic evidence	18
5 Stage 3 – The site visit, measured survey and photography	22
5.1 The site inspection	22
5.2 Features on the ground	23
5.3 Photographs	27
5.4 The measured survey	27
5.5 Instructing other specialist surveyors and advisers	29
6 Stage 4 – The report	30
6.1 Analysis and preparation	30
7 Stage 5 – Alternative dispute resolution	32

7.1	Boundary Disputes Mediation Service	32
7.2	Mediation of boundary related disputes	32
8	Stage 6 – Litigation	36
8.1	Before the courtroom	36
8.2	In the courtroom	36
9	Stage 7 – Recording the outcome in HM Land Registry	38
9.1	Application to record a boundary agreement at HM Land Registry	38
9.2	Application for a determined boundary	39
	Appendix A References	41
	Appendix B Mediation process and outline boundary agreement	43
	B1 Mediation process	43
	B2 Example outline boundary agreement	44
	Appendix C Suggested checklist relevant to a boundary dispute	47
	Appendix D Model of terms of business for boundary disputes	50
	Appendix E Entering neighbouring land advice	52
	Appendix F Boundaries relating to highways and public rights of way	53
	F1 Definition	53
	F2 Determination	53
	F3 Ownership	54
	Appendix G Glossary of terms	57
	G1 Boundary terminology	57
	G2 Other terminology	59
	G3 Land measurement for planning and development purposes	65
	Appendix H Survey accuracy banding table	66
	Appendix I Data provenance	67
	I1 Objective	67
	I2 Data sources	67
	I3 Data provenance and referencing protocol table	69

RICS standards framework

RICS' standards setting is governed and overseen by the Standards and Regulation Board (SRB). The SRB's aims are to operate in the public interest, and to develop the technical and ethical competence of the profession and its ability to deliver ethical practice to high standards globally.

The RICS [Rules of Conduct](#) set high-level professional requirements for the global chartered surveying profession. These are supported by more detailed standards and information relating to professional conduct and technical competency.

The SRB focuses on the conduct and competence of RICS members, to set standards that are proportionate, in the public interest and based on risk. Its approach is to foster a supportive atmosphere that encourages a strong, diverse, inclusive, effective and sustainable surveying profession.

As well as developing its own standards, RICS works collaboratively with other bodies at a national and international level to develop documents relevant to professional practice, such as cross-sector guidance, codes and standards. The application of these collaborative documents by RICS members will be defined either within the document itself or in associated RICS-published documents.

Document definitions

Document type	Definition
RICS professional standards	<p>Set requirements or expectations for RICS members and regulated firms about how they provide services or the outcomes of their actions.</p> <p>RICS professional standards are principles-based and focused on outcomes and good practice. Any requirements included set a baseline expectation for competent delivery or ethical behaviour.</p> <p>They include practices and behaviours intended to protect clients and other stakeholders, as well as ensuring their reasonable expectations of ethics, integrity, technical competence and diligence are met. Members must comply with an RICS professional standard. They may include:</p> <ul style="list-style-type: none"> • mandatory requirements, which use the word 'must' and must be complied with, and/or • recommended best practice, which uses the word 'should'. It is recognised that there may be acceptable alternatives to best practice that achieve the same or a better outcome. <p>In regulatory or disciplinary proceedings, RICS will take into account relevant professional standards when deciding whether an RICS member or regulated firm acted appropriately and with reasonable competence. It is also likely that during any legal proceedings a judge, adjudicator or equivalent will take RICS professional standards into account.</p>
RICS practice information	<p>Information to support the practice, knowledge and performance of RICS members and regulated firms, and the demand for professional services.</p> <p>Practice information includes definitions, processes, toolkits, checklists, insights, research and technical information or advice. It also includes documents that aim to provide common benchmarks or approaches across a sector to help build efficient and consistent practice.</p> <p>This information is not mandatory and does not set requirements for RICS members or make explicit recommendations.</p>

Boundary terminology

The following are common usage references to boundaries:

Term	Definition
Deeds and root of title	Originating legal documents describing the property form the legal title at first alienation (and subsequent transfers of ownership of land by conveyance). Deeds relating to land ownership can be in the form of historic conveyances and/or the HM Land Registry title and title plan.
Paper title boundary	The paper title boundary is the intended boundary defined within the originating conveyance of the land. At this time the paper boundary is also the legal boundary.
Legal boundary	The boundary established within a title's first alienation. A legal boundary is a notional line of no fixed width that separates one property from its adjoining property and is as per that described in the deed[s] pertaining to the plot. It may also define the extent of a legal interest in height, width or depth that may be registered to the owner of the land or somebody else or vested in another body. The legal boundary is often referred to as the invisible line. The existing feature on the ground may or may not coincide with the legal boundary. However, the legal boundary can change after the date of the originating conveyance, by either a boundary agreement or adverse possession.

Term	Definition
General boundary	<p>England and Wales operate a 'general boundaries' system of land registration (as does Ireland). A general boundary is defined in s60 Land Registration Act 2002. A title plan with 'general boundaries' shows the boundary of a property in relation to a given physical feature on the ground, such as a wall or hedge as identified on the Ordnance Survey map. A general boundary does not necessarily have any width and does not identify the exact position of a legal boundary. The red edging on a HM Land Registry title plan is therefore not definitive as to the precise position of the boundaries. For this reason, official copies of title plans carry the following warning:</p> <p>'This title plan shows the general position of the boundaries: it does not show the exact line of the boundaries. Measurements scaled from this plan may not match measurements between the same points on the ground.'</p>
Determined boundary	<p>The Land Registration Act 2002 provides for the recording of 'determined boundaries'. The aim is to record a boundary's position to a precision of +/- 10 mm. The determined boundary should be mapped relative to surrounding 'hard' detail (anything made of brick, stone or concrete that is expected to endure) to a high level of accuracy that is certified by a chartered land surveyor. The intention is that another chartered land surveyor would be able to relocate the boundary. A determined boundary must be agreed between the neighbouring landowners before it can be recorded.</p>
Boundary agreement	<p>A verbal or written agreement between adjoining property owners that precisely defines their joint boundary. Boundary agreements arising from a mediated settlement are preferably in the form of a deed that can then be placed on the parties' HM Land Registry titles. The agreed boundary may become the new agreed legal boundary (when registered at HM Land Registry).</p>

Term	Definition
Physical boundary	A physical boundary is represented by a visible feature on the ground, such as a fence, wall or hedge, among other things, that is used and accepted by the adjoining landowner(s) to define their joint boundary. They all occupy three dimensions – length, breadth, and depth. A written description of the boundary feature should be noted and recorded at the time of survey, where possible. A physical boundary may not always be present on site.
Registered boundary	The registered boundary or registered extent can be either the general boundary or the determined boundary, which is recorded at HM Land Registry.

More definitions can be found in Appendix G.

1 Introduction

The physical extent of property ownership and rights of use are basic attributes of land and buildings (including utilities) and are capable of being evaluated by property professionals. Uncertainty of the extent of ownership and its associated rights affects the physical use and rights to repair, maintain, gain access to, develop on and obtain value from the land. Certainty is critical for the successful sale or purchase of real property and it governs the enforceability of property rights, which can materially affect the value of the property as collateral for a loan. The true physical extent of ownership and associated rights in real property are fundamental to the successful registration of any property title, effective development control and many aspects of the enforceability of regulations governing land, its ownership and use. These rights may extend above and below the land's surface.

As the pressures of development increase today, particularly in urban areas, boundaries (see Appendix G for a full explanation of the different types of boundaries) and other intangible rights gain greater importance, both economically and socially. Householders extend their houses and build extensions often up to their boundaries, and developers are no different in wanting to maximise the use of their land. Not surprisingly, uncertainty in the limits of ownership and rights of occupation has led to a steady increase in disputed boundaries.

The purpose of this standard is to:

- provide RICS members with an understanding of the value and role that clearly identifiable boundaries provide
- enable, wherever possible, accurate and comprehensible information to be provided by RICS members, with as little scope for misunderstanding as practicable
- help in the event of a dispute over boundaries, to set out the facts in a manner that assists the parties, their legal advisers and the courts and
- safeguard the interest of clients and promote public interest.

The aim of the RICS Boundaries Expert Working Group and the RICS Dispute Resolution Service is to encourage private individuals, businesses and professional advisers (particularly the legal profession) to select a suitably qualified RICS member as an expert who can scrutinise and understand the documents and maps, carry out inspections and measured land surveys and prepare reports. In November 2020, RICS and the Property Litigation Association (with endorsement from the Civil Justice Council) launched the Boundary Disputes Mediation Service (BDMS) (see section 7.1).

There may also be a requirement to provide a formal expert report and present it to a court in the same manner as any other expert witness. Currently, while some individuals and businesses are aware of the existence of professionals who specialise in boundary demarcation, many are not. Therefore, they may seek advice from unqualified persons, often to the detriment of an accurate diagnosis of the problem and invariably leading to

unnecessary expense, or worse still, ill-founded litigation. It is worth noting that justice can only be achieved if both the claimant and the defendant have their cases presented properly and in full. Accurate information and assessment at an early stage can often assist in obtaining a prompt and cost-effective resolution of otherwise contentious cases.

1.1 Effective date

This standard is effective from 1 May 2021.

2 Professional conduct

While all expert boundary surveyors are required to act in accordance with their statutory and court-appointed obligations, an RICS member is expected to meet RICS expectations of professional and ethical behaviour commensurate with their membership, in addition to their duties to the court. RICS considers these two considerations (strict adherence to the rules of the court and ethical conduct) to be complementary, not mutually exclusive, professional obligations. Members should note that compliance with the needs of the case may not itself be enough to achieve compliance with the standards expected of an RICS member. Members have professional duties over and above serving client needs. For the purpose of this standard, the following Rules from *RICS Rules of Conduct* are particularly important:

- Rule 1: Members and firms must be honest, act with integrity and comply with their professional obligations, including obligations to RICS.
- Rule 3: Members and firms must provide good-quality and diligent service.
- Rule 5: Members and firms must act in the public interest, take responsibility for their actions and act to prevent harm and maintain public confidence in the profession.

Where an RICS member is appointed as a boundary surveyor, there should be a tangible benefit to the client, in terms of the requisite competence, professional impartiality, ethical behaviour and client care of an RICS member.

2.1 Conflicts of interest

Members should refer to the current edition of RICS' [Conflicts of interest](#). RICS members are expected to avoid actual or perceived conflicts of interest when accepting boundary dispute appointments. RICS members should also consider whether a conflict may arise during the appointment and whether that conflict renders them incapable of performing the role. Once appointed as an expert witness, RICS members perform a specific professional function. They no longer owe sole responsibility to the party that makes the appointment but also owe duties to both parties to the dispute, and to provide professional insight based on evidence and knowledge to the client and court. RICS members should consider their position in relation to all parties as part of any conflict-checking procedures.

RICS may ask members to demonstrate that they have considered whether a conflict of interest, or a perception of conflict, has arisen and what steps they have taken to avoid or manage that conflict.

2.2 Acting with integrity

Neighbour disputes can be fractious. RICS expects its members to be honest, straightforward and trustworthy in all that they do. This can relate to both the way they

interact with the parties and the way they make decisions pursuant to their appointment. Rule 1 of the Rules of Conduct includes the following behaviours as example of acting with integrity:

- Members and firms do not mislead others by their actions or omissions, or by being complicit in the actions or omissions of others.
- Members and firms do not allow themselves to be influenced improperly by others (as a result of, for example, giving or receiving work referrals, gifts, hospitality or payments) or by their own self-interest.
- Members and firms identify actual and potential conflicts of interest throughout a professional assignment and do not provide advice or services where a conflict of interest or a significant risk of one arises, unless they do so in accordance with the current edition of RICS' Conflicts of interest.
- Members and firms providing advice and opinion in a professional context do so honestly and objectively based on relevant and reliable evidence, and firms have processes to ensure that directors, partners and employees do so.
- Members and firms are open and transparent with clients about their fees and services.
- Members and firms act to prevent others being misled about their professional opinion.
- Members and firms do not take unfair advantage of others.
- Members and firms protect confidential information and only use or disclose it for the purposes for which it was provided, where they have the necessary consent to do so or where required or permitted by law.

2.3 Competence

In the context of expert boundary surveyors, regulatory complaints can arise from poor professional conduct or from incompetence. RICS members should ensure that at all stages throughout their appointment, they undertake their work with due care and diligence, having an appropriate level of knowledge, and with proper regard to the technical standards expected of them. The purpose of this standard is to assist RICS members in understanding the technical standards expected of them and to underline that RICS members should not take instructions outside of their area of competence, expertise and knowledge.

2.4 Standards of service and complaints-handling procedure

RICS Rules of Conduct require all firms to operate a complaints-handling procedure (CHP). They should be prepared to provide a copy of the procedure when asked.

All RICS members are expected to provide a proper standard of service pursuant to Rule 3 of *RICS Rules of Conduct*. If a complaint is received about work being carried out under a contract with an RICS regulated firm, the firm's CHP should be followed. In the case of a member working through a non-regulated firm, the member must still follow the *RICS Rules of Conduct* when addressing that complaint.

2.5 RICS investigations

This standard is intended to ensure that parties to the dispute do not try to challenge the substance or outcome of a dispute through the RICS complaints process rather than using an appropriate method of alternative dispute resolution, such as mediation, or other court approved appeal process. Nothing prevents RICS from investigating and acting in relation to alleged breaches of RICS Rules of Conduct where it believes it is appropriate to do so in an ongoing boundary dispute matter, but the parties cannot seek from RICS any determination inconsistent with court proceedings. It is entirely at the discretion of RICS to decide whether it should start or continue an investigation into a member's professional conduct while boundary dispute matters are ongoing. Should an RICS member wish to ask for matters to be put on hold, that member should explain why an RICS investigation would interfere with the outcome of a dispute. For more information, refer to the current edition of [Complaints handling](#).

