



## Précis Paper

### Legal Issues Relating to Boundary Surveying

A discussion of the legal issues involved in boundary surveying.

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# Précis Paper

## Legal Issues Relating to Boundary Surveying

1. In this edition of BenchTV, Lee-Ann Walsh (Barrister – Frederick Jordan Chambers, Sydney) and Irina Hoskinson (Barrister – 3 St James Hall Chambers, Sydney) discuss the legal issues involved in boundary surveying.

### What does taking a land survey involve?

2. In New South Wales, land boundaries are defined by bearings and distances, the measurements of which are taken by registered land surveyors. These measurements will always be in relation to other things, for example, original survey markings, natural land features, and latitude and longitude.
3. In the old days, boundaries were defined by the "metes and bounds" of a particular parcel of land. These described measurements relevant to the distances and limits of that particular parcel, and they can still be found in old deeds of conveyance. Further, surveyors of old used the "chainage" standard of measurement, which, as the name suggests, required the use of chains, referred to as "surveyor chains" or "gunter's chains", to measure out the boundaries in a particular parcel of land. This was obviously an imperfect method of measurement because chains stretched out over a distance will dip, and as such the measurements resulting from these methods were always only an approximation.
4. Nowadays, surveyors have an array of different machinery and devices at their fingertips, perhaps the most well-known of which is the theodolite, used to take the horizontal and vertical measurement of lines, resulting in a more accurate measurement than the chains of old.

### Legal regime governing the practice of land surveying in New South Wales

5. The major legal regime governing the practice of land surveying in New South Wales is contained in the *Surveying and Spatial Information Act 2002* (NSW) ("the Act") and the *Surveying and Spatial Information Regulation 2017* (NSW) ("the Regulation"). The Act sets out:
  - (i) the duties and responsibilities of the Surveyor General of New South Wales, currently Narelle Underwood; and
  - (ii) the professional requirements for the registration of land surveyors in New South Wales

The Regulation on the other hand sets out the technical requirements a land surveyor must comply with in order to accurately carry out their work, describing the methods they ought to use when conducting a land survey.

6. The registration of land surveyors in New South Wales is overseen by the Board of Surveying and Spatial Information ("the Board"), which is comprised of the Surveyor-General and a number of other government appointees. Part of the role of the Board is to investigate complaints made by the public in relation to registered surveyors in New South Wales.

#### Surveyors' professional duties

7. In many ways, surveyors' professional duties are similar to those of legal practitioners. Like legal practitioners, surveyors are bound by duties of confidentiality, are required to meet high standards of competence and qualification, and are subject to the laws of professional negligence.

8. There have been several cases over the years in which courts have expressly dealt with the requirement of competence and integrity in relation to survey work. One of these is *Smith v Ryan* (Unreported, NSWSC, 24 Sept 1981 per Rogers J) ("*Smith v Ryan*"), in which the unreliability of the survey in question led to the suspension of the surveyor in the case. Rogers J said that it was:

a matter of importance to the community generally that those who are permitted to carry out surveys and bring into existence records which become part of the public records of the State, are competent to carry out their tasks in accordance with the responsibility that lies upon them. The consequences of any dereliction of duty on the part of the surveyor can be seen as grave.

In *Smith v Ryan*, the effects of an unreliable survey were far-reaching, more far-reaching than only the parcel of land the subject of that survey.

9. *Antaw v Board of Surveyors and Ryan* (Unreported, NSWDC, 1990 per Nield J) is another case in which the courts have emphasised the very public nature of a surveyor's work.

#### Land surveying: a science or an art?

10. While it may come as a surprise to many legal practitioners, it is a well-accepted fact amongst surveyors themselves that surveying is more an art than a science. Although the image of a person on the side of the road in a fluorescent vest and a theodolite might reasonably lead people to believe that the practice of surveying simply involves someone going out and taking measurements with a device, the accuracy of which is assured because the device has been specifically built for that purpose, the truth is that surveying is very much an art and an expression of an opinion (albeit an expert opinion), and the conclusions reached by a particular surveyor might

be open to interpretation. Different surveyors might use different methods of measurement, different ways of recording, and different ways of resolving boundary anomalies, the decisions or conclusions drawn from which can ultimately result in the loss of land for an unsuspecting landowner.

11. This is why expert land surveyors are sometimes called upon to provide an opinion as to the limits of a particular land boundary, either in the context of an application to the Registrar General to determine a boundary, or in the context of court proceedings. Expert land surveyors might also be required to express an opinion as to the methods and accuracy of a prior surveyor's work. In order to properly express that opinion, a surveyor will typically need to collect data and evidence in respect of the land, and perhaps even conduct further investigation by reviewing historical surveys and plans, and the field notes of other surveyors. It is important to note that the conclusions a surveyor draws are based not only on the evidence that they themselves have gathered, but also on the legal principles that apply in the interpretation of that evidence.

#### What are the legal ramifications of surveyors' opinions?

12. The most obvious legal ramifications would be in a case involving the sale of land. A contract for the sale of land and a certificate of title are meaningless unless accompanied by a survey plan marking out the boundaries of the particular parcel the subject of the transaction. The survey must accurately identify the limit of the relevant parcel so that the purchaser knows what exactly it is they are buying. If there is any mistake in relation to the accuracy of the survey plan, there might be a real issue as to who has gained title to what, which could lead to a very expensive legal dispute.
13. A related example is the case of subdivisions, where a survey is required to mark out the new resulting lots following a subdivision. Again, if there is a discrepancy as to the accuracy of that survey plan, a real issue might arise as to whether the subdivision is even legally possible.
14. In each of the above examples, there will be an excess or a shortage in respect of the relevant land, which will result in either a loss or a gaining of land for a particular landowner. Given the nature of indefeasibility, a legal practitioner in this situation will need to determine early on whether it is appropriate to engage the services of an experienced independent expert surveyor who can investigate the competence of the survey plan and express an opinion as to the true position of the boundaries. In many cases, if the accuracy of the survey is a concern for a solicitor or their client, access to the surveyor's field notes, taken at the time the survey was created, becomes critically important from an evidentiary standpoint. The Regulation mandates that all registered land surveyors in New South Wales create and

maintain field notes, and that these notes should readily be made available in the case of a legal dispute.

#### How do the courts deal with boundary conflicts?

15. The courts have established what is called a "hierarchy of evidence", which dictates the relevant weight to be given to different categories of evidence used in the creation of a boundary survey. Although these rules are not always strictly applied, and are applied on a case-by-case basis, they serve as a useful legal framework if the courts come across a situation where various surveyors simply cannot agree on the true position of the boundary.
16. In the hierarchy of evidence, evidence is ranked in the following manner:
  - (i) Natural feature boundaries - for example, cliff edges, shorelines, streams, and mountains. Natural feature boundaries are ranked at the top of the hierarchy of evidence as they are not likely to change position over time, possibly with the exception of shorelines.
  - (ii) Monuments - these are defining marks that can be natural or artificial structures, such as a building, that have been used as reference points for measurement in a survey.
  - (iii) Old occupations or markings, referring to undisturbed markings of a private survey that have long been accepted and have never been the subject of a dispute.
  - (iv) Abuttals - these are natural or artificial features, such as a street or a road, located at the bound or edge of a parcel of land.
  - (v) Statements of length, bearing, or direction - these are simply recordings of statements contained in land title documents or survey plans, for example, on title deeds describing the metes and bounds of a particular parcel of land.
17. This hierarchy of evidence is not always strictly applied by the courts because the circumstances of a particular case might require the court to place more emphasis or weight on a category of evidence that is further down in the hierarchy, if appropriate to do so.

#### Permanent survey marks and their significance

18. Permanent survey marks are placed in or on land to designate key survey points on the surface of the earth. Schedule 4 of the Regulation provides each of the various types of survey marks that can be used in and around New South Wales. These survey marks are considered to be a key element in State infrastructure because a lot depends on them. For example, the placement of permanent survey marks will affect the location of development

of roadworks, underground utility lines, major developments like shopping centres, and the creation of public spaces.

19. For this reason, survey marks are treated with the utmost care and protection under the legislation, and the defacement or destruction of a permanent survey mark is a serious offence, for which the legislation prescribes very serious penalties.

