

Preparing a Survey Report – The Focus

by
Knud E. Hermansen¹

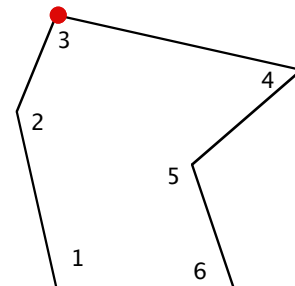
Some states require survey reports. All surveyors should consider preparing survey reports at the culmination of a retracement survey. Unfortunately, the preparation of a survey report is not covered in most academic programs and is seldom adequately explained in the apprenticeship period prior to professional licensure. Accordingly, many surveyors seek guidance when preparing a survey report.

There is no mandatory format for survey reports. Contents often vary depending on the whim of the surveyor. Most surveyors agree that the survey report should provide an explanation or rationale for the surveyor's opinion. (The surveyor's opinion is summarized on the plat and narrated in the description.) Accordingly the survey report should, at the very least, provide a clear, complete, and concise basis for the surveyor's opinion on the location of the corners and boundaries that are shown on the plat.

The following example format incorporates five parts. First, it summarizes historical boundary information from the client's and adjoiner's chain of records. Second, it provides a summary of information discovered in the field. Third, it provides both rational and reasonable arguments leading to a logical basis for an opinion. Fourth, it states the rules of construction that control. Finally, it states the present monumentation of the corner.

Consider the following example where monumentation that appears to be the original monumentation was found:

Corner 3: Corner three is the northwesterly corner of the client's parcel. The corner was created during a division of property by Owen King in 1903 and first described in deed book 343, page 19 (operative conveyance). The corner was marked and described by a "blazed sugar maple" in the aforesaid deed and subsequent deeds in the chain of records. In 1968, the description of the corner monument was changed to be a "maple stump" described in deed book 1832, page 129. Later deeds also call for a "maple stump," including the present conveyance.



Adjoining records starting in 1912, as first cited in deed book 384, page 321, call for a "sugar" to mark the corner.

A diligent search in the area revealed a badly decomposed 38 inch diameter Sugar Maple stump. A 12 inch hemlock tree with three 45 year old blazes face the sugar maple stump. (The age of the blazes was determined by a boring into the tree.) The

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hemlock is 9.8 feet from the stump.

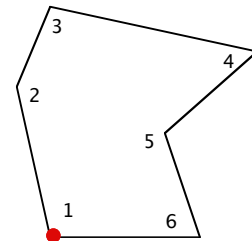
The maple stump marks the corner location. The maple stump is the original maple based on the appearance, size, species, and the apparent age of the stump. The presence of blazes, age of blazes, and orientation of the blazes on the hemlock tree strongly suggest the hemlock is a witness to the maple's location. Finally, there is reasonable correlation between record and retracement measurements from other corners measured to the stump. A reasonable and rational analysis of the information lead to the logical conclusion that the stump is more likely than not the remains of the "blazed sugar maple" cited in the operative deed.

The rules of construction fix the location of the corner at the position of the original monument cited in the operative conveyance (i.e., the maple stump).

A 5/8 inch diameter rod, 3.5 feet long was placed in the middle of the stump. The rod is topped with a yellow, plastic cap containing the surveyor's name and license number.

The following is an example narrative in the survey report where monumentation is found that is not the original monumentation but accepted as marking the corner:

Corner 1: Corner one is the southwesterly corner of the client's parcel. The corner was created during a division of property by Owen King in 1903 as first described in deed book 343, page 19 (operative conveyance). According to the operative conveyance, the corner was marked by a "post." Subsequent deeds in the chain of records continue to cite a "post" to mark the corner.



Adjoining records starting in 1912, as found in deed book 384, page 321, call for a "cedar post" to mark the corner.

A diligent search in the area using a metal detector revealed a 1-inch iron pipe buried 0.2 feet under the ground surface. The pipe is surrounded by stones ranging in size from 5 to 10 inches. Rusted remains of a barbed wire fence were discovered on or near the pipe extending toward corner 2 and corner 6. Remains of the fence found in living trees indicate the fence was erected more than 70 years previously.

The westerly neighbor, Julia Smith, who has lived on the neighboring property for 52 years, states the stones were known to mark the common corner all the time she owned the property. She states that her father, who owned the property previous to her ownership, believed the stones marked the corner.

Long standing and uncontested acceptance that an object marks a corner suggests that the object does in fact mark the original location of the corner. Furthermore, given the close proximity of the dates when the post was placed and when the fence was

erected, it is a logical and reasonable assumption that the builder(s) of the fence saw the post and built the fence to conform to the location of the post. Therefore the fence serves as evidence of where the post formerly stood. There is reasonable correlation between the record measurements and retracement measurements from other corners to the stones.