3 Stage 1 – Setting up the project

This stage covers the various steps that occur from initial contact to confirmation of instructions. It is essentially a dialogue between the RICS member and the client and/or their adviser (for litigious cases the adviser is usually a solicitor). During the dialogue, the RICS member:

- identifies the key issues and requirements
- considers any due diligence issues and potential professional conflicts of interest
- ascertains which issues are within their competence and that they can help with, and gives clear guidance as to what can and can't be done and
- gives some idea of the cost and the basis of charging and anticipated timescale for carrying out the proposed work.

3.1 Initial contact

Initial contact may arise in one of the following ways:

3.1.1 Direct contact by a member of the public

This initial contact needs to be handled carefully because the potential client may have little knowledge of what an RICS member does and the limitations of their role. They may have unrealistic expectations and may assume that the RICS member can provide a complete and definitive solution to the boundary problem. The RICS member should emphasise that they can only deal with the surveying-related aspects of the dispute and that for definitive legal advice a client will need to consult a lawyer. The difference between acting as a surveyor/consultant or as an expert witness should also be emphasised at this stage in order to avoid any possible misunderstandings.

3.1.2 Professional advisers

This can include solicitors, architects, planners, consulting engineers and other RICS members. They (especially solicitors) should have a greater awareness of what the instructed RICS member can and cannot do, but there will still have to be a process of defining the precise issues to be addressed. RICS members should ask for a clear letter of instructions to avoid any future misunderstandings.

3.1.3 Direction of the courts

Where litigation is already in process, the judge may make an order that a particular expert (agreed between the legal representatives) should be instructed to do specific work. In this

scenario, the actual contact (instructions) will usually come from the legal representatives, normally the solicitor for either party. Further details are contained in the [Civil Procedure Rules Part 35](#) (CPR 35).

3.1.4 Alternative Dispute Resolution

This is dealt with in detail at section 7, but in general terms courts are keen for the parties to resolve matters out of court by ADR, of which mediation is an important part. Referrals to the RICS member may come from various sources including the legal profession, direct from the public, mediation providers or indeed the [RICS Neighbour Disputes Service](#).

3.1.5 Nil-cost initial consultations

RICS operates a scheme by which volunteer expert members may be contacted by the public for a free half hour consultation by telephone. Although there is no fee involved, the RICS member may be liable for the advice given, which should be of the highest professional standard.

Irrespective of the mode of initial contact, it is vital not to be drawn into expressing an opinion on the matter for investigation at this stage: the initial contact may come from someone wishing to find an expert who agrees with their own view. All the RICS member needs to do is identify the key issues and requirements and whether the nature of work involved is within their sphere of expertise and competence. If the RICS member is qualified and prepared to undertake the work this should be stated together with the typical terms of business that might apply.

3.2 Anticipated role

There are two types of anticipated role:

- **Boundary identification and demarcation** may involve the marking of an agreed boundary, the identification of an existing or previously existing boundary feature, the subdivision of a plot or the production of HM Land Registry compliant plans. Those tasks can be carried out by a boundary surveyor/consultant who has the relevant experience in this field (see section 5.2).
- **Dispute resolution**, on the other hand, covers contentious cases where there is often a disagreement over boundary issues such as the precise line of the boundary, rights of way or access, etc. In this case the RICS member's report may be used in court or within the mediation process, when they will be acting as an expert witness or as a single joint expert when instructed by both sides.

It is important to establish early on which role applies. The RICS member may start off as a boundary surveyor or consultant, providing initial advice on a boundary or right-of-way matter in the form of a desktop assessment or a meeting on site. However, it is paramount that the RICS member is aware that a case may not settle and a more in-depth analysis, including a boundary survey, might become necessary. In this scenario, the RICS member may now be required to act as an expert witness. Although CPR 35 strictly only applies

to expert witnesses, it is good practice to execute all work in the spirit of CPR 35. There is nothing to be gained by giving the client partial or biased advice at any time, since this might encourage them to adopt a position that would be untenable in the more rigorous setting of court proceedings or a mediation. A point that cannot be stressed enough to the client is that under CPR 35 the RICS member's primary responsibility is to the court, not to the parties instructing or paying them.

It is also important that the RICS member explains the different roles to the potential client. If the RICS member provides the service of a boundary surveyor or consultant, but would not be able to act as an expert witness, the RICS member should make this position clear before accepting instructions. It can be very frustrating and possibly costly for a client if an RICS member withdraws from a case at a later stage.

It is often prudent to have separate terms of business for expert witness cases as the relevant caveats can be usefully included within them. The standard terms of business (for non-contentious cases) should note when other terms of business apply to expert witness work.

Figure 1 illustrates the role of a boundary surveyor/consultant/mediator and an expert witness, and the areas where the roles could potentially overlap.

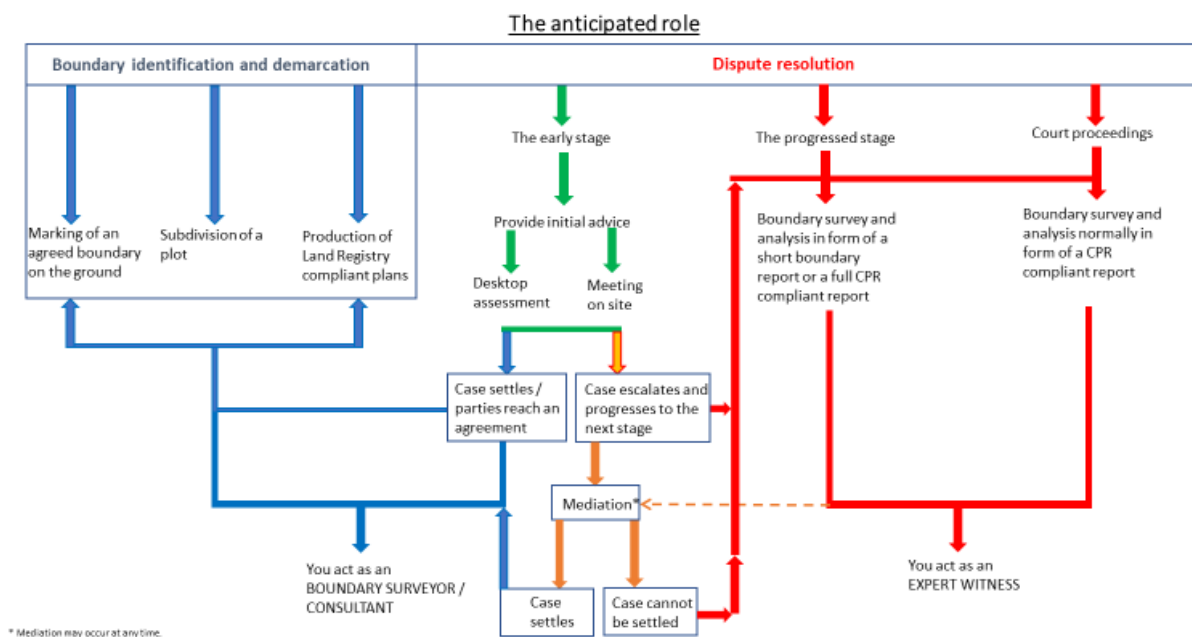


Figure 1: Roles and responsibilities

Summarising, it is important, regardless of whether the RICS member acts as a boundary surveyor/consultant or as an expert witness, that they provide an impartial opinion on matters within their expertise, even if it is different from the client's view.

3.3 Identifying the requirements

The RICS member should identify the client's requirements.

Services that may be offered include:

- evidence gathering (stage 2)
- accurate measured survey of the land (stage 3)
- analysis (stage 4)
- presentation of results in a plan or report (stage 4)
- mediator for both parties in dispute (stage 5)
- a party's technical expert at mediation (stage 5)
- expert witness for one party or single joint expert for both (stage 6) and
- giving evidence in court (stage 6).

The expert RICS member should be confident that the requirements are within the ambit of their professional knowledge and competence (section 2.3); that they have the correct training and experience for the task; and have adequate professional indemnity insurance (PII).

Before accepting an instruction:

RICS members are not publicly appointed quasi-judicial officials with the power to make legally binding decisions. They provide a service to the client, lawyers and the court that helps to resolve the problem, but they have no power to bind the court, which has the sole discretion on whether to accept (in whole or in part) or reject the solution put forward.

RICS members are not the client's case manager and should not comment on the strengths and weaknesses of the legal arguments.

Commonly, in boundary cases a great deal of information is given, much of which is not relevant to the RICS member: general problems with the neighbour, harassment, damage, planning, amenity, lifestyle, etc. The RICS member needs to establish the issues that they can help with (essentially plans, maps and photos, evidence of factors that are visible on the ground, and measurement). The RICS member should identify the evidence relevant to these issues and advise who to turn to on non-survey issues, which may include:

3.4 The contract

At the end of the setting-up stage, the client should be clear what the RICS member is going to do, what form the final settlement may take (a boundary agreement or determined boundary for example), the form of the results, the likely costs or basis of fee charging and the likely timescale for producing the work. The client should also be aware of what the RICS member will not do, and the fact that – since the RICS member is impartial – the RICS member's conclusions may be different from their own.

The client or their professional adviser should send confirmation of instructions that will formally set out what the RICS member is to do and will normally include the evidence being supplied to the RICS member. In some cases, the letter of instruction may be copied in the RICS member's final report.

3.4.1 Fees

The RICS member should in any event confirm the requirement and set out (where appropriate) the basis of charging the likely cost and the responsibility for and timing of payment(s). In litigious cases and expert witness work, RICS recommends contracting through professional advisers (usually solicitors) wherever possible. In the event of late or non-payment this can make final payment easier to pursue than with private individuals. If the contract is with the solicitor, that solicitor/firm are responsible for the RICS member's fees unless they state otherwise, although it is wise to obtain a formal letter of undertaking. It is good practice to include the RICS member's terms and conditions with the contract or engagement letter.

A model terms of business can be found in Appendix D.

Reference should also be made to the current edition of RICS' [Surveyors acting as expert witnesses](#), and any other protocols (for instance, the protocol for appointment of experts in CPR 35) that apply.

RICS members are reminded again of their professional competence obligations (section 2). It is advisable for the RICS member to present a copy of their fee schedule to the client and/or professional adviser prior to undertaking any significant work.

The RICS member must be able to show that their costs are reasonable. This may be done by demonstrating:

There are several logical points when an invoice may be raised. The first is on completion of the expert report. There may then follow a period of months (or even years) when little happens apart from requests for copies of the report and the occasional meeting being made. Sometimes a meeting of experts may be required. A running total of costs during this period should be maintained and invoiced at appropriate points.

This will be followed by either the settlement, a mediation or a court appearance. Sometimes the case is settled out of court at the very last minute, and the RICS member will be expected to produce detailed, justifiable, and reasonable costings immediately.

4 Stage 2 – Research

4.1 Research and sources

There are three classes of evidence:

Research in the case of boundary disputes usually means documents, and many documents are the subject of copyright. The [Copyright Designs and Patents Act \(CDPA1988\)](#) has certain sections that define infringement free copying, but unless the surveyor is aware of the delicate balance between infringement and non-infringement it is always best to determine the terms of any copying from the copyright holder. Both Ordnance Survey (OS) and HM Land Registry data, maps and documents are Crown Copyright (OS Open Data is subject to [OGL3](#)).

The first thing to remember is that any research, whether needed for an opinion or expert report, needs to be relevant to the matter in hand. There will often be a discussion between any or all the clients and their legal representatives. It is at this stage that the initial details of the dispute are aired.

Generally, the RICS member will be invited to give an opinion on their proposed methodology and the evidential resources that they are likely to need. The information needed may take time to both identify and acquire. The RICS member is often supplied with many – sometimes poorly reproduced – documentary sources, which are collectively known as the ‘case bundle’. Time will be needed to examine these documents carefully and, if necessary, to obtain better quality copies (copies may also exist that have been certified by a professional or notary). Normally this takes a few weeks and should be completed before the first site visit takes place. The evidence will relate to many questions, including:

4.2 Title deeds

Title deeds are the legal documents by which land is or was bought and sold, these may include conveyances, assignments, transfers, and indentures. The root of title is the document with which the evidence of title commences. An acceptable ‘root of title’ may in legal terms be no more than 15 years but the document that first created the plot of land may be of any age – even ancient. Registration will not (other than in exceptional cases) define the boundaries of the land within a registered estate. In theory the root of title can be identified for every plot, but in practice the old deeds have often been lost or destroyed. Registration of land aims to provide an accurate reflection of the state of the registered title and so pre-registration deeds may have been discarded or destroyed.

The old deeds (if they exist) can be very useful for an RICS member trying to identify the precise boundary line.

Every conveyance contains a 'parcels clause' that describes the land. This may consist simply of a textual description, or there may be an attached plan. In some cases, the text of the conveyance takes precedence over the plan, which is marked as being 'for identification purposes only'. In others, the land is 'more particularly delineated' and the plan is definitive. Sometimes the two phrases are combined, and it is unclear as to whether the text or plan is definitive. Where the conveyance is vague or ambiguous a court will consider the conveyance as a whole and may take surrounding circumstances into account. The RICS member will assist the parties and the court best by giving an analysis of the plan at face value, and to avoid legal interpretation.

Since a boundary, by its nature, separates two parcels of land in different ownership, it is important to try to obtain the deeds for both in order to give unbiased advice. This may be difficult since the deeds for unregistered land may be held by private individuals, solicitors, mortgage companies, landed estates, or estate surveyors, who may be unwilling or unable to provide copies. Copies are sometimes referred to in the register, and if they are noted as 'copy filed' or similar it should be possible to obtain them from HM Land Registry via the Portal or [NLIS](#), or by using [form OC2](#) sent to HM Land Registry. All documentation, except 'exempt documents' (usually available documents with commercially sensitive information greyed out), held by HM Land Registry is open to public inspection. It can be obtained using form OC2, giving as full a description as possible of what is required, and HM Land Registry will supply all the information that it holds on file even if it is not referred to on the Register.