#### Survey pegs and their legal significance

20. Survey pegs are a particular boundary marking with statutorily-defined properties, placed in the ground by a surveyor to mark out the corners of a particular boundary of a parcel of land. The statute sets out the material that should be used for survey pegs, their size, shape, and whether they are used in a rural or an urban land setting.
21. When a parcel of land is described in a certificate of title, what is actually being described is the parcel as marked out on the ground by the survey pegs. It might be surprising to learn that even today, surveyors debate which takes precedence – the survey peg in the ground, or the marking on the plan. A survey peg might disappear or be destroyed over time, and if there is any dispute about which one takes precedence, then that might become an issue.

#### How does the law deal with discrepancies between survey pegs and markings on a plan?

22. The old Victorian case of *Stevens v Williams* (1886) 12 VLR 152 has suggested that the placement of physical survey pegs in the ground takes precedence over any marking in a plan, if the plan itself was incorrect as to its description of the position of the pegs. Generally speaking, however, the courts tend to favour the markings in a plan, unless there is evidence to suggest that there is some flaw in respect of that documentation. In such a case, the previously described "hierarchy of evidence" might come into play.

#### Rules regarding boundaries where the parcel of land extends to a shoreline, for example, a lake, river, or beachfront

23. The principal point to keep in mind here is that natural moving bodies of water change with the effluxion of time. Given the dynamic nature of land-water boundaries, the legal rule is that, generally speaking, boundaries adjoining an ocean front, tidal lake, or stream, always extend to the mean high water mark.

#### Classification of bodies of water as tidal or non-tidal

24. This is a legal question. For example, in the past, the courts have declared that some parts of Lake Illawarra are tidal, and other parts are non-tidal. Whether a body of water is tidal or non-tidal is important, because the legal doctrine is that if the waters are tidal, then the land boundary will extend to the mean high water mark.

#### Historical background of tidal bed ownership

25. Water mark boundaries were originally devised as a way of settling disputes between kings and nobles over who owned the spoils of shipwrecks. In later developments, the measurement of mean high water mark was used as a way of excluding from private ownership all land beyond mean high water mark which otherwise vested in the Crown, a position which, by and large, has been maintained today.

#### Mean high water marks and the settling of disputes

26. The mean high water mark is taken to be the mean or average of all of the high tides observed over a period of many years. This requires the collection of long-term tidal data. It is easy to see why land-water boundaries might be susceptible to contention if there is a dispute over the integrity of that data. The mean high water mark can shift over time for any number of reasons.

#### Legal disputes that can arise as a result of a shifting mean high water mark

27. The biggest factors here are the accretion and erosion of shorelines. This can occur slowly over a significant period of time, or suddenly as the result of some geological or even artificial event. Accretion results in a gain for the landowner due to gradual accumulation of additional layers of shoreline, while erosion results in a loss for the landowner due to the loss of shoreline.
28. Legally speaking, the doctrine of accretion and erosion will apply in these cases. This doctrine states that unless a contrary intention appears in the relevant instrument of grant, the mean high water mark will apply, making allowances for any accretion or erosion that has taken place since that date. By way of example, in the old case of *McGrath v Williams* (1912) 12 SR 477, the court was dealing with a Crown grant where the contrary intention was found to exist in the wording of the original Crown grant. This wording actually resulted in a finding that the mean high water mark remained static in the very same position it occupied as at the date of the original Crown grant, despite the occurrence of erosion over time.

#### Do courts now have any say in the event of a dispute over the meaning of "high water mark"?



29. Prior to the enactment of coastal protection legislation in New South Wales, the courts had jurisdiction to make declarations as to the position of boundaries and the event of accretion and erosion of a shoreline. Now, however, the *Coastal Management Act 2016* (NSW), which is protective in nature, expressly prohibits the court's jurisdiction in this regard.

What is the position in regard to non-tidal waters?

30. Generally speaking, the doctrine of accretion and erosion does not apply in relation to non-tidal waters. The general position under the *Crown Land Management Act 2016* (NSW) is that no title to land comprising a bed of any non-tidal lake is deemed ever to have been passed in any Crown grant. This means that the landowner of land that abuts a non-tidal lake has no rights of access over any part of the non-tidal lake bed.

