

LAND SURVEY PARTY CHIEF SERIES

2. PRINCIPLES OF RETRACEMENT

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This manual entitled **PRINCIPLES IN RETRACEMENT** is based upon the original Party Chief seminar series. It is devoted to the concept of Continuing Education for the Land Survey Party Chief.

The ideas and concepts are not new, but are presented in a way to fully define the actual Job Classification of the Survey Party Chief.

The publication also includes some basic information of those aspects of surveying which have been allowed to deteriorate over the passage of time but which have always been a priority in the knowledge required by those wishing to attain the position of Land Survey Party Chief.

EVIDENCE, GENERAL

AIM: To introduce the concept of "best available evidence".

TEACHING POINTS:

1. Definitions and types of evidence.
2. Requirements for evidence.
3. Searching for evidence.
4. Theoretical vs. possessory limits.
5. Conventional boundaries.
6. Physical Boundaries as best evidence.

REFERENCES:

1. The Surveys Act, 1990 R.S.O., Chapter S.30
2. M.T.C. Precis
3. Boundaries And Surveys - Lambden & de Rijcke
4. Monumentation Regulation 525/91

Introduction:

It is common knowledge that the Surveys Act, and the Regulations that are the implementing rules of that Act, govern how we perform any survey.

The Act defines certain words and expressions such as:

"ascertainable point" - being a point found or re-established in its original position;

"competent authority" - being any governmental authority under whose instructions Crown Land Ontario has been or may be surveyed;

"lost corner" - being a corner established during an original survey where the original post (i.e. monument) no longer exists and which cannot be re-established from the field notes or by evidence under oath;

"obliterated boundary" - being a boundary established during an original survey where the original posts no longer exist and which cannot be re-established from the field notes or by evidence under oath;

"original plan" - being a plan certified by the Surveyor General as being the original plan of an original survey;

"original survey" - being a survey made under competent authority.

Parts II to VII of the Surveys Act define the methods of re-establishment of the different types of township surveys, and, in each case, before defining how the establishment must be carried out, the Surveys Act stipulates:

"A Surveyor in re-establishing a lost corner or an obliterated boundary ... shall obtain the best evidence available respecting the corner or boundary but if the corner or boundary cannot be established in its original position from such evidence, the surveyor shall proceed as follows:

The Act then gets into how the work will be performed.

Notice the expression "shall obtain the best evidence available." What we must be able to understand is:

What is meant by the term "evidence" and what is "the best available evidence"?

Evidence (and we are only pursuing the meaning as it relates to legal surveys) is that which affirms a fact. There are two types:

1. **Documentary**, or on record, such as Plans on title in the Land Registry Office, Surveyors Field Notes, Reports of Survey, written descriptions, etc.

2. **Physical**, or what is found on the ground, such as monuments, blazes, bearing trees, fences, topography.

These two types of evidence are inter-related. Documentary evidence indicates what to look for, and Physical evidence is what you find on the ground by the intelligent use of Documentary evidence.

A surveyor must gather and intelligently assess all available evidence in order to determine the actual position of a previously established line. The surveyor must carefully weigh all the evidence before reaching any conclusion. If the surveyor discovers conflicting evidence, he/she must weigh all factors to discern that which is factual and that which is ambiguous. For example, a surveyor in the retracement of an old boundary line finds monuments which differ from the old documentary data. Before accepting these monuments as the best available evidence, he/she must continue his search for other evidence, and may just find almost obliterated traces of an old fence line which agree with the documentary date. The monuments found initially may be the result of an incorrect survey, or could have been placed deliberately to benefit an individual.

As a **firm principle** we must follow the precept that the marks and monuments set on the ground the first time the boundary was delineated are those which distinguish that boundary, and only by finding those original monuments can the surveyor define the boundary conclusively.

This leads to a **second principle** which states that any re-establishment of a monument on the basis of mathematical dimensioning by the original survey and unsupported by actual physical evidence might be quite wrong, and could have far-reaching effects if satisfactory evidence of the original monuments were later discovered.

It is mandatory to complete a full search in order to find the original monument or physical evidence of its actual location. Although you may be able to locate the monument, you must never assume that it is in its original position until other evidence, or measurements prove it to be correct.

This leads to the **third principle** of never abandoning the search for evidence until you are personally convinced that no one else can find any better evidence than you have.

The **last principle** that we must adhere to is that every boundary under retracement must be substantiated and proven according to the rule of best evidence as laid down by Statute, or which may be found in Common Law. Where no physical evidence can be found, then and only then, can the corner or boundary be defined by a valid and established survey method.

A long-standing dictum of our profession states that in the retracement corners and boundaries we must conduct our search for evidence and assess the evidence in the very same light as it would be assessed in a court of law. The question most often asked is "What evidence?" or "Evidence of what?".

Our job is the retracement of boundaries of a certain parcel of land that is defined on the surface of the earth in some specific manner. The parcel begins somewhere and ends somewhere, and we must find the "whereabouts". It therefore follows that anything that will lead us to determine those "whereabouts" becomes evidence of what we are trying to do.

A complete list of what is termed "evidence" could go on and on. Let's try to list some of the ones you already know:

1. Documents - descriptions, plans, notes, photographs.
2. Fences, stone cairns, blazed trees, gas pipes.
3. Monuments
4. Centreline of railway steel.
5. Centreline of walls.
6. Centreline of transmission towers.
7. Pole lines.
8. Underground plant.

They are all evidence of the fact that someone, sometime, did something and left a record of what was done. It is our job to find what was done, and to prove by some means that what we have found is what was intended. We must also have the means to back up our decision in court. This of course means that any evidence which we find and use must be a reliable nature.

J.H. Holloway, A.L.S., noted in his article published in *The Canadian Surveyor*,

"A single item of evidence is not proof of the fact it indicates. Even several items of evidence all pointing to the same fact may not afford conclusive proof. The surveyor must be sure he has exhausted all sources of evidence, and then must weigh all that evidence, and decide in what direction the greatest weight of evidence lies."

For instance, where you find an original monument in good condition, it is in the nature of primary evidence. When you make subsidiary evidence which agrees with documentary data, (i.e. secondary evidence) then you can accept the monument as being correct. However, if the monument has been destroyed and a fence post erected which agrees with the secondary evidence, then you can accept the fence post as being correct.

You must not lose sight of the basic principle that the most relevant evidence is the position of original monuments placed to define a boundary. Field notes of the survey are record of this primary evidence. What happens when you find that the field notes indicate a different position of a corner to where you find the monument? Was it erroneously placed? Has it been moved from its original location? Are there errors in the field notes?

It is a well established principle that even though it appears that a monument is found to be in error, once it is placed and the survey confirmed, then the monument governs the corner and the boundary for which it was intended. This is an awkward situation for anyone. The only way of deciding that it is not to be used can be found by a preponderance of other evidence proving conclusively that it was in fact planted erroneously, or by correction through legal avenues.

This leads us into the horribly perennial problem of theoretical vs. possessory boundaries, and misdescriptions. The questions, and the answers, have plagued the survey industry for decades. In all my years in practical surveying, I have been involved in only two cases of adverse possession. All other problems have been concluded by pointing out that the misinterpretation of the evidence of boundaries has created a "non-problem".

There are many in the survey industry who, having done the required field work, find that the actual occupation and the deeds do not agree, and they immediately jump to the idea that "adverse possession" is the answer to their dilemma.