An RICS member should be aware that the quality of any plan attached or referenced in a title deed is variable. If it is a copy of an OS map, it is a good idea to try and determine which one at which date and obtain a copy of that OS map from one of the copyright libraries. Furthermore, the deed plans of adjoining properties may overlap, this can be a common source of dispute and it is good practice to establish if this is the case early on in an instruction. Even on registered properties there may be an unregistered sliver between them. This can be commonly referred to as a 'ransom strip' and is usually highlighted during an appropriate due diligence process. It should be taken that any sections on a title plan that are rendered 'white' due to the cartographic limitations of the base mapping and the bluntness of traditional 'red' edging are unregistered.

'T' marks on the deed plan may or may not be defined in the deed and if they are, they usually signify who is to erect and/or maintain the marked boundary feature. 'T' marks generally will not be shown on the title plan. RICS members should bear in mind that deed plans show lines and it is what those lines represent that is important too. The interpretation of 'T' marks is a matter of law.

4.3 The registered title

Official copies of the land register and title plan can be obtained from the [HM Land Registry](#). Registered users may access [HM Land Registry portal](#) for details of available services such as searches of the index map, register searches, value-added services, etc. Plans obtained

online are sometimes pixelated and liable to scaling error when printed by the user. Copies obtained by post directly from HM Land Registry are at the intended scale and easily copied.

HM Land Registry guaranteeing the title is not the same as guaranteeing the extent of the title. Under the general boundaries rule (section 60 [Land Registration Act 2002](#)), Land Registry plans do not show legal boundary lines. Their sole purpose is to identify plots of land, not the legal boundaries of that land. The legal boundary is a line of no thickness.

The registered title will have an OS plan as the base onto which the land parcel registered will be plotted according to the information given to HM Land Registry at the time of first registration.

OS mapping is of a defined accuracy, and therefore subject to the limitations of specification. Changes to the property may result in the title plan being re-issued based on more up-to-date mapping. The plan is based on the deeds supplied when that parcel of land was first registered at HM Land Registry. HM Land Registry will only commission a survey of the property when there is a problem in matching the deeds to the OS mapping. If the property and its extent are not fully defined by features on the map, HM Land Registry will plot any undefined boundaries using dotted lines. Older titles may only be held in paper format, though most have now been scanned into a digital raster format, and newly created plans are held electronically in vector format. Whatever format the title plan is held in, do not scale from them (remembering that digital mapping data contains all of the scale limitations of paper copy). Also be aware that title plans are usually at 1:1250 but the OS map on which they are based may be at 1:2500 or 1:10,000. Older title plans may well have a Crown Copyright date – this can be used as a cross-reference to find the original OS map that can then be examined – whereas newer ones do not and there is not an explicit link to the date of the OS mapping used.

4.4 Extrinsic evidence

Given the limitations of property deeds and HM Land Registry title plans, the RICS member will need to look at other sources of evidence to try to establish the precise boundary line and check whether this coincides with the current boundary features. The court determines the admissibility of evidence and the evidential weight to be given. Some of the main sources of evidence include:

4.4.1 Ordnance Survey mapping

[Ordnance Survey](#) continuously updates the National Geographic Database (NGD) to include changes that occur in the natural and man-made environment. From the information contained in the source NGD it produces a range of both geospatial data products and paper mapping products.

OS MasterMap® Topography Layer and OS MasterMap® Imagery Layer are both highly detailed topographic products, which provide valuable information in a boundary dispute case, though it needs to be understood from the outset that Ordnance Survey maps show only physical topographic features and make no comment on land and property ownership

boundaries or rights. OS MasterMap® Topography Layer contains data that has historically been surveyed at three 'basic scales':

*with the associated accuracy referenced in Table 1.

Original survey scale	99% confidence level	95% confidence level	RMSE*
1:1250			
Absolute accuracy	0.9m	0.8m	0.5m
Relative accuracy	+/- 1.1 m (up to 60 m)	+/- 0.9 m (up to 60 m)	+/- 0.5 m (up to 60 m)
1:2500			
Absolute accuracy	2.4m	1.9m	1.1m
Relative accuracy	+/- 2.5 m (up to 100m)	+/- 1.9 m (up to 100 m)	+/- 1.0 (up to 100 m)
1:10 000			
Absolute accuracy	8.8m	7.1m	4.1m
Relative accuracy	+/- 10.1 m (up to 500 m)	+/- 7.7 m (up to 500 m)	+/- 4.0 m (up to 500 m)

Table 1: Ordnance Survey mapping accuracies of large-scale topographic mapping data. © Ordnance Survey Limited 2020

Confidence level is the probability that the value of a parameter falls within a specified range of values.

*RMSE (root mean square error) is the square root of the mean of the squares of the errors between the observations. It is a measure of the accuracy by comparing the actual measurements to the 'most likely' value. In practical terms this means that 68% (one σ) in a representative sample of points shall be correct to better than the stated accuracy value.

In civil law cases where the standard of proof rests upon the balance of probabilities of something being true or not, RMSE (one σ) becomes an important measure. For example, if the question under consideration is 'is a point on a map accurate to 0.5m?' and the RMSE of that map is known to be 0.5m, there is a 68% chance that the point is accurate to 0.5m. Therefore, on the balance of probabilities the answer is yes, as a 68% chance is clearly greater than a 50% chance and so it is more likely to be accurate to 0.5m than not.

Ordnance Survey, in common with many mapping authorities around the world, defines accuracy in three ways: absolute accuracy, relative accuracy, and geometric fidelity. Of these, relative accuracy is usually the most relevant to boundary disputes.

A general boundary does not necessarily have any width and does not identify the exact position of a legal boundary. The majority of titles are registered with general boundaries and the title mapping is usually carried out with respect to, and therefore relative to, the features on the OS map rather than with reference to the underlying absolute coordinates of those features on the underlying OS map. If the features on the OS map are repositioned, for example due to resurveying or data quality improvement, the general boundary of the title may also be shifted to agree with the revised position of those same features on the OS map. It is therefore generally not valid to take the absolute coordinates of features from the title plan or OS map, establish these on the ground using precise survey methods, and claim that these represent the exact true position of boundary features. No matter how precise the surveying, the position established will not exceed the accuracy of the original features found on the underlying OS base map.

The relative distance between features on the OS map is very useful. These relative distances should correspond, within the accuracy limits, to the distances between the same features on the ground as long as the features on the map are the same as those on the ground and have been correctly identified. It is for these reasons that the relative accuracy of the map is normally the most relevant when considering property boundaries rather than the absolute accuracy.

The exception to the above is where a determined boundary survey using coordinates has been carried out in accordance with [HM Land Registry practice guide 40 section 4.4.2](#) in which case the OSGB absolute coordinates when defined using GNSS and subsequently transformation to OSGB36 (the Universal Transverse Mercator coordinate system as defined by the re-triangulation of 1936 – 1962) are officially recognised. In such cases it is the absolute and relative accuracy of the determined boundary survey, rather than the accuracy of the OS map, which is important.

It should be noted that the Land Register of England and Wales comprises more than 25 million titles, the vast majority of which are registered with general boundaries. The total number of determined boundaries is thought to be in the order of a few thousand.

As Table 1 shows, accuracy is historically related to scale. Older map series such as the Ordnance Survey County Series 1:2500 maps from the late 19th century onwards, or OS National Grid (Overhauled) Mapping, may not achieve the accuracy levels stated above. It should also be noted that OS now uses surveying techniques such as real-time kinematic (RTK) GNSS and photogrammetry from high resolution aerial imagery, which are capable of delivering accuracy that exceeds the published accuracy values in Table 1.

[Historical Ordnance Survey mapping](#) dating back as far as the 18th century has extensive uses in boundary disputes. This mapping has been scanned and is available in digital raster format(s), but these will vary in quality depending on the original scanning quality.

The National Library of Scotland has online historical OS mapping for Scotland and for [England and Wales](#). Crown copyright may subsist in Ordnance Survey mapping images as well as other copyrights that must be complied with.

Historic mapping information may also be found at [Legal Deposit Libraries](#): the British Library, the National Library of Scotland, the National Library of Wales, Cambridge University Library, the Bodleian (Oxford University) Library and the Library of Trinity College, Dublin. The National Archives at Kew, London, the National Archives of Scotland, the Public Record Office of Northern Ireland, local public libraries and many landed estates also hold large amounts of historic mapping information. Again, Crown copyright and database right protection may subsist in Ordnance Survey mapping data obtained via such sources, and the applicable copyright position should be respected.

Note that historical OS mapping that is older than 50 years from the date of its publication is out of Crown copyright and may be used freely.

Ordnance Survey maps record physical features according to the then current OS specifications, not legal boundaries. If a feature is shown on an OS map it means that the feature existed, whereas the reverse is not always true.

Ordnance Survey and HM Land Registry have prepared a statement on their respective roles within boundary cases and the availability of relevant data:

'Ordnance Survey maps never show legal property boundaries, nor do they show ownership of physical features. Although some property boundaries may be coincident with surveyed map features, no assumptions should be made in these instances and consequently it is not possible to be sure of the position of a legal property boundary from an Ordnance Survey map.'

Since the [Ordnance Survey Act 1841](#) (OSA 1841), OS has been empowered to depict administrative boundaries in OS mapping. Today administrative boundaries are depicted in OS maps in accordance with the statutory position set out in the Orders (Statutory Instruments) issued under relevant laws. The administrative boundaries as shown on OS maps may assist in determining a private boundary.

Of course, historical mapping may not necessarily be used in 'more recent conveyances' but may be useful in seeing if the feature has changed and when.

5 Stage 3 – The site visit, measured survey and photography

The nature of a boundary dispute can vary, and while it might be possible to start with a desktop assessment, in most cases it is highly recommended to visit the site. A site visit normally includes:

- A careful visual inspection of the site, with particular interest in the boundary features in dispute but also including an inspection of the surrounding area.
- Taking digital photographs of the boundary features and the surrounding area.
- Carrying out a measured land/boundary survey.

The RICS member should notify the client, professional adviser/solicitor and – with an appropriate level of consideration for possible complications – the other party to the boundary dispute of the proposed date of the measured survey. This will avoid confusion for all parties concerned and may lessen the chance of aggravation. Avoid expressing any opinion, professional or otherwise, while carrying out the measured survey. If access to the neighbouring property is essential, a letter of authorisation from the client may be helpful and access should be arranged in advance. The RICS member should stress that the purpose of the survey is to provide an unbiased objective opinion on the boundary and being able to inspect the boundary from both sides might be beneficial.

5.1 The site inspection

It is important to pay attention to the actual physical boundary feature(s). For example, in the case of a post and wire fence, the RICS member should show individual posts, record their shape and size and record the number of strands of wire, the estimated age of the wire, the side of the post to which the wire is attached and any other observations that may be relevant. Small details such as these can affect the outcome of a case. The reason for recording such detail is that there may be in-depth cross-questioning in the courtroom concerning the age and nature of a fence or wall, its similarity to other fences or walls in the locality, the wire arrangement used around other parts of the property and consideration of whether any fence posts have been replaced subsequent to the original fence erection.

A visual inspection of the surrounding area can also be beneficial as it may reveal certain patterns in the layout of boundary features. This is often the case in estates where a similar property layout may exist.

5.2 Features on the ground

Physical features on the ground are of primary relevance where they correspond to objects relevant to boundaries. This might be a description of a boundary in a deed or a feature shown on a deed plan, or something on which a client or another party wishes to rely on as evidence. They may also represent points for coordinating a measured survey.

Sometimes an unreferenced feature found on inspection can be significant in its own right. Others may evidence long accepted practice or may be incidentally relevant (e.g. where direct evidence of a boundary is at risk of destruction or has been destroyed). The relevance of such features, and the need for the RICS member to record them, will depend on the nature and purpose of the task. In most cases categorisation will revolve around considerations of:

- identification
- age and permanence
- character
- origins and purpose of the feature
- vulnerability to damage, change or (mis)interpretations and
- relevance to a date, event or another feature.

These criteria are interlinked and should be considered together. They will generally correspond to the establishment of facts relevant to boundary positions derived from the documentary sources.

5.2.1 Identification

OS mapping shows objects considered relevant according to the national mapping specification at the time of map compilation. OS mapping does not state what the object shown is, neither does OS mapping record every feature. The date of survey may give a clue to the age of the feature in question, but is not conclusive and, in current times, updates are made on a continuous basis with no sheet-wide compilation date. OS at one time published [Characteristic Sheets](#) and *Conventional Signs and Writing* guides (now held in the National Library of Scotland), which may still be relevant when examining older paper maps. Familiarity with OS cartographic notations and practices over time is necessary fully to understand and interpret the information shown.

5.2.2 Age and permanence

Long established and accepted features are often a good guide to boundary positions, but in some instances more recent features can be important. There is no hard and fast rule that the oldest feature is a correct guide if, for instance, long acceptance and custom between neighbours or recent destruction of features suggests a different approach. There is no restriction to parties to a contract for the transfer of property (subject to the [Law of Property \(Miscellaneous Provisions\) Act 1989](#)) selecting very transient features as the relevant boundary markers. Timber fences, posts and markers tend to rot away – sometimes very

quickly. Others such as metal angle posts and plain wire are often visibly distinct after many decades. Deliberate or inadvertent destruction may remove all evidence of what pre-existed.

5.2.3 Character

Usually this comes down to the nature of feature, its dimensions and materials used. Much depends on objective interpretation of the significance of objects. Hedges are a common boundary feature but, while OS customarily plots the root of the hedge as a single line, the historic reality may be that a hedge was planted by an owner on their own land but adjoining to the boundary line, and decades of vegetative growth has enlarged it both in height and thickness. So, care is particularly important when dealing with a live feature that can spread beyond the originally intended confines of ownership.

Walls and particularly those forming parts of buildings can be more useful but again care should be taken to identify any past alteration or reconstruction.

Sometimes trees are used as reference points. However, it is often unclear what part of the tree (centre, outer face or an aspect, height above ground of the reference point and so on) has been used. With a large specimen, maybe several hundred years old, this lack of precision matters, especially if the tree is a boundary feature, is protected by a Tree Preservation Order (TPO) and is the liability of as well as in need of attention by the lawful owner. OS in the first editions showed trees with positioned tree symbols. The cost of doing so was prohibitive so this rule was removed prior to the second editions.

5.2.4 Origins and purpose

The circumstances of a feature coming into being and evidence as to who created it and to what purpose is highly relevant. Where intrinsic evidence is lacking, it may be necessary to 'read' the local landforms for clues. A knowledge of how features on the ground arise, develop, degrade and eventually disappear along with the degree to which human activity relates to them over extended timeframes can therefore be essential. Often, deeds are silent on ownership and responsibility for boundary features such as retaining walls where particular care is needed.

5.2.5 Vulnerability

The nature and construction of features on the ground will denote their vulnerability and the potential for past reconstruction alteration or future destruction. Where there is a risk of inadvertent or deliberate destruction, the need for early and accurate recording including photographs is essential.

5.2.6 Relevance

Ultimately, features on the ground are only as important as their relevance to boundary or other matter under consideration. It is always wise to be more inclusive in the selection and recording of relevant features than the opposite, just as it is advisable to take extra photographs rather than simply the minimum immediately required.

A simple table may be drawn up to record key features on the ground as a check and to ensure consistency of approach and ranking in order of importance. See Table 2 for an example.

Evidential score: 1 (worst) – 5 (best)

Item on plan	Materials	Natural or manmade	Permanence	Evidence of change	Positional relevance	Corroborated by plans	Score	Comments and sources
Hedge on bank	Thorn and woody species on earth mound and adjoining ditch (4)	Planted circa 1960 on identifiable older bank (4)	Bank >100y (3)	No recent evidence but beyond 20 years difficult to assess (3)	Close relationship to adjoining 19th cent. Building but precise centre line difficult to determine (3)	Yes; appears in nearly identical position in successive (5)	(22)	Photo 123456.jpg
Field edge fence	Post and wire (3)	Manmade (2)	Renewed in last 5 years (3) *	Older fence 3ft to one side (1)	Appears to have moved (1)	Cannot verify alignment the same as on plan (1)	(11)	*Placed there by owner before selling part; present at sale date
Garden wall	Brick and stone (4)	Manmade (4)	150 yr. estimate (5)	None, contemporary with adj. structures (5)	Appears to be original curtilage boundary (5)	Consistently shown on OS maps with adj. building (5)	(28)	Planning app ref WZ/98765/02

Table 2: Example matrix for assessing features on the ground

Sometimes there will be no useful features to guide the boundary surveyor or the information may be conflicting and inconclusive. In those circumstances it is necessary to be candid about what degree of accuracy can be inferred from such information as is available.

5.3 Photographs

Site photographs may include scale-aids (an object of known dimension such as a survey staff or tape measure), which will help with the appreciation of boundary and related feature details at a later stage, particularly if matters proceed to court. Photographs may be required for inclusion in the final report. Digital photographs can be stored on appropriate digital media and a copy of this bound with the final report (if requested). Boundaries and their associated features can often be in poorly illuminated or overgrown areas, and adequate lighting should be considered.

Also consider digital photograph file sizes and their inclusion in documentation. Photographs should be high resolution (8 megapixels +) where possible and stored at the capture resolution as part of the evidence base.

It is recommended that a detailed log of each photograph (its date, location and direction) is maintained.

Comprehensive photography (total coverage, from differing angles, ideally overlapping) of the survey area can help to ensure that a return to site is not necessary, that specific detail issues of a boundary feature may be identified and that a comprehensive selection is available for editing into a final report. Photographs taken from both inside and outside the site that show the general surrounds and relationship of neighbouring features are useful. It is also worth considering whether a short video is appropriate.

5.4 The measured survey

The purpose of the survey is to provide a measured survey plan against which all the available information and evidence can be referenced and that acts as an appropriately accurate geographical record of what currently exists. The plan is used to illustrate the RICS member's analysis and opinion, and subsequently can be used to record any agreement between the parties involved in the dispute or to illustrate the decision of a court.

The primary function of a boundary survey is to show the 'relative' spatial relationships between relevant current physical ground features. It is this 'relative' accuracy that is crucial (for example, the distance between one fence post and the next, or from a conservatory wall to the boundary wall).

As it is a precise metric survey it will allow new measurements to be reliably taken from the data (or plan) and for relative spatial relationships to be examined, providing that all the relevant features were captured at the time of survey.

As a minimum the measured survey should include all boundary features, buildings and, if possible, adjoining kerb lines. Service covers and other similar detail may also be useful, particularly to provide a point of reference for any dimensions to assist clients with understanding the location of the surveyor's opinion of the position of the boundary. Measured surveys should also include any other features that either appear on the Ordnance Survey mapping or data (as this will aid cross-comparison) or are relevant to the problem, for

example, trees, changes to surface type, above-ground height and composition of boundary feature, etc.

If relevant to the dispute concerned and requested by the client(s), graphic demarcation representing legal interests (e.g. easements such rights of way) that may, or may not, coincide with the physical features on the ground should also be plotted in order to aid clear identification of these interests in relation to the physical features. Easements (registered and/or by prescription) may have significant implications for a property and should be appropriately researched and identified.

RICS members should make themselves fully conversant with RICS guidance and professional information relating to measured surveys and continue to follow best practice contemporary field survey techniques (see the current editions of [Measured surveys of land, buildings and utilities](#), and [Guidelines for the use of GNSS in land surveying and mapping](#)). The survey accuracy detail table in Appendix H should also be referenced.

5.4.1 Photogrammetry

A further survey method that may prove very useful in certain circumstances is photogrammetry, for example, where there is a requirement to establish the position of features that have disappeared, or there is a need to re-establish the topography at a particular point in time. Photogrammetry is useful for mapping wider areas, where there are site access issues such as health and safety, or where a more synoptic view is required. If suitable aerial photography, either recent or historic, can be sourced, it is often possible to accurately re-plot the visible features, even in cases where the features have since disappeared on the ground. Such work is best undertaken by organisations specialising in photogrammetry, as a high degree of skill and experience as well as specialist equipment is required. Historically it has been very expensive to commission aerial imaging of a site, making it mostly unaffordable for private client work. The image acquisition had to be carried out by specialist aerial survey companies who have made the high capital investment in survey quality aerial cameras and usually a fixed wing aeroplane.

The advent of Unmanned Aerial Vehicles/Drones (UAVs) is changing the economics of participation and it is now cost-effective to collect imagery using relatively inexpensive equipment and for that imagery to be available for use the same day, in some cases before even leaving the site. See [Drones: applications and compliance for surveyors](#), RICS insight paper for more information.

5.4.2 Output

Before embarking on the measured survey, the RICS member needs to understand:

- what the purpose of the survey is
- how the agreed purpose will drive output scales (and data output, for example – hardcopy, .pdf, .dwg, etc.) and
- the survey methodology (and survey equipment)

that will be needed to comply with the client's, courts' and HM Land Registry requirements.

Measured survey data captured should be to an appropriate accuracy as the dispute and specification requires (see Appendix H).

5.5 Instructing other specialist surveyors and advisers

Although it is usual and advisable that the instructed expert RICS member should carry out the boundary measurement, sometimes due to a variety of reasons this may not be possible. If the RICS member is in doubt or believes that execution of the measured survey may be beyond their competence and experience, it may be appropriate to call in an expert chartered land surveyor or chartered land surveying firm to carry out the measured survey, the client needs to be informed if this happens. When using external specialist land survey firms, it is vital that the contractual arrangements between the instructed RICS member and the chartered land survey firm are robust and mirror the terms of engagement of the instructed RICS member. Where the matter is likely to result in evidence being presented to a court, it is essential that the measured survey is supervised by the instructed RICS member or a qualified assistant, and that the agreed measured survey specification is fully adhered to.

In other circumstances it may be possible to give detailed instructions, in which case the initial specification of any survey is critical and special attention should be paid to deliverables. If agreement is subsequently reached, an application to 'determine' the boundary might be made to HM Land Registry. The instructed RICS member should be conversant with HM Land Registry requirements (see section 9). HM Land Registry sets specific requirements for measured surveys that are to be lodged with a determined boundary application.

These should be considered at the initial stage and should inform the survey specification from the outset. Failure to comply will result in the application being returned.

6 Stage 4 – The report

6.1 Analysis and preparation

The nature and complexity of the report will depend on the issues under consideration and its purpose. It could simply consist of a plan and an explanatory letter or memorandum. The written text and accompanying plan should accurately cross-reference each other in terms of colours, scales, notations and so on. Consistency is paramount.

Each RICS member will in time develop their own style of presentation and compilation, but the following generic sub-headings are suggested for the drafting of any boundary report:

- executive summary
- instructions (explain the problem)
- background and issues (a concise clear history of the matter)
- site investigation, methodology and findings of fact (how the survey was carried out)
- analysis (the investigation)
- conclusion (the RICS member's opinion)
- an appendix of all ancillary documents such as deed and plans contained in poly pockets (clear plastic document holders) and presented in the same orientation. (This allows them to be removed and viewed separate to the report. They must be cross-referenced to the main body of the report.)
- an appendix of colour photographs or digital imagery correctly labelled and
- an appendix listing qualifications and experience of the RICS member (a 'mini-CV').

The RICS member's opinion should arise out of the findings in fact and it should be clear to the reader that this is the case. It may help to describe the examination all of the available documentation, maps and plans (Appendix C), how the measured survey has highlighted the current boundary position, and how the original boundary demarcation and detail have been transferred onto the present-day dispute situation.

The key aspect of a boundary report is that it should explain and guide the non-sector expert (or another non-surveying professional) in a way that will illuminate the analysis of the dispute without being patronising but still retain the key technical facts that form the basis and logic of the analysis. Avoid technical and mathematical jargon. If it does need to be used, an explanation of terms in an appendix may be helpful to the reader.

The conclusion of the report allows the RICS member to summarise the research and the analysis and to arrive at an expert opinion. Expert witnesses in court proceedings owe a primary duty to the court to assist it in its deliberations. The report may also be used during Alternative Dispute Resolution procedures such as mediation (see section 7).

6.1.1 Meetings between surveyors

These may take place as part of alternative dispute resolution, court proceedings or prior to finalising reports on a 'without prejudice' basis. RICS members should approach these on a proactive and cooperative basis with a view to facilitate early settlement and reduction of costs. Meetings offer the opportunity to share information and establish areas of agreement and disagreement, and to see how these may be narrowed or resolved. The outcome of any meeting should be for the surveyors to prepare a joint statement stating the status of all issues and explaining as required the reasons for any unresolved issues.

RICS members must follow the current edition of RICS' [Surveyors acting as expert witnesses](#), and the standards of the [Civil Procedure Rule \(CPR\) Part 35](#).

7 Stage 5 – Alternative dispute resolution

7.1 Boundary Disputes Mediation Service

With the support of the Civil Justice Council, RICS and the Property Litigation Association (PLA) have developed a [Boundary Disputes Mediation Service](#). The service comprises a mixed panel of surveyors and lawyers, experienced in boundary and neighbour disputes and trained to mediate boundary and other related issues between neighbours. The service offers professionals the opportunity to engage in mediating disputes in an area in need and offers challenging work for mediators to practice their skills. It provides a quicker, cheaper and more informal approach than litigation, and helps neighbours deal with issues that are at the heart of their dispute in a positive and proactive way. Integrating mediation to the heart of the matter allows parties to take ownership of dealing with their dispute and helps them to achieve an outcome that is satisfactory to all.

This professional standard (along with *RICS Rules of Conduct*) forms the key professional practice and regulatory framework for RICS members engaged with the service and all RICS members working within the boundary disputes sector.

RICS and PLA have developed this initiative with the backing of the Civil Justice Council and to support other government and judiciary initiatives that have been exploring how people involved in boundary disputes can avoid slow and costly litigation. These initiatives include private members' bills, Ministry of Justice reports and published guidance and protocols published by the Civil Justice Council to encourage judges and court users to use alternative dispute resolution (ADR) mechanisms such as mediation as a means to avoid and resolve boundary disputes without the need for parties to enter into litigation. More information on the Civil Justice Council and boundary protocols can be found in Appendix A.

7.2 Mediation of boundary related disputes

7.2.1 Mediation

Mediation is a voluntary, non-binding, and private form of ADR, whereby a trained neutral person (the mediator) helps the parties reach a negotiated settlement within a carefully controlled environment. If the parties are successful in settling the dispute between them, that settlement can be recorded in a written agreement which becomes legally binding upon the parties.

A mediation over a boundary dispute may take place on site or, if appropriate, at a neutral location. There are advantages and disadvantages to conducting the mediation at either site.

Regardless of the location the mediation is held, the outcome of a successful mediation will be a binding agreement that should, in the case of boundary disputes, clearly identify, record and agree the boundary between adjoining proprietors. The typical boundary process is outlined in Appendix B. Mediation as a form of ADR is becoming increasingly popular, largely due to the success of mediations (most boundary dispute mediations do result in a positive settlement for the parties). Courts will usually require disputing parties to attempt mediation in the hope that it will prevent a trial. Likewise, RICS members involved in matters such as boundary disputes should consider and, where possible, advocate the process.

RICS members should use their professional skills and manner to help parties resolve their disputes, limit or eliminate matters in contention, and to reduce conflict and tension (see section 2). This should be based on evidence rather than falling into the adversarial trap of what the party 'wants'. Boundary dispute mediation involves highly emotive situations, and an RICS member needs to be prepared for this. The roles require considerable tact and diplomacy to help bring the opposing parties together to resolve a boundary problem without recourse to litigation.

A successful mediation allows the parties control over any resulting settlement, saves the parties significant time, costs and stress, and potentially helps heal relationships. This is particularly relevant to boundary disputes when there is often an emotive driver behind the boundary dispute. Mediation should be handled carefully however, as an unsuccessful mediation is likely to result in further entrenched positions, higher costs and longer timescales to achieve a settlement.

An RICS member can have various roles at a mediation. When suitably trained they can act with the consent of parties as the mediator, assistant mediator or an adviser to one of the parties in the dispute. Regardless of role, the RICS member should be aware of the potential implications of their actions and ensure that they are suitably qualified and fully conversant with the mediation process.

7.2.2 Types of mediation – facilitative versus evaluative

A mediation may be conducted using traditional facilitative mediation methodology or, more likely if involved as an RICS member in a boundary dispute, an evaluative mediation methodology.

While the former method does not necessarily require technical knowledge by the mediator and involves joint sessions with regular meetings with each individual party, it does not allow the mediator to make recommendations to the parties, give advice or opinions.

The evaluative process involves 'shuttle' negotiations and frequently does not use a joint session (often as a result of the animosity between the parties remembering that this is a decision for both parties to agree on). It enables the expert (adviser or mediator) to help inform the parties in dispute on their case's strengths and weaknesses, and seeks to let the parties consider how a court would likely treat and resolve their case. The evaluative mediator is therefore placed in a trusting and influential position, through imparting technical knowledge and information about which the parties may have previously been

unaware. The surveyor should therefore be an independent source of knowledge with skills and behaviours to assist the parties in reaching a mutually satisfactory resolution.

7.2.3 Exclusions of liability

As a consequence of utilising evaluative mediation methodology, it is important for the RICS member to emphasise with the parties that the final decision for settlement still rests with the parties and that no responsibility is assumed for the accuracy or legal completeness of any advice or opinion proffered (whether intentionally or not) in the course of the mediation or for any assistance given in or about the content or drafting of any settlement agreement. The parties should acknowledge that they are not entitled to rely upon any such advice, opinion or assistance and should seek their own legal or other professional advice. This is ideally included as part of the parties' agreement to mediate terms and conditions.

7.2.4 Acting as an adviser

If acting in the capacity as an adviser to one of the parties at a mediation, significant technical knowledge and preparation skills are required to play an active and affective role. Before the mediation the RICS member should ensure they are familiar with the mediation process. It is common for parties embroiled in a boundary dispute to obtain legal advice and, if so, it is likely the lawyer or a mediation provider will coordinate arrangements for the day. If a party is not legally represented it may fall to the RICS member to assist in readying their client for the mediation.

For reference, an example outline of a mediation process is included in Appendix B. The RICS member attending a mediation should go equipped with the resources they need to sustain them for the mediation. That will include knowing the case and the advice they have previously provided. If both parties to the mediation have advising surveyors in attendance it is not uncommon for those advisers to meet in joint sessions and the RICS member should be ready and willing to participate in such an exercise. A surveyor attending a mediation should conduct themselves in a manner befitting an RICS member throughout (see section 2), remembering it is not an opportunity to 'win' but their client's opportunity to settle their dispute.

7.2.5 Acting as the mediator

An RICS member should only accept an instruction to act as mediator if suitably qualified and insured to do so. An RICS member accepting an instruction to mediate should ensure they adhere to RICS regulatory guidance and the [European Code of Conduct for Mediators](#). An instruction to act as a mediator may come from the parties to the dispute, from a mediation provider or from the parties' lawyers.

There is always a need to ensure that an appointed mediator retains their independence and neutrality. Appointments through the RICS Neighbour Dispute Service, an RICS regulated mediation provider or other professional mediation provider, helps the RICS member retain their independence and neutrality.

It can be difficult to be accepted as a truly impartial mediator if the initial contact has come from one of the parties only. In the rare case where one party only is to be responsible for the mediator's professional fees it is likely, unless jointly agreed, that the other party will perceive the mediator as being partial and not truly independent. Therefore, RICS advises RICS members to seek joint appointment as a mediator by all parties to the action and to ensure that a strong mediation contract exists between themselves, the parties in dispute, and any legal representative.

A mediator accepting an instruction to mediate should ensure they have no conflicts of interest and satisfy themselves that they are competent to accept the instruction and that the expected range of work is within their scope of professional knowledge. It will then fall to the mediator or mediation provider to make arrangements for the day and to supply the parties' agreement to mediate terms and conditions, which governs the mediation. The agreement should be signed by the parties and all attendees prior to the mediation commencing to ensure that confidentiality and mediation privilege is maintained.

7.2.6 Settlement and HM Land Registry

Where settlement is achieved and the parties are obtaining legal advice, lawyers are likely to assist the parties to draft the settlement terms. In the event where a party is unrepresented, it may fall to the adviser or the mediator to assist in documenting the settlement terms. Where parties have been in dispute over their boundaries it is recommended that RICS members encourage them to apply to HM Land Registry to record their agreement on their associated HM Land Registry Titles, as a deed of boundary agreement and in order to ensure legal title is maintained. In circumstances where the settlement involves a transfer or exchange of land between the parties, it may be necessary to consider drawing up and registering a formal transfer in HM Land Registry form TP1. This process is explained further in section 9.

8 Stage 6 – Litigation

8.1 Before the courtroom

This section address what happens when a boundary dispute is not resolved prior to trial.

The solicitors (or occasionally lay client) who instructed the appointed expert witness should ask, several months in advance, which dates to avoid. This allows the court's listing office to list a trial date that all of the witnesses are available to attend. The expert witness should then be informed what the trial date is. However, this might occasionally be overlooked, so it is worth the expert witness contacting the solicitors around a month after providing dates to avoid, to ask them whether they have a trial date yet.

Counsel may well want to have a conference with the expert witness shortly before the trial, although this is less likely if such a conference took place to go through the report in draft at an earlier stage in the proceedings, and/or if there was a conference after exchange of experts' reports.

Boundary dispute trials will usually take 2-3 days. Depending on the parties and their means, an expert witness may be asked to attend for the entirety of the trial, or merely for the day on which they are going to give evidence.

RICS members should undertake specific expert witness training prior to giving expert evidence for the first time. For example, RICS operates the [Expert Witness Accreditation Service](#) (EWAS) for the purposes of ensuring that RICS members wishing to act as expert witnesses have the requisite knowledge of their role and duties to do so.

RICS members acting as expert witnesses should be familiar with the current edition of RICS' [Surveyors acting as expert witnesses](#).

Since the case of [Jones v Kaney \[2011\] UKSC 13](#) was decided in the Supreme Court in 2011, expert witnesses do not enjoy immunity from suit, either in respect of their reports, or in respect of their evidence given in court. In effect, this simply means that surveyors are just as liable for negligence when acting as expert witnesses as they are for negligence in general practice. Professional indemnity insurance should cover either situation, but RICS members should check that their professional indemnity insurer is aware that they are acting as an expert witness.

8.2 In the courtroom

Giving evidence in a courtroom might be somewhat daunting, particularly the first time. There will be a judge, barristers, solicitors and parties in court; perhaps witnesses and members of the public too. However, the role of an expert witness is merely to assist the judge with their job of deciding the case and – provided the expert witness has produced a

proper report, and properly read and considered the other party's expert's report – there is no reason to be intimidated by or have any particular difficulty answering the questions posed.

When it is time to give evidence, the expert witness will go into the witness box and be sworn in. There will be a trial bundle in the witness box containing all the documents being referred to in the case, including both parties' experts reports and the experts' joint statement. It is not allowed for other papers to be taken into the witness box. Any notes taken into the witness box will need to be explained, both in terms of what they are and why they are needed in court.

It is, however, worth ensuring that the expert witness has at court full-sized versions of any plans that form part of the report, or the other party's report, as it sometimes happens that the version produced in the trial bundle is not full-sized. Try and check this beforehand but take at least one copy in, as slip-ups in bundles are common. It is useful to also have (at least one) scale-rule and a magnifying glass in the witness box.

Although it may seem unnatural to do so, answers should be addressed to the judge, rather than to the barrister who is asking the questions. Key things the expert witness should remember when giving evidence well are:

- 1 answer the question that is asked, not the one they think should have been asked
- 2 answer the questions as honestly as possible, even where that means accepting a mistake may have been made and
- 3 do not argue, whether with counsel, or with the judge. It is crucial to remember that the expert witness is there to help the court reach the right decision, **not** to argue for a particular outcome, still less for a particular client's case.

It is possible that both expert witnesses may be asked to give evidence at the same time – this is known as 'hot-tubbing' – and can be particularly useful where there are a number of discrete issues requiring expert evidence which the court has to consider. Experience suggests that it is easier to find common ground between experts when both are in the witness box at the same time. However, the same rules apply as when giving evidence normally.

9 Stage 7 – Recording the outcome in HM Land Registry

Resolution of a dispute about a boundary is often a significant accomplishment, and it is important that the resulting agreement is set out and recorded at HM Land Registry so that a public record of the agreement can be relied upon should the issue reoccur. There are 2 main ways to achieve this:

- entering into a boundary agreement or
- having a determined boundary.

In many cases, particularly where a solicitor has instructed the expert witness, the recording of the outcome with HM Land Registry will be the solicitor's responsibility. However, the following requirements should be noted when preparing agreements and determined boundaries for recording at HM Land Registry.

9.1 Application to record a boundary agreement at HM Land Registry

Boundary agreements are a method of recording the agreement between parties on boundaries and can ultimately be used as a method of resolving some boundary issues. HM Land Registry can note agreements relating to boundaries and boundary structures in the form of a deed. The deed can contain a description of the agreed boundary and the provisions relating to it in as much detail as is required.

There is a rebuttable presumption that a boundary agreement does not involve the transfer of any land, and that the agreed position coincides with the true position of the legal boundary. Where it is established that there is a transfer of land involved, the boundary agreement gives rise to an obligation on a party to transfer any of their land falling on the other party's side of the agreed boundary. Other forms of remedial conveyancing such as deeds of rectification, exchange or applications for adverse possession may also be necessary. This is a legal matter and attention is drawn to [HM Land Registry practice guide 40 supplement 4](#).

There is no prescribed form for a written boundary agreement and, depending on the form of agreement reached, the document can be relatively simple, for example, 'We [...] and [...] agree that the boundary between our respective properties is the hedge shown on the plan between points A-B'. However, it is vital that all the parties fully understand the nature of the agreement and that it fully reflects what has been agreed in a way that they can understand. It should contain enough information that the boundary could be recreated on the ground in the event of the boundary features being destroyed.

If the nature of agreement covers more complex issues (e.g. party wall agreements), the document should reflect that complexity to the degree required by the parties. It can contain measured surveys, plans, photographs and sketches if needed; anything that is capable of being electronically stored.

Even though the agreement may contain precise detail about the position of the legal boundary, noting the agreement in the register of title will not have the same legal effect as determining the boundary at HM Land Registry (refer to section 9.2).

Plans contained in the agreement should ideally be capable of being interpreted by anyone and should be signed by the parties and any witnesses. It is essential that any plans contained in the agreement can be related to the current information on the Ordnance Survey map, otherwise the application may be rejected by HM Land Registry. Their [practice guide 40 supplement 2](#) provides basic guidelines for preparing plans.

If HM Land Registry cannot reconcile the position of the boundary in question as depicted on the title plan(s) with the deed plan(s), it may be necessary for it to instruct Ordnance Survey to update the Ordnance Survey map. This may result in a replacement of the title plan(s).

In many cases there will be no actual change in the boundary feature, or the change will be so small that it triggers no change to the Ordnance Survey map. In such circumstances, no change will be made to the title plans.

Where application is made to record the boundary agreement at HM Land Registry, it must be made via [form AP1](#) for the register(s) of the relevant title(s) and lodged with a copy of the boundary agreement. The prescribed fee for applying to alter the register must be paid.

If the application is in order, a copy of the agreement will be electronically scanned and an entry along the following terms will be made in the register:

'An agreement dated ... made between ... relates to ... [e.g. an agreement as to the north eastern boundary of the land in this title].

Note: Copy filed.'

Further guidance on the form of an agreement and application to record the agreement at HM Land Registry is given on Gov.uk [Your property boundaries](#) and in [HM Land Registry practice guide 40 supplement 4](#).

Appendix B also contains an example of a boundary agreement.

9.2 Application for a determined boundary

In most cases, noting a boundary agreement as referred to in section 9.1 will be perfectly adequate. If the owners intend to establish the exact line of the legal boundary, or where the courts direct that the agreed boundary be determined and recorded in the Land Register, application must be made in Form DB (section 60(3) LRA2002) and must contain a plan identifying the exact line of the boundary claimed.

A boundary can be determined in one of 2 ways:

- by the use of measurements from permanent features or
- by the use of Ordnance Survey National Grid co-ordinates.

Guidance on preparation of determined boundary plans and the required certification is detailed in [HM Land Registry practice guide 40 supplement 4](#). It should be noted that using National Grid co-ordinates would only be appropriate in areas where there is little in the way of suitable permanent features or where taped measurements would be excessively long.

On receipt of the application, HM Land Registry must be satisfied that:

- a the plan, or the plan and verbal description, identify the exact line of the boundary claimed
- b the applicant has shown an arguable case that the exact line of the boundary is in the position shown and
- c they (the registrar) can identify all the owners of the land adjoining the boundary and has an address at which each owner may be given notice.

Ideally the application should be made with the agreement of the adjoining owner (panel 9 of Form DB allows the adjoining owner to agree to the application). If this is not the case, HM Land Registry will serve notice on the adjoining owner(s). This action can generate disagreements and should not be used as a means for forcing resolution of a boundary dispute.

On successful application, HM Land Registry will record an entry in the property register of each affected title. The general position of the boundary will be marked on the title plan of each affected registered title, often with lettered points showing the extent of the boundary that is determined. A copy of the determined boundary plan is retained. It is the determined boundary plan that is used to identify the exact line.

Further information on determined boundaries can be found in [HM Land Registry practice guide 40 supplement 4](#).

Appendix A References

- Aldridge, T., *Boundaries, Walls and Fences* (10th edition), Sweet and Maxwell, 2009.
- Bannister, A., Raymond, S. and Baker, R., *Surveying* (7th edition), Prentice Hall, 1998.
- Blom-Cooper, Sir Louis., *Experts in the Civil Courts* (1st edition), OUP, 2006.
- Booth, JRS. *Public Boundaries and Ordnance Survey 1840 – 1980*, OSGB, pp451, 1982.
- Burns, S. (in association with Bond Solon Training), *Successful Use of Expert Witnesses in Civil Disputes* (1st edition), Shaw & Sons, 2005.
- Cato, D., *The Expert in Litigation and Arbitration* (1st edition), Routledge, 1999.
- Dixon, M., *Modern Land Law* (10th edition), Routledge, 2016.
- Farr, M., *Surveyors' Expert Witness Handbook: Valuation* (1st edition), Estates Gazette, 2005.
- Green, K. and Cursley, J., *Land Law* (5th edition), Palgrave Macmillan, 2004.
- Goodman, A., *Effective Mediation Advocacy* (3rd edition), XPL Law, 2016.
- Harley, J. B. *Ordnance Survey maps, a descriptive manual* (1st edition), Ordnance Survey, Southampton, 1975.
- Harpum, C. and Bignell J., *Registered Land Law and Practice under the Land Registration Act 2002* (1st edition), Jordans, 2004.
- Hodgkinson, T., and James, M., *Expert Evidence: Law and Practice* (5th edition), Sweet & Maxwell, 2020.
- Isaacs, N., *Where is my boundary? A beginner's guide to determining property boundaries in England and Wales (and how to avoid or resolve boundary disputes)* (1st edition), Property Publishing, 2018.
- Morris, A., *The Surveyor as Expert Witness: building and development play* (1st edition), Estates Gazette, 2005.
- Mynors, C., *The Law of Trees, Forests and Hedgerows* (2nd edition), Sweet & Maxwell, 2011.
- North, G., *Anstey's Party Walls* (6th edition), RICS Books, 2005.
- Oliver, R., *Ordnance Survey Maps: A concise guide for historians* (2nd edition), The Charles Close Society, London, 2005.
- Paine, D.P., and Kiser, J.D., *Aerial Photography and Image Interpretation* (3rd edition), Wiley-Blackwell, 2012.
- Pamplin, C., *Expert Witness Fees* (Little Books for Experts) (1st edition), JS Publications, 2007.

Powell, D.J., *Anstey's Boundary Disputes* (4th edition), RICS Books, 2009.

Pugh-Smith, J., Sinclair, G. and Upton, W., *Neighbours and the Law* (4th edition), Sweet & Maxwell, 2005.

Redler, A., *Practical Neighbour Law Handbook* (1st edition), RICS Books, 2006.

Rees, D., *Wontners Guide to Land Registry Practice* (22nd edition), Sweet & Maxwell, 2009.

Riddall, J & Trevelyan, J, *Rights of Way: A Guide to Law and Practice* (4th edition), Ramblers' Association, 2007.

Sara, C. and Dovar, D., *Boundaries and Easements* (7th edition), Sweet and Maxwell, 2019.

Sauvain, S., *Highway Law* (5th edition), Sweet & Maxwell, 2013.

Schofield, W. and Breach, M., *Engineering Surveying* (6th edition), Routledge, 2007.

RICS standards

All RICS official guidance can be downloaded from the [RICS website](#).

[Beyond COVID-19: Inspections and visits linked to neighbour disputes](#) (1st edition), RICS guide, 2020.

[Code of Measuring Practice](#) (6th edition), 2007.

[Conflicts of Interest for Members Acting as Dispute Resolvers](#) (2nd edition), 2020.

[Daylighting and sunlighting](#) (1st edition), 2012.

[Drones: applications and compliance for surveyors](#) (1st edition), 2019.

[Guidelines for the use of GNSS in land surveying and mapping](#) (2nd edition), 2010.

[Measured surveys of land, buildings and utilities](#) (3rd edition), 2014.

[Party wall legislation and procedure](#) (7th edition), 2019.

[Rights of light](#) (2nd edition), 2015.

[Surveyors acting as advocates](#) (2nd edition), 2017.

[Surveyors acting as expert witnesses](#) (4th edition), 2014.

[Vertical aerial photography and digital imagery](#) (5th edition), 2010 (6th edition due 2021).

Appendix B Mediation process and outline boundary agreement

B1 Mediation process

B1.1 Administration – pre-mediation day

- 1 Enquiry from party.
- 2 Request for completed application from party/lawyer/mediation provider.
- 3 Completed application for a mediator (covers surveyor for GDPR).
- 4 Formal request to other party to include:
 - a choice of mediator/mediation provider
 - b disclosure of conflict of interests
 - c proposed type of mediation (face to face/telephone/video conference)
 - d documents to send out:
 - i parties agreement to mediate (terms and conditions)
 - ii letter of appointment
 - iii guidance note for provision of position statement, i.e. summary of case.
 - e settlement agreement. This agreement is legally binding, remember that it is not the surveyor's to give legal advice and that ultimately this agreement is for and by the involved parties alone
 - f documentation to be supplied by parties:
 - i exchange of summary of case/position statement
 - g additional confidential information if necessary to be sent direct to mediator
 - h consequences of refusal to mediate (legal advice)
 - i mediation costs and VAT. To include:
 - i administration
 - ii mediators' fees
 - iii reading time

- iv travel and venue costs
 - v whether they are fixed fees or rate per hour per party.
 - j notice given that a settlement agreement is being drawn up (hour or more)
 - k availability of likely attendees.
- 5 Agreement to proceed.
 - 6 Confirm parties have authority to settle.
 - 7 Mediation day arrangements.
 - 8 Check contract documentation terms and conditions, costs, dates and times, venue and refreshments.
 - 9 Details of contact with parties pre-mediation.

B1.2 The mediation day process – good practice

- Meet parties: agree on whether to have a joint meeting or not.
- Ensure all parties present have signed the parties' agreement to mediate.
- Remember it's the parties process.
- Conduct the meeting in confidence and without prejudice.
- Understand that both parties are looking for movement and looking for settlement.
- First caucus joint session – parties give summary of issues.
- Second caucus session – background and issues arising.
- Third caucus session – cover the parties' needs.
- Explain impact of no settlement and the cost of litigation.
- Outline the deal and options for settlement.
- Reach a settlement agreement/deed.
- Cover Land Registration requirements – is a conveyancer needed? AP1 and/or TP1 as required (see section 9).

B2 Example outline boundary agreement

Title: Deed of settlement recording boundary agreement

Mediation details: including date, parties names, names of lawyers, and lawyers company representing each party if applicable.

Background: details of the dispute as outlined in the application for a mediator.

Disclaimer: no responsibility is assumed by [company name] nor by any of its members, servants or agents nor by the mediator nor by any assistant mediator or observer for the accuracy or completeness of any advice or opinion proffered (whether intentionally or not) in

the course of this evaluative mediation, or for any assistance given in or about the content or drafting of any settlement agreement and the parties acknowledge that they are not entitled to rely upon any such advice, opinion or assistance and must seek their own legal or other professional advice.

The dispute: a dispute has arisen between Party A and Party B as to the boundary between [XX] and [YY], [road], [town], [county], [post code] ('the Properties').

Upon the parties having attended a mediation at [venue address], with [mediators name], the mediator, the parties HEREBY AGREE to settle the dispute upon the following terms and conditions:

Boundary agreement

This deed of agreement is made on [Date] between [Party A name as in Land Register] of [Address], which is registered under HM Land Registry title number [XX123456], and [Party B name as in Land Register] of [Address], which is registered under HM Land Registry title number [YY56789].

The parties agree that the legal boundary between the land within their respective registered titles runs from the point marked ['A' through to the point marked 'B' through to Point C to Point D, etc.] as shown by the red line drawn between those points as identified on the 'Mediation Plan A'.

Definitions: (e.g.)

Detailed description of start, end and key turning points as identified on Mediation Plan A.

Terms

The parties have agreed to settle their boundary dispute on the following terms:

- 1 This agreement is in full and final settlement of all claims and possible claims concerning the boundary between [addresses of properties].
- 2 Each party to bear their own costs of this dispute and the implementation of the terms of this deed of settlement, save where otherwise expressly allocated to one or other of the parties herein.

Other matters

- 1 This Agreement is the entire agreement between the parties and supersedes all previous agreements between the parties.
- 2 The parties will keep confidential to themselves and not use for any collateral or ulterior purpose the terms of this agreement except insofar as is necessary to implement and enforce any of its terms.
- 3 At its own expense, each party shall use all reasonable endeavours to promptly execute and deliver such documents and perform such acts as may be required for the purpose of giving full effect to this agreement.

- 4 If any dispute arises out of this agreement, the parties will attempt to settle it by mediation before resorting to any other means of dispute resolution. Insofar as possible the terms, conditions and fees payable as contained in the agreement to mediate will apply to any such further mediation. If no legally binding settlement of this dispute is reached within 28 days from the date of the notice to the mediator, either party may institute court proceedings.
- 5 The referral of the dispute to the mediator does not affect any rights that exist under Article 6 of the European Convention on Human Rights, and if the dispute does not settle as a result of the mediation process the parties' right to a fair trial remains unaffected.

This agreement shall be construed and take effect in accordance with English law. The courts of England and Wales shall have exclusive jurisdiction to settle any claim, dispute or matter of difference, which may arise out of, or in connection with this agreement.

Signed and witnessed as a deed by both parties in dispute.

Appendix C Suggested checklist relevant to a boundary dispute

Not all of the items below will necessarily be relevant to every case.

Checklist of essential actions

- Address of site and for correspondence.
- Client name(s).
- Contact details.
- Date of first contact (memo on discussion).
- Purpose of service required.
- Potential/actual conflicts of RICS member interest (declaration needed).
- Client status (owner/occupier).
- Subject status (initial enquiry/boundary demarcation/informal dispute/litigation).
- Legal adviser details.
- Neighbour details.

For the client's property

- 1 *Register entry, title plan and title no. – supplied by client [] or to be obtained by the RICS member [].
- 2 Title deeds (conveyances, transfers, deeds of grant, etc.) – supplied by client.
- 3 Photographs from the family/private sources – supplied by client.
- 4 Witness statements (obtained by client's solicitor) – supplied by client's solicitor.

For the neighbour's property

- 1 *Register entry, title plan and title no. – supplied by client [] or to be obtained by the RICS member [].
- 2 *Title deeds referred to in register entry (available from HM Land Registry as official copies) – supplied by client [] or to be obtained by the RICS member [].

Relevant to both properties/either property

- 1 Planning drawings (from local council planning department) – supplied by client [] or to be obtained by the RICS member [].
- 2 Vertical aerial photographs – supplied by client [] or to be obtained by the RICS member [].

- 3 Oblique aerial photographs – supplied by client [] or to be obtained by the RICS member [].
- 4 Terrestrial oblique photographs – supplied by client [] or to be obtained by the RICS member [].
- 5 Old Ordnance Survey maps – supplied by client [] or to be obtained by the RICS member [].

* Note these are only available where the land is registered.

Documentary sources

Item	Owner A	Owner B	Comments
Registered title/number			
Pre-registration document/date			
Pre-contract enquiries/ date			
Previous surveys/date			
Non-contract documents (e.g. planning)			
Open source imagery either aerial (vertical and/or oblique or terrestrial (oblique)			
Aerial photographs			
Private photograph sources			
Affidavit evidence			
Other (specify)			

Resources needed

Item	Description	Comment
Document provision		
Initial inspection		
Survey		
Report type		
Legal support		
Subcontract services		

Other actions

Has the RICS member:

- sent the terms and conditions – making note of the date
- made note of any special instructions
- issued the solicitor instruction
- made a decision on the report status (e.g. CPR 35)
- completed any valuation/evaluation involved.

Appendix D Model of terms of business for boundary disputes

RICS members are reminded of their duty to set out clearly the nature, extent, timeframe and likely cost or cost basis of the service they are proposing to provide. This is at the heart of any contract between surveyor and client. This should apply regardless of whether the client is another professional, a business or a private individual.

Terms of business should include the following:

- Identify the client, the agreed contact details and any specific person or agent with whom the provision of the service or any details will be discussed.
- State the name of the service provider practice, office/branch address and contact details and possibly qualification level of the person responsible for or overseeing the service.
- Clarify the nature and scope of the service to be provided and the purpose(s) and where necessary cover circumstances where scope is changed during the work.¹
- Where relevant, describe the equipment used and its accuracy rating.
- Specify the type and location of the property where the boundary matter in question is situated including the address with a postcode and/or an Ordnance Survey grid reference.
- Refer to any relevant correspondence or telephone call requesting the service.
- Set out the fee or fee basis, cost recovery of any travel or disbursements and the VAT position of the service provider; cover matters such as interim invoicing and that the named client is the person responsible for payment of fees (cover default liability if another party is to pay all or part of the fees but in the event refuses to pay).
- Include a statement that the person requesting the service warrants that they have the authority to make the appointment.
- Describe what facilities and inspections will be required and highlight that there is a duty on the client to ensure adequate access unless specifically agreed otherwise.
- If installation of pegs or markers will be necessary, describe these in general terms and their degree of permanence.
- If third party services are needed (e.g. a boundary surveyor instructing a third party digital survey company) identify the provider (or as soon as is known) and whether these other services will be via a subcontract provider or responsible directly to the client.
- Caveat sources and accuracy of information provided by others, e.g. client's own archives HM Land Registry, Ordnance Survey, etc. on which reliance may need to be placed.
- List any limiting factors that may prevent optimal investigations (e.g. impediments to accuracy or access).

- Describe the intended output (expert or other formal report; letter, drawings, etc.).
- Include a general statement of or limitations on liability in respect of services provided (responsibilities and services not included for instance).
- List health and safety constraints relative to the intended service.
- Explain safe custody of client documents (where applicable).
- Ensure confidentiality of the work and any special requirements.²
- Explain termination of contract.
- Client's money (if taking payment on account, and adhering to RICS holding client's money advice).
- Outline the complaints handling procedure (refer to section 2).
- Highlight the applicable legal jurisdiction (important if client is outside provider's domestic legal jurisdiction).

¹In undertaking any task there is an implied warranty that the provider has the necessary resources, skill, expertise and training for the purpose, which may in some instances necessitate independent accreditation.

²RICS members should be mindful of any encounter with situations involving illegal or criminal activities and the overriding obligation to report such situations to the relevant authorities regardless of client confidentiality and the need to avoid becoming involved with any matter that could jeopardise their professional standing.

Terms of engagement should be in writing and confirmed as agreed by the client.

Appendix E Entering neighbouring land advice

An RICS member who is instructed by a client to set out a boundary following an alleged encroachment by a neighbour should exercise caution and be careful to avoid any physical damage. The surveyor will need access to the land in dispute and therefore runs a risk of trespassing. Even if their client's plans are large-scale, detailed and clear there may well be an issue as to the position of the true boundary, for example, where the same land has been included in different titles, or in cases of adverse possession and of conflict with the neighbour. Therefore, the RICS member should consider whether it would be appropriate to adopt any or all of the following measures:

- 1 to obtain written authority from their client to enter onto any disputed land
- 2 to obtain a written indemnity from their client in order to indemnify the RICS member against any claim that may be made by the neighbour arising out of the RICS member's entry onto the disputed land (except in so far as the claim arises from physical damage caused by the RICS member's own negligence), including the costs of defending any such claim
- 3 to inform the neighbour in advance of the surveyor's intention to enter onto the disputed land for the purpose of the survey and seeking confirmation that they will not object
- 4 to attempt to speak to the neighbour immediately before entering on the disputed land in order to carry out the work.

An RICS member should try to avoid entering onto the disputed land if that will lead to a direct confrontation with the neighbour. In the event that the RICS member considers that it is appropriate to enter onto the disputed land contrary to an express refusal by the neighbour to allow entry, the surveyor should be aware that they risk being drawn into the dispute in a personal capacity that may undermine the client's case and may compromise the surveyor's ability to continue acting as an expert in the case.

If court proceedings are underway, a judge will normally direct that an obstructive neighbour should allow access to the RICS member.

Appendix F Boundaries relating to highways and public rights of way

F1 Definition

A highway is a public right to pass and repass over a strip of land on foot, horse, bicycle, in animal-driven vehicles and by mechanically propelled vehicles, depending on the class of highway, in perpetuity, with or without usual accompaniments. Frequently arising out of historic long usage, they do not always have clearly defined boundaries, being public rights over the surface and in the substrate immediately below but with ownership of the subsoil generally vesting in the riparian owner or another party. Other highways arising out of formal legal processes (e.g. compulsory purchase or express dedication) may, however, have a defined extent.

The local highway authority (LHA) is legally responsible for most, but not necessarily all, of the highways in its administrative area, and holds the public records of those highways. Highways England are responsible for all '[special roads](#)', such as motorways, and for many (but not all) trunk roads.

This guidance applies to highways that are managed by LHAs. Highways fall into two categories:

- 1 Highways recorded on the List of Streets under s36 [Highways Act 1980](#) (maintainable at public expense), which include public roads and cycle tracks and some permissive cycle routes.
- 2 Public rights of way (PROW) recorded on the Definitive Map and Statement for the relevant administrative area (which may or may not be maintainable at public expense). Public rights of way are classes of highway covering footpaths, bridleways, restricted byways and byways open to all traffic.

Most LHAs have webpages giving information about the highways/PROW in their area. In the following guidance, reference to 'highway' includes PROW unless otherwise defined.

F2 Determination

The legal and physical extent of the highway should not be presumed, as it will depend on the history of the highway. The boundary may, or may not, be the same as that considered to be the boundary of a property. Surveyors should refer to the norms of Ordnance Survey

mapping and definition of features at section 4.4.1 and should always consult the relevant LHA where a boundary position relative to a highway is involved.

The LHA should, in most cases, be able to determine the highway boundary based on the records it holds. In some cases, it may need to undertake a detailed investigation. However, as with private boundaries, even this does not always produce a conclusive answer. In such a situation, for public roads or cycle tracks, the preferable method of determination will be to come to a sensible agreement based on the available evidence. Failing this, the only alternative is via a dispute resolution process or, at last resort, the courts.

For PROW, the LHA will also usually be able to conclusively determine the boundary from its records. Where this is not possible, there is an established statutory procedure involving a formal investigation through a public process of consultation that may, or may not, result in a Definitive Map Modification Order (DMMO). A DMMO amends the LHA's legal records. This is a specialist and complex process that frequently takes one or more years to complete. For further information see [Access and rights of way](#).

All highway boundary investigations can take a significant amount of time, and surveyors are therefore advised to factor this into their work, especially where development of land is in prospect and having regard to the critical factors behind the purpose of the boundary investigation.

The granting of planning permission does not entitle a developer to obstruct any type of highway. If a development affects the extent of a highway in any way, a separate legal process may be required to authorise the proposal, and the LHA must be consulted to advise further. For example, a proposal that would result in permanent obstruction of a highway would require a legal stopping up or diversion order to do so. A temporary obstruction will also require the appropriate licence or temporary traffic regulation order.

F3 Ownership

In the absence of specific title to the subsoil of a highway, there is a general presumption that the owner of land adjoining a highway, including a PROW, owns the subsoil to the middle of the highway (because, even though highways are maintainable at public expense usually vest in the LHA, the subsoil beneath the highway usually does not vest). However, this presumption as to the extent of private ownership is restricted by the principle that the highway extends to 'the zone of ordinary use' needed for the highway, but not beyond (as decided by [London Borough of Southwark & Anor v Transport for London \[2018\] UKSC 63](#)).

An owner of land adjoining a highway has the potential to use and exploit the land that is in their ownership beneath the highway in accordance with that principle. They must not break open the highway or interfere with the use of the highway or interfere with other third-party rights (for example, drains that may be vested in an LHA or pipes/drains/cables that are the subject of easements) without formal consent. This will require advice from the LHA and may involve a separate legal process such as obtaining a licence or entering into an agreement covering works within the highway. If a third party is involved, a separate agreement may

be required with that party. Subject to the above, landowners can exercise their ownership rights. Such rights might include, for example, taking minerals, laying pipes, or constructing a vault, arch or cellar beneath the highway (but the owner can only construct a vault, arch or cellar beneath the highway with the specific consent of the appropriate LHA).

The same principle of 'the zone of ordinary use' being part of the vesting in the LHA also applies to the airspace above the highway.

The presumption that an owner of land adjoining a highway owns the subsoil to the middle of the highway is based on the presumption that the highway was dedicated by the predecessors in title of the owners of properties adjoining the highway, and that the subsoil of the highway will have passed under subsequent conveyances of those properties. The presumption can be rebutted. It will not apply where, for example, the land beneath the highway has been separately disposed of or reserved (which is quite common in respect of building estates, highways formed under the Turnpike Acts where the trustees acquired the soil, many highways laid out under the Enclosure Acts, or where the subsoil has been acquired for a trunk road). It is an offence to obstruct or encroach upon a highway. Therefore, the LHA should be consulted in good time when any works are being considered, and it is strongly recommended that legal advice also be obtained in cases where owners are relying on a presumption of ownership.

If a highway extends to the fences or other boundary features such as hedges and ditches that front the adjoining properties, such boundary features will normally be the responsibility of the adjoining landowners to maintain. Any transfer of land should refer to such features for avoidance of future doubt. Where the bounding feature is an integral or intended part of the highway, such as a crash barrier or a bridge parapet, then responsibility for that feature usually rests with the LHA. However, the LHA should be consulted for confirmation.

Because the highway authority acquires a legal interest in the surface of the road, HM Land Registry are unlikely to use the centre line of the road as the 'general boundary', even when the conveyancing history expressly includes half of the roadway in the adjoining property. HM Land Registry practice has changed over time and may vary depending on the registration office involved.

Land owned or managed by Highways England

Property owned or managed by Highways England can include significant tracts of land purchased for the building of new roads or the adjustment of existing ones. In addition, they may have inherited such assets from LHAs and other bodies. The Secretary of State for Transport and predecessor departments may still own highway land, and there are numerous easements for access to land retained for the purposes of highway management. Highways England are in the process of registering their freehold interest and other rights with HM Land Registry.

It can be difficult to trace the responsibility for such land. Conveyances are frequently silent on the ownership of boundaries, requiring research through other sources including older

conveyances; transfer correspondence; asset management records and verbal information as well as consideration of common law principles. Features on the ground can cause confusion, such as fencing erected for the benefit of an adjoining landowner that may not relate to the legal extent of the highway itself. Enquiries of Highways England [can be made online](#).

Highways England's [land ownership data](#) is available for use with GIS mapping software.

Additional notes on public rights of way

- Most PROW run over private land (it is unusual for the subsoil of a PROW to be owned by a highway authority) and many also run contiguously with private rights of access, such as a public footpath over a private road.
- Maintenance responsibility should be ascertained, because private maintenance liabilities may exist alongside, and be greater than, any public liability for a PROW.
- The extent of the PROW may not be the same as the extent of the private right of way.
- If a property is accessed by a track over which there is also a PROW, unless it is a public byway open to all traffic, the existence of the PROW does not automatically mean there is a lawful private right of access over it to the property concerned. Legal advice should be obtained.

Appendix G Glossary of terms

G1 Boundary terminology

The following are common usage references to boundaries:

- 1 Deeds and root of title.
- 2 Paper title boundary.
- 3 Legal boundary.
- 4 General boundary.
- 5 Determined boundary.
- 6 Boundary agreement.
- 7 Physical boundary.
- 6 Registered boundary (extent).

Term	Definition
Deeds and root of title	Originating legal documents describing the property form the legal title at first alienation (and subsequent transfers of ownership of land by conveyance). Deeds relating to land ownership can be in the form of historic conveyances and/or the HM Land Registry title and title plan.
Paper title boundary	The paper title boundary is the intended boundary defined within the originating conveyance of the land. At this time the paper boundary is also the legal boundary.
Legal boundary	The boundary established within a title's first alienation. A legal boundary is a notional line of no fixed width that separates one property from its adjoining property and is as per that described in the deed[s] pertaining to the plot. It may also define the extent of a legal interest in height, width or depth that may be registered to the owner of the land or somebody else or vested in another body. The legal boundary is often referred to as the invisible line. The existing feature on the ground may or may not coincide with the legal boundary. However, the legal boundary can change after the date of the originating conveyance, by either a boundary agreement or adverse possession.

Term	Definition
General boundary	<p>England and Wales operate a 'general boundaries' system of land registration (as does Ireland). A general boundary is defined in s60 Land Registration Act 2002. A title plan with 'general boundaries' shows the boundary of a property in relation to a given physical feature on the ground, such as a wall or hedge as identified on the Ordnance Survey map. A general boundary does not necessarily have any width and does not identify the exact position of a legal boundary. The red edging on a HM Land Registry title plan is therefore not definitive as to the precise position of the boundaries. For this reason, official copies of title plans carry the following warning: 'This title plan shows the general position of the boundaries: it does not show the exact line of the boundaries. Measurements scaled from this plan may not match measurements between the same points on the ground.'</p>
Determined boundary	<p>The Land Registration Act 2002 provides for the recording of 'determined boundaries'. The aim is to record a boundary's position to a precision of +/- 10 mm. The determined boundary should be mapped relative to surrounding 'hard' detail (anything made of brick, stone or concrete that is expected to endure) to a high level of accuracy that is certified by a chartered land surveyor. The intention is that another chartered land surveyor would be able to relocate the boundary. A determined boundary must be agreed between the neighbouring landowners before it can be recorded.</p>
Boundary agreement	<p>A verbal or written agreement between adjoining property owners that precisely defines their joint boundary. Boundary agreements arising from a mediated settlement are preferably in the form of a deed that can then be placed on the parties' HM Land Registry titles. The agreed boundary may become the new agreed legal boundary (when registered at HM Land Registry).</p>

Term	Definition
Physical boundary	A physical boundary is represented by a visible feature on the ground, such as a fence, wall or hedge, among other things, that is used and accepted by the adjoining landowner(s) to define their joint boundary. They all occupy three dimensions – length, breadth, and depth. A written description of the boundary feature should be noted and recorded at the time of survey, where possible. A physical boundary may not always be present on site.
Registered boundary (extent)	The registered boundary or registered extent can be either the general boundary or the determined boundary that is recorded at HM Land Registry.

G2 Other terminology

Accuracy	In general, when survey accuracies are specified, they refer to vector errors and are defined statistically as root mean square errors (RMSE) or standard deviation. The RMSE or standard deviation for bivariate data is equivalent to 68% of the normal distribution of random errors and is often used to express confidence in measurements.
Absolute accuracy	The measurement of RMSE of normally distributed error vectors relative to a defined grid and/or height datum. This is typically measured from the nearest survey control marker that was used as part of the primary grid establishment.
Alternative dispute resolution (ADR)	A range of options for resolving disputes without going to court. ADR includes mediation, adjudication, arbitration, conciliation and ombudsman schemes.
Case bundle	All documentation relating to the boundary dispute. Case bundles should comply with strict and quite intensive provision as laid down within the current Civil Proceedings Rules . Bundles of documents should comply with paragraph 3 of Part 39, <i>Miscellaneous provisions relating to hearings</i> . These guidelines are additional to those requirements and they should be followed wherever possible. The preparation of bundles requires co-operation between the legal representatives for all parties.