Specific legal issues that can arise in cases of road realignments as a result of expanding developments

31. The *Sydney Police Act 1833* (NSW) was the first time that the marking of public carriageways and footways by the Surveyor-General was enacted in a statute, and in 1901, the Supreme Court of New South Wales in *Dalley v Municipal Council of Sydney* (1901) 1 SR (NSW) 221 defined the method of conclusively proving the position of street boundaries by reference to the permanent markings of existing street kerbs. The kerb method of proving the position of street boundaries is one that is still used today by surveyors.
32. An issue that can arise here relates to the subdivision of land. Subdivisions sometimes, though not always, result in the creation of new lots that front a public road. A problem might arise in the situation where the permanent survey marks have been lost or destroyed over time, such that pinpointing the legal position of the public road might become a problem, and could actually affect the frontages of the new resulting lots. In such cases, a re-survey might be necessary to establish the correct legal position of the road.
33. As a side note, in relation to roads, a legal practitioner may need to be aware of the legal status of the road itself. In other words, is it a public road, is it a private road that is only for the use of an exclusive class of persons, or is it a public road that was once private that was never actually properly defined in a survey?

Privately-owned land mistakenly used as a public road

34. *Mulcahy v Blue Mountains City Council* (1993) 81 LGERA 302 is a case where privately-owned land was mistakenly used as a public road. In this case, the Local Council mistakenly constructed a public road over some private land, because it had gotten the position wrong.

In these situations, the law regards the landowner as perfectly within their rights, and entitled, to prevent public access on that road. This is entirely consistent with the very sacred regard that the law has for private land ownership in Australia.

#### Legal regime for dealing with neighbouring boundary disputes

35. In cases where a landowner feels they have lost a portion of land due to a survey error, and surveyors engaged by the interested parties simply cannot agree on the correct position of the land boundary, Pt 14A of the *Real Property Act 1900* (NSW) provides proprietors of land, as well as purchasers under a contract for sale of land, a mechanism to apply to the Registrar-General for a boundary determination. If the interested parties are not satisfied with the Registrar-General's determination, they have the right to appeal the determination to the Land and Environment Court of New South Wales within 28 days.

#### Takeaways for landowners and legal practitioners

36. The humble theodolite is by no means a magic eight ball when it comes to determining land boundaries. The theodolite is but one instrument, one means, by which land surveying is carried out, and legal opinion in terms of those different experts is always required.
37. If there is ever a doubt regarding the legal position of a boundary on a survey plan, it is always in the landowner's interest, in conjunction with their lawyer, to consult an experienced, independent land surveyor who can do the technical investigative work necessary to ensure that any conclusions that are drawn in respect of that boundary placement are not only soundly based in the evidence, but also supported by the legal principles that apply to boundary surveying.
38. Surveying is by no means a science, but more of an art, the opinions about land surveying can differ, and even experts can disagree.
39. Land surveying is ever evolving as new techniques, methods of measurement and devices, and new ways of recording the cadastral survey are developed, which will bring about changes to the legal principles that apply to this area over the years.

## **BIOGRAPHY**

### Lee-Ann Walsh

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Lee-Ann was called to the Bar in 2012. Prior to this, she worked in the legal publishing, research and policy fields, and was Tipstaff and Associate in the New South Wales Court of Appeal. She has appeared as junior counsel in key property and commercial cases in the High Court and has developed a diverse range of practice areas, including commercial, equity, property, and employment law. Lee-Ann was recently appointed Editor of Hallmann's Aspects of Boundary Surveying.

### Irina Hoskinson

Barrister, 3 St James Hall Chambers, Sydney

Irina was called to the Bar in 2016. Prior to commencing private practice, Irina was a Deputy Registrar of the Supreme Court of New South Wales. In that role she dealt with writs of possession of property, probate, and administration of deceased estates, and presided over examinations. In private practice, she has dealt with bankruptcy, corporate insolvency, debt recovery, and family provision matters. Irina is also an adjunct lecturer at the College of Law (NSW).

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### Legislation

*Surveying and Spatial Information Act 2002* (NSW)  
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*Coastal Management Act 2016* (NSW)  
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*Sydney Police Act 1833* (NSW)  
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