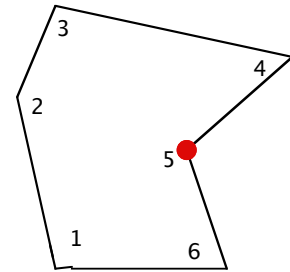
Based on the long standing acceptance of the stones as the corner, close conformity to long standing possession lines, and reasonable correlation between record and retracement measurements from other corners make it more likely than not that the pipe and stones are in the former position of the “post” or “cedar post.”

The rules of construction fix the location of the corner to be the position of the original monument (“post”) cited in the operative conveyance.

A 5/8 inch diameter rod, 3.5 feet long was placed in the middle of the pipe and stones. The rod is topped with a cap containing the surveyor’s name and license number.

Finally, consider the following example where no reliable monumentation is found and the corner location is fixed by other methods:

Corner 5: Corner five is along the easterly side of the client’s parcel. It was created during a division of property by Ebenezer Liam in 1878 as described in deed book 103, page 78 (operative conveyance). The description calls for a “post” in the aforesaid deed. Subsequent deeds in the chain of records continue to call for a post to mark the corner.



Adjoining records starting in 1881, as found in deed book 103, page 102, also call for a “post” to mark the corner.

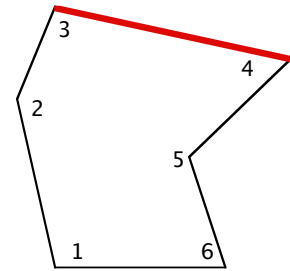
A diligent search in the area failed to reveal the remains of a post or any indicia of possession that would reasonably conform to the record boundary. A 7/8 inch diameter reinforcing rod protruding 1.4 feet above ground level was found in the area. The reinforcing rod appears to be recently set. The person who set the rod is unknown.

The location of the post was reestablished using record measurements measured from undisputed corners after correction for magnetic change, The former position of the post is established S17° 20’ 30”E 12.32 feet from the rod found.

A 5/8 inch diameter rod, 3.5 feet long was used to mark the corner. The rod is topped with a yellow, plastic cap containing the surveyor’s name and license number.

Boundaries can be similarly dealt with in the survey report. Consider the example where a blazed line is the best evidence of the record boundary as the following example shows:

Boundary 3-4: Boundary 3-4 is along the northerly side of the client's parcel. It was created during a division of property by William Long in 1912 as first described in deed book 408, page 523 (operative conveyance). The description calls for the boundary to be "*South 77 & ½ degrees East a distance of 16 and ½ rods along a wall and blazed line.*" Adjoining records continue to cite the aforesaid course.



The client's records starting in 1915, as found in deed book 410, page 92 cite the boundary to be "*North 76° West, 16 rods...*"

A diligent search in the area revealed the remains of a stone wall beginning and extending 120 feet from corner 3 toward corner 4. Two maple trees (30 inch diameter and 25 inch diameter) with blazes were found between corner 3 and corner 4.

As a result of the call for "*along a wall and blazed line,*" the boundary follows the wall and those trees with blazes. The adjoining boundary calls for a straight line and causes minor gaps and overlaps where the wall and blazes depart from a straight line.

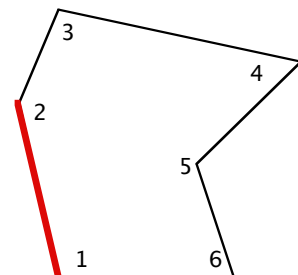
The departure of the wall and blazes from a straight line between corners 3 and 4 are less than two feet.

The straight-line retracement measurement for boundary 3-4 is S65° 12' 32"E, 266.57 feet. The retracement direction is based on true north. The record directions are based on magnetic north. The declination is approximately 11°E.

Given the lack of skill and formal training in many early surveyors, unsophisticated equipment employed by the surveyor, lack of precision, and change in magnetic north over time, there is reasonable correlation between record and retracement measurements.

The next example explains a boundary that is not governed by other calls or lines of occupation:

Boundary 1-2: Boundary 1-2 is along the westerly side of the client's parcel. It was created during a division of property by Owen King in 1903 as first described in deed book 343, page 19 (operative conveyance). The description calls for the boundary to be "*North 17 & ¾ degrees West a distance of 12 and ½ rods.*" In 1968, the boundary was cited to be "*North 17 degrees 15 minutes West, 204.6 feet*" as described in deed book 1832, page 129. Subsequent deeds cite the last mentioned course.



Adjoining records starting in 1912, as first cited in deed book 384, page 321, call for "*North 18° West, 12 rods.*"

The boundary was fixed to be a straight line between the corner monuments.

The remains of a fence begin at each corner and meander on or near the record boundary. The fence departs from the boundary by as much as 2.6 feet as measured perpendicular from a straight line between corners 1 and 2. (See discussion on occupation lines in this report.)

The retracement measurement between corner 1 and corner 2 is North $6^{\circ} 56' 33''$ West, 204.83 feet. The retracement direction is based on true north. The record directions are based on magnetic north. The declination is approximately 11° E.

Given the lack of skill and formal training in many early surveyors, unsophisticated equipment employed during the original survey, lack of precision in the measurements, local magnetic attractions, and change in magnetic north over time, there is reasonable correlation between record and retracement measurements.

As the previous examples are meant to illustrate, the report attempts to combine relevant background information, along with field and record information, coupled with reasonable assumptions that can be used to form a logical and rational opinion based on the rules of construction.

Starting with the above examples, a practitioner can modify the language to fit their own style of writing and conform to the facts and information found in the records and at the site.

Preparing a Survey Report – Encroachments, Overlaps, and Gaps

by
Knud E. Hermansen¹

In a previous article, I discussed reporting opinions on the location of corners and boundaries. In this article, I will discuss how surveyors can communicate encroachments, gaps and overlaps in a survey report.

Major encroachments and overlaps are ordinarily shown on the plat to emphasize their importance and impact on the client's property. Yet, there are numerous situations where encroachments, overlaps, and gaps can only be reported or reported in detail in a survey report or separate communication to the client.

Typically, gaps do not need to be reported on the plat if they can be identified and explained in the survey report. Gaps often provide the client with an opportunity to perfect title to the gap in their favor. Hence, there is some motivation to keep the presence of a gap confidential. It is much easier to keep information on a gap confidential when it is identified in the survey report rather than disclosed on a plat - especially where the plat has to be recorded or will be given to third parties.

Overlaps and encroachments are often identified only in reports where the encroachment or overlap is so minor that reporting their disclosure on a plat would give the encroachment or overlap more credibility or cause more concern to the client than warranted by the situation. Given the litigious nature of many people these days, all encroachments and overlaps, no matter how minor, should be reported to the client. Yet, common sense and prudence suggest that the reporting should be done in a manner that will not cause undue concern or panic with the client.

Some typical situations often encountered by surveyors where the encroachments or overlaps are minor include: 1) The neighbor's utility line, extending between the neighbor's house and pole at the road, crosses a corner of the client's property. 2) One deed calls for a straight line and the adjoining property calls for the boundary to follow a feature such as a fence, wall, ridge, stream, etc., and the feature meanders back and forth across the straight line by some small amount. 3) A paper-box is located across from the subscriber's driveway on another person's property.

In some cases, a client may want (or the surveyor believes) the encroachment, overlap, or gap should remain confidential. While surveyors do not have the privilege of keeping communications confidential, it is far easier to keep information that is disclosed in a report confidential as opposed to the situation where the same information were to be shown on a plat – especially in jurisdictions where plats are required to be recorded.

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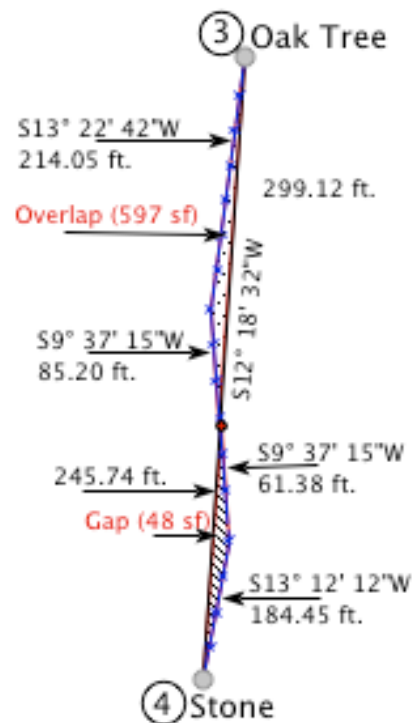
This situation could arise where the client is discovered to be encroaching on the neighbor or have the junior title in an overlap. If the client is in possession of the overlap or the client is encroaching, the client may wish to perfect their title by adverse possession or prescription, in the case of easements. Even in cases where the client has a superior claim, the client may not always want to begin litigation, confront a neighbor, or make the neighbor aware of an encroachment or overlap simply because the client does not want or is not ready to begin a conflict with their neighbor.

Finally, the surveyor may want to use the report to expand, explain, or discuss the encroachment, overlap, or gap that has been identified on the plat. A plat can become cluttered and lose its clarity if the surveyor places numerous notes and extensive explanations on the plat.