We will delve into the subject of fences as evidence later in the notes, so I must distinguish between a fence as a boundary and a line on ground as a boundary. In the context described at the monument we are discussing, a line is a boundary established from external and well-defined evidence. In order to prove "adverse possession" in a court of law, we must establish and define, on the ground, the boundary we are discussing. In order to define the boundary, we require all types of evidence, both documentary and physical evidence. If adjacent owners decide between them that a specific line running from the old apple tree to the edge of the bush is their common boundary, then that is where the boundary is, whether it agrees with the deeds or not.

The same argument holds in the case where an owner has 500 feet frontage by deed and sells of the west 200 feet by survey, which plan shows the original property to have 490 feet frontage. The owner then sells of the east 300 feet. We do not have an overlap of deeds, or a problem with adverse possession. The original owner, after selling 200 feet only had 290 feet left. You may not sell that which you don't own. Priority of title governs.

A significant clue is found in the Land Titles Act:

"The description of registered land is not conclusive as to the boundaries or extent of the land."

Because of this statement, we must pause here to reflect on the convention of "what is a 'conventional boundary'?" This has special meaning.

The situation is brought about by the following conditions:

Where the boundary between adjacent owners is:

- a) uncertain, or
- b) undeterminable, or
- c) lost, not merely unknown, or
- d) cannot be found even by survey,

and the adjacent owners agree to a specific limit. This limit is then called a conventional boundary.

We run across this situation fairly often when descriptions in deeds do not agree on paper with mathematical solutions, but the owners have long recognized the limit of their lands and are in agreement to that limit.

We must be a little careful in this matter. In order to establish such a conventional boundary, it must be shown that there is an agreement between the owners, that the line has been used and that the original limit cannot be found.

In the retracement of boundaries of occupied properties, the surveyor must be extremely cautious when setting lines that disagree with settled and long-standing limits of occupation. Situations may occur that will lead to disputes among neighbours when monumentation is found and retraced in positions that we honestly believe to be original positions. In these cases, we must closely check all our calculations and decisions and we must submit a detailed report of the conclusions to all concerned. You must remember that the determination of a boundary is, in fact, a judicial act and must be judged in court.

The limits of occupation, in most cases, are delineated by fencing. The questions we must answer are:

1. Is it just a fence?
2. Is it a fence agreed to by owners?
3. Is it over ten years old?
4. Can we, because of secondary evidence, accept the fence as a true boundary marker?

Not all fences between owners can be accepted as true boundaries, or as lot lines. However, fences are most important. They are the physical and visible signs of intended occupation by an owner, or by adjacent owners.

Where we can establish that a fence was erected when the original monuments were probably in place and visible, it should be accepted. Where that fence has been rebuilt, or replaced, we must use a little caution. Just because a fence is in the approximate location of where we judge the boundary to be is not absolute evidence of its true location as a lot line. We must satisfy ourselves by other evidence that would lead us to the true solution.

I can only add the words of Justice Barry:

"Occupation, if long-continued, often affords the most satisfactory evidence of the original boundary when no other evidence is attainable; and the surveyor should inquire when it is originated, how and why then lines were located as they were, and whether claim of title has always accompanied possession."

And this is true not only for fences. Buildings also fall into this formula, especially older buildings in the downtown core of our older settled areas.

CONCLUSION:

In this brief presentation we have mentioned:

1. Two types of evidence - documentary and physical.
2. The requirement to find and assess all available evidence.
3. Theoretical boundaries and misdescriptions.
4. Conventional boundaries.
5. Physical boundaries.

We must also bear in mind when discussing "the best available evidence" that:

1. A boundary is a division line between two owners.
2. The rights of both parties must be considered.
3. The survey is not conclusive unless the parties concerned consent to the surveyor's opinion.
4. The court may follow after the surveyor to judge the work.

For further reading, see the Manual of Instructions for the Survey of Canada Lands, and Boundaries and Surveys by Lambden and deRijcke.

MONUMENTS AS EVIDENCE

AIM: To discuss types of monuments and their use as evidence.

TEACHING POINTS:

1. Monuments as evidence.
2. History of types of monuments.
3. Original monuments.
4. Monuments as controlling evidence.
5. Authentication.
6. Witness monuments.

REFERENCES:

1. M.T.C. Precis - Surveyor's Monuments
2. Monumentation Regulation 525/91

INTRODUCTION:

The definition of a monument is best described as:

"A monument should be visible, its identity certain, it should have permanence and its positioning must be stable."

Over the past 202 years of surveying in Ontario under Competent Authority, surveyors have done their utmost to fulfil that definition, with varying degrees of success.

In your travels as Party Chiefs in the various parts of Ontario you will run into different types of surveys and many different types of monuments. These will be very different from those called for by the present Regulations.

It is this part of our technical expertise and basic knowledge -- the recognition and assessment of monuments as evidence -- which is the subject of this discussion. We must be capable of recognizing a monument when we find one for what it is, the reason it was set, the corner it was intended to define, and the probability of it being the true and actual location of the corner or limit of a specific parcel of land to which it relates.

Where monuments are noted in a description, or shown on a plan of survey, the monuments must govern the extent of the land in the description or on the plan. And, if it is found that the deed or plan measurements do not agree with your measurements, then the position of the monuments govern the extent of land, provided always that you prove the monuments are in their original position.

One of the better methods of determining a monument's original position is to trace the history back to the first monument planted at a particular point, just the same as you would trace back a description to the formulation of the original parcel to which it refers.

New, the term "original monumentation" refers to the first monument planted to define a point in a survey, be it planted in 1792 or 1992. To be of value, an "original monument" must be in its original position and proved to be so by evidence verifying its location.

Not all monuments that are found have value as evidence. If a monument is to be of value, it must have been noted in some documentary data. If you locate a monument at or near a corner and it differs in composition (i.e. size or character) from that described in the documents, you must investigate and find all the facts about it in order to determine its origin and validity.

You will have read and studied the article Survey Monuments by Grange Elliott, O.L.S. You therefore will know all about stone monuments, trees marked as posts, concrete monuments, one-inch square IB's driven 3 feet, 6 inches below the surface, one and one-half inch round iron posts, car axles, jack handles, tire irons, leaf springs and the like. They are all evidence of a surveyor's deliberate methods of marking corners and boundaries. They should be accorded the weight of evidence due an original monument if it was so intended by the documentary evidence.

But be cautious about monuments. They can do and move from their original position due to many reasons, not the least of which is man's greed to acquire land at someone else's misfortune.

To stress the point about proving a monument to be in its original position, let us emphasize these points:

To authenticate the position of a monument:

1. Check closely to ensure it is the type and size called for in the documentary data.
2. Take a really hard look to ensure it appears not to have been disturbed.

3. Check some measurements from it to other evidence in order to satisfy yourself it is in the original position. Other evidence may be ties to old fences or other monuments, and old and settled lines of occupation.

There are two points that I must stress regarding monuments.

First, when no monuments are mentioned in a conveyance of land, although you may find monuments close to corners of the described parcel, they may bear no weight as evidence. The courses and distances stated in the conveyance may be used. This is tricky and demands a great amount of time and research in order to determine why the monuments are there in the first place, what other evidence is available to control the courses and distances, or what other evidence may be used to set the limits of the parcel.

Second, where the plan and the monuments do not agree, the monuments govern, provided always that the monuments are in their original position.

We must add that, although we have been discussing monuments as being things planted in the ground, there are other types of monuments that we do use. Just think of a plan of survey of a condominium and its "box in space" concepts. O. Reg 933-78 specifically makes it mandatory that the structure controls the boundaries of the units. This makes the structure a monument in a particular and peculiar sense.

One of the items to watch for in older survey notes is the brief notation "planted iron bar" or "planted iron pipe". You must ask yourself:

What is the size of the Iron bar?

What is the diameter of the iron pipe?

How long is it?

is it acceptable as "substantial compliance with" ????????

If the original note maker had written 'Planted 17/8" round iron bar 8' long', then we would not replace it. However, if it is an iron bar or an iron pipe, our job is to authenticate its position and reliability. This is sometimes a long and expensive process.

You may wonder if you should reference it and dig it up so you can prove it does not need "substantial compliance". If it is 8' long, do you place it or pack down the soil and plant a standard iron bar? If the authenticated corner is a tire iron, or a leaf spring, then it should be replaced.

One other point to note about monuments defining corners is that where you have determined the actual location of a corner and do not locate the monument that is supposed to be there, do not immediately assume it has been removed, lost or otherwise. Carefully dig down and you just might find some evidence of where it has been by the rust scales or marks in the soil.

CONCLUSION

The whole concept of using monuments was created by man's desire to set limits of ownership of right in land, as was the logical extension of the use of natural boundaries in order to set limits.

Monuments are, therefore the physical evidence of boundaries which, because of their nature, can be seen and touched. Although the type, size and construction of monuments has changed from limestone block to the iron bars authorized today, the theory behind their use has not changed. They are not used to simply delineate specific corners, but to densify the survey fabric of the country so that the time and the expense of future subdivision of land is minimized.

When we locate original monuments, which may be outdated and have a limited future, we must replace them (or witness them, as the situation demands) with a more substantial monument which hopefully will have a greater life span.

What we must always bear in mind is that whenever an original monument is found, proved by other evidence to be in its original position, and authenticated by documentary evidence to be the controlling factor of the location of a corner or boundary, then it is incumbent upon us to perpetuate it for future generations.

FENCES AS EVIDENCE

AIM: To discuss types of fences and their use as evidence.

TEACHING POINTS:

1. The importance of fences.
2. The Line Fences Act.
3. Fences as property boundaries.
4. Fences as lot lines.
5. Highway fences.
6. Railway fences.
7. Quarter Session roads.
8. Municipal road surveys.

INTRODUCTION:

Almost all of our work in the retracement of original lines in the rural areas is influenced to a major degree by the fences that are in place at the time of survey. It is an obvious truth that the fences we find today were erected by persons in order to define the limit or area of land. Our problem is to make decisions, based on the rules of law and general common-sense practices, as to the validity of the fences as true boundaries of the parcel of land we are surveying.

We must deal with all types of fences, and they do come in many types and sizes.

- stump fences
- log post fences
- wicker woven fences
- brush fences
- board fences
- ornamental iron fences
- chain link fences
- stone, and rail and stone fences
- snake rail fences
- split rail fences
- wire fences
- picket fences
- basket weave fences

This list is almost endless. Part of our technical knowledge is to acquire a good background in these types of fences; i.e. --

- How they came to be erected with the materials used.
- Did they follow established lines when the original monuments were visible?

- Do they constitute the actual marking on the ground of the first running of the line?

We briefly discussed in *The Role of the Party Chief*, the statute that says "lines, boundaries or corners established in the original or first survey are true and unalterable and are defined by the original posts..." and then "any retracement made after the original monuments have disappeared is to determine where they actually were, not where they ought to have been". Here is where we may use the fences now on the ground as evidence as to where the original lines were run.

In the hierarchy of evidence, we discussed the statement "evidence of possession that can be traced back to the original survey..." and fences, tree lines, etc. may be in the category. From this it becomes obvious that fences are of major importance to us, but we must decide that grade of importance we give them.

In order to understand the reasons for finding fences where they are, we must go back in time to the original settlers. We must determine not only how they erected their fences, but also the materials they used and the method they used to align them. Because of the age of the original fences, we must try to determine how replacement fences were built and where they were built.

In the beginning, the original settlers fenced their land in order to safeguard their interests in that land, as well as to prevent their cattle and other livestock from straying. The settlers prime concerns were to clear the land, plant crops and erect buildings. Although fencing was a necessity, it was given a low priority and local materials were used. The trained eye can easily conjecture why certain fences were built with specific material -- just look at the topography of the land.

It was not until the late 1860's that barbed wire was first used in Ontario. Many different patents were issued for its production. Where a line had been surveyed, it was fairly easy to follow the surveyor's cut line through the bush or his stakes across an open meadow. It was the uncut lines that presented many problems. One of our problems in this regard is to determine the age and location of the first-run the line, be it by a surveyor or not. We must also determine whether the line has always been agreed to by the adjoining owners, and where the evidence to substantiate that claim is.

Over the years, many fences have deteriorated to the point where they are practically non-existent. Many fences have been replaced, especially when one owner required a better fence and the adjacent owner did not. Or even if there was no fence between owner and they required one, the Line Fences Act came into being in order to solve problems.

Please note that this Act does not confirm any boundaries. Before the fence-viewers are called in to arbitrate on the type and method of construction of fences, as well as the apportionment of costs, the owners on both sides of the line must agree to where the line actually is and they both must have a description of their lands that can be registered. In essence, the line becomes a Conventional Boundary, only because the adjacent owners agree to it.

The settlement of boundaries, and the erection of a fence on those boundaries, is not an alienation because, if fairly made without collusion, the boundary so settled, is presumed to be the true and ancient limit. Because there is not an exchange of land, the Planning Act does not apply. The description of the lands themselves may not agree and must be updated from the survey returns of the actual surveyed lines. When you find that deed distances do not agree with the actual measurement between fences, it is most wise to ask the owners on both sides of the offending lines regarding their knowledge about them.

In areas of the Province which have been settled for many years, the original monuments have long since disappeared and the original evidence of the original lot lines are fences erected on what was reputed to be the line run in the original survey. If the fence, and its bends and jogs, has been accepted over a long period of time, then the fence will, in general terms, be accepted as the best evidence of the original lot line. Where such a fence deviates considerably from a straight line, is really crooked, or has substantial jog in it, then take the time to do more research to find out the conditions surrounding the erection of the fence. Check the compass deviation as it was at the time of the original survey. They may give you clues that will rationalize what you have found on the ground. Talk to older residents who have knowledge of the area. They are always willing to help you.

When you find a fence close to the position of the lot line, but not run in the original survey, you have a few more problems. You should ask yourself these questions:

1. How old is the fence, how regular is it, how did it originate?
2. Does the fence occupy the position of a line surveyed in accordance with the correct practice of the time it was erected?
3. Does the fence begin and end at corner posts?
4. Do adjoining land owners acknowledge the fence as a lot line?

Where a fence has existed for generations but does not agree with the Surveys Act, there is no jurisdiction for not accepting it unless you can prove conclusively that it is not the lot line.

When we come to the situation involved in establishing a road allowance set out in the original survey, we encounter a different set of conditions that will enable us to establish the lines. It would appear reasonable to suggest that the original fences were actually erected where the original survey proposed they should be. In a single-front concession, the line was cut along the front of the concession so that is where we could expect to find the fence. In a double-front concession, the centre line of the road allowance was run and posts were planted at the lot angles so we would expect the fences to join these posts. However, we seldom find this to be true.

When the actual original fences were erected, they might well have been along the original survey limits. But, when time came to replace them, the farmer was not about to put a new fence on his own land and encroached into the road allowance. In fact, in some townships, by-laws were passed allowing the settlers to put the fence onto the road allowance by a specific amount.

Therefore it is a good suggestion to not only check between the fences, but also consider the type of township, the centre line of the travelled road bed and ditch width on either side. They can be of great assistance in establishing the original limit.

There are other quirks that you should recognize. Full knowledge of the field notes of the original survey is essential in order to recognize them. For instance, the original surveyor may have run his side line road allowance to tie into his previously-run concession line, he found that if he produced his side line road allowance, it would miss the post. He would bend the side line road allowance to make it fit.

There is also the case where the original surveyor ran a trial line across a township in order to establish a base, or proof, line about the line between Concession 7 and 8. He then retired at the end of the season to Toronto. When he returned in the spring to lay out the correct line, the settlers had already established a road along his cut traverse line. That road, as fenced, is still there today and a municipal survey was completed to confirm the true road allowance. However, the local residents still used the old road. Surveyors in that area accept the old fence lines as being the true limits of the "travelled road" and show the 66 foot wide road allowance as established by the municipal survey on their plans.

When dealing with the roads and road fencing that were established by settlers and not actually a part of the surveyed township fabric, we must inquire how they were established. Court of Quarter Session Roads may have a specified width which must be allowed for in our surveys. Forced or travelled road, or Court of Quarter Session Roads where the width is not mentioned should be surveyed using actual fences as limits. Where no fences are available to determine the limits, we must take into consideration not only the width of the travelled part of the roadbed, but also we must make allowance for road drainage and maintenance.

Railway fences have been a problem over the years and without delving into the legality of those problems, it was considered prudent to either give the railway right of way its deed width or use the railway fencing, whichever gives that railway the most land. This practice is not according to established survey law and is ceasing.

Provincial highways, county roads and regional roads are all treated in the manner with regard to monumentation and fencing. If monumented, then the monuments govern the limit of the road, whether or not the fences agree. If fenced, but no monuments are found, then the fences govern, as long as they are reasonably old and well established.

CONCLUSION:

The intelligent use of a fence as boundaries can only be done when all the documentary and physical evidence is assessed in the light of what was intended, what evidence proves the location of the fence as being the actual boundary and what is accepted as common practice using the rules of evidence and the common law. We must be very flexible in this regard and not jump onto the "always theoretical" or "always fences" syndrome just because it may be the easiest method. Do your research correctly, weigh the evidence and you will get the right answer.

BOUNDARIES AND THE LAW

AIM: To discuss the aspects of common law affecting the boundaries of land.

TEACHING POINTS:

1. What is a boundary?
2. Types of boundaries:
 - a) Water boundaries
 - b) Boundaries by adverse possession
 - c) Conventional boundaries
3. Retracement of boundaries
(See diagrams and discussion under Appendix A.)

REFERENCES:

1. *Boundaries and Surveys*, Lambden & de Rijcke
2. *The Concept of Boundaries*, R. Stewart, O.L.S.
3. *The Law and the Surveyor*, W. Marsh Magwood, Q.C.

INTRODUCTION:

Almost every day in our work as Party Chiefs, we encounter the problem of re-establishing a boundary. This one part of our work, the establishment or re-establishment of boundaries, takes up most of our time and effort. It is a difficult part of our work and must be executed correctly as all other work we do afterward respecting the land under surveys is dependent upon the boundaries being correct.

To that end, we must not only know what constitutes a true boundary, but we must also recognize the various types of boundaries, how they originated, how they are viewed by owners and how they are viewed in a court of law.

¹ More complete material on this topic can be found in Wm. G. Mates' publication, *Boundaries and the Law*, available through the Institute of Survey Technology of Ontario.

NARRATIVE:

In our work, we keep using the term "Survey Law" (which is a misnomer) when referring to those parts of common law, case law and other precedents, which we use to justify our manner when saying where a boundary is, or is not, and showing it on a plan.

Just what is a "boundary"? It is not defined by the Surveys Act. The term "boundary" has, in reality, two meanings. First, it is the invisible line between two adjacent owners. Secondly, it is a physical object that defines the limit of a parcel of land.

There are other terms used in law which have the effect of being translated in order to have the same meaning as a boundary when put into correct context, such as "limit", "line", etc. We must also understand that "boundaries" may originate, be fixed or be varied by statutory authority, by acts of owners or by the courts. The actual physical location of a "boundary" is, in truth, a matter of evidence and the presumption that courts of law in the past, by their rulings, have established methods we may use to interpret that evidence to actually set a boundary.

We find ourselves, in general survey practice, encountering three main groups of boundaries:

1. General boundaries
2. Fixed boundaries, and
3. Ambulatory boundaries.

General boundaries, as we will discuss later, cover those limits of land which are defined on the ground. Fixed boundaries go a step further as they are the boundary of a parcel of land "accurately determined by survey". Ambulatory boundaries can only be those which do in fact move, such as the waters of lakes, streams and ponds. Any one boundary will rarely fall into any single one of these categories, but we will use them for classification purposes.

Water boundaries always seem to be a problem for surveyors, mainly due to the problem of riparian ownership, and the use of various terms in the description such as "shoreline", "bank", "margin of the water", "high water mark", "low water mark", "water's edge", etc.

In any survey bounded by water, the first order of business is to determine if the description goes to the water's edge or to the middle of the stream or lake. Next, determine if the body of water is navigable and if the water level is controlled by a government agency. Once these are known, you can proceed with determining the actual boundary. If you really want to get into this facet of survey law, you may wish to read Boundaries and Surveys, by Lambden & de Rijcke and Notes on General Survey Law, by C.D. Hadfield, O.L.S.

The province is deemed to be the owner of all navigable bodies of water unless such ownership was alienated by a specific grant or patent.

Boundaries by adverse possession have the greatest number of misnomers in surveying. Most of them were strictly cases of misinterpretation of documentary and physical evidence. Adverse possession is, first and foremost, a matter of title and the physical boundaries between owners must be settled to begin with before the decision is made as to what land is or is not adversely possessed.

Conventional boundaries, as previously noted , are created when the owners of adjacent parcels agree to a fixed location by agreement between themselves as to where the boundary lies. It must be noted that this system of settlement of a boundary is not an alienation. There is no exchange of land and no statutes are contravened.

CONCLUSION:

We have deliberately refrained from quoting specific cases that have come before the courts because of my belief that it is the concept of law you should understand. The ability to rattle off cases proves you have a good memory for names.

When you have digested and implemented the theory and practical application of all we have discussed, then we will be satisfied.

LAND SURVEY PARTY CHIEF SERIES

APPENDIX "A"

PRINCIPLES OF RETRACEMENT

DIAGRAMS & EXAMPLES

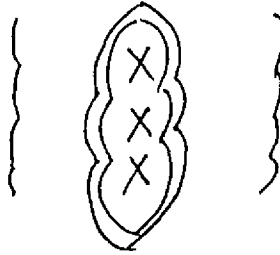
LAND SURVEY PARTY CHIEF

SESSION III

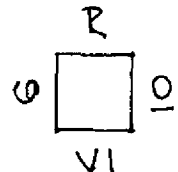
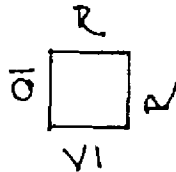
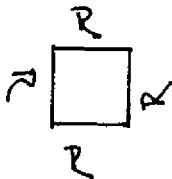
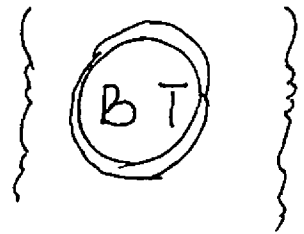
Blaze



Needle Tree



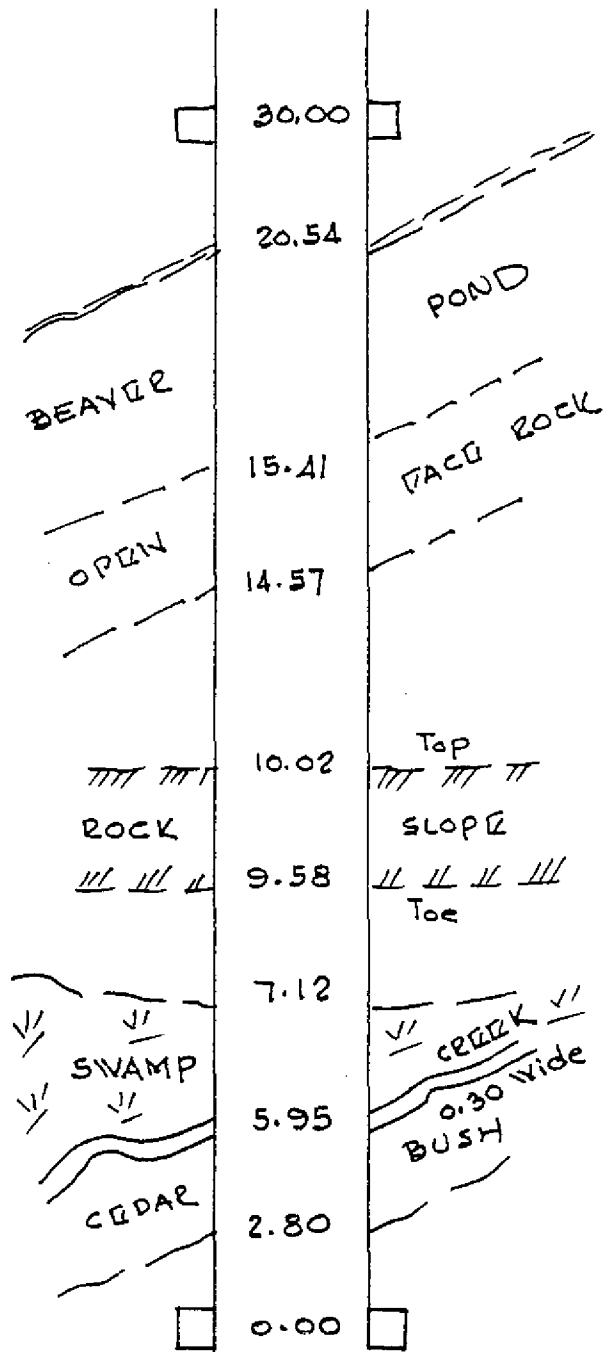
Bearing Tree



LAND SURVEY PARTY CHIEF

5-7

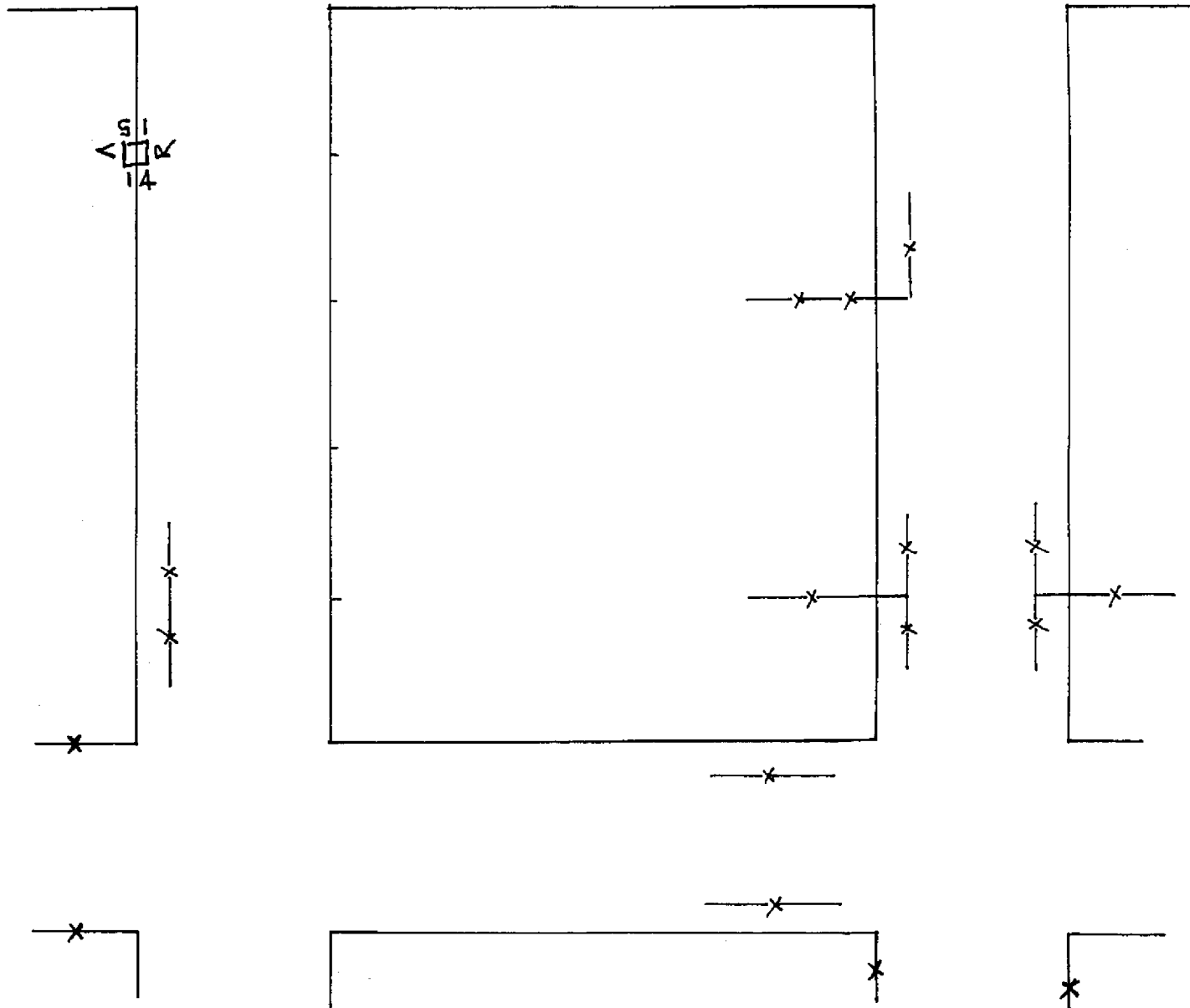
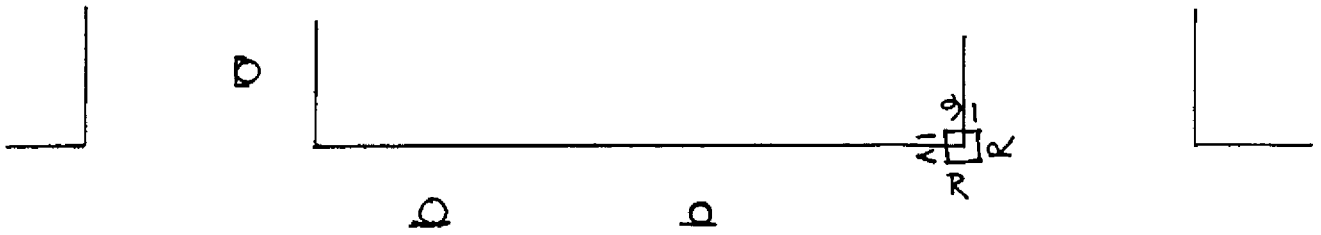
SESSION III



LAND SURVEY PARTY CHIEF

5-8

SESSION III



SESSION III

... being composed of part of the East half of Lot 14 in Concession 4 in said Township, containing by admeasurement 20 acres described as follows:-

Commencing at the North-Easterly corner of Lot 14;
Thence Southerly along the easterly boundary of said lot sixteen rods so as to encompass twenty acres of land;

Thence westerly parallel to the northerly boundary of said lot to the westerly boundary of said East half

Thence northerly along said westerly boundary to the northerly boundary of said lot;

Thence easterly along said northerly boundary to the point of commencement.

LAND SURVEY PARTY CHIEF

5-11

SESSION III

SURVEY OF PART OF
EAST HALF OF LOT 13
CON. A TWP. OF PLYGM

Don. Defoe
Jon. Bazil
Phil. Spenz

27 AUG. 86

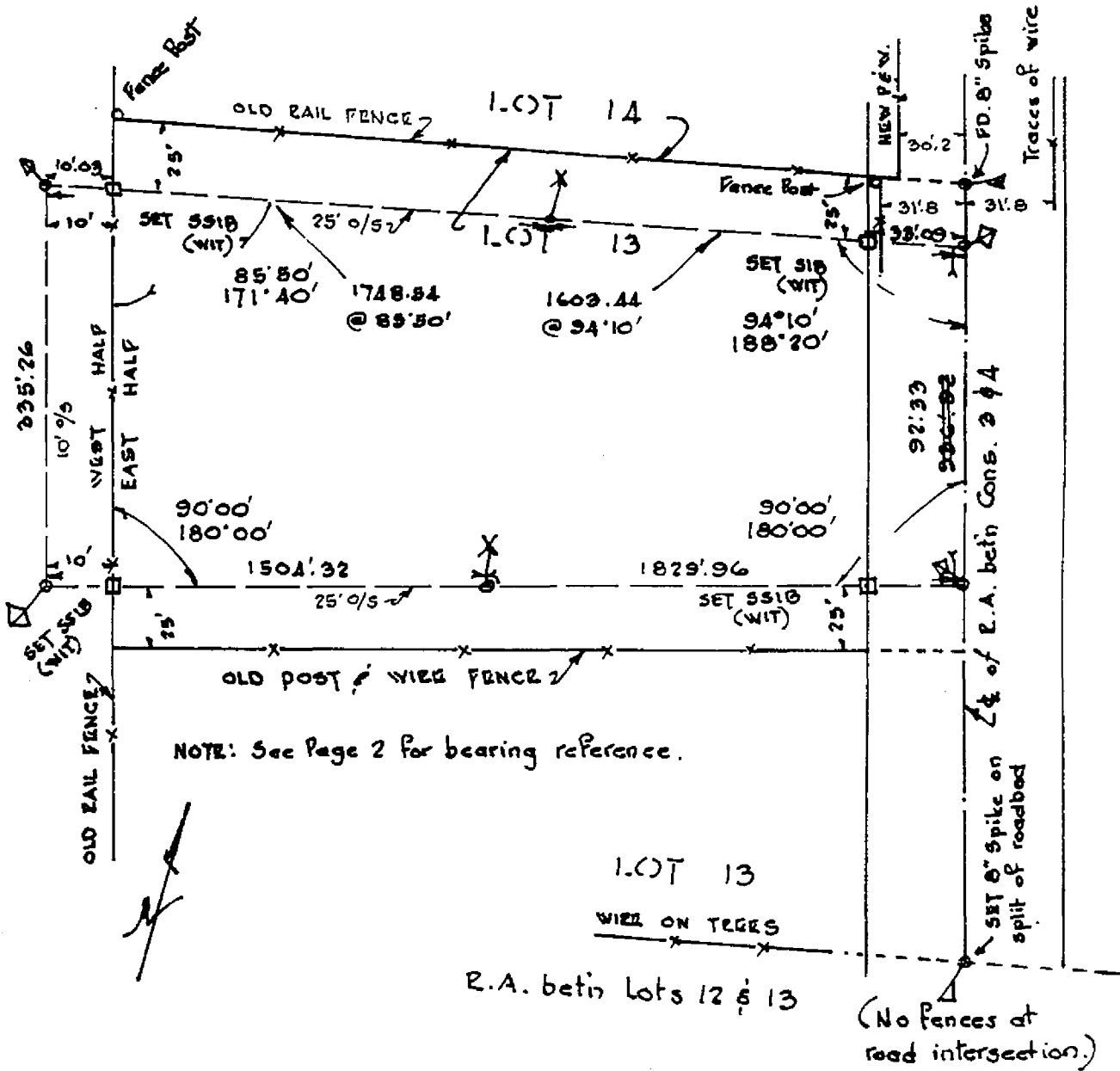
27°C Clear

Page of 2

HP 3038 A

(3412 A 19673)

IMPERIAL

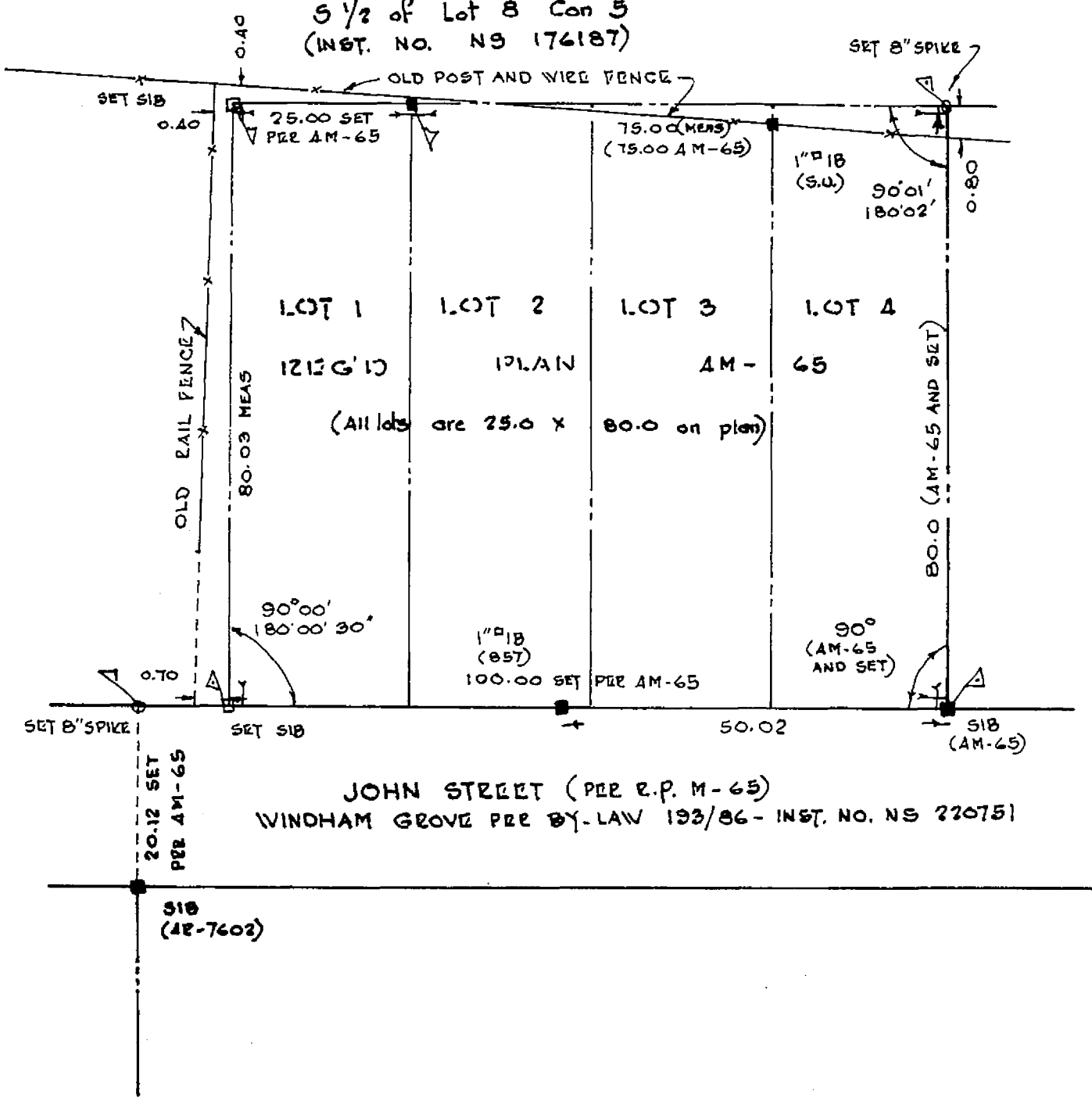


LAND SURVEY PARTY CHIEF

SESSION III

5-12

S 1/2 of Lot 8 Con 5
(INST. NO. NS 176187)



JOHN STREET (PER R.P. M-65)
WINDHAM GROVE PER BY-LAW 193/86 - INST. NO. NS 220751

S18
(42-7602)

LAND SURVEY PARTY CHIEF

5-13

SESSION III

TWP. OF PLYGM - CON 5 - LOT 10 - E 1/2.

DESCRIPTION NO. 1.

(1965)

Com-g in S. limit 380' E. of S.W. ^L
Thence E. on S. limit 300'
Thence N. // W. limit 298'
Thence W. // S. limit 300'
Thence S 298' to \odot

DESCRIPTION NO. 2.

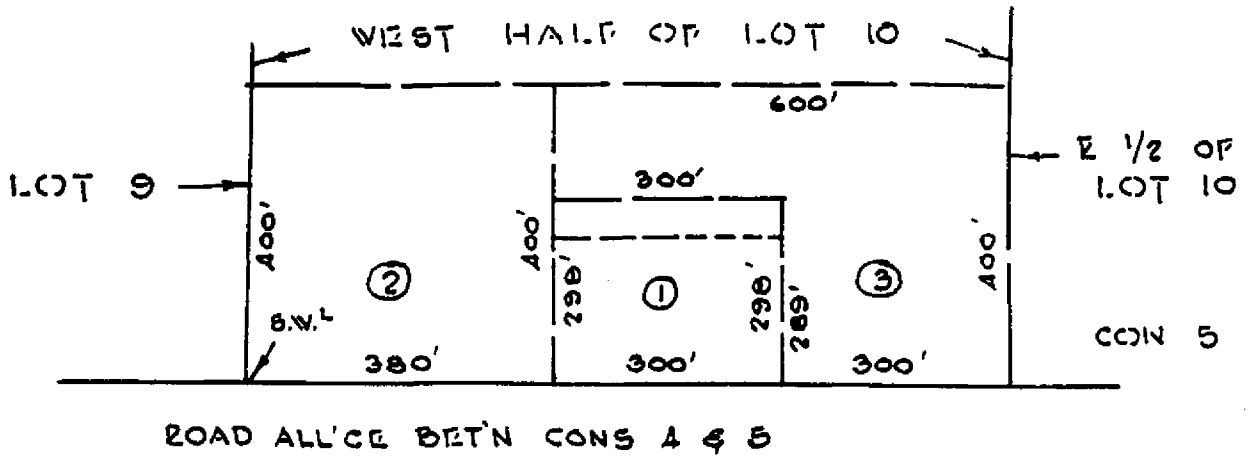
(1967)

part out of S.W. corner; 380' frontage and 400' deep.

DESCRIPTION NO 3

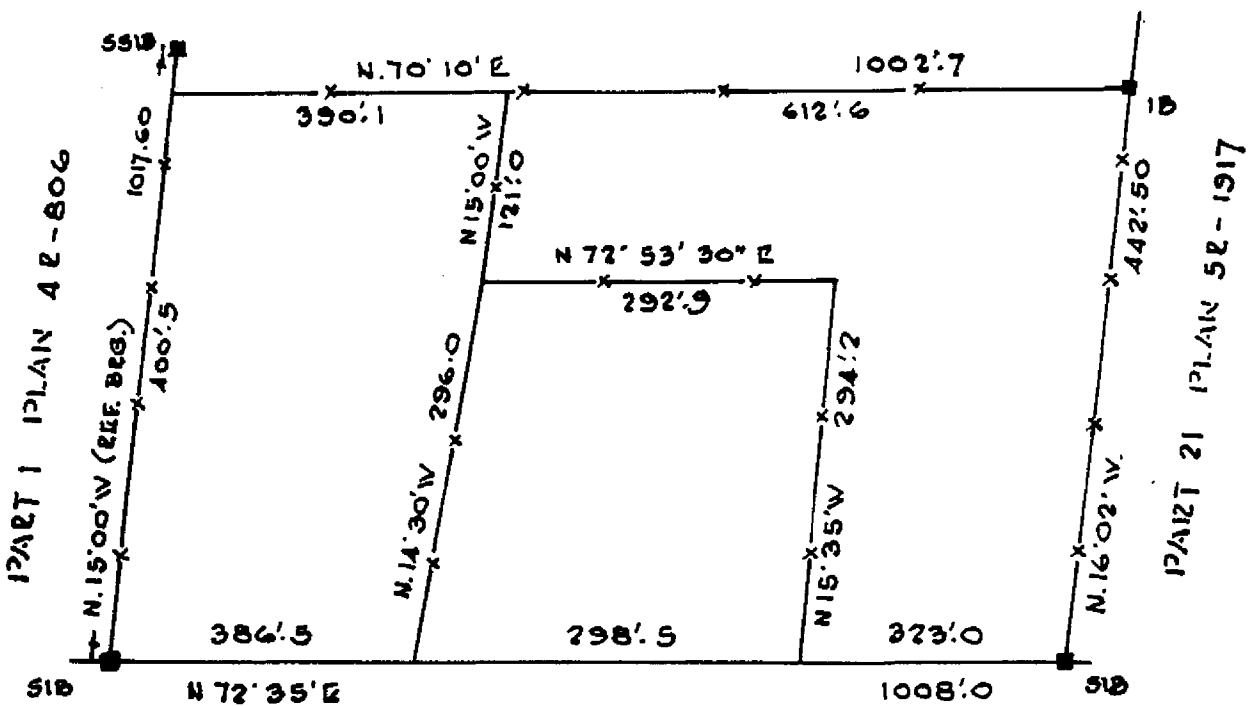
(1970)

Com-g in S. limit 680' E. of S.W. ^L
Thence N. ly 289'
W. ly 300'
N. ly 111'
E. ly 600'
S. ly 400'
W. ly 300't to \odot



CON 4

SKETCH OF SEARCH

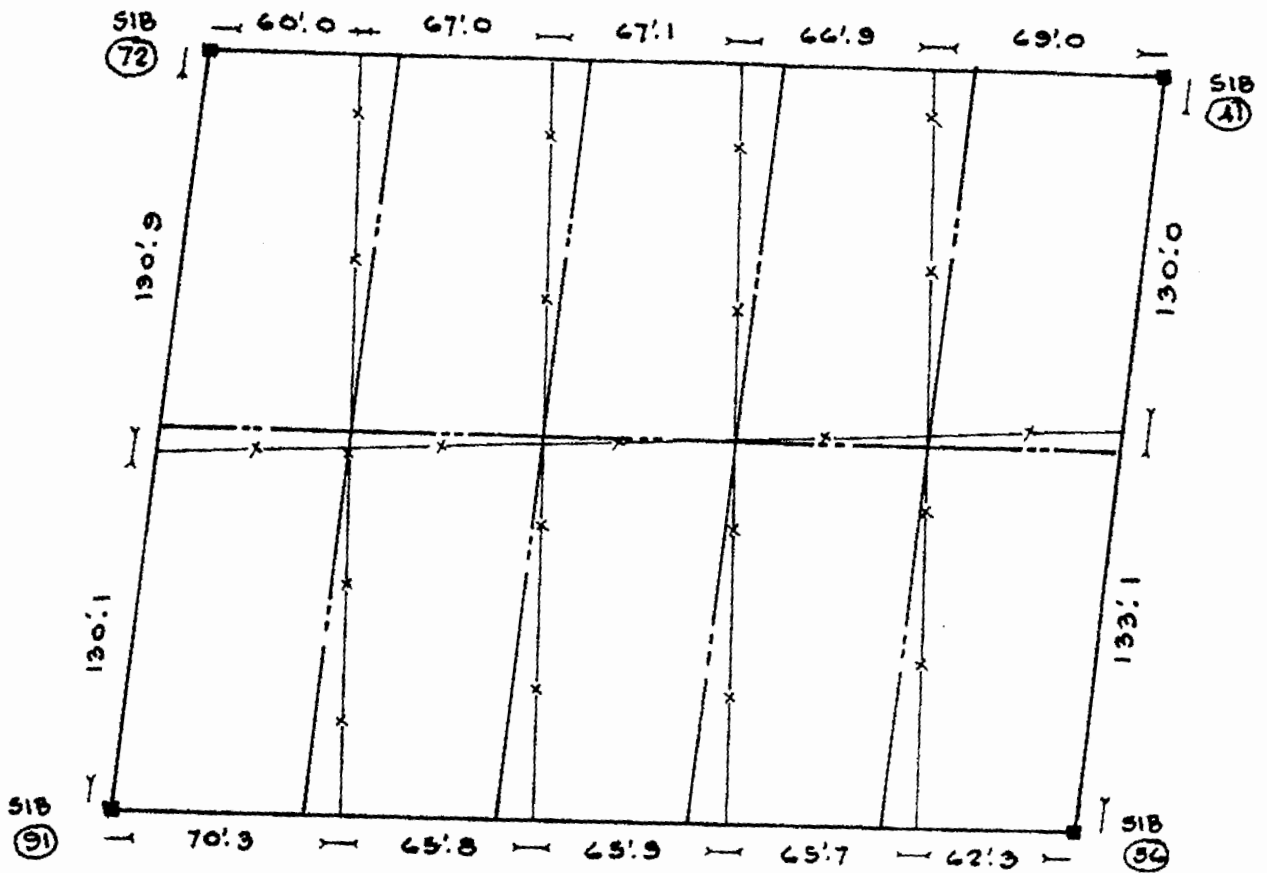


SKETCH OF FIELD WORK

LAND SURVEY PARTY CHIEF

SESSION III

5-15



NOTES :-

1. BLOCK BOUNDARY CONFIRMED BY B.A. 752
2. (91) DENOTES DESIGNATION ON B.A. 752

A.O.L.S. Bulletin



BEST AVAILABLE EVIDENCE A REVIEW

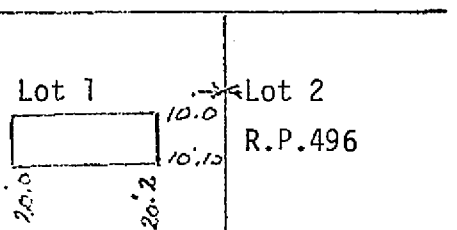
What are the rules of evidence that must be considered by the surveyor before he re-establishes a corner, limit, or boundary of a parcel, and defines this limit either by monumenting the same or by ties from the limit to an existing structure.

The rules of evidence as they have been upheld in court are in the following order:

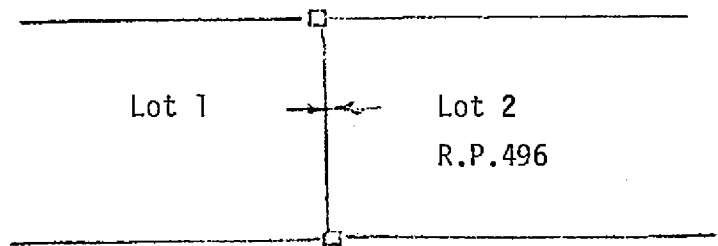
- a) Natural boundaries
- b) Original monuments or evidence as to the location of the original monuments
- c) Fences or possession which can reasonably be related back to the time of the original survey
- d) Measurements (as contained in the deed or on the plan)

You can readily see from the above that one cannot re-establish a limit between properties either for a mortgage sketch, building location survey, survey or reference plan, without first obtaining the *best available evidence* in the above priority list. One must therefore research to obtain the best available evidence as to (b) and (c) above prior to using the deed or plan measurements and bearings.

Building Location Survey (Mortgage Sketch)



Reference Plan or Plan of Survey



The evidence to be gathered and assessed before the surveyor establishes the limit between Lots 1 and 2 above, must be identical in both instances. The limit as defined by ties to the building, or the limit as monumented, must be the same limit.

SUMMARY: The Ontario Land Surveyor in the re-establishing of lots, corners, limits, etc. of previously described or surveyed parcel of land, must carry out the research to obtain the best available evidence, whether he intends to define the line by monuments or by ties to existing structures.

Consider the following extract from a court case:

In order to prove the proper location of a boundary line between adjoining property, one must first prove the original boundary, for example by a monument, such as a post planted thereon; but in the absence of such evidence, possession may be proved, and in the absence of both of these, one may resort to measurements. Wolverson vs Clarke N.B.R.

** ** * * * * *

The above review of evidence is being distributed at this time, as many groups of surveyors are having meetings to discuss the type of surveys undertaken and the amount of work and therefore cost involved in each type of survey. The above bulletin and the bulletin re : Duties of a Surveyor to his Client should be reviewed in regard to preparing such lists.