Covenants	An enforceable contractual promise. In terms of land, covenants can be positive (requiring something to be done such as the maintenance of a fence) or restrictive (requiring something not to be done, such as the building of further houses). Positive covenants are only enforceable against the original covenantor, so do not bind a subsequent purchaser. Restrictive covenants, however, do bind subsequent purchasers, and are therefore often referred to as 'running with the land'.
Curtilage	The land within which the building is set and that belongs or once belonged to it and is or once was used in conjunction with it. The extent of the curtilage can be hard to determine. It may, for example, in the case of a farm, extend to include barns, stables and sheds.
Deeds of (transfer, conveyance, assignment)	A transfer deed is a document used in conveyancing in England and Wales to transfer real property from its legal owner to another party. A deed of conveyance can transfer the legal title of the property's ownership from one individual to another in the form of a mortgage, gift or other real estate transaction while a deed of assignment is used to assign just the beneficial interest in land/property from one party to another.
Disclosure	Identify and provide copies of documents (relevant to a particular dispute).
Easement	A right over one piece of land (the servient tenement) in favour of another piece of land (the dominant tenement). Common examples of easements would include rights of way, rights of drainage and rights of light.
Extrinsic evidence	Facts or information not embodied in a written agreement such as a will, trust, deed or contract. Extrinsic evidence is similar to extraneous evidence, which is not furnished by the document in and of itself but is derived from external sources. Intrinsic evidence is included or contained in a record, document, statement or deed.
Fee schedule	A list or table showing fixed fees for goods or services. The actual set of fees to be charged.
First registration	An application to put previously unregistered land on the register.

Global navigation satellite systems (GNSS)	The standard generic term for satellite navigation systems that provide geospatial positioning, with global coverage.
Hedge and ditch explanation	A legal presumption that, where a hedge and ditch run along the boundary between two properties, the boundary runs along the outside edge of the ditch furthest from the hedge.
Mediation	An effective way of resolving disputes without the need to go to court. It involves using an independent third party (a mediator) who helps both sides to come to an agreement. The role of the mediator is to help parties reach a solution to their problem and to arrive at an outcome that both parties are willing to accept. The mediator remains neutral throughout the process. The focus of a mediation meeting is to reach a common-sense settlement agreeable to both parties in a case. Mediation is a voluntary process and will only take place if both parties agree. It is a confidential process where the terms of discussion are not disclosed to any party outside the mediation hearing.
Orthorectified	Orthorectification is the process of using a mathematical model and a digital elevation model (DEM) to correct distortions in raw images such as aerial photographs. An orthophoto or orthophotograph is an aerial photograph that has been geometrically corrected ('orthorectified') such that the scale of the photograph is uniform, and the positions of the pixels are correct, meaning that the photo can be considered equivalent to a map. Orthophotographs have the positive attributes of a photograph such as detail and timely coverage, and the positive attributes of a map including uniform scale and true geometry.
Overhauled OS mapping	When it was decided to create national mapping on the Transverse Mercator Projection as a replacement for the Cassini Projection and introduce the National Grid the County Series maps were adjusted to fit the new projection (Ordnance Survey, 1972, The overhaul of the 1:2500 county series maps, (OS PP, New Series, no. 25)) and the resulting accuracy is given in Table 25, page 164, Harley JB, 1974, Ordnance Survey Maps a descriptive manual.

<p>Parcels clause</p>	<p>This is the clause that describes the land and defines the boundaries. In conveyance deeds it always begins 'ALL THAT piece or parcel of land' and is usually found in the lower half of the first page of the deed. Transfer deeds made using HM Land Registry form TR1 will usually describe the land only in terms of the registered title number. In other words, they are relying on the general boundary shown on the title plan, which is neither precise nor is it likely to be the legal boundary. In this case, efforts should be made to locate a copy of the pre-registration title deeds if the true position of the legal boundary is to be discovered.</p>
<p>Party wall</p>	<p>A party wall under English Law has a specific definition under section 20 of the Party Wall etc. Act 1996 and the boundary line can be located in any position within the thickness of the wall/structure. This line can be vertical and horizontal as found in the divide between long leasehold interests such as flats/offices. The concept of the moiety position is only for common walls constructed before the introduction of the Law of Property Act 1925.</p> <p>The above does not allow for the second definition under section 20(b) of the Act. This is when an adjoining owner encloses upon the fully independent wall of a neighbour, the zone enclosed immediately acquiring definition rights as a party wall. Any area not enclosed either above/below or to the sides remains an independent structure. This situation does not change the line of the legal boundary only the definition of that feature within the enclosed zone in law.</p>
<p>Photogrammetry</p>	<p>The art, science and technology of obtaining reliable information about physical objects and the environment through processes of recording, measuring and interpreting photographic images and patterns of recorded radiant electromagnetic energy and other phenomena.</p>

Portable Document Format (PDF)	Proprietary to Adobe Systems, a PDF is a platform independent file format that lets the user capture and view information, from almost any application on any computer system, and share it universally. The recipient does not need to have access to the software programme used to create the original document. PDFs have greater security (although PDF editing software is widely available), stability and multi-platform capabilities than other forms of digital document. With increased stability comes a smaller file size, aiding electronic and portable hard drive transfer and internet- based applications.
Precision	In terms of survey measurement, precision relates to the degree to which repeated measurements show the same results.
Raster data	A representation of the world as a surface divided into a regular grid of cells. Raster models are useful for storing data that varies continuously, as in an aerial photograph, a satellite image, or an elevation surface.
Registered property	<p>Property may be registered with HM Land Registry. In circumstances where it is registered, typically, the boundaries are inconclusive save for those that are registered conclusively – HM Land Registry registers property not boundaries. The Folio File Plan shows a notional line of no fixed width that separates one property from its adjoining property. Ordinarily the registered and the legal boundary should correspond, but this must be verified (no assumptions should be made).</p> <p>Legal, physical and registered boundaries do not always coincide and must always be verified (no assumptions should be made) for things such as planning, conveyancing, development and valuation.</p>
Relative accuracy	The measurement of RMSE of normally distributed vector errors between proximate features shown in survey or setting out on the ground. The calculation can be made independently of the absolute accuracy of features shown on a grid (i.e. the distance between two buildings measured from the same survey).

Single joint expert (SJE)	A single person jointly appointed by the parties with court approval to act as an expert witness in court proceedings. The court has the power to direct the use of an SJE and, where the parties cannot agree on an individual, to impose a method of identifying and appointing a suitable person.
Title plan	A large-scale location plan, usually drawn to a scale of 1:1250 for urban areas or 1:2500 for rural areas and 1:10 000 for mountain and moorland areas, showing the approximate position of the boundaries of the property, edged in red, in relation to the surrounding properties.
Unregistered land	Land that has not been registered with HM Land Registry. The owner of unregistered land will often have a bundle of deeds that form a record of previous sales, mortgages and other dealings with the land. However, if the land is mortgaged, the lender normally holds the deeds as security for their loan. There is usually no public record of the information contained in the deeds.
Vector data	A representation of the world using points, lines and polygons. Vector models are useful for storing data that has discrete boundaries, such as country borders, land parcels and streets.
Vertical and oblique imagery	There are two types of aerial photographs: vertical and oblique. Vertical photographs give a bird's-eye view of landscapes as they are taken looking directly (vertically) down at the ground. Oblique photographs are taken at an angle and are normally focused on sites or other features.
Watercourses	Where properties are separated by a natural non-tidal river or a stream, the presumption is that the boundary follows the centre line of the water measured at normal winter water level (<i>ad medium filum aquae</i>) so that each owner has half of the bed. If the course of the stream gradually changes over a period of time, the position of the boundary will change accordingly – see HM Land Registry practice guide 40 for more information. However, changes as a result of human agency do not lead to an alteration in the position of the boundary. Where there is a sudden, but permanent change in the course of the stream, whether or not it is due to natural causes, the boundary will remain along the centre line of the former bed.

G3 Land measurement for planning and development purposes

For planning and development purposes, a number of calculations of land area are required such as the area of land in the legal ownership of the developer and the site area that is subject to a planning permission. The terms applied to these areas may differ in different jurisdictions but the distinction between these different areas needs to be maintained. The legal land ownership area will be defined in accordance with title documents. The site area for planning purposes will be defined in accordance with the planning codes in each jurisdiction. The following definitions apply for planning and development purposes.

Land ownership area	An area of land, measured on a horizontal plane, held in a single legal interest or title by one or more legal owners and that may be the subject of a proposed or actual sale, letting or other disposal, valuation or compulsory purchase. It may comprise all or part of that single legal interest or title.
Net development area	The extent of the site area upon which one or more buildings or other operations and their ancillary space can be built, measured on a horizontal plane.
Site area	The total land area for which development authorisation is sought, measured on a horizontal plane.

Appendix H Survey accuracy banding table

Band	Plan accuracy (X, Y)	Height accuracy (Z)	Example survey types/use	Legacy output scale	Min size of feature shown to scale (not symbolised)
D	+/- 10mm	+/- 25mm	Measured building surveys, high accuracy land and topographic surveys, determined boundaries surveys.	1:50	20mm
E	+/- 25mm	+/- 50mm	Measured building surveys, Boundary identification, measured land surveys, topographic surveys.	1:100	50mm
F	+/- 50mm	+/- 50mm	Boundary identification, measured land surveys, UAV surveys.	1:200	100mm
G	+/- 100mm	+/- 100mm	Topographic surveys, boundary surveys.	1:500	250mm
H	+/- 250mm	+/- 250mm	Low accuracy topographic surveys, national urban area mapping.	1:1000	500mm
I	+/- 500mm	+/- 500mm	Low accuracy topographic mapping, national non-urban mapping, general boundary mapping.	1:2500	1000mm

Customised from original [Measured surveys of land, buildings and utilities](#) (3rd edition). This table refers to measured survey data and should be read in conjunction with section 5.

Appendix I Data provenance

RICS expert boundary surveyors regularly obtain supporting data and evidential documents from various sources. Such information should be validated by the surveyor before it is used and relied upon to support the surveyor's findings. It is not uncommon that data will emerge from varying sources and no doubt each will be subject to its own inherent limitations. Boundary experts are usually provided with limited briefs and may not have access to all the necessary information to make a water-tight finding. Therefore, it is necessary for limitations and assumptions to be clearly set-out to enable all relevant stakeholders to see what information has (or has not) been considered.

I1 Objective

The objective of recommending good industry practice is to improve overall accountability and transparency of the information considered in a clear, objective and understandable manner. It is essential that all existing data influencing the surveyor, is clearly set-out and disclosed from the outset. Such practice will result in better understanding concerning the area of interest.

To assist in information exchanges, industry guidelines or standards must be created. This standard will inform and steer good industry practice to improve transparency, quality, safe use and overall completeness.

I2 Data sources

Information presented may be in any of the following forms.

Administrative data	A data source that is used to support administrative records or applications, e.g. planning information. It is limited and does not always contain current survey information. Generally based on definitive geographic information that created by the National Mapping organisation.
Authoritative data	A data source that others can rely upon as official data. It is important to note that authoritative data is limited to the scale that it was first created to serve and may also contain unintentional spatial errors. It does not hold vital information like a ground truth survey will as it was not created for the purpose of serving detailed boundary information.

Deeds	Legal authority derived from the signatures attached. When using and/or relying on deeds or deed maps, it is recommended that only certified copies are consulted. In addition, the surveyor should obtain a brief statement as to title from the solicitor. The surveyor needs to read the deed(s) and the deed map(s) and come to their own conclusion, which may then be discussed with the solicitor to be sure that both the solicitor and the surveyor are of the same understanding with regards to the title and its equivalence on the ground.
Photography	Ground-based and aerial photos including drone imagery.
Previous survey information	Note not all surveys are the same and the original purpose may inform possible future uses and compatibility.
Sketches	Unless these are signed in accordance with a due process, they have no legal significance; however, they may be used to show intention if necessary.
Third-party satellite imagery	Google Earth and similar should not be confused with specialist orthophotography available from some specialists.

13 Data provenance and referencing protocol table

Item	Description	Specification	Date of capture/ compilation/ publication/ copying	Data creator	Purpose of original creation	Provided by	Other notable information	Method of creation and spatial accuracy, if know
1	(1978) Deed of	A plot of ground situate at XYZ St, 123	21.12.1978	ABC Engineers	Site layout	LMO Solicitors	Poor quality and contains may tears	
2	Index/title plan	1:2500	10.10.2010	HM Land Registry	Registration	HM Land Registry	Inconclusive as to boundaries	
3	Family photo	Historical photo	Unknown c. 2005	Unknown	Wedding	Client	A fence to the fore is visible	
4	OS	1:2500	15.07.2014	OS	Topographical	OS	Raster data – attribute data attached to digital file	
5	Google Earth Image	Unknown	c. 2017	Google Earth	Digital mapping	Screenshot	Looks the same as the data presented for 2010	

Item	Description	Specification	Date of capture/ compilation/ publication/ copying	Data creator	Purpose of original creation	Provided by	Other notable information	Method of creation and spatial accuracy, if know
6	Final Grant of Planning	1:500	04.07.2006	XYZ Architects	Planning	Client	Site boundary suggests a concrete block wall as the boundary	

Note: Example shown depicts how neighbouring properties may be viewed.

A detailed boundary survey and appraisal of relevant supporting documents will provide accurate positioning and mapping, which supports several different functions from acquisition to disposal and throughout the full life cycle of the property. Such an appraisal is wholly contingent on all the relevant information being verified as the position on the ground.

Delivering confidence

We are RICS. Everything we do is designed to effect positive change in the built and natural environments. Through our respected global standards, leading professional progression and our trusted data and insight, we promote and enforce the highest professional standards in the development and management of land, real estate, construction and infrastructure. Our work with others provides a foundation for confident markets, pioneers better places to live and work and is a force for positive social impact.

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