A useful format for disclosing encroachments, overlaps, and gaps is to: 1) identify the location, 2) describe the extent, 3) discuss the basis, 4) explain the ramifications, and 5) suggest one or more courses of action the client can take.

Consider the following examples:

Overlap & Gap, Boundary 3-4: Between boundary 3-4 there exist an apparent overlap and gap as shown by the figure to the right. The overlap and gap result from your deed description for boundary 3-4 which states: "...marked oak, thence S2° 15'W, 543 feet to a stone..." and your neighbor's description for the boundary which states: "...planted stone, thence N2° 30'E, 545 feet, following a fence, to a red oak..." Your neighbor's deed was the first conveyance that was recorded without notice of an earlier conveyance from a common grantor and may have senior title to the overlap. The title to the gap is more likely than not retained by the common grantor and resides with the common grantor or his assigns or successors-in-title. While these gaps and overlaps are minor and would not concern me if I were in your stead, you may judge them for your own satisfaction. If you have questions on the ramifications or dealing with them, you should consult an attorney.



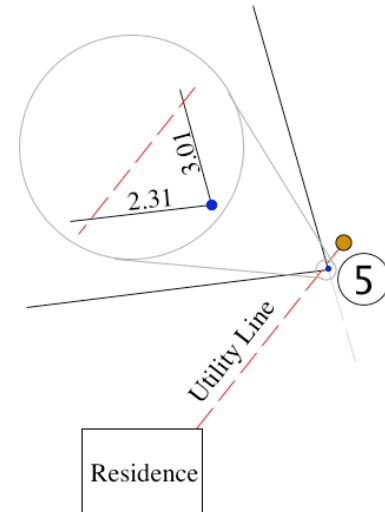
Encroachment at Corner 5: An apparent encroachment exists near corner 5. The figure at the right locates and describes an encroachment by a utility line benefiting your neighbor's residence. The apparent encroachment is composed of a utility line going from utility pole #315-5 (along Parker Avenue) to the northeast corner of the neighbor's house.

A diligent search of the public records failed to reveal an easement or recorded license for the utility line. A letter to the utility company seeking information on the line has gone unanswered.

If the utility line has or is allowed to exist for a time period in excess of 20 years, the neighbor may have the right to maintain the utility line without license or permission.

At this time, it is not known if verbal permission was given to construct the line (i.e., parol license). The apparent encroachment is minor. Asking the neighbor to remove the utility line may cause the neighbor significant expense and/or initiate a dispute with the neighbor.

Should you wish to pursue this matter or have questions on the apparent encroachment's ramifications to your title, you should consult with an attorney.

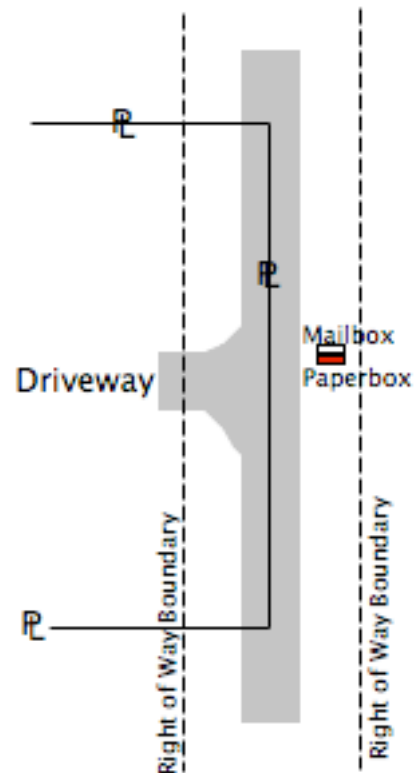


Encroachment Paper-Box: Your paper-box is located next to your mailbox across from your driveway on your neighbor's property. Records indicate that your title only extends to the center of the public road. Court decisions have suggested that private property permanently placed within the public road easement is only allowed in limited cases by permission of the public or where the owner of the private property owns the fee title (or has permission of the fee owner) and the permanent fixture does not prevent the safe use of the easement by the public.

This situation is so common as to seldom be noticed or attract the attention or ire of the neighbor.

My experience suggests that this situation may be safely ignored in almost all cases. The location of the paperbox, maintained long enough (i.e., 20 years), will likely ripen into a right subject only to the public easement.

If you have questions on the encroachment of your paperbox on your neighbor's property you should consult with an attorney.



Encroachment Garage: Your garage encroaches on to the neighbor's property as shown in the diagram to the right. In addition, the garage is within the building set back area established by the current zoning for your municipality. I have no information on how long your garage has existed or under what conditions it was built in its location. These could be relevant factors in determining a course of action to take.

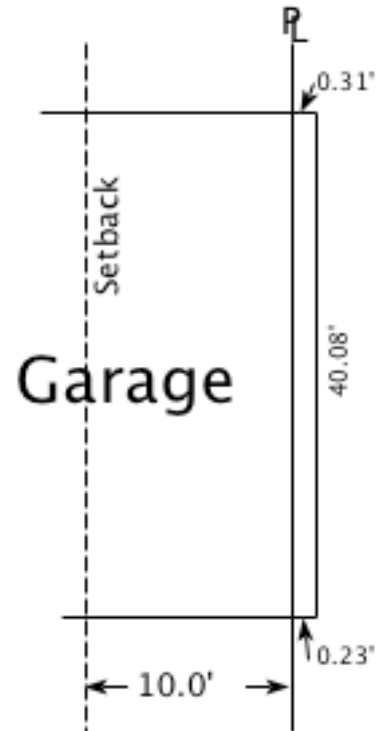
In regard to the possible encroachment of the garage on to your neighbor's property, experience suggests you have three options: 1) First you can do nothing. If the encroachment is maintained long enough under the right conditions, the right to maintain this encroachment on your neighbor could ripen in your favor. 2) You can remove the encroachment from the neighbor's property. 3) You can obtain your neighbor's consent, license, easement, or title to maintain the encroachment. You should consult with an attorney before taking any action or non-action suggested above.

The building set back distance is established by the town zoning ordinance. Building set back distance is established to prevent fire from spreading through a neighborhood. Many structures that existed prior to the enactment of the ordinance are exempt. Your structure may be exempt depending on its age. Additional information will be required in order to determine if the structure is exempt from set back restrictions.

Structures that are illegally located within the building set back are subject to removal, fines, or both. In some situations, a nominal fine or variance will put aside the problem if it exists.

Ordinarily, zoning infringements are not discovered until the transfer of the property (if then). My experience suggests that town enforcement of zoning violations is passive rather than active. In other words, violations are only enforced when brought to the attention of the municipal enforcement agent. In most cases, reporting is done by a disgruntled neighbor.

You should consult with an attorney regarding this situation.



Preparing a Survey Report – Limitations of Services

by
Knud E. Hermansen¹

This is the third article in a series of articles suggesting formats and content of a survey report. In the first article, I discussed reporting an opinion on the location of corners and boundaries. In the second article, I discussed how surveyors can communicate encroachments, gaps and overlaps in a survey report.

The survey report is an excellent media to set forth and explain the limitations of surveying services. Setting forth the limitations of the surveying services in a survey report has _ advantages. The survey report has unlimited space to expand and explain the limitations to the surveying services. Many surveyors put the limitations of surveying services on the plat (a.k.a., CYA notes). Too many notes or notes that are too wordy clutters the plat with writing and causes the plat to lose the focus and clarity that is an advantage of a plat. The old saying of a “picture is worth a thousand words” morphs to the saying of a “picture with a thousand words.”

The scope of services set forth in the contract usually defines the extent of the surveyor’s services. However, where the client is a layperson, simply stating what will be done during surveying services does not necessarily leave the client with a clear understanding of what was not done. For example, stating that surveying services will consist of a boundary retracement services often leaves the client to believe that all boundaries will be located such as wetland boundaries, 100 year flood plain boundaries, set-back boundaries, and easement boundaries to name a few.

Consider the following examples:

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Preparing a Survey Report – Frequently Asked Questions

by
Knud E. Hermansen¹

This is the fourth article in a series of articles suggesting formats and contents of a survey report. Previous articles dealt with opinions on the location of corners and boundaries;² encroachments, gaps and overlaps;³ and limitations of the surveying services.⁴ This article will discuss using a portion of a survey report to deal with Frequently Asked Questions (FAQ) from the client.

Surveyors that choose to include this section in a survey report will often include some of the contents that would have been covered in other sections of the survey report.

The reason for including this section is to anticipate questions that a client might ask the surveyor. It does not take much time in practice for surveyors to hear the same questions from different clients. Surveyors can use a section of the survey report to anticipate and answer questions the client may have in regard to the services performed.

Consider some frequently asked questions that are common on almost all boundary retracement surveys.

One frequently asked question is why there is a difference between the record or deed distances and the retracement distances shown on the plat.

Why are there differences between the record distances and retracement distances? —

When comparing the boundary distances stated in your deed with the distances shown on the plat, you will discover differences between the measurements. Differences are common, especially when there is a long period between the last survey and the current survey. In fact, it would be unusual not to have differences. The differences usually arise from one or more of the following sources:

Skill — The distances stated in your deed were measured by individuals that more likely than not lacked training and experience in making measurements. It was not uncommon for surveyors to rely on local help, such as the client and a neighbor, to handle the chain or tape to perform the measurements. Procedures necessary for precise measurements were ignored or not known.

Uncorrected Errors — Many errors that are now taken into account when measuring distances were ignored or not accounted for in the original measurements. For example, it was common for chains or tapes to be laid on the ground or measured along the slope rather than elevated so the tape is horizontal. Tape corrections were ignored. Links in the chain became worn and stretched without compensation made for the stretched links.

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² See American Surveyor, February 2008, p. 50.

³ See American Surveyor, March 2008, p. _

⁴ See American Surveyor, April 2008, p. _

Equipment — The equipment used by the original surveyors was often unable to measure the distances as precisely as current equipment. A chain was composed of links no smaller than 0.66 feet (7.92 inches). Often the surveyor measured to the nearest half a rod (approximately 8 feet). In some cases, no equipment was used and distances only estimated – often occurring when crossing wide streams in the wintertime or bogs in the summertime.

Similar to the explanation for differences in distances is the question that often arises seeking an answer for the difference between record bearings and retracement bearings.

Why are there differences between the record bearings and retracement bearings? — The bearings shown on the plan differ from the bearings stated in your deed description. The lack of skill and imprecise equipment (compared to the present equipment) explained previously for the differences in distances account for some of the difference between bearings. In addition, the change in magnetic north over time also accounts for some of the difference. Local attraction (localized magnetic pull) also accounts for some difference. However, the biggest difference results from the dissimilarity between true north (aligning with the axis of earth's rotation) that is used as the basis for the bearings in the current survey and magnetic north used as a basis for the bearings in the deed. This difference is known as the magnetic declination. The magnetic declination is approximately 20 degrees for the location of your property and at the time that the original survey was performed.

Another frequently asked question that is similar to the previous questions is why there is a difference between the area stated in the deed and the area shown on the plat.

Why is there a difference between the deed area and area shown on the plat? — Area is calculated from the distances and directions. (In some cases, the area cited in the deed was estimated rather than calculated.) Therefore, differences between retracement measurements and record measurements will result in a difference between the area stated in the deed and the area shown on the plan. In a few cases, only the net (neat) area was shown rather than the gross area. The net area would exclude the area under roads, easements, bogs, etc. In other words, only the area that could be used for usual and practical activities was shown.

Another topic drawing questions from the client concerns the boundary shown on the plan versus what the client owns. Often the surveyor discovers that possession or use of the client's property (or on behalf of the client) does not conform to the record information. Clients often have difficulty understanding that the extent of their title and rights do not always conform to the boundaries set forth in their deed.

Aren't the boundaries shown on the plat also the boundaries to the property that I own? — The boundaries shown on the plan represent the surveyor's opinion on the location of the record or deed boundary. These boundaries may not conform to your ownership boundaries. Your deed is only evidence of your title, not proof of your title. Various legal doctrines such as acquiescence, adverse possession, etc. may result in the location of the ownership boundary residing in a different location than the record or deed boundary. In some cases, a common grantor mistakenly conveyed part of the same property to different people. These are some reasons why title insurance is often recommended.

Clients will often question why the surveyor shows fences, areas of use, features, etc. when the client wanted only a boundary retracement survey (i.e., only their boundaries shown).

Why does the plat show fences, trails, roads, utility lines, and other features or areas of use?

— Use, occupation, or possession that does not conform to the record boundaries or deeds may give rise to certain adverse rights or conflicting title that is not reflected in the records (or records discovered within the time frame of the research). In some cases where the use or occupation is within the boundaries, the structures or use violates building set back distances or other zoning restrictions. As a result of the ramifications resulting from occupation, use, or possession, the visible occupation or use is shown on the plat.

Common problems encountered by the surveyor often result in common questions that can be answered in this section of the survey report.

What should I do when (if) my neighbor's surveyor does not agree with the survey that was performed for me? (I.e. The common boundary shown on the plat is different from where the neighbor's surveyor shows the common boundary)

— It is not unusual for two surveyors looking at the same information to arrive at different opinions. Conflicting information, the disappearance of boundary evidence, and so on make an opinion anything but certain. Any potential boundary dispute must be discussed with your attorney. Experience indicates that you generally have four choices: 1) You can accept the neighbor's claim. While this choice may result in the possible loss of some title or rights, the loss may not be worth the cost to settle the dispute. 2) You can talk to your neighbor and negotiate a compromise over the difference. The compromise may be as simple as splitting the difference or paying the neighbor to recognize a particular boundary. While negotiation is often successful, attempts at negotiation or compromise will sometimes result in heated words and increased animosity causing what the negotiation was meant to prevent – costly litigation. 3) You can litigate with your neighbor and attempt to have the court determine the correct boundary location. Litigation costs can exceed \$10,000 without guarantee of success. The complexities of boundary litigation often overwhelm a judge or jury. Decisions are made despite the fact that the judge or jury are confused. More people than not are frustrated by the cost and slowness of litigation, even those that are successful. 4) You can agree with your neighbor to submit the contentious difference to alternate dispute resolution (ADR). This option may include mediation or arbitration. Arbitration is equivalent to hiring a judge (or third surveyor) and agreeing to be bound by that decision. Hiring a judge or third surveyor is often far less expensive than the normal litigation process and is usually much quicker.

There are numerous other topic areas that can be dealt with in this section. Consider a few of the common questions heard over 35 years of practice:

- Can I replace the monuments you set with other objects?
- Can I put a fence on the boundary you marked or do I have to keep it back from the boundary?
- Can I hammer the pins you set so the entire length of the pins are below the ground surface?
- Will you know if the corner pins are moved?
- If the pin is removed later, do you replace them for free?
- Should I replace the ribbon that you have hanging around my property?
- How can I maintain the visibility of my corners and boundaries?
- Why did the survey cost so much, you were only surveying for a couple of hours?
- I had a title search done when I bought the property, why do you have to perform research too?
- How come two surveyors can't agree on the same location?
- Should I record my plan?

- Do I have to record my plan?
- Can I cut the trees that are on the boundary?
- Why did you have to cut some of the vegetation on my property?
- Can I get more plans later if I want them?
- Can I use this plan to subdivide my property later?
- How long is this survey good for?
- Why did you put (that ugly) orange paint on my corner monuments?
- Should I paint the blazes on the trees that are around the corner monument and along the boundary?
- Is this plat all I need to develop my property?
- Who else will know about the information on the plan?
- If I record my plan will my neighbor be required to recognize the boundary shown on the plan?
- If you survey for my neighbor, will I get some of my fee back?

Not all of these questions are necessarily appropriate for the contents of the survey report. There are many other questions that can be added to this list. The point is, this section of the report can be used to answer common questions and educate the client about the services provided and the boundary that was reestablished.

Once the surveyor has developed a good written response to a common question, the response can be used again and again for other clients.

Preparing a Survey Report – Administrative Information

by
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This is the fifth and last article in a series of articles suggesting formats and contents of a survey report. Previous articles dealt with opinions on the location of corners and boundaries;² encroachments, gaps and overlaps;³ limitations of the surveying services;⁴ and frequently asked questions.⁵ This article will discuss the administrative parts of a survey report.

Administrative information is provided, in part, for the client's benefit. More important is the need to refresh the surveyor's memory (or educate another surveyor) years or decades later. The administrative parts of the survey report are generally placed in the first part of the report and the last part of the report.

The first part of the report that covers administration matters is the cover of the survey report. The cover should include the type of surveying services (e.g., Retracement Survey), the client's name, property location (i.e., street, municipality, county, and state), project number (e.g., 08-3-232), date or period when the services were performed (e.g., June – July 2008), a statement of confidentiality if appropriate, edition number (e.g., Edition 1), copy number and total number of copies (e.g., Copy 1 of 4), and notice of copyright (e.g., © 2008 Knud E. Hermansen). The surveyor's seal and signature can be placed on the cover, the last page, or both. Many of these items of information can be very important.

The statement of confidentiality should be used sparingly – only when and if the client demands confidentiality or the practitioner can reasonably assume the client would want information to be remain confidential.

Some or all the information in this report is CONFIDENTIAL and may not be disclosed without the client's permission or proper legal demand.

The surveyor has no common law privilege of client confidentiality such as doctors enjoy with patients or lawyers enjoy with their client. Confidentiality is limited and ordinarily established by contract with the client. In some cases demands for confidentiality from the client may prevent the surveyor from working for the neighbor or successors in interest. Designation of the report as confidential may limit or prevent the flow or sharing of information between surveyors that many surveyors enjoy.

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² See American Surveyor, February 2008, p. 50.

³ See American Surveyor, March 2008, p. _

⁴ See American Surveyor, April 2008, p. _

⁵ See American Surveyor, May 2008, p. _

On the other hand, a survey report is seldom recorded and can be used to notify and explain problems that the client may not want disclosed to third parties. For example, notice and details of a damaging problem can be moved from the plat to the report in order to protect sensitive information. Where important or sensitive information is placed in the survey report rather than on the plat, a note should be placed on the plat to couple the report to the plat.

Important and relevant information can be found in the survey report. Do not use or rely on this plat without reading the survey report.
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Placing a note on the plat that refers to the survey report for important information does not require the surveyor disclose the survey report to individuals that have or obtain a copy of the plat.

The edition number is used to track changes made to published reports. If the surveyor has published the report and later makes changes and republishes the report, the edition number can be changed to identify the earlier from the later publications. Some surveyors prefer to use a date of publication rather than an edition number.

The surveyor can keep track of the copies by assigning a sequential number to each copy made of the report. Identifying the number of copies made and who received a particular copy is used to track the source of unauthorized copies. Since a surveyor derives a fee from the opinion they provide, unauthorized copies deprive the surveyor of a revenue stream the surveyor has a right to demand under copyright laws.

A copyright statement should be included on the front of the report. While a copyright notice is not required for copyright protection, it is wise to place a copyright notice on the face of the report since most people assume incorrectly that a document without a copyright notice can be copied without permission.

Finally, the surveyor may want to include their name and business address on the report cover. Opportunities for self-promotion should not be overlooked.

In the first section of the report after the cover, additional administrative information can be listed. This information is used to refresh the surveyor's memory years and decades later. Within this section the following information can be included:

- Client contact information — The client's address, telephone number, e-mail address, and other contact information should be listed.
- Property location — If the property location is different from the client's address, the property location should be stated. Specific directions to reach the property can be provided.
- Equipment and software — Given the rapid advance in technology, it is wise to list the equipment and software that was used during the surveying services.
- Tax information — The tax parcel number of the client's parcel can be listed along with the zoning of the property.

- Standards — Mandatory standards often change over time. The mandatory standards enforced at the time the surveying services were performed can be listed.
- Personnel and titles — Personnel who helped perform the surveying services along with their title and responsibility should be listed. These individuals may have to help with recalling information that is required decades later. It also helps the individual support their claim of experience on the project when compiling their experience for licensure.
- Contacts — People or firms that were contacted during the surveying services should be listed. This list could include neighbors, utility companies, municipal or state agencies, etc. In some cases, other surveyors that provided information can be listed and their contribution acknowledged. This could help show due diligence and remind the surveyor what efforts they undertook to obtain relevant information.
- Report distribution — The people who have received copies of the report and plat along with the number of the copy they received can be listed. This information will help identify the source of unauthorized copies.
- Actions taken — A brief statement of the actions taken by the surveyor can be listed along with the time or date the acts occurred. This information can be helpful to show due diligence or refresh the surveyor's memory decades later.
- Relevant documents — A list of documents relevant to the survey can be listed. The list can include the NGS quad sheet, deeds, field book or data file, and flood plain map.
- Relevant datums — The relevant datums that were used during the surveying services should be listed. This would include the basis of the direction (e.g., true, 2008 magnetic), distance datum (e.g., geoid, grid), and coordinate datum (e.g., geocentric, WGS-84).
- Adjustment technique — Any adjustment techniques that were used should be listed such as the compass rule, least squares, etc.
- Survey procedure & precision of measurements — The survey procedure should be noted and the precision of the measurements provided. This would include kinematic GPS, map grade GPS, traverse, radial survey, etc.
- Declination — The declination should be stated. This would be helpful if the client wants to follow the boundary with a compass or help orient another surveyor to the historical direction.

Other administrative information is often included in the appendices. Consider the following appendices that can be included in the survey report:

- Notice to adjoining — A sample of the letter sent to neighbors, utilities, etc. can be included as an appendix. This could show compliance with surveyor right of entry requirements and due diligence.
- List of survey data — Preserving a list of coordinates, traverse measurements, solar observations, calculations, list of station descriptions, and other survey data in written form is helpful if there is subsequent work on or near the client's property some time in the future. Destruction of digital data or the obsolescence of digital reading software may make the survey report the only source for this data years

later. It also provides a quick method for transferring survey data to another surveyor.

- Unrecorded documents — Important letters, affidavits, unrecorded plats, historical field notes and other documents that were relevant to the surveying services performed can be included in the appendix. This arrangement makes it convenient if the survey has to be reviewed at a later date.
- Records examined — A list of the recorded records that were examined can be very helpful years later. In some cases a flow chart can be included as an appendix to show the sequence of conveyances. Extracts of key parts of relevant descriptions can also be included.
- Photographs — Small icons and a list of photographs can be included in the appendices. This can be helpful if the survey results have to be reviewed some time later.

With the completion of the administrative parts of the survey report, the report can be printed, copies made, bound, and distributed. It is usually wise to keep one copy for the office bookshelf. It may be kind to give a copy to the employee who was in responsible charge of portions of the surveying services so the employee can have access to the information and evidence of their involvement in the surveying services.

In closing, I hope these articles on preparing survey reports will provide some insight and aid in preparing reports. Do not be afraid to experiment and develop a style that fits your needs.