

MISSOURI SURVEYOR

A Quarterly Publication of the
Missouri Society of Professional Surveyors

Jefferson City, Missouri

September 2011



CALENDAR OF EVENTS

2011-2012

October 13-15, 2011
54th Annual Meeting
and Convention
University Plaza Hotel
Springfield, MO

May 11-12, 2012
Spring Workshop
Lodge of Four Seasons
Lake Ozark, MO

July 14, 2012
Minimum Standards Workshop
Lodge of Four Seasons
Lake Ozark, MO

October 11-13, 2012
55th Annual Meeting
and Convention
Hilton St. Louis Frontenac
St. Louis, MO

October 10-12, 2013
56th Annual Meeting
and Convention
Tan-Tar-A Resort
Golf Club, Marina
and Indoor Waterpark
Osage Beach, MO

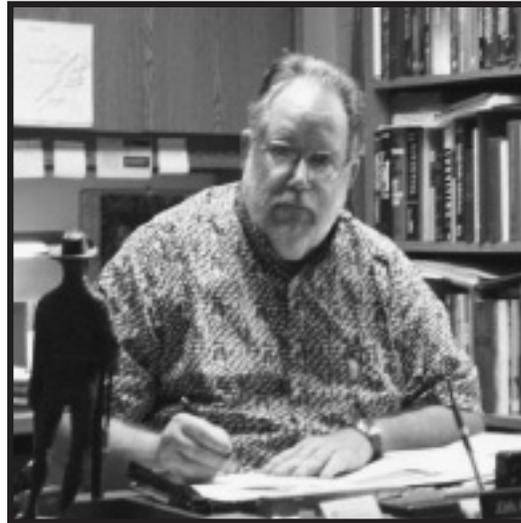
October 2014
Joint Annual Meeting
with Kansas Society of
Land Surveyors

John Alan Holleck, Editor



Notes from the Editor's Desk

John Alan Holleck



Hello everyone, I hope everyone has been well over the last three months. Well, I have procrastinated so-long that I am writing these "Notes" on 11 September—the 10th Anniversary of the 9/11 tragedy. This is, of course, one of those life changing moments that one never forgets, such as the day Kennedy was shot. I happened to turn on the news and will never forget seeing the plane hit the second tower—it was horrific. Fortunately, the following week many of us were in Branson for our Convention and were given time to get past our feelings of terror. I think Sandy and

I have assembled another fine *Missouri Surveyor*.

After my "Notes" and Mark Nolte's, last "President's Message," the opening article *Missouri surveyor* Steven E. Weible's "See New Plat?" or what have I gotten myself into (my words). Steven studies that age-old conundrum, 'old v. new & improved.' Next follows the Recording of Boundary Surveys cartoon. Next, we have the continuation of an article co-written by Norman Bowers and Steven S. Brosemer, "First Survey as Original Survey, Part 2." During the discussion, the authors define good surveyors as problem solvers and bad surveyors as problem finders. Knud E. Hermansen and Carlton Brown follow with "Digital Data Transmission – Security and Safeguards," a treatise on how to best secure our digital material. This brings us to the middle of the issue and another excellent ballot of officers and directors.

The *Missouri Surveyor* opening the back half with another Knud E. Hermansen and Robert A. Liimakka article, this one entitled "Acquiescence." Knud and his co-author discuss the subject of consentable boundary or implied agreement in legal terms for the surveyors benefit. Ron Kliethermes reports on the Missouri Association of County Surveyors float trip at Montauk State Park. His article entitled "Non-Weather-Related 'Hot Topics' at MACS Summer Workshop. Chris Wickern and Jerry Bader, also, gave a presentation on survey recordation history. Following Ron is "Survey Stories" by Jim Sommerville, a compendium of stories about a funny thing on the way to work. Up next is Wendy Lathrop with "Watch Your Language." She does not mean swearing but watching the proper language of deeds. "Educating Yourself for Hard Times" by Gary Briant, a New York surveyor follows. Surveyor Briant thinks marketing is our bet for coming to grips with economic times. The final article is a tribute to our soldier surveyors in 'harms way,' written by Elvis Pete Elrod and entitled "Soldiers and Surveyors." Hope you enjoy this issue. 

THE MISSOURI SURVEYOR

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The Missouri Surveyor is published quarterly by the Missouri Society of Professional Engineers, to inform land surveyors and related professions, government officials, educational institutions, contractors, suppliers and associated businesses and industries about land surveying affairs. Articles or opinions appearing in this publication do not necessarily reflect the viewpoints of MSPS but are published as a service to its members, the general public and for the betterment of the surveying profession. No responsibility is assumed for errors, misquotes or deletions as to its contents. Articles may be reprinted with due credit given.

President's Message



Mark Nolte, PLS

I write my last President's message with mixed emotions. The MSPS year has been filled with meetings that help chart our future as surveyors. I have received a whirlwind education in the legislative process while following the lien rights, statute of limitations and Land Survey Program debates. I can tell you honestly that no progress is made in State government without a great deal of involvement. We owe a great deal of thanks to the Legislative Committee chairmen as well as our capable lobbyist, Mo McCullough. They have

orchestrated a very successful legislative year. I look forward to carrying on the fight to improve the circumstances of the Land Surveying Program and hope to be able to provide you with a full report at the annual meeting of any progress and the happenings over the summer.

The cadastral mapping standards stakeholder meetings have begun after a shaky start. I would encourage you to attend a meeting when it comes to your area. With the surveying economy being slow, this economic opportunity may be the technology that will enhance our opportunity to stay solvent in a difficult economy. Congratulations to those involved with this legislation.

The annual meeting committee continues to plan for our October meeting. I understand that a practice BBQ was held in August to work the kinks out. I want to thank them in advance for going out on a limb to try a banquet unlike any we have ever had. I encourage you to attend and enjoy the evening of good food and entertainment. The education committee has again provided a good lineup of speakers including Walt Robillard and Dick Elgin.

In closing, I want to tell you that it has been a humbling experience to be your President for the past year. MSPS is strong because of its diversity. We all come from different circumstances and shape our opinions due to our experiences. The debate, the disagreement and the ability to find common ground is what makes us successful-and has been the most enjoyable aspect of my tenure. Knowing this is also my last opportunity to address you, I want to publicly give my thanks to those surveyors that have shaped my professional sword. Those would be Dr. Joe Paiva, Bill Meyer, Jack Beale, Terry McCanless and Ron Shy. Without them my career path would have been limited. ■

Cover: While doing the field reconnaissance for Frog Hollow Connector to the new St. Mary's Hospital in Jefferson City, a City of Jefferson survey crew were looking for section corners and happened across this 1/4 section stone in good shape. They reported that you just don't find these stones in Jefferson City like they used to and especially with the 1/4 chiseled on the side like in the photo. Left to right: Ric Hurst, Len Bonnot, and Andy Koenigsfeld

See New Plat?

Steven E. Weible, PLS, July 2011

The first thing to catch the eye are the words “SEE NEW PLAT” scrawled in pencil across the middle of the document. The thought enters the mind, “Who would do that?” The next thought that enters the mind might be, “If there is a new plat, is this old one of any value?”

The old plat referred to here is a Missouri township plat from the period of 1816 to 1824. During this period, William Rector served as Principal Deputy Surveyor of the Territory of Missouri (Act of February 28, 1806, chapter 11, U. S. Statutes at Large, Volume 2, page 352), Surveyor of the public lands for the Territories of Illinois and Missouri (Act of April 29, 1816, chapter 151, U. S. Statutes at Large, Volume 3, page 325) and Surveyor of the public lands in the States of Illinois and Missouri and the Territory of Arkansas. The contracts into which he entered with deputy surveyors for the subdivision of townships required the contractors to “make out three neat and accurate plats and descriptions” and to calculate the quantities of each fractional section, which were to be shown on the completed plats. It appears that this practice was abandoned as a quality control measure, beginning in 1825, by the succeeding Surveyor of the public lands, William McRee (American State Papers, Public Lands, Volume 6, page 402, Number 1033). The township plats were thereafter prepared by clerks within his office. The old plats prepared by the deputy surveyors remained in use until new plats were prepared in the 1840s, 1850s and 1860s prior to the closure of the office of the Surveyor of the public lands on October 31, 1867 (MoDNR microfiche location: 720/3375A04).

So now that there is a new plat, is the old one of any value? The answer is ... maybe. There are some seventeen volumes of old plats and most of these do not contain any more than what can be found on the new plat. Some, however, contain interesting information that may provide insight on how to deal with many of the “oddities” of the Public Land Survey System in Missouri.

The old plats appear to have served as a record of activity within some of the townships. Confirmed private claims were added as the surveys were completed and the northern and western tiers of sections were protracted into lots as laws changed to provide for the sale of land in smaller units. The Act of February 11, 1805, chapter 14, (U. S. Statutes at Large, Volume 2, page 313) only anticipated the sale of public lands in tracts as small as the quarter section. The Act of April 24, 1820, chapter 51, (U. S. Statutes at Large, Volume 3, page 566) provided for the sale of public lands in half quarter sections. Then the Act of April 5, 1832, chapter 65, (U. S. Statutes at Large, Volume 4, page 503) provided for the sale of public lands in quarter-quarter sections.

Township plats returned by the U. S. Deputy Surveyors prior to April 1820 would only have been subdivided into quarter sections as the smallest unit with the protraction of

“80 acre” tracts being added later. Likewise, township plats returned by the U. S. Deputy Surveyors after April 1820 and prior to 1825 would only have been subdivided into “80 acre” tracts as the smallest unit with the protraction of smaller units being added later. Those plats that contain later subdivisions into lots usually contain notations indicating the date on which they were protracted and the date on which a copy was sent to the Register of the district land office and/or the Commissioner of the General Land Office.

The majority of notations of protraction begin to appear on the old plats after April 1832. The general form of the notation is as follows:

“Subdivided under the Act of Congress of the 5th of April 1832 and sent a copy of the plat to the Register and to the Commissioner of the General Land Office.”

In some instances parts of the northern and western tiers of sections, where lotting is expected, were protracted into aliquot parts, creating one of the “oddities” of the Missouri system. The following notation on the old plat gives insight into the reason why this was done:

“Subdivided under the Act of 1832 so as to conform to previous sales as reported by the Register ...”

It appears that in these cases the district land offices were selling the tracts as aliquot parts, as authorized by the Act of April 5, 1832, before the clerk in the Surveyor’s office protracted them into lots. The Register of the district land office

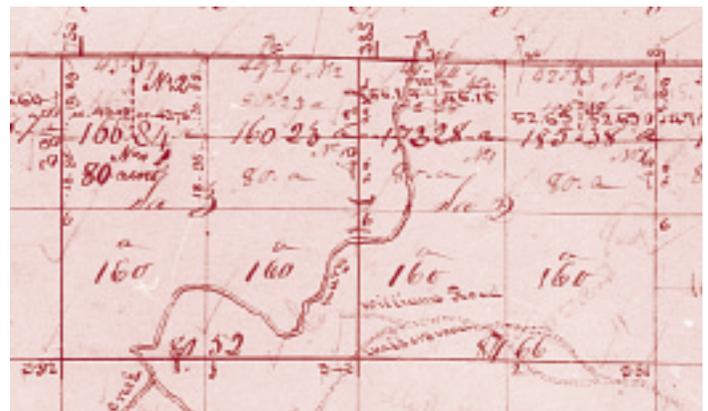


Figure 1

Sections 2 and 3, Township 42 North, Range 10 West
Northwest Quarter of Section 3 subdivided February 18, 1839
North half of Section 2 subdivided May 27, 1845
Image courtesy of the Missouri Department of Natural Resources

See New Plat? (continued)

reported the sales as made and the clerk, then, adjusted the plat accordingly and made the area computation.

How the clerk was instructed in the task of protracting the northern and western tiers of sections into lots is not known to the author, but the method seems to have differed either by time period or by the particular clerk performing the calculation. In many of the cases where protraction was performed prior to about 1843, the lot area of those lots not adjoining the township or range line was held fixed at 80 acres and the unknown lot dimensions were calculated accordingly, resulting in different distances on each side of section lines and center of section lines. In cases where protraction was performed after about 1843, the distance on each side of these lots was fixed at 20.00 chains and the lot area was simply labeled as a nominal "80 acres." These are not absolute rules, however, because in some cases the lot distance was fixed at 20.00 chains and the lot area was computed as something other than 80 acres.

An example of an old township plat on which two different methods of protraction appear side-by-side on the same plat is Township 42 North, Range 10 West (Missouri Plats Volume 9, page 13, MoDNR microfiche location: 720/0123A03). See figure 1. The northwest quarter of Section 3 was subdivided on February 18, 1839. The North half of Section 2 was subdivided on May 27, 1845. A look at the handwriting between the two sections reveals that each was subdivided by a different clerk. In Section 3 that clerk held the area of Lot 1 of the northwest quarter fixed at 80 acres and then calculated the north-south lot distance to be 18.95 chains. In Section 2 the other clerk set the north-south distance of Lots 1 in the northeast and northwest quarters at 20.00 chains and simply

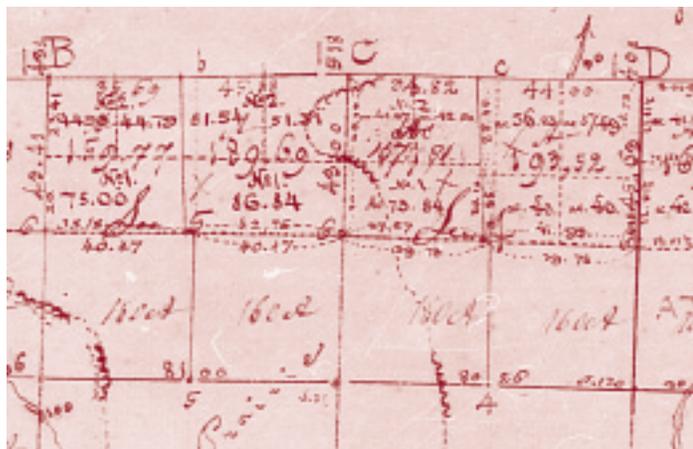


Figure 2

Sections 4 and 5, Township 48 North, Range 3 West
 Northwest Quarter of Section 4 subdivided April 17, 1839
 Northeast Quarter of Section 4 subdivided October 6, 1840
 North half of Section 5 subdivided September 27, 1841
 Image courtesy of the Missouri Department of Natural Resources

labeled the lots as being a nominal "80 acres."

See figure 2 for another example from Township 48 North, Range 3 West (Missouri Plats Volume 12, page 27, MoDNR microfiche location: 720/0168B03). The northwest quarter of Section 4 was subdivided on April 17, 1839. The northeast quarter of Section 4 was subdivided on October 6, 1840 to conform to a previous sale as reported by the Register. The north half of Section 5 was subdivided on September 27, 1841.

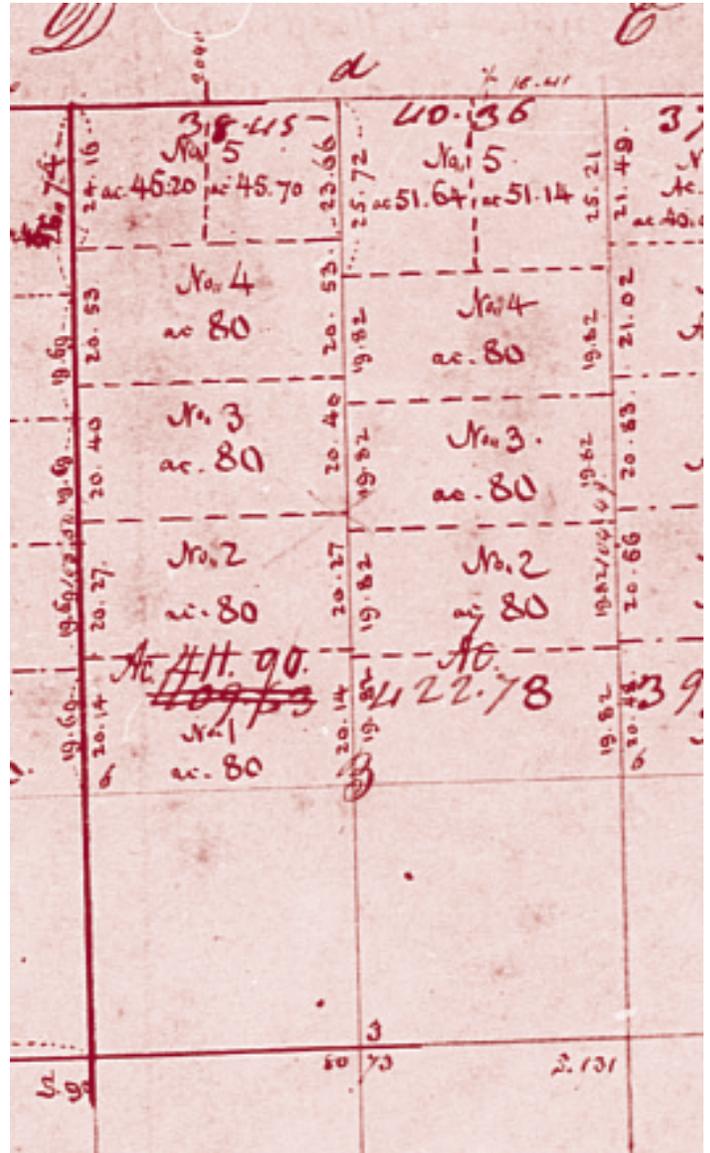


Figure 3

Section 3, Township 39 North, Range 6 East
 subdivided July 13, 1839
 Image courtesy of the Missouri Department of Natural Resources

(continued on page 6)

See New Plat? (continued)

See figure 3 for an example from Township 39 North, Range 6 East (Missouri Plats Volume 3, page 44, MoDNR microfiche location: 720/0043A01). The north half of Section 3 was subdivided on July 13, 1839.

Was it simply up to the clerk to decide or were there explicit instructions on how to proceed? It's hard to know. That's why it is important to examine all of the available information ... including the old township plats. Most of the notes and calculations that appear on the old plats were not transferred to the new plats, so this information would be missed if only a new plat

was used.

As Missouri Surveyors we have all been taught protraction procedures that are consistent with the Bureau of Land Management's Manual of Surveying Instructions. The fact is, however, that the clerk in the office of the Surveyor of the public lands may not have actually done it that way. So, if there is an old plat, it's worth a look. You may find the answer to your "oddy." Another point to remember is that the plat in effect at the time that the patent was issued is the one that will control. In many cases that's the old plat! ■

So, if there is an old plat, it's worth a look. You may find the answer to your "oddy."

In Memory of Kenneth Earl Messick, LS 2471

Ken passed away August 13, 2011 in Springfield, MO from a heart attack. He had been to the doctor recently with indigestion and pain in his arm. He was standing in line at Wal-Mart waiting to purchase some medicine for indigestion when he suffered the heart attack.

Kenneth Earl Messick was born January 1, 1951 in Cedar County, Missouri. He was a devoted father to son Josh and daughter Holly. Josh had worked with his dad last year at CJW Transportation.

Ken was Project Surveyor for CJW Transportation Consultants, LLC. He had earned a BS in Geology from SMS. BLM employed him for a couple years before and had worked with Scott Engineering prior to joining Anderson Engineering as a party chief. At Anderson he earned his LS, was a project surveyor on the Branson High Road project they worked with HNTB and managed its Branson office through the 90's. He worked with Wilson Surveying a short time before going to work with Great River Engineering in Springfield as their Chief Surveyor.

He gave 100% at everything he did with a smile. He was an excellent surveyor, a loving father and son, and a good man.

Funeral services were held Thursday, August 18, 2011 at Springfield Community Church with burial at Mt. Vernon Cemetery in Walker, MO. He was escorted by the Springfield Redwings Senior Softball Team. Memorials may be made to the American Heart Association, 2446 East Madrid, Springfield, MO 65804. ■

There's a wideness in God's mercy

Like the wideness of the sea;

There's a kindness in His justice

Which is more than liberty.

For the love of God is broader

than the measure of man's mind:

And the heart of the Eternal

is most wonderfully kind.

— F. W. Faber

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TOP 11 REASONS TO RECORD BOUNDARY SURVEYS

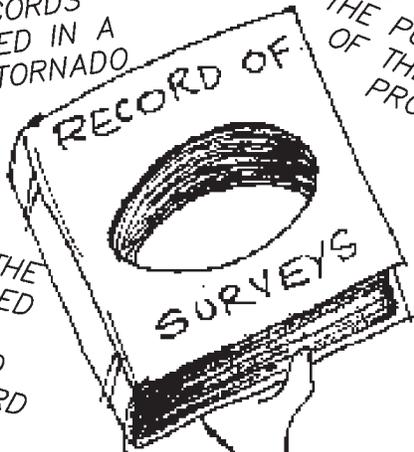
GUESS WHICH RECORD SHOULDN'T HAVE A HOLE IN IT?

11. IT PRESERVES THE RECORD WHEN PRIVATE RECORDS ARE DESTROYED IN A FIRE, FLOOD, TORNADO

10. IT ENHANCES THE PUBLICS ESTEEM OF THE SURVEYING PROFESSION

9. IT SERVES PUBLIC NOTICE THAT THE BOUNDARY IS KNOWN

8. IT PLACES THE PUBLICLY SHARED AND COMMON BOUNDARY INTO THE PUBLIC RECORD



7. IT PLACES CHANGING AND EVOLVING EVIDENCE INTO THE PUBLIC RECORD

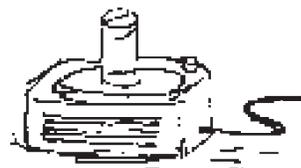
6. IT **REDUCES LIABILITY** WITH PUBLIC RELIANCE

5. IT ENABLES FUTURE SURVEYORS TO RELY ON PREVIOUS SURVEYS IN THE PUBLIC RECORD

4. IT **REDUCES LIABILITY** WITH RELIANCE BY PROFESSIONALS

3. IT **REDUCES LIABILITY** THROUGH A STABLE LAND SYSTEM

2. IT FORMS THE **FOUNDATION** OF A STABLE LAND SYSTEM



AND THE **NUMBER 1** REASON TO RECORD BOUNDARY SURVEYS IS:

IT PROTECTS THE PUBLIC

TROELSTRUP

MO Colleges/Universities Where Land Surveying Coursework is Available

The following list will be updated quarterly as new information becomes available.

Longview Community College — Lee's Summit, Missouri

Contact: David Gann, PLS, Program Coordinator/Instructor —
Land Surveying MCC — Longview, MEP Division
Longview Community College
Science and Technology Bldg.
500 SW Longview Road
Lee's Summit, Missouri 64081-2105
816-672-2336; Fax 816-672-2034; Cell 816-803-9179

Florissant Community College — St. Louis, Missouri

Contact: Ashok Agrawal
Florissant Community College
3400 Pershall Road
St. Louis, Missouri 63135
314-595-4535

Missouri State University — Springfield, Missouri

Contact: Thomas G. Plymate
Southwest Missouri State University
901 So. National
Springfield, Missouri 65804-0089
417-836-5800

Mineral Area College — Flat River, Missouri

Contact: Jim Hrouda
Mineral Area College
P.O. Box 1000
Park Hills, Missouri 63601
573-431-4593, ext. 309

Missouri Western State University — St. Joseph, Missouri

Contact: Department of Engineering Technology
Missouri Western State University
Wilson Hall 193
4525 Downs Drive
St. Joseph, MO 64507
816-271-5820
www.missouriwestern.edu/EngTech/

St. Louis Community College at Florissant Valley

Contact: Norman R. Brown
St. Louis Community College at Florissant Valley
3400 Pershall Road
St. Louis, Missouri 63135-1499
314-595-4306

Three Rivers Community College — Poplar Bluff, Missouri

Contact: Larry Kimbrow, Associate Dean
Ron Rains, Faculty
Three Rivers Community College
2080 Three Rivers Blvd.
Poplar Bluff, Missouri 63901
573-840-9689 or -9683
877-TRY-TRCC (toll free)

Missouri University of Science and Technology — Rolla, Missouri

Contact: Dr. Richard L. Elgin, PLS, PE
Adjunct Professor
Department of Civil Engineering
1401 North Pine Street
211 Butler-Carlton Hall
Rolla, Missouri 65409-0030
573-364-6362
elgin@mst.edu

University of Missouri-Columbia, Missouri

Contact: Lois Tolson
University of Missouri-Columbia
W1025 Engineering Bldg. East
Columbia, Missouri 65211
573-882-4377

Missouri Southern State College — Joplin, Missouri

Contact: Dr. Tia Strait
School of Technology
3950 E. Newman Rd.
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First Survey as Original Survey, Part 2

Norman Bowers, L.S. & P.E. and Steven S. Brosemer, L.S. Reprinted from *Sectionlines*, KSLs, Spring 2011

In the August 2010 *Section Lines* we discussed the definition of an original survey. In summary, an original survey is the survey that created a new tract, or a survey performed after the tract was created and the landowners accepted the survey and occupied to the surveyed lines. This article is concerning the first time an existing tract is surveyed that was created without benefit of a survey. Perhaps a farmer measures from the road and existing fence line, gives that information to an attorney or title person and they create the legal description used in the deed. The farmer sells the tract, the new landowner constructs improvements and occupies to the farmer-surveyed line. Years later, one of the tracts changes hands and the new owner commissions a survey. This requested survey will then be the first survey of the tract after it was created.

It is important to remember that the actions of landowners create boundaries; it is, after all, their land. In an original survey the surveyor stakes the lines at the locations intended by the grantor, and the grantor and grantee endorse the survey when the deed is recorded using the surveyor's description. A subdivision plat creates boundaries, but it is the landowner's endorsement on the plat that actually creates the boundaries. When a surveyor stakes a line, it only becomes a boundary line when the adjoining property owners accept the survey and occupy to the surveyed line.

When we do a first survey, the landowners may have already taken steps to establish the boundaries, so it will usually be necessary to involve the landowners in the resolution of any issues revealed by the survey. In a First Survey our goal should be to create a survey that establishes permanent boundaries like an original survey.

It is fundamental that we must determine the type of survey we will be performing: 1) An Original survey, 2) A type of original survey - the First Survey, 3) A retracement survey. A classical original survey is obvious as the purpose articulated by the client is to create a new tract. For an existing tract the client may or may not know if there has been a previous survey, so it may be more difficult to determine if we will be doing a retracement or first survey. When we are interviewing the client we should always ask about previous surveys, as well as his opinion of whether the occupation lines are correct, and if the neighbors have ever mentioned that the occupation lines are in error. Even if the client is not aware of a previous survey, we can usually determine this during the

course of the research for the survey. We may find a plat on file of a survey that was made when the tract was created. Perhaps some corner reference reports are on file for that same year that would indicate a surveyor worked in the area. Even if a plat cannot be found, most surveyors recognize a legal description written by a surveyor. Surveyors can also recognize a description written by a non-surveyor. So, prior to any field work, we should know whether we will be doing a retracement or first survey. Whether in the office before the field work, or during the initial field work, the moment we determine that we are doing a first survey, we need to stop and reflect on the possible outcomes and our role in the resulting legal process.



When performing a first survey we should be a problem solver, not just a problem finder. A problem finder will stake the deed, show the occupation lines, and tell the client to go see his attorney. This will most likely result in some sort of legal action between the two landowners that will cost the client and the neighbors a lot of money. It will also cause ill will between neighbors that were living in peace before your arrival. A problem finder does not reflect well on our profession. To be a problem solver, you need to talk over options with your client prior to setting stakes. Surveyors deal with boundary issues on a regular basis, and should be aware of options available to the landowner to solve boundary

problems. It is not practicing law by suggesting ways that the landowners can settle a boundary issue without litigation. Certainly an attorney may be needed to prepare new deeds to properly memorialize the final solution. But it seems far better to suggest solutions for the attorney to consider, rather than setting stakes and sending your client to his attorney to file suit against the neighbor. Judge Cooley of the Michigan Supreme Court recommended this course of action: "It is always possible, when corners are extinct, that the surveyor may usefully act as a mediator between parties and assist in preventing legal controversies by settling doubtful lines. Unless he is made for this purpose an arbitrator by legal submission, the parties, of course, even if they consent to follow his judgment, cannot, on the basis of mere consent, be compelled to do so; but if he brings about an agreement, and they carry it into effect by actually conforming their occupa-

(continued on page 12)

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First Survey as Original Survey, Part 2 (continued)

tion to his lines, the action will conclude them. Of course, it is desirable that all such agreements be reduced to writing, but this is not absolutely indispensable if they are carried into effect without.”

Our goal as the first surveyor on the ground is to have our survey become equivalent to an original survey. This occurs when the landowners accept the lines we stake and, if necessary, appropriate documents are recorded. It is good practice to include the following items on the plat: 1) Statement that this was the first survey of the tract, 2) The issues that you found and how you resolved them, 3) Recitation of the original legal description, 4) Recommended legal description if the original is not adequate, 5) A statement that the landowners (list the names) have viewed the boundaries as staked and have accepted them. 6) While not required, especially if new deeds will follow, it is good practice to have the adjacent landowners sign the plat stating that they agree that the staked boundary will be their permanent boundary line. There are many scenarios for a first survey, and depending on the situation the options for resolving the matter will vary. We will discuss a few of the more common situations and suggest reasonable options. Our goal is to get the adjoining landowners to agree on a line, and then document the agreement.

The simplest situation is when the description is adequate and no improvements have been established along the boundaries, and the landowners are awaiting a survey before erecting improvements. A similar situation is when the description is adequate and matches the occupation lines (This outcome is unlikely, but possible.). In either situation we don't really have a disagreement; we just need to document what happened, so the next surveyor will respect the survey. In either case all that is usually needed is a statement on the plat that you have spoken with all owners and they agree to the line as staked or, better yet, a statement of agreement on the plat signed by the owners.

A little more complicated situation is where the description is adequate but doesn't match the occupation lines, and the landowners accept the survey and move their fences, if any, and occupy up to the staked line. Moving a fence to the staked line does involve some cost to one or more of the adjacent landowners. In this case, a statement on the plat signed by the owners agreeing to the boundary and moving the improvements to the staked line would be the best option.

Another common situation is where the description was written with bounds to fences and hedges that can be located and they match the occupation lines.

In this case the bounds are controlling, but the measured distances are either missing or not accurate. This isn't really a boundary issue, and the description is adequate if a surveyor is able to stake the boundary from it. Your plat could just show measured and deeded distances without a recommended description. If the landowners are interested in recording deeds with a new description, the plat should include a recommended description. The landowner should be advised to talk with his attorney on how to get the recommended description on record. A correction deed might be a possibility, or a quit claim deed from the adjoining landowner.

The most likely situation is where the description doesn't match the occupation lines intended by the original landowner. We should not set stakes before speaking with the landowners. Setting stakes will likely start a fight between the landowners. We need to talk with both landowners independently to find out where they think the boundary line is located. This could be a phone call if it is easy to describe the intended lines. We can tell them the description is faulty and doesn't match the intent, and some title corrections will be needed. The solution picked is up to the landowners, they can fight it out in court and spend thousands in legal fees, or they can agree on the boundary and have an attorney work up the necessary deeds. If the landowners cannot agree on the line, then we have to stake the deed and show the occupation lines. If the landowners do agree to the occupation lines then we set stakes where agreed to by the landowners, and write a new legal description. The plat should include the original legal and the recommended legal, and should include a note that the original description had fatal defects and that you talked to both landowners and they agreed to the lines as staked. The client's attorney will need to prepare a correction deed, or perhaps a quit claim deed or exchange of quit claim deeds to get the new description on record.

Sometimes the description just doesn't make any sense and the property cannot be accurately surveyed. The usual definition of an adequate legal description is one that a surveyor can locate on the ground. In this case, we need to tell the landowners that there is a problem with the description and that you will need to write up a new description to match the intended property lines. Like the previous situation, you need to talk with both landowners to make sure they agree where the intended property line is located. You set your stakes where agreed by the landowners, and write a new legal description. The plat should include the original legal and the recommended legal, and should include a note that the original description had fatal defects and that you talked to both landowners and they agreed to the lines as staked. The client's attorney will need to prepare a correction deed, or perhaps a quit claim deed or exchange of quit claim deeds to get the new description on record.

(continued on page 14)



If you love your Garmin or your Tom Tom, you better learn how to read a map!

LightSquared's "Solution" to a Problem THEY Caused Will Wipe Out GPS

GPS, as we know it, will end soon — thanks to the FCC and a company called LightSquared. Earlier this year, LightSquared, a Reston, VA satellite-terrestrial broadband network company, was granted a temporary waiver by the FCC to deploy 40,000 ground stations as part of their wireless 4G broadband network — there is only one problem, the LightSquared 4G broadband network will wipe out nationwide GPS; and they know it!

Tests have shown that if LightSquared is allowed to precede with its plan, virtually all GPS units across the country, at all levels, will be rendered useless. LightSquared offered three "solutions" to the problems its plan will cause; but they all come up short. The only real solution is for LightSquared to move far away from the GPS spectrum, which is something it blatantly refuses to do.

GPS users have one last opportunity to save GPS as we know it. Call your Member of Congress — or better yet, visit them in person (and bring your GPS) — tell them you want them to take action to prevent LightSquared and the FCC from destroying GPS, and you want them to do it now. Tomorrow may be too late. If LightSquared is allowed to proceed — YOU WILL LOSE YOUR GPS!!

ACT NOW AND CALL YOUR MEMBER OF CONGRESS TODAY!



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First Survey as Original Survey, Part 2 (continued)

An unfortunate situation develops when the description does not match the occupation lines but the landowners aren't interested in moving the improvements or revising the deeds. On a first survey, and probably any survey, it is a poor practice to set stakes that are not in harmony with occupation lines when you are aware the stakes will be ignored by the landowners. Rather than providing a service to the landowner, the survey sets the stage for future litigation. It is better that a survey is never done, than one that is done and then ignored by the landowners. If this situation develops it might be a good idea to suggest the client pay you for work completed to date, and withdraw without setting stakes.

In summary, when we are the first surveyor on the ground,

In summary, when we are the first surveyor on the ground, we can be a problem solver or a problem maker, and we should always try to be a problem solver.

we can be a problem solver or a problem maker, and we should always try to be a problem solver. It is especially important in a first survey to speak with all the landowners to understand where they believe the boundary is located. The desired outcome is to stake the boundary where the landowners agree the boundary is located, document that agreement on the plat, and file the plat at the register of deeds. In many situations the client's attorney will need to prepare a correction deed or quit claim deeds to get a new description on the public record that matches the intent of the landown-

ers. The key to being a problem solver is to seek agreement, documentation on the plat, and recordation! ■

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Allenbrand-Drews & Assoc., Inc., Olathe, KS
Amsinger Surveying, Inc., Marshfield, MO
Anderson Engineering, Inc., Springfield, MO
Anderson Survey Co., Lee's Summit, MO
Aylett Survey & Engineering, Co., Gladstone, MO
Bader Land Surveying, Inc., Ste. Genevieve, MO
Bartlett & West, Inc., St. Joseph, MO
Barton Engineering Co., Inc., Lebanon, MO
Bax Engineering Co., Inc., St. Charles, MO
Buescher Frankenberg Associates, Inc., Washington, MO
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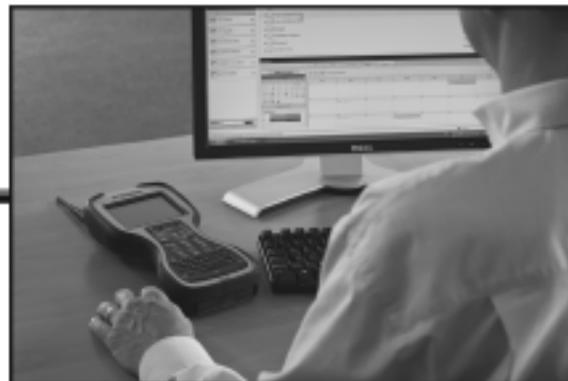
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Digital Data Transmission – Security & Safeguards

Knud E. Hermansen and Carlton Brown Reprinted from *Empire State Surveyor*, Vol. 46 • No. 4, July-August 2010

There are few surveying and engineering firms that have not had to transmit or been asked to transfer surveying and engineering data in electronic format. The requests for electronic surveying documents rather than paper documents are expected to grow.

Many procedures employed by a firm to insure data accuracy and integrity using paper documents are now outdated in the digital age. In this age of data transmission, illicit data swapping, data alteration, and even entire counterfeit digital documents can be produced without easy detection. Image-editing tools can make pixel by pixel changes that alter the font, color, intensity, size, shape, and placement information without visual recognition. Accordingly, new procedures must be considered and employed.

Any procedure for the transmittal of digital data should address four aspects: 1) authentication, 2) data integrity, and 3) end-to-end accountability, and 4) fraud prevention or detection of fraud.

Authentication addresses whether the document is genuine. Previously, the use of a watermark on paper, seal, signature, etc. was used to authenticate the document issued by the surveyor or engineer (though not necessarily the contents of the document). Thus a plan that contained a seal and signature of the professional issued in the stream of commerce could be relied upon. The presence of the seal and signature provided authentication to the reliant party that the source of the plan was a professional.

While a seal and signature can be used to authenticate a document's source, the seal and signature does not address data integrity. Data integrity deals with the validity of the data within the document. For example, were the format, color, lines or words within the document added or altered after leaving the creator's possession but before being used by a reliant party (e.g., public). In the past, the difficulty of alteration without removing or defacing the signature and seal made authenticity and data integrity almost synonymous. This is not true anymore.

End-to-end accountability addresses the ability of both the sender and user to guard against unauthorized modifications or additions to the digital data. In the past, end-to-end accountability was assuaged by use of the United States Postal Service. While there are numerous examples of postal service misfeasance, the number of problems were so low as to give both the sender and receiver considerable comfort. Now, data is sent through numerous routers and third parties. Data corruption occurs along with viruses, worms, and trojan horses that can attach to the file and infect computers and systems.

Fortunately, this problem is being addressed by inexpensive anti-virus software, firewalls, etc.

Finally, fraud detection or prevention deals with both making it difficult to perpetuate fraud on the one hand, and easing its detection if fraud is present on the other hand. In the past, the high cost of printing or skill of the forger made undetectable fraud unlikely. Now, the availability of inexpensive software that does pixel by pixel changes has made undetectable fraud likely.

Accordingly, a procedure for the transmittal of digital data should address three concerns (assuming the professional and user have antivirus software and firewalls): 1) assurance of the unaltered substance of the document; 2) the authenticity of the sender; and 3) the inability or impracticability of falsifying or altering

the contents without detection.

There are several procedures and techniques that are available to the surveyor and engineer to deal with one or more of these concerns.

Imbedded Information — Historically a watermark, seal, or signature was used to authenticate a document. Only the sender had the paper, seal, or unique signature. (For a watermark detection, a reader would hold the paper up to a light source to view the watermark in order to authenticate the document.

Rather than imbed a logo in the paper fabric, digital imbedding places security identifiers in the data that are unique to the sender and vary with the digital document (i.e., digital watermarking). Digital watermarking injects information within the transferred document that is read by security software. The digital watermarking often consists of imperceptible or unnoticeable vectors within the digital elements found throughout the document or sometimes concentrated within a decorative motif.

In other words, it may be in the form of pseudo-random digital noise in the data or part of a decorative element. In any event the code, wherever found can only be detected and decoded by special software. The content of the motif or the aggregate of the imperceptible changes can only be detected and read by the receiver's software. The software will verify the authenticity of the document and identity of the sender, thereby making alterations detectable to the user. Even if a forger is aware that imbedded information exists, there is little likelihood the forger can identify the code or how to vary the code to match the changes that have been made by illicit actions.

Using a simplified example, an imbedded digital code

Many procedures employed by a firm to insure data accuracy and integrity using paper documents are now outdated in the digital age.

(continued on page 18)



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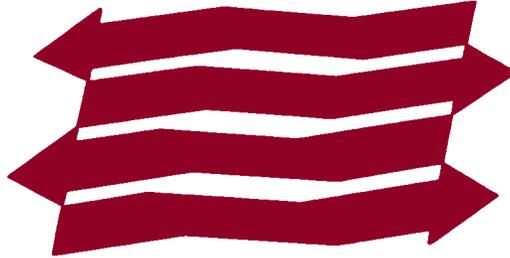
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Digital Data Transmission (continued)

attached within this article may contain the word or letter count for the entire document. If the end user's count of the words or letters in the document they have received does not match the word or letter count within the imbedded code, the user can presume alterations have been made.

Imbedded digital codes have the advantage of allowing the receiver to authenticate the document, provide a forensic analysis if the document has been altered, and determine the identify of the issuer by the contents within the imbedded information. The disadvantage of imbedded information is that the sender and receiver must have the appropriate hardware and software to make and interpret the imbedded information. For additional information about imbedded digital information, the reader can view websites of some of the companies that use this technology: www.digimarc.com, <http://www.enseal.co.uk>, <http://www.mediasec.com>.

Digital Signatures — Digital signatures use a form of cryptography (transforming messages into seemingly random forms of data and back to the original form again). Digital signatures have two different keys: 1) private and 2) public. The private key is generated by software in the possession of the sender. The public key is used in software in the possession of the receiver that interprets the encrypted message. The private key turns the data into seemingly unintelligible form during transmission, while the public key turns the unintelligible form back into readable form. The public key can be sent to the end



user or published on an on-line repository usually maintained by a trustworthy third party.

A simplistic example would be for the sender's private key to be a series of numbers or code that generate the number 13. The public key would be the number 13. If the sender's document did not generate the number 13, it could not have been sent by the proper party.

Fixed Format — Probably the most common manner of secure digital transmission is done by fixing the form of the data into a proprietary format. Adobe Acrobat is probably the most widely recognized proprietary format for transmission of digital data. In the case of Adobe Acrobat, fixing the format of the data requires the purchase of proprietary software. On the other hand, reading the proprietary format is done by a free

reader available to anyone for downloading.

Summary — Surveyors and engineers that are sending digital information should consider adopting some of the software safeguards outlined in this article. Commercial software is available that not only fixes the format but provides digital signatures and other security measures that can be employed in digital document transfer. ■

Knud E. Hermansen, PLS/PE, Esq. teaches in the College of Engineering at the University of Maine.

Carlton Brown, PE/PLS is an assistant professor in the College of Engineering at the University of Maine.

Funny

You know it is time to reassess your relationship with your computer when . . .

1. You wake up at 4 O'clock in the morning to go to the bathroom and stop to check your email on the way back to bed.
2. You turn off your computer and get an awful empty feeling, as if you just pulled the plug on a loved one.
3. You decide to stay in college for an additional year or two, just for the free internet access.
4. You laugh at people with 28.8 modems.
5. You start using smileys :-) in your snail mail.
6. You find yourself typing "com" after every period when using a word processor.com.
7. You can't correspond with your mother because she doesn't have a computer.
8. When your email box shows "no new messages" and you feel really depressed.
9. You don't know the gender of your three closest friends because they have nondescript screen name and you never bothered to ask.
10. You move into a new house and you decide to "Netscape" before you landscape.
11. Your family always knows where you are.
12. In real life conversations, you don't laugh, you just say "LOL, LOL".
13. After reading this message, you immediately forward it to a friend! ■

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Nominations for 2011 Officers



President
Joe A. Carrow

Mr. Carrow is a Professional Surveyor at Zahner & Associates, Inc. in Perryville, Missouri. He became licensed in Missouri in 1998. From 1994 to 1996 he worked for the Bureau of Land Management on projects in Missouri, Illinois, Minnesota and Texas. He has a Bachelor of Science in Industrial Management and a Bachelor of Science in Cartography/Surveying from Southwest

Missouri State University. Joe resides in Fredericktown, Missouri with wife Kelly and sons Jacob, Noah and Reed where they raise cattle.

President-Elect
Sharon C. Herman

Sharon is the Office Manager of Govero Land Services, Inc. overseeing the survey department. She has worked in the surveying profession for 20 years and obtained her Professional Land Surveyors License in 2004. Sharon graduated Magna Cum Laude from Jefferson College with an Associate of Applied Science Degree in Architectural Drafting and Construction Technology.

Sharon has been an active member of MSPS for many years, serving on various committees and as a member of the Board of Directors. In the past she has served as a mentor to young women at the local community college pursuing a career in the surveying / engineering fields.

Sharon enjoys traveling, hiking and playing tennis with Joe, her husband of 30 years and spending time with her 2 grown daughters and their families.



Vice President
Robert L. Ubben, PLS

Robert is a Principal at Affinis Corp., located in Overland Park, Kansas. He joined Affinis in 1988 and has been in charge of all survey department services for nearly a decade. Licensed in Missouri in 1995 and in Kansas in 1997, Robert works primarily in the Kansas City Metropolitan area and surrounding counties. He has an Associate of Science in Land Surveying

from Longview Community College, located in Lee's Summit, Missouri.

Robert is a member of the Kansas Society of Land Surveyors and the Missouri Society of Professional Land Surveyors. Robert has worked as a part time instructor teaching Legal Aspects of Surveying at Longview Community College during fall semesters. Robert and his wife Amanda have two children, one grandchild, and live in Raytown, Missouri. Robert and Amanda enjoy spending time with their son at high school band and sporting events, and babysitting their granddaughter.



Secretary-Treasurer
Ronald Kliethermes

Ronald Elson Kliethermes has over thirty years experience in the land surveying profession — all within Missouri. He is the surveys manager for MECO Engineering Company, Inc., at their Jefferson City, Missouri office.

A graduate of Lincoln University of Missouri, Jefferson City, with a B.S. in Engineering, Mr. Kliethermes began his career at R.F. Verslues & Associates, Inc., Jefferson City, in 1978. He acquired their land survey division in 1986, and founded Allied Consultants, Inc., He has served on the Board of Education of Osage County R-3 Schools ("Fatima"), and enjoyed a few years as adjunct instructor of Surveying Fundamentals at Linn State Technical College, Linn, Missouri. He also enjoyed several years working for his brother Ralph at Osage County Land Surveying from 1999 to 2002. He has been employed by MECO Engineering Co., Inc. since 2002.

Ron is currently a member of the MSPS Board of Directors, serves on the Handbook Committee, and has participated in many visits to the Missouri Legislature. He is also a member and Past President of the Missouri Association of County Surveyors in Cole, Cooper and Moniteau Counties, and has authored several news articles published in the *Missouri Surveyor* magazine.

He and his wife Brenda reside in Loose Creek, where they have raised a daughter, have marked thirty-five years of 'married bliss' this past August, and welcomed the birth of their first grandchild this past June.

"Whether it's 'community' or your 'profession', getting involved is more interesting than watching from the sidelines. You meet others with similar interests, and are exposed to other ideas and opinions. When there is something that needs to be done, the job is easier when many work together. I feel genuinely enriched by my association with so many wonderfully active and dedicated ladies and gentlemen of our state society."

Pledging to continue a cordial and professional environment that encourages opposing-but-respectful viewpoints, Mr. Kliethermes would be honored to further serve our society as an officer. "But if we select Adam Teale, or a 'write-in', instead, that's great, too!"

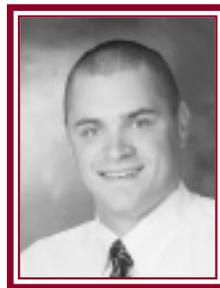


Secretary-Treasurer
Adam Teale

Adam Teale is a principal owner of Midland Surveying, Inc., located in Maryville and St. Joseph, MO. He is responsible for static GPS control surveys, mission planning, and post-processing of geodetic control. He is also responsible for project scheduling, research compilation and cataloging, analysis and review of field surveys, platting, and government corner

registration. Adam is currently chairman of the Membership Committee. Adam has a B.S. in Geography and Surveying from East Tennessee State University. He is a licensed professional surveyor in Missouri and Iowa and obtained certification as a Certified Federal Surveyor in 2009.

Away from work, Adam officiates high school football, coaches youth soccer, and enjoys time with his wife Anna and two young children.



Nominations for 2011 Board of Directors

Fermin X Glasper

With over 20 years of applied experience and a diverse background in land surveying, geotechnical engineering, civil engineering design, construction technology, project management and strategic planning, Fermin as Chief Executive Officer, his primary responsibility is to implement high-level strategies and manage the overall operations and resources of the company. In addition, he facilitates business outside of the company while guiding other company officers toward the company's central objective; **Excellence!** As a Professional Land Surveyor, his area of expertise is in the utilization and implementation of Global Positioning Systems (GPS) and its use in surveying and engineering. Fermin is an Adjunct Instructor for the Civil/Construction & Surveying Technology program of the St. Louis Community College.

Registrations include: Professional Land Surveyor, Missouri and Concrete Flatwork Technician, American Concrete Institute (ACI).

Education: BS Management, National-Louis University; AA Construction Technology, Coastline College; and AAS Computer-Aided Design and Drafting, ITT Technical Institute.

Fermin's is a member of National Society of Professional Surveyors, American Association of Geodetic Surveying and Graphic and Land Information Society. He is Co-Chair - Certified Survey Technician Committee for the Missouri Society of Professional Surveyors, President 2009 of the St. Louis Chapter of the Missouri Society of Professional Surveyors and Adjunct Instructor at St. Louis Community College.



and is also licensed in Kansas, Arkansas and Oklahoma. He is a Vice President and Project Manager at Anderson Engineering and manages the survey department for Anderson's Joplin Office. Jerrod has been a member of MSPS since 2002. He was a charter member and founding president of the Southwest Chapter. Jerrod is active in his local Chamber, local politics, community and local chapter of MSPS. He resides in Joplin with his wife Melissa and three children, Shae (12), Miles (5) and Ava (3). Jerrod appreciates the nomination for director of MSPS and is excited at the opportunity to serve the Society.



Gerald Bader

Bader Land Surveying, Inc. began operations in April of 1996. In the fall of 1996, Gerald was elected as Ste. Genevieve County Surveyor and is presently serving his 4th term. Gerald is an advocate for the protection of the Public Land Survey System and has been participating in DNR's County Surveyor Cooperative Remonumentation Program and the Private Surveyor Re-monumentation Program since 1996. Gerald has been

the surveyor for the City of Ste. Genevieve since 1996. In addition, Gerald is active in several local civic organizations. His membership and leadership positions in professional organizations include: MSPS, serving as chairman of the County Surveyors and member of the Legislative and Standards committees; MACS, serving as President from 2004-2005, 2010-2011; and 2011 – the present serving his 3rd term. Gerald coordinated MACS re-monumentation of the Tri-State corner in 2004 and the PK Robbins Memorial Bench in 2006. Gerald serves on the St. Agnes School board. He coaches basketball and for the local Legion baseball team.

Gerald and his wife, Denise have two children, Brett; age 15 and Alina; age 8. They live in Ste. Genevieve. He appreciates the nomination and looks forward to serving MSPS and the surveying society.

Jerrod Hogan

Jerrod started his surveying career in Indianapolis where he worked as an instrument operator, CAD technician and Crew Chief. He moved his family to Joplin in the summer of 2000. Jerrod finished his Missouri required coursework at Missouri State University in Springfield. He obtained his Missouri license in 2004



Robert W. Ross

Robert is the Field Surveys (Cadastral and Geodetic) Section Chief at the Land Survey Program in Rolla. He attended Southwest Missouri State University (now MSU) in Springfield, Mo., and received a Bachelor of Science degree in Cartographic Sciences, with an *emphasis* in Land Surveying.

As Section Chief, Robert works with program staff and private surveyors in resolving PLSS issues, in addition to the planning

and execution of geodetic projects. Prior to the recent financial issues of the Land Survey Program, he was also responsible for boundary project contracts with private surveyors, and the Private and County Surveyor Cooperative Remonumentation programs.

An active member of MSPS, he currently serves on the Legislative, Standards, MoDOT and GIS/Vision 21 committees. Robert also presents the Land Survey Corners portion of the Minimum Standards meeting in July, and at other functions as available.

Away from work, Robert enjoys spending time with his wife Chrissy, and two boys; Rylan (21 mths.) and Carson (7 mths.). Together they operate Midwest Benchrest, which is a 600 & 1000 yard shooting range for competitions which are sanctioned by a national organization. They also enjoy boating, swimming, and fishing Current River whenever they have the opportunity.

Christopher M. Wickern

Married to my wife Patsy, and we think it might work in spite of all those who said otherwise back in 1974. We have 3 children, and 7 grandchildren. The 2 oldest were born at Ft. Leonard Wood, MO where I served as a Combat Engineer. The youngest was born at Ft. Sill, OK where I discovered surveying, and eventually became an instructor at the Field Artillery Surveyors Course.

Civilian life brought the opportunity to continue to learn about this ancient and honored profession and convinced I will never know it all.

Currently a member of the Legislative Committee (member Recording Sub-Committee), Newsletter Staff, Nominating Committee, Public Relations Committee (Chair State Fair Sub-Committee), and the Co-Chair of the Standards Committee.



Acquiescence

Knud E. Hermansen¹ and Robert A. Liimakka² Article from www.umaine.edu/set/svt/articles/index.html

Acquiescence, similar to the doctrines of estoppel and practical location, is an equitable doctrine that will fix the location of a common boundary in a location that may differ from the location where a surveyor would place the common boundary based on the rules of construction.

The doctrine of acquiescence is known in some jurisdiction as a consentable boundary. Some states have equated it to a boundary by implied agreement. The motivation for a court recognizing a boundary different from the record is to let boundaries that appear to have been settled to be settled. A person that sleeps on their rights should not be allowed to demand with passion what they have for so long ignored with indifference.

The doctrine of acquiescence generally requires three conditions exist. First, the record boundary must be vague or unknown. The purpose for this element is to prevent persons from usurping the legal requirement that parties alter the location of their record boundaries by written instrument. By requiring the boundaries be vague or unknown, the legal fiction is created that the parties-in-interest have not altered the location of their deed boundaries. Rather, the parties-in-interest have fixed a definite location for the boundaries described in their respective deeds. This fiction survives even though a surveyor would place the boundary with some confidence in a different location than where the boundary location has been historically recognized.

A second condition requires one party act by fixing the boundary in a location by definite monumentation or occupation that appears and is accepted as marking the boundary. The boundary so fixed by the one party cannot be based on fraud or deceit. In other words, the party in placing the monuments or barriers must have reasonably believed the objects are placed on the common boundary.

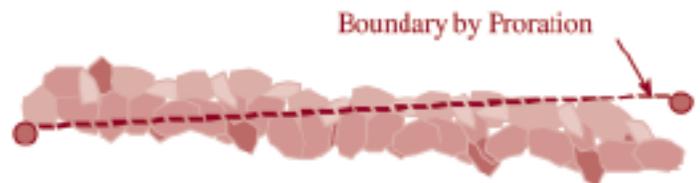
The third condition requires that the non-acting party recognize the barriers or monuments as marking the boundary. Recognition is sufficient if the individual does not contest the location.

The fourth and final condition is that the three conditions exist for some length of time that a reasonable person would have been expected to object or act had they disagreed. A long length of time is not crucial if the location of the record boundary is otherwise vague or difficult to locate and the location of the monuments or barrier is reasonable to the location of the record boundary.

The following situation may be give rise to a boundary by acquiescence:

Bill and Jane live next to each other in an old subdivision. Bill does his best to locate the common boundary he shares with Jane in order to build a rock wall. He makes measurements and sets stakes, eventually building the rock wall along a

line between the stakes. Jane watches Bill make the measurements to locate the boundary and observes Bill construct the wall. For many years thereafter, Jane and Bill respect the wall as marking the common boundary. Twelve years later, Jane needs a survey of her property in order to build a garage. In performing the survey for Jane, the surveyor gathers considerable site and record information. Most of the original monuments have disappeared. The surveyor prorates the distances between found monuments that are located several hundred feet away with the following results shown in the diagram:



In the above situation, the court would be reluctant to adopt the boundary established by prorated distances over the location of the stone wall that has been accepted as the boundary for some length of time. The wall is located within reason to the record boundary. It has been accepted as the boundary for over 12 years. The upheaval and disruption in the neighborhood that would result with adopting lines that differ from the long standing occupation flies in the face of equity.

It is reasonable for a surveyor to adopt an occupation line as the boundary where the record boundary location is vague, difficult to fix, or a reasonable location of the record boundary is on or near the occupation line. Justice Cooley remarked on this very situation in the late 19th century using these words.

Occupation, especially if long continued, often affords very satisfactory evidence of the original boundary when no other is attainable; and the surveyor should inquire when it originated, how, and why the lines were then located as they were, and whether a claim of title has always accompanied the possession, and give all the facts due force as evidence. Unfortunately, it is known that surveyors sometimes, in supposed obedience to the state statute, disregard all evidences of occupation and claim of title, and plunge whole neighborhoods into quarrels and litigation by assuming to establish corners at points with which the previous occupation cannot harmonize. It is often the case when one or more corners are found to be extinct, all parties concerned have acquiesced

(continued on page 24)



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Acquiescence (continued)

in lines which were traced by the guidance of some other corner or landmark, which may or may not have been trustworthy; but to bring these lines into discredit when the people concerned do not question them not only breeds trouble in the neighborhood, but it must often subject the surveyor himself to annoyance and perhaps discredit, since in a legal controversy the law as well as common sense must declare that a supposed boundary long acquiesced in is better evidence of where the real line should be than any survey made after the original monuments have disappeared. Thomas M. Cooley, Chief Justice, Supreme Court of Michigan, 1864-1885 in *The Judicial Functions Of Surveyors*

Where the surveyor is convinced the location established for the record boundary is different from the markers or barriers acquiesced to by neighbors, the surveyor should report both locations to the client. In reporting both locations, the surveyor would be wise to inform the client that the acquiesced boundary may in fact be determined to be the ownership boundary based on the doctrine of acquiescence.

The surveyor may want to consider wording such as the following in a letter or report to the client when accepting monuments or barriers by the doctrine of acquiescence:

I have established your common boundary to coincide with a stone wall that exists between you and your neighbor. While the stone wall does not coincide with the measurements that were proportioned between existing monuments found beyond your common boundary, it is my opinion that the small difference between the measurements prorated and the measurements made to the wall is insufficient to overcome the equity that courts often find compelling when recognizing occupation lines that were allowed to exist for some time. The courts are often persuaded to leave things settled when it was believed by the parties to have been settled some time ago. You are, of course, at liberty to reject my opinion and advocate that your boundary be the prorated line. Your neighbor may do so as well. In each case, I will be willing to explain both the proration method I used and my belief that the stone wall is ultimately the monument to the common boundary.

Where the surveyor has come to the conclusion that the location of the record boundary is different from monuments or boundaries that were believed to be the boundary, the following example may be used to illustrate the surveyor's opinion as communicated to the client:

I have determined the common boundary to be a line fixed between two monuments. The line was established by dividing the excess distance measured between the two nearby monuments in proportion to the distances shown on the original subdivision plan

between the two monuments. It is not unusual to discover that the actual distance measuring in the field is different from the distance shown on the plan, especially given the age of the original survey. The current surveying technology and education of the surveyor far exceed those of the earlier surveyors.

My opinion places the common boundary in a location different from the wall that exists near this boundary. Although the method I have used to reestablish the com-

mon boundary was established by the court as a rule of construction, I feel compelled to warn you that the same court will often adopt occupation lines such as the wall to be the ownership boundary contrary to the record measurements. While I am confident in the methods I have employed in fixing your boundary I would be foolish to predetermine where a court would place the boundary if asked to choose between the boundary I have established and the existing stone wall. I believe you would be wise to consult with legal counsel before taking any action in regard to moving the wall or asking the neighbor to do so.

Acquiescence is similar to the equitable doctrine of practical location. The major difference is that practical location requires the parties-in-interest all participate, while acquiescence requires only one party act while the other parties-in-interest acquiesce to the acts of the one party. ■

¹Knud is a professor in the Surveying Engineering Technology program at the University of Maine. He is also a consultant on boundary disputes, alternate dispute resolution, land development, real property law, and access law.

²Rob is a professor in the Surveying Engineering Program at Michigan Technological University. He is a professional surveyor and holds a MS in Spatial Information Science and Engineering from the University of Maine, Orono and is currently working on a doctorate in civil engineering.



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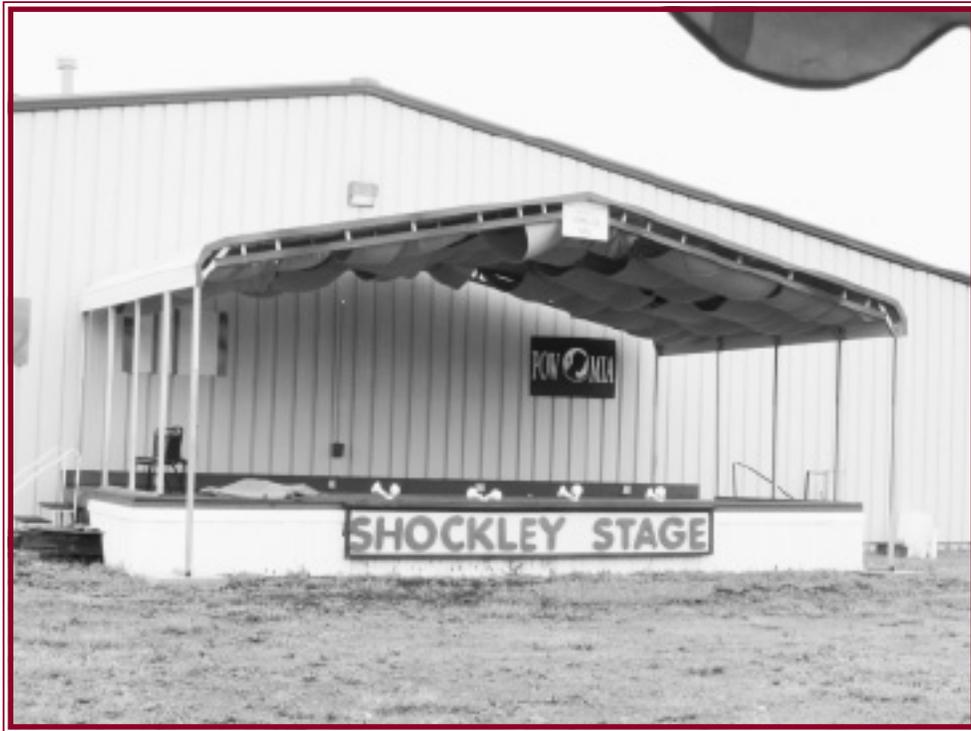
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Non-Weather-Related “Hot Topics” at MACS Summer Workshop

Ron Kliethermes, PLS

Montauk S.P., MO.: This summer’s annual get-together of the Missouri Association of County Surveyors at Montauk State Park included the usual float trip down the Current River on Friday, July 22nd, (nobody’s telling what happened at the campground that night), and a well-attended business meeting, luncheon and PDU-earning workshop on Saturday, July 23rd, all among the shady natural beauty of this wooded valley known for its spring-fed, trout-infested headwaters of the Current River.

‘First order of business’ on Saturday morning was the MACS ‘business meeting’. Topics included:

*Finances - MACS funds are holding steady, with no major expenditures proposed in the near future.

*Membership - Oddly, in contrast to the economic trends new and renewal memberships in MACS has increased this year.

*CERF - Recently-retired former County Surveyors report no problems with receipt of duly-earned retirement payments from the County Employees Retirement Fund.

*Public Relations – preliminary plans continue for the next historic/memorial/public education monument or plaque at a select location along the “Fifth Principal Meridian”.

*And the greatest concern these past several years – The ever-increasing amount of fund deductions by DNR from the State Land Survey Authority’s state-legislated revenue source. The SLSA is funded by a \$1 fee on recorded documents related to land, so with the slow ‘economy’ of late, their revenues are down. Compounding the problem is the many-fold increase in DNR’s seemingly arbitrary deductions from the LSA’s revenues to cover DNR’s cost of ‘administration’ and ‘IT’.

Sadly, the Land Survey Program has been forced to lay off the majority of their staff, and cut back on deserving programs, including this past year’s “County Surveyors Cooperative Remonumentation Program”. Spearheaded through the State Land Surveyor’s Office in Rolla, the Remonumentation Program is co-funded by cost-sharing and supplies from the Land Survey Program, matching funds from participating counties, and (as this author knows first hand), with many ‘donated’ field and office hours by the participating County Surveyors.

What began only a handful of years ago as a seemingly miniscule ‘cost allocation’ to cover oversight and ‘IT’ services supplied by DNR to the program, has mushroomed into withholding roughly one-third of the Land Survey Programs revenues.

This ‘report’ will not comment further regarding this ongoing problem. Others closer to the battle are more qualified to deliver reports of efforts to resolve this matter.

After a short break, all enjoyed an inter-active presentation by Christopher M. Wickern, PLS, CFedS entitled “Missouri’s Recording History”:

We land surveyors of today are subject to more regulations than those first Federal, State and County surveyors. And we continue to debate whether-or-not we private surveyors are subject to ‘recording requirements’ for ‘re-surveys’ or any surveys at all. Pleadings cite this ‘peculiar circumstance’ and that ‘potential liability’ as an excuse not to file boundary re-survey plats, (a.k.a. professional opinions), concerning real property upon the public record. Certain arguments by many of our peers are compelling. I’d expect that reasonable men and women could someday find a resolution to the current conflicting ideas that we embrace.

Interesting - the first few pages of Chris Wickern’s hand-out papers simply chronicle the history of land survey recording requirements that were enacted by our territorial and state legislatures over the past nearly 200 years. Upon completing our review of that outline and its quotes of the many ‘perfections’ of legislation related to land surveys, you realize that *‘the law’* regarding recording of surveys has not changed. However, about every 40 to 50 years the ‘grammar’ of the law has been up-dated to reflect the then-current norm of ‘speech’. The first ‘survey recording law’ was enacted by the Missouri Territorial Legislature in 1814. Simply put, the surveyors in authority were to record every plat of survey they performed. No real changes to that law have been made – yet. And so it seems pretty simple:

THERE HAS BEEN A MANDATORY SURVEY RECORDING REQUIREMENT IN PLACE EVER SINCE THE TERRITORIAL LEGISLATURE GRANTED SURVEY AUTHORITY IN 1814 – BEFORE THE ‘MISSOURI TERRITORY’ WAS A ‘STATE’.

Mr. Wickern observes: *“Should we file, or should we not file are questions that were answered in 1814, and the answer remains consistent through today.”*

Most everyone can agree that some aspects of our ‘findings’ do not necessarily need to be included on the ‘boundary survey plat’ that is, by law, required to be filed on the public record. We debate that our current ‘standards’, which list the ‘location of improvements’ as an optional item on a boundary plat, (if requested/required by client or an authority), allow us lee-way. Either way, let’s never forget that our first duty is to perform our work professionally so as to protect, (not harm), the public. ‘Difficult decisions’ often accompany the honor of being considered a ‘professional’.

Mr. Wickern’s ‘closing argument’ rings true: *“The recording/filing of certain surveys is not imposing “new” requirements.”*

Piqued your interest? You should try to attend the next presentation on this subject by C.W. or others.

Non-Weather-related “Hot Topics” (continued)

Mr. Bader included copies of many GLO Township plats that are quilted with dozens of these settled and litigated claims and concessions. Many grants are not oriented north-south, but rather align with rivers, the ‘highway frontage’ of the time. Some concessions comprising thousands of acres extend into several townships. Other townships had so many pre-existing claims and grants that the GLO surveyors had barely a few hundred acres left in-between them to ‘sectionalize’.

The presentation was made even more entertaining by encouraged comments, questions and observations from attendees. A story or two imparted by one ‘old surveyor’ of some experience, who shall remain nameless, (but whose initials are Norman L. Brown), provided insight and appreciations of the work of our surveyors of long ago.

The ‘GLO’ surveyors had quite a task at hand when needing to determine the boundaries of the existing claims. The ‘old surveyor’ explained that they would pay heed to most any form of ‘possession’ however primitive. ‘Claim line’ boundaries would generally be established to include plenty of clearance around any cultivation or land clearing. ‘Possession’ was accepted for the most minimal of barrier, split rail fence, brush barriers, or mud fences.

Surveyor Brown boasted, (or confessed), that his relatives come from the Carolinas, where the term ‘mud fence’ is common. At that point the old surveyor turns around, looks this reporter square in the eyes and asks; “Have you ever heard someone use the expression, ‘Ugly as a mud fence’?” With a

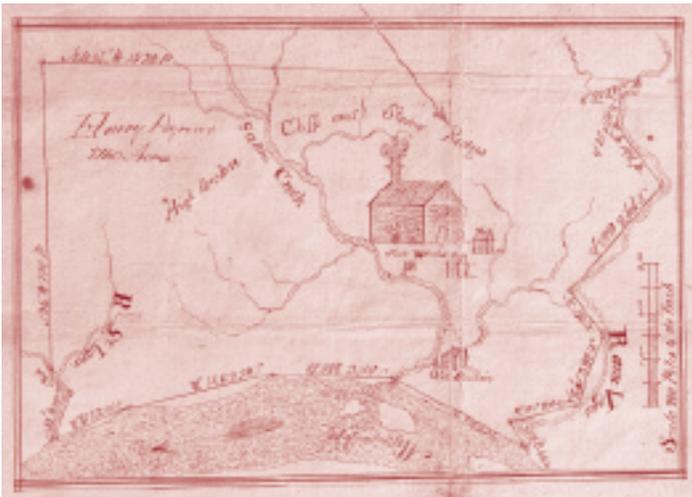
soft gulp I replied; “Not to my face, yet - sir.” (But this reporter concedes that as I continue to gain more ‘experience’, it likely won’t be many more years until that does happen.)

So there we sat then, and here we all sit today. Most of us thought we had less than 200 years of official surveying history in Missouri, when in fact many parts of our state have survey plats on record that date to the 1760’s – nearly 250 years ago.

‘Retracement’ surveys can be so interesting with good records of original and subsequent work available to confirm the evidence and marks we find today. Others are so frustrating - and ‘litigious’ - when key parts of the record of boundary monument perpetuation are lost – or never filed.

Those authorities in charge of the land records hundreds of years ago knew that good surveys and complete records of same were the best protection of the public’s land ownership rights. Let’s keep up the good work of our ancestors. 🇺🇸

*Information provided by Chris Wickern and Jerry Bader
Photos and comment by the reporter.*



A plat of survey of an 1806 French Concession comprising some 1160 acres, located in the “Louisiana Territory, District of Ste. Genevieve”. In addition to the usual boundary measurement information, this plat of survey includes artistic depictions of existing commercial improvements, and locations of valuable water resources and ground features.



The GLO plat of Twp.36 N., Rng.10 E of the 5th P.M., which shows that more than half of this township was claimed or occupied prior to the U.S. Government’s ‘sectionalizing’ survey. The first of the “Notes” below the drawing mentions a confirmed claim of more than 6,000 acres to a Francois Valle, and/or his personal representative – an enterprising distant relative of Darrell Pratte, PLS, our current State Land Surveyor. That tract is partly seen in the western part of this township plat.

Survey Stories

Jim Sommerville Reprinted from *Side Shots*, PLSC, Spring 2011

When hiring someone on the spur of the moment, say in a bar at midnight, you never know what you are going to end up with. Talking to someone in a social setting does not always give you the true capabilities of that person. I came to this realization early in my surveying career.

While conducting a power line survey in the mountains of Colorado between Dillon and Georgetown, it became necessary to add on an additional helper. No experience was needed, they didn't need to think just be able to carry heavy loads up steep mountains. We held a short, productive search that evening to the bar of which we made nightly visits. The interview was short and we asked questions while we drank beer and played pool. We chose the one that could still talk coherently when we left the bar.

That next morning at daybreak, we all met at the condominium to discuss the plan for the day. My job was to take the new man and hike up to a PI on top of a bald knob and turn the reciprocal vertical and horizontal angles to the control it had been tied from. This survey took place in 1976, so there was a considerable amount of equipment to haul up the hill. The PI was a little over a half mile with an 1100 ft. vertical difference from the truck, through sage brush and small stands of dense timber. It was a beautiful mountain day, no clouds, with the temperature in the low 60's, making the hour-long hike almost enjoyable. Upon reaching the PI, I instructed my help to start trimming the branches on a large evergreen that was on line with two of the control points I needed to survey. One fell on each side of the tree, so I told him to cut all of the branches off flush with the tree trunk, as this was required by the forest service, up to a branch I pointed out that was about 20 ft. above the ground. As he was doing this I got the instrument set up and did my calculations.

A half hour or so had passed when I heard my new, no experience needed, help call my name. As I looked over to where he had been trimming branches, I could see that he had done exactly as I had instructed. The branches had been sawn off at the trunk of the tree up to the branch I had told him to stop at: The one and the same branch he was sitting on! With his feet dangling, the saw in his right hand and holding a branch at head level with his left hand, the look on his face was a mixture of emotions. He had done such a great job of trimming off the limbs that there was no way for him to climb down. The slope that the tree was on was too steep for him to jump and I didn't have a rope, so there he sat. Personally, my urge to throw rocks at him was almost unbearable. My only option was to hike back to the truck, grab a handful of spikes and a hammer, and hike back to the tree and pound in the spikes as a makeshift ladder. This I did, except, prior to the pounding of the spikes, I negotiated payment for the grief his lack of common sense had caused me. Three steak dinners would be enough compensation, of which he agreed with

little hesitation. Three plus hours sitting on the branch was a great bargaining chip. After many years of telling this story and thinking about it, most of the fault lies with me. While his lack of common sense did contribute, he did exactly what I told him to do.

This is only one of the memories I have accumulated over the many years I have been surveying. All these memories become stories that are repeated over and over, a history, for the most part, that has gone unwritten and lost forever. We have all read the stories of the great surveyors of the past, but there are no books conveying the personal stories of the everyday surveyor. We tell of our exploits to family, friends, peers and anybody who will listen. Stories are how we build our self esteem and fortify our reasons for being surveyors.

Over the years I have had the opportunity to sit and listen to stories being told by people from a variety of occupations, including railroad engineers telling of their near disasters, old miners recounting their hardships, old, and I mean really old, cowboys telling tails of encounters with the Indians, cattleman vs. sheepherders, homesteading and so on. Every occupation has their stories. Some are more exciting than others while others don't mean anything to anyone outside that particular occupation, or profession.

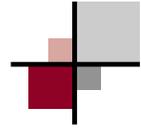
Surveying encompasses a vast number of other occupations and professions. To the surveyors reading this list, try to think of how many times you have had to apply some of the skills of these other professions: trucker, EMT, cowboy, lawyer, mediator, mechanic, outfitter, detective, miner, engineer, construction worker, environmentalist...and the list is as long as one's mind can imagine.

The stories that all people tell are a small part of their personal histories. We have all read stories of the famous surveyors of the past and may even know some of the renowned men and women in the profession now. The stories about these people are history. These are the people who have written the books and manuals by which we conduct our surveys. They are part of our overall professional history. But what about all the unwritten personal stories by the thousands of surveyors across this vast country? Are they not part of our professional history, though less famous, but just as much a rich part of it? The finding of an interesting land corner, the three and one half foot rattlesnake who's fangs got caught in the cuff of a pant leg after a missed strike, losing a wheel and axel on a trailer loaded with 4x4 claim posts on the highway, cross sectioning the Colorado river at high water, getting caught in a railroad tunnel by the Amtrak train, hanging off a 90-ft cliff to set power pole anchors, ...these are a small number of memories of just one surveyor. If we got together and compiled a book of our experiences, exploits and conquests, we could establish an impressive historic record of our personal experiences. ■

Annual Meeting Schedule

Wednesday, October 12, 2011

7:00-9:00 pm Exhibitor Set Up and Welcome Reception with Exhibitors



Thursday, October 13, 2011

7:00 am Registration, Continental Breakfast and Exhibitor Set Up

8:00 am-5:00 pm Spouses Hospitality Room Open

8:00-12 noon The Public Land Survey System for Missouri and Arkansas
Speaker: **Dick Elgin**

This session covers all aspects of the U.S. Public Land Survey System for Missouri and Arkansas (where the rectangular system is different from all other states): The early history of the system (1785-1815), Tiffin's Instructions (1815), the establishment of our Initial Point, the 5th Principal Meridian and Base Line, establishment of our Correction (Standard) Lines, the original surveys of the township exteriors and subdividing townships into sections. GLO plats, lotting schemes and protraction of fractional sections. Resurveys: Comments on statutes, rules and court decisions. Resurvey principles. Standard corners versus closing corners. The 1883 "Restoration of Lost and Obliterated Corners" manual and its application to Missouri and Arkansas. Applicable state statutes and court decisions for both states. Example problems relative to section protraction, proportioning and using coordinate geometry to calculate lost corner positions on our version of the Public Land Survey System.



12:00-1:00 pm Lunch provided

1:00-5:00 pm The Public Land Survey System for Missouri and Arkansas (continued)
Speaker: **Dick Elgin**

12:30 pm Golf Tournament at Great Life Golf & Fitness at Deer Lake

5:00 pm Reception with Exhibitors

Friday, October 14, 2011

7:00 am Registration, Continental Breakfast with Exhibitors

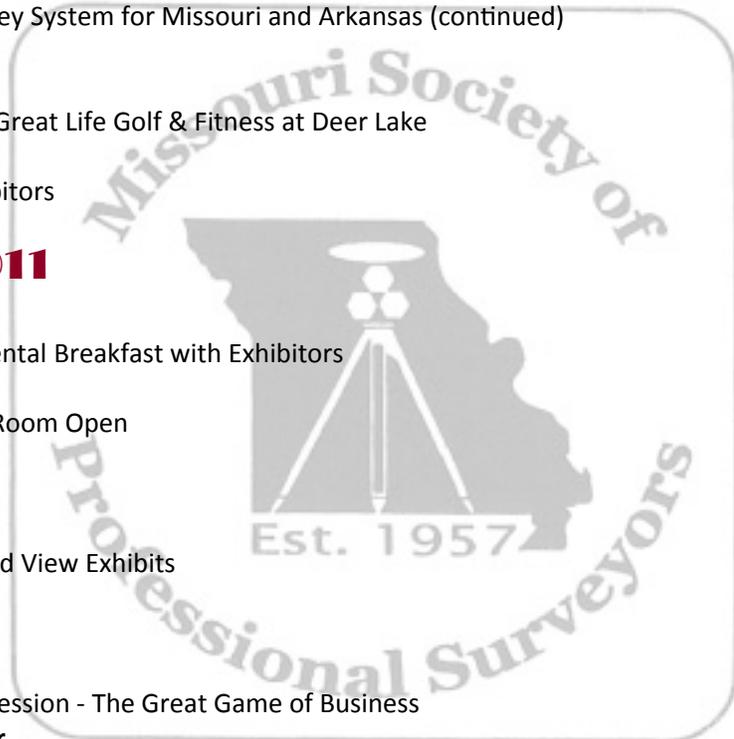
8:00 am-5:00 pm Spouses Hospitality Room Open

8:00-12 noon Business Meeting

12:00-1:30 pm Awards Luncheon and View Exhibits

CONCURRENT SESSIONS

1:30-5:00 pm Surveying Business Session - The Great Game of Business
Speaker: **Steve Baker**



Annual Meeting Schedule (continued)

- 1:30-5:00 pm Understanding Deeds and Descriptions
Speaker: **Walt Robillard**
The surveyor performs a very important function in preparing land or property descriptions. First, the professional must understand the distinction between the two, yet one is legal and the second is professional. A distinction must be made between preparing a description and then placing that distinction on the ground. In the event ambiguities occur, what can the surveyor expect the courts will rule and what are the controlling elements?
- 3:00 pm Final Break with Exhibitors
- 5:30 pm **BBQ Dinner with “Surveyors Got Talent”, American Legion Post 639**
The American Legion Post will cater the BBQ at this “family-oriented” event. Bus transportation will be provide between the hotel and the American Legion. There will be three different kinds of BBQ meats with all the accompaniments. Your \$20 ticket includes dinner, transportation, drink tickets and entertainment . Other activities also available are horseshoe contest for adults, softball and volleyball for the children. You won’t want to miss this event.

Saturday, October 15, 2011

- 7:00 am Registration and Continental Breakfast
- 7:00 am Past President’s Breakfast
- 8:00 am-5:00 pm Spouses Hospitality Room Open



CONCURRENT SESSIONS

- 8:00-12 noon Ethics and the Professional
Speaker: **Walt Robillard**
This seminar/workshop will examine the role of ethics in today’s professional relationships. The historical foundations and modern approach to business and personal relationships will be explained followed by the presentation of actual, practical ethical questions will help the individual to help differentiate between possible “rights” and “wrongs.”
- 8:00-12 noon Practical GPS...Back to the Basics
Speaker: **Tom Bryant**
This session will be very light on GPS theory and heavy on practical usage of GPS in the surveying environment. We will cover how, when and where of using GPS. The session will cover methods of quality control and verification of your data. The history and use of the MoDOT VRS system will be covered. We will also discuss other tools to use to enhance your GPS experience.
- 12:00-1:00 pm Lunch Buffet

Annual Meeting Schedule (continued)

- 1:30-5:00 pm Understanding Deeds and Descriptions
Speaker: **Walt Robillard**
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Saturday, October 15, 2011

- 7:00 am Registration and Continental Breakfast
- 7:00 am Past President's Breakfast
- 8:00 am-5:00 pm Spouses Hospitality Room Open



CONCURRENT SESSIONS

- 8:00-12 noon Ethics and the Professional
Speaker: **Walt Robillard**
This seminar/workshop will examine the role of ethics in today's professional relationships. The historical foundations and modern approach to business and personal relationships will be explained followed by the presentation of actual, practical ethical questions will help the individual to help differentiate between possible "rights" and "wrongs."
- 8:00-12 noon Practical GPS...Back to the Basics
Speaker: **Tom Bryant**
This session will be very light on GPS theory and heavy on practical usage of GPS in the surveying environment. We will cover how, when and where of using GPS. The session will cover methods of quality control and verification of your data. The history and use of the MoDOT VRS system will be covered. We will also discuss other tools to use to enhance your GPS experience.
- 12:00-1:00 pm Lunch Buffet

Watch Your Language

Wendy Lathrop, LS, CFM Reprinted from *The Florida Surveyor*, January 2011

If we as surveyors sometimes find the language of deeds murky, imagine the misunderstandings among lay-people, many attorneys included.

Recent clients had to defend themselves against new neighbors claiming a right to cross my clients' property, based upon recycled language in my clients' deed and an erroneous tax map. By record title, my clients owned a landlocked parcel, physically abutting a right-of-way but conveyed by a deed stating their land was "subject to" it, along with a reference to another right-of-way that did not touch or benefit their land and had become part of a public road in 1935.

Skipping over the details of how such a situation occurred, we will pick up at a point when Mr. and Mrs. Client had been living in peace for 29 years, at which point Mr. and Mrs. Neighbor moved in next door. Within six months, the New Neighbors began stirring up the neighborhood and instituted a suit to cross the Clients' land. But the area they wanted to cross wasn't part of the Clients' land. The 1910 deed named as the basis of the New Neighbors' suit also was not on the Clients' property, although it was clearly headed "Deed of Right of Way" as recorded in the County Hall of Records. That right-of-way was a determinable easement to serve a much larger landlocked tract of which the Clients' land was eventually the remainder, while all other portions fronted on public roads. But that named deed stated that it would terminate on the creation of other access to public roads, which occurred in 1925 when part of the same right-of-way was purchased in fee by the local government to form another public street that gave frontage to the original large landlocked tract.

Changing tack (but not amending their complaint), the New Neighbors moved on to a 1923 deed as the basis of their presumed rights. They hinged their arguments on one particular phrase: "excepting and reserving a right-of-way." And that is the phrase we will examine in this article.

Exceptions are interests that one owns and holds back from a transaction: "I will send you all of my land EXCEPT one acre along the road. "Reservations, however, create rights for the first time, and need not be exercised immediately. Think in terms of "I reserve the right to change my opinion upon the disclosure of additional facts."

Taken strictly, the words exception and reservation mean two completely different things. But they have unfortunately been used incorrectly and nearly interchangeably for decades or longer, and even used together as in the "excepting and reserving" clause that has instigated suits not only here but also across the country under many different circumstances. What can that phrase possibly mean?

Here is where we apply the Four Corners Doctrine to our work as professional surveyors. We must look at the entire document to discern the intent of the parties from the intrinsic evidence. We cannot pick and choose which pieces we like best just because they suit our (or our client's) purposes. And so the phrase "excepting and reserving a right-of-way" must be taken as a whole rather than zeroing in on the word excepting as retaining unmitigated fee rights in a particular strip of land (as the New Neighbors' so-called expert did).

When there is a transfer of real property interests in fee, it must be presumed that the grantees are not restricted in their

exercise of full use of that land other than respecting easements to which their new acquisition may be subject, zoning regulations, and similar restrictions. Granted that there are a few random deeds that may prevent a parcel from being used as a tavern or other specific use, or specifically the fee is to last only as long as the land is used for a public library, or convey a life estate that must be exercised in a manner that preserves the rights of the future owners when that life estate expires. But generally, acquisition of fee title allows the grantee to use the land in any manner desired that does not harm the public. Therefore, no words specifying a particular use appear in (non-determinable and non-defensible) fee conveyances.

In the phrase "excepting and reserving a right-of-way", a very specific use and purpose is named. Therefore, the phrase indicates a reservation of easement rights, not exception for full fee title. Black's Law Dictionary contains an entry for "except right-of-way":

"Recitals 'less the right of way' and 'except right of way' in granting clause of deed have self-defined accepted certain and unambiguous meaning by which grantor conveys entire interest in servient estate and at same time expressly recognizes and acknowledges dominant estate." [Citation omitted]

The New Neighbors' attorney listened to me read this definition from the stand after also explaining reservations and exceptions, and then stated, "But there is no entry for 'excepting and reserving a right-of-way', is there? Parsing words in this manner before a judge who had a hard time understanding basic real property terminology made my job difficult, and we won't know for some time whether or not I was successful in my endeavors. In part, the situation is complicated by the fact that this is Chancery Court, meaning a court of equity where the laws can sometimes be bent to come up with a "fair" outcome.

Here's what we as surveyors can do to prevent such litigation:

1. We can be more careful in the words we choose in describing the various rights disclosed by the record when writing descriptions and adding notes to our plans and reports.
2. We can and should point out ambiguous or outdated language and references that should not automatically be recycled into the next recorded document. How many times do we see a citation for an easement or restriction that affected the original parent tract in a location far removed from the much smaller tract we are now surveying?
3. We can make it a point to educate our clients about the content, format, and meaning of the documents we provide. We update language and references for a reason: our clients (and also the ultimate users, who may not be our clients) must understand that reason so that (a) they are better informed about their real property rights, and (b) they better appreciate the value of what we do.
4. We must keep learning, reading, discussing, and doing whatever it takes to keep on top of the professionalism and expertise that our clients expect and rely upon and that our state boards of registration demand. ■

Educating Yourself for Hard Times

Gary Briant, PLS, Cfeds - Reprinted from *Empire State Surveyor*, November-December 2010

Are you keeping your head above water?

With the economic times as they are it is a struggle for many of you to do just that.

Times like these cause us all to take a second look at how we operate; Staffing, equipment purchases, stocking up on needed supplies, etc. These and other items all affect how we plan and budget for the future.

There is another area that also affects the bottom line and is so easily put on hold when times are tough but is an area we cannot afford to neglect, "marketing". For some of us that is a dreaded word yet a very essential part of a good business plan, yet too often, it is the first thing to go. I'm not talking about sending flyers out to realtors or attorneys, though that may be a good idea, but that is advertising not marketing. What I'm talking about doesn't cost a thing except your time, and that is, getting smarter than our competition. How do we do this? After all, we basically all provide the same services! Well, that is somewhat true, most of us do plats, ROS's, topographic mapping or construction staking, etc. So what does it take to be smarter than the next firm proposing on the same project?

I believe in education, yes education, not necessarily going back to college or taking an online course, but being better informed about the services we are providing. Let's take FEMA Elevation Certificates, LOMA, LOMA-EZ and LOMA-R's for example. Most of us are aware of the new flood rate insurance maps that came out in May of this year. This has triggered a slew of phone calls from upset property owners that have property fronting on a body of water. Their lenders are telling them they need flood insurance because the new maps show their structure is in the flood plain. That is where we come in, but what will separate me from my competition, assuming we are both highly qualified surveyors? I believe it is understanding the FEMA process better than any other surveyor in town. Educating myself to the point I can skillfully and confidently articulate the process to an upset owner in a way that he can understand it and feel you know your stuff.

You must sell yourself; if I do not have a good grasp on the subject matter I am talking about to a client, I cannot with confidence sell my services to them. So if you want to be successful at marketing during tough times, or any time, educate yourself! Become an expert, that's what the public expects; when they have a need, they want someone who can take them by the hand and confidently lead them through the process. I have had clients tell me time after time how appreciative they were because I took charge and accomplished what they did not have the expertise to do.

Again, you must first sell yourself, being educated about whatever it is you do best just gives you the edge over the other guy. The second thing I have found in marketing is knowing what your schedule is, so that when you are chatting with that potential client, you do not over book yourself. I get lots of repeat business not because I am cheaper than the competition but because I was able to get to it quicker, completed the work on schedule and budget. I have found that price is way down the list, you may have the cheapest price for a LOMA in town, but if you cannot sell yourself and if you cannot complete the work on time, they will go somewhere else.

I know I am probably wearing this out; however, it has been my experience that 90% of marketing is being educated about the product or service you offer. I have clients come back after shopping around; even though I was more costly, and tell me it was because they felt I was better informed about the costs and process. They felt I understood what they needed and felt I could get the job done.

If you were going to do a subdivision wouldn't you get out the Zoning ordinance and the subdivision ordinance and study them? Well, take it a step further, go visit with the planner and maybe the county surveyor, find out how they like to see things done. Maybe they

have a checklist of guidelines they have developed that you can have a copy of. Go visit with the Highway District or the Health Department and ask them how they like to see things done. Gather all the information and knowledge you can. Then, when that client calls, you can guide them through the process with confidence, because you have the process so engrained in your mind you can do it in your sleep.

A little side benefit of being well educated about a specific area is that you accomplish the tasks quicker than someone that is struggling with the process and being able to streamline a process gives you an edge that your competition might not have. Another thing I have noticed is that the agencies that I deal with appreciate working with someone that has their act together.

Finally, don't be afraid to tell your client what they need, after all, you're the expert! ■

I know I am probably wearing this out; however, it has been my experience that 90% of marketing is being education about the product or service you offer.

Gary Briant, PLS, Cfeds, is the president of the Idaho Land Surveyors Association. He is also a practicing land surveyor in Post Falls, ID and can be reached at garybriant@frontier.com. This article appeared as the Presidents Column in the Fall, 2010 issue of the Gem State Surveyor magazine.

Soldiers and Surveyors

Staff Sergeant Elvis Pete Elrod Reprinted from *The Texas Surveyor*, November-December 2010



Left: SSG Pete Elrod.

This is the second in a series of articles by Staff Sergeant Elvis Pete Elrod. Pete worked as an S.I.T. with Stanger Surveying in Tyler, and now serves as Senior Topo Tech Engineering Supervisor for the 176th Engineer Brigade, currently deployed in Afghanistan.

Getting Ready to survey in Afghanistan:

In most aspects the office portion of surveying is pretty much the same as back home. You are requested to do a survey. You look up the area and recon the area through imagery and plan out your survey the best you can with the data available. The rest of the process has its differences. Next you request an Intel report on the activity in the area and if there are any known mine fields. Now you have to plan your travel. You make sure that the place you are going is expecting you and has a place for you to stay and coordinate who is providing security of the area to be surveyed if needed. Twenty miles is a long way in some parts of Afghanistan. You prefer to fly, because it is safe and requires less man power and assets. So if a flight is available no matter the distance you take it. If not you have to find a Combat Patrol or a Route Clearance Patrol that your survey crew can fall in with in order to get where they need to go. Then you request an activity report on the route you will be traveling, start prepping your trucks, radio's, weapons, emergency equip, survey gear, personal gear, rehearsing battle drills, and ensuring everyone knows the route and contingencies. Say a prayer to yourself and head out. Upon arrival, park the truck, get everyone fed and track down who is coordinating your sleeping arrangement and download the gear. "Pray you didn't forget the batteries." Do your survey and wait to link up with the return Patrol to fall in with to get back to camp.

With all of the wars this country has been through before us, the Russians left us

something that as a surveyor in Afghanistan you have to be aware of, land mines. The Russians put Mines everywhere. Approx. 10 million or more, before you go in to a new area you always have to request the mine study of the area which only tells you if the Russians recorded putting mines in the area or the locals have reported the mines in the area. But there were countless numbers of mines laid that were not recorded. The locals are usually your best Intel on this matter, but you have to ask them because they probably know.



Above: A 107 mm mortar round discovered by SSG Elrod's men while surveying around the high school in Sharan City. Below: Conducting a topographic survey for drainage, with security, at the local high school. (Photos by Staff Sgt. Elvix Pete Elrod)



(continued on page 36)

Soldiers and Surveyors (continued)



They just did not report it or did not know who to report it to. You always have to be aware of your surrounding and be mindful of what you're doing.

It is not uncommon to see a man walking through town or down the road with a (Rocket Propelled Grenade) RPG or an AK-47 assault rifle. It is not illegal and we don't perceive it as a threat as long as they don't point them at us. Sometimes, surveying in Afghanistan feels like we are in the Wild West. Rounding up our posse to go out across the plains surveying, always keeping an eye out for Indians and Outlaws on the horizon. It can be a little stressful to get around in sometimes, with the threat of snipers, complex ambushes, landmines and IED's, but that's just the job. Soldier up! 🇺🇸

Top: Even the locals love GPS! Right: SPC Chris Bankston. Two hours after this photo was taken the Afghan Army was engaging targets on the mountain in the background.





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