MISSOURI SURVEYOR

A Quarterly Publication of the
Missouri Society of Professional Surveyors

Jefferson City, Missouri — September 2008

MISSOURI SURVEYOR

CALENDAR OF EVENTS

2008-2009

October 16-18, 2008
51st Annual Meeting and Convention — Joint Conference with Kansas Society of Land Surveyors & Oklahoma Society of Land Surveyors
University Plaza Hotel
Springfield, MO

December 6, 2008
Board Meeting, MSPS Office
Jefferson City, MO

May 7-9, 2009
Spring Workshop
Lodge of Four Seasons
Lake Ozark, MO

July 10-11, 2009
Board of Directors Meeting and Minimum Standards Workshop
Lodge of Four Seasons
Lake Ozark, MO

October 8-10, 2009
52nd Annual Conference
St. Louis Airport Marriott
St. Louis, MO

John Alan Holleck, Editor

Notes from the Editor's Desk

by John Holleck

As you all know, the September issue of the *Missouri Surveyor* is the harbinger of our annual meeting (this year a tri-state) with the election of officers and directors. This issue also marks my fifty-first as your editor, hard to believe. As I sit here writing on a relatively cool August afternoon (how often can you say that?), I wonder if my work as editor is suffering any staleness. My good friend Wilhelm Schmidt thinks our journal is the best around. I happen to agree with him and I hope that NSPS realizes it in the near future. BTW, congratulations to Bob Shotts who was appointed to the registration Board as a Landscape Architect.

This issue is another eclectic mix of hopefully something for everyone. The opening article is entitled "Record of Survey: Whose map is it?" by Aaron Smith. He offers some food for thought. Next is Ashley Rose-Nalin's summation of her panel discussion last May entitled "The Education and Experience Debate as Viewed from a Land-Surveyor-in-Training." Her article is well reasoned and written. As most of you are aware, Mike Flowers recently retired as State Land Surveyor. At his retirement party, a story written by his daughter was to be read but somehow misfired. Thus, the *Missouri Surveyor* has the privilege of publishing Nicole's reminiscence about the early days of GPS surveying. Longview Community College announces the hiring of a full-time survey instructor—David Gann. *The Nevada Traverse* editor, Terry McHenry follows with a "Key Practice Pointer" about USPLSS lotting dimensions. Rounding out the first half of the September is a wonderful story by Adam Teale and his African surveying experience, "Fresh Boundaries: Bring Hope to Bugala" Uganda. The article was first published in Marc Cheves' *The American Surveyor,*" June 2008.

The second half opens with the slate of officers and Board of Directors candidates. Gary Kent, one of our annual meeting speakers, offers "Understanding and Applying the 'Written Intentions of Parties' In Boundary Resolution." Jeffery N. Lucas, a former MSPS speaker, follows with some insights on "True North" and its many definitions—most of which are incorrect. Next, my friend Wilhelm Schmidt's "Wittiness" comments on what he refers to as the social virtues. Joel Leininger, Baltimore surveyor, follows with "Waypoint Description" concerning the use and abuse of latitude and longitude coordinate property descriptions. The final article of this issue is by Knud Hermansen entitled "Preparing a Survey Report: Encroachments, Overlaps and Gaps." It is a follow-up to the article reprinted in the last issue. Thank you all for allowing me to edit the *Missouri Surveyor*."

THE MISSOURI SURVEYOR

Published quarterly by the
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	4 issues	1 issue
Full Page	650.00	200.00
Half Page (horizontal or vertical)	400.00	150.00
Quarter Page	250.00	100.00
Professional Card	50.00	N/A

COPY DEADLINE

June Issue - May 1
September Issue - August 1
December Issue - November 1
March Issue - February 1

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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

by Donald Martin

When I undertook the task of drafting my message for this issue of Missouri Surveyor I reviewed many of the messages my predecessors had written for their September editions. When doing so I recognized a definite trend. They were messages of reflection and appreciation as each addressed the approaching close to their year as MSPS President. They were expressions of sentiments that I am coming to know well. As was the case with the now Past Presidents I have enjoyed the year past that was both a challenge and a pleasure. Serving this Society and its members has been a personal honor that I shall forever remember and cherish. And I do wish to continue serving as a faithful member voting at annual meetings, participating in professional development and sharing in the fellowship of my peers and friends in the practice of surveying.

If a President nearing the end of his term may be granted a wish mine would be that each of you would attain from your membership in this association the sense of professional growth and fulfillment that I have been given. Coming to this Society about midway through my career I was impressed to find that so many of our State's surveyors are truly brilliant people that wanted to share their knowledge and passion of surveying. It was then that I truly began to "learn" surveying beyond the scope of my immediate experience. Practitioners from across the surveying spectrum coming together and offering their mastery of the chain and compass arts and sciences to others seeking to learn is the greatest membership benefit of MSPS. Through the guidance of many of you I have taken away much from the vast body of knowledge that is our community. The MARLS/MSPS experience that I have known is one that I hope generations of surveyors to come will know as well.

Winning with Technology and Education is the theme of our upcoming Annual Meeting in October. Scheduled for the 16 – 18 at the University Plaza in Springfield this gathering will be more than "our" meeting, it is the Tri-State Conference for the Missouri Society of Professional Surveyors, the Kansas Society of Land Surveyors and the Oklahoma Society of Land Surveyors. With three strong organizations together in one venue the continuing education opportunities and vendor showcases will be worthy of your time and attendance. And while our surveying kin from Kansas and Oklahoma can count on some good old Missouri hospitality and will surely make their presence known, let's make our own strong showing. I hope to see you there doing what we do – where we will be Missouri *surveyors leading the way!*

Cover photo taken by Robert Ross. J. Michael Flowers, former Missouri State Land Surveyor, after restoring his last corner in that capacity. Mile Post 120 East of the Old Northwest Corner of Missouri was originally monumented by R. Walker and W. Dewey in the 1850 State Commissioner's Survey for Missouri and Iowa. The Cast-Iron monument measures 5 inches square at the top, 8 inches square at the base, is 48 inches in length, and weighs approximately 600 pounds. Restoring the position of this important monument became necessary after vandals had unsuccessfully attempted to remove it. Thanks Mike, for your many years of service; for your efforts in raising public awareness and perception of the Professional Land Surveyor; and for the monumental mark you have made on the land surveying profession.

Record of Survey: Whose Map Is It?

by Aaron Smith, PLS

Many surveyors have made up their minds that the last thing that they can legally do without overlap from other professions is to survey a deed described line, make a determination as to its location and file his or her opinion (map). I may or may not agree with this, but what I am referring to is commonly known as the "Record of Survey", and for most Professional Land Surveyors, they consider it their document. During this discussion on the Record of Survey, which is reviewed by the County Surveyor's Office and subsequently recorded in the County Recorder's Office, I will pose the question; whose map is it? Is it a map that is prepared by you and should be recorded as is, or does it have the look and feel of your county surveyors opinion, or do you take into account the future and put together a document that will stand the test of time? I hope that the map will be a compilation of all three. I will take the position that it is the public's map and it is my privilege to survey the lines, set the corners, and file it with the County. On March 16, 1907, the Senate enacted what would be commonly known as the Land Surveyors Act, and most, if not all of those statutes are still with us in the now current Professional Land Surveyors Act (Business and Professions Code, B&P).

> ***Chapter 5 of Evidence and Procedures says, "before any surveyor obtains sufficient knowledge of the available evidence, it is nearly impossible to make a correct boundary determination or location."***

Even in 1907, the body of the Senate knew the importance of the duties of the Professional Land Surveyor and set guidelines that even today we rely on. Those individuals who had the foresight to enact these statutes clearly understood the problems then, and the potential for future problems.

The purpose of the Record of Survey, in my opinion, is to review the written documents that describe land boundaries, locate the deed described lines on the ground, which may need extrinsic evidence to locate, such as parol testimony, note any possible discrepancies that may differ from the written document, and finally, make my findings of Public Record, Principle 5, Chapter 14, The Role of the Surveyor, Brown's Boundary Control and Legal Principles, fourth edition states "A land surveyor locates boundary lines according to the description in the deed and then relates lines of possession that do not agree with these lines and reports the facts to the client, in writing." We can also include in this concept, easements or any other written right that can be identified on the ground from the written record. In the Third Edition of Evidence and Procedures for Boundary Location, chapter 5, Evidence-General, it says, "The student, surveyor, or attorney must first make the major distinction between facts and evidence. The actual corner point is a fact, all of the information that is used to identify, describe, recover, or preserve the point is evidence of that point, the corner." Your map can help perpetuate the evidence that can lead to facts, and the facts can lead to the corner. This map should also locate and show the relationship to any prior surveys, senior lines, or subdivisions that are near or adjoining your property. Your determinations in the location of these lines are a professional opinion, and the evidence used to locate these boundaries should be reflected on your map. If, during the course of your survey, there is a difference in the location of previously set monuments by other surveyors, and that of the lines you have reconstructed, then it is your duty to show these positions on your map so they may be readily retraced by another surveyor. Your map should clearly show why you have disagreed with these monuments, and if needed, a statement, should be made on the map for clarity. This is the essence of Perpetuating the Evidence. Each surveyor over time has been trained as to the different types of evidence used to locate boundaries, such as iron pipes, hubs, fences, old road cuts, historic buildings, built at the time of the original subdivision, stones, posts in rock mounds, hedge lines, . . . etc. Perpetuating these types of evidence on the map is of paramount responsibility to the surveyor. The evidence reflected on the map should be noted with the ability to reestablish these occupation lines by mathematical computations, or at minimum, compare the relative positions by scale.

If a Professional Land Surveyor makes measurements to locate the deed described lines, which are different from the apparent lines of occupation, and does not show these on his or her map, then one has not done their job. If there are reasons for these differences, and these reasons are not easily detected in the recorded documents, then notes should be placed on the map for further clarification.

The Record of Survey prepared by you, or under your direction, needs to reflect all the pertinent information and evidence used to establish your boundary decisions, and even that evidence you analyzed, but decided not to rely on.

Chapter 5 of Evidence and Procedures says, "before any surveyor obtains sufficient knowledge of the available evidence, it is nearly impossible to make a correct boundary determination or location." Unrecorded documents, previous surveys made by your firm, old files from previous land surveyors and/or engineers, and any testimony from

Record of Survey: Whose Map Is It? (continued)

neighbors or 'old timers', should be noted on your map. The location as to where those documents can be found for inspection by the land surveyor needing to review this information should also be noted in the legend, or notes made on the map. A professional land surveyor should not withhold pertinent information that was used in the final determination of the deed described lines, but should instead look for the opportunity to make that information of public record with the recording of their record of survey. The lack of showing all evidence accepted and not accepted could be the reason there is litigation over your map, or boundary resolution.

"Perhaps the worst disagreements arise from a failure of one surveyor to uncover all available evidence. Two surveyors having the same evidence, if equally educated and equally intelligent, should come to the same conclusions. Unfortunately, all surveyors are not equally diligent in their search. The one with all the evidence usually comes to the correct conclusion, whereas the one with partial evidence makes faulty locations." This is a quote from Chapter 5, Evidence and Procedures, and is for both field evidence and research. I hope that surveyors will take the time to uncover the evidence, document that evidence on their map, and perpetuate it for the next land surveyor, so we can have, "all the evidence" available to the profession.

"A plat should be complete in itself and should present sufficient evidence of monuments (record and locative) and measurements so that any other surveyor can clearly, without ambiguity, find the locative points and follow the reasonings of the surveyor. A plat does not show the client's land alone; it shows all ties necessary to prove the correctness of location." Chapter 9, Evidence and Procedures.

The map should reflect the measured bearings and distances, B&P code 8764, and compare those to the record information. The record information for comparison could be deeds, maps, unrecorded surveys, unrecorded grants, County right of way maps, survey notes from the County Surveyor's Office, and any other document you have obtained. If these documents are not recorded in the Recorder's Office, they should be referenced on your map. For all the monuments found, there should be a complete description of the monument, including any scribings, character, type of metal, size, and its relative position to occupation, fence corners, . . . etc. If you are noting a fence, then the type and material should be noted as well. This will assist the land surveyor to identify these lines of occupation for future retracements. "If the surveyor is delegated the privilege of remonumentation of deteriorated corners, he should also be delegated the responsibility of perpetuating the evidence." Quote from Chapter 15, Evidence and Procedures.

Now that we have discussed some of the reasonings behind the record of survey, let's look at the question posed, whose map is it? As I stated early on, I believe it is the public's map, and I have been hired to prepare this document and have it recorded with the county in which the survey was made. These maps perpetuate the location of old historic pieces of evidence, and when we can continue to use these maps to relocate these positions, then it is in the interest of the public to have the map properly documented. Land surveyors in the past and the present have felt that the map they were hired to prepare, is the record of their professional opinion and final conclusions as to the retracement of the deed described lines, and the map should be recorded as they see fit. Without a doubt that is true, the map reflects their decisions, and it should, this is the reason we sought licensure, so we can take responsibility for those decisions. If one does a proper survey and documents the map correctly, then there will be no need for comment on the record of survey before filing, which is, in my opinion, the goal that should be strived for with your survey. There is a list of items that the County Surveyor is required to review for technical correctness before they approve the map for recording, and they are listed in section 8764 of the Professional Land Surveyor's Act:

(a) All monuments found, set, reset, replaced, or removed, describing their kind, size, and location, and giving other data relating thereto.
(b) Bearing or witness documents, basis of bearings, bearing and length of lines, scale of map, and north arrow.
(c) Name and legal designation of the property in which the survey is located, and the date or time period of the survey.
(d) The relationship to those portions of adjacent tracts, streets, or senior conveyances which have common lines with the survey.
(e) Memorandum of oaths.
(f) Statements required by section 8764.5
(g) Any other data necessary for the intelligent interpretation of the various items and locations of the points, lines, and areas shown, or convenient for the identification of the survey or surveyor, as may be determined by the civil engineer or land surveyor preparing the record of survey.

The record of survey shall also show, either graphically or by note, the reason or reasons, if any, why the mandatory filing provisions of paragraphs (1) and (5), inclusive, of subdivision (b) of Section 8762 apply.

The record of survey need not consist of a survey of an entire property.

As you can see, there is not much that can be reviewed to check for consistency with this section. However, one should note subsection (g) which states "any other data necessary for the intelligent interpretation of the various items," again telling the surveyor in responsible charge to ensure that the

(continued on page 6)

Record of Survey: Whose Map Is It? (continued)

map and its evidence as shown is in harmony with the results of the evidence on the ground. Remember, the county surveyor reviews your map based upon the information provided by the professional, and hardly ever does the county surveyor visit the subject property to inspect the results of your survey. If the record of survey is properly documented, then the evidence used in today's boundary determination will be made of record for all of time, and the welfare of the public as it relates to land boundaries are better served.

There is one other section that allows for further review by the county surveyor and that is section 8766 (c) which in part states, "nothing in this section shall limit the county surveyor from including notes expressing opinions regarding the record of survey, or the methods or procedures utilized or employed in the performance of the survey." When applicable, it is appropriate for the county surveyor to request additional information to substantiate the conclusion of the field survey performed, and I believe this section allows for the county surveyor to ask for this. And of course, we are all familiar with section 8768, which in short says the county surveyor and the surveyor preparing the map may add notes to the items not agreed upon in accordance with section 8766, and these notes are added to the map prior to recording.

> ***. . . "nothing in this section shall limit the county surveyor from including notes expressing opinions regarding the record of survey, or the methods or procedures utilized or employed in the performance of the survey."***

I have taken the position with my maps that the agency reviewing my survey map before it records is the last set of eyes to check my work and provide me with feedback. I would rather have a comment on the review of my map, than for the map to record for all of time with my errors. I may not always agree with the comments, but rarely do I find a need to argue with them either.

One of our jobs as a professional surveyor in the state of California is to render a professional opinion on the location of a deed described line. Yes, there are those who believe we are licensed to monument and locate the unwritten transfer of title, better known as Adverse Possession or Prescriptive Rights, but I still believe we should locate deed described lines and show the relationship of occupied land that is not consistent with the deed, and let the judicial system transfer unwritten rights when necessary. This can be a complicated area of surveying, and I will not render any opinions on how you or your firm should handle these situations. When there is a discrepancy between the deed described lines and the lines of apparent occupation, I believe the land surveyor has a duty to both parties to find solutions. It is unfair to the property owners, to set your corners, note the discrepancies on the map, and record it without the involvement of the neighbors. Yes, I do think Land Surveyors should play an active role in the solution, but they must also understand the laws, and which remedies are applicable to their situation. You do not want to make the situation worse by applying an incorrect solution to the already existing controversy between neighbors.

When we, as Professional Land Surveyors, perform a survey and document it to perpetuate all the possible evidence, it is then, that the public's best interest is protected, and the land surveyor has done their job, and so, the question, 'whose map is it?'

Something I feel all land surveyors should remember; the budget should never compromise the integrity of the survey work. We have been hired to perform a function, and an important one at that, one that affects not only your client, who is paying the bill, but all of the adjoining lines you are surveying. Consider the impacts of reestablishing a section corner, the impact of that decision could affect property rights in four different sections, 2 miles by 2 miles. More importantly, most, if not all of the property owners who are affected by the field survey and establishment of the section corner, had no input to your roles and responsibilities, but the survey is now of record.

We are charged with being a Professional, so one should not step lightly into this line of work, unless they are prepared. For those surveyors who have been around awhile, they should look to pass on as much knowledge and skill as possible to those who will follow. One of the ways to perpetuate evidence, is to teach and mentor those individuals coming up through the profession, so they may learn the proper techniques and skills to allow them to be a Professional, and protect the welfare of the public as you have.

This article is not a guide to performing boundary surveys and preparing Records of Surveys, but merely a reminder to remember what your job as Professional Land Surveyor is, and a very important one, at that.

I would like to thank Paul M. Brown, PLS and Lawrence A. Stevens, PLS for their mentoring efforts.

Reprinted from the "California Surveyor", Summer 2008.

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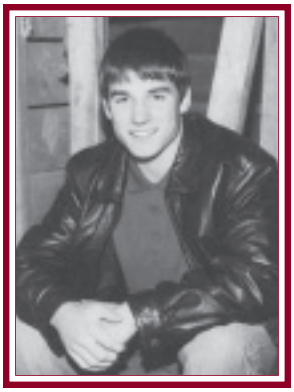
Robert V. Pirrie Scholarship Recipients

Taylor Young of Rolla and Corey Braker of Lamar were chosen as the 2008 Scholarship Recipients.

Taylor is the son of Johnnie Ray Young and Anita Jo Young. His father is a retired PLS USDA Forest Service employee and currently owner of Young Survey Consulting. His mother is the purchasing agent for the USDA Forest Service. Taylor will be pursuing a dual degree in Civil and Architectural Engineering from Missouri University of Science & Technology in Rolla and plans to obtain a license in land surveying and eventually own his own engineering and surveying firm. While in high school he was a member of the National Honor Society, A+ Tutoring, Varsity Golf Team, Soccer Team, Latin club and did mission work with the Hurricane Katrina Rebuilding efforts in Gulfport Mississippi.



Corey is the son of Jay and Sharon Braker. His father is a farmer and his mother is a homemaker. Corey will attend Missouri Southern State University in Joplin where he will further his career goal to become a land surveyor. During high school he worked with a surveyor to gain experience and save for college. He was a member of FFA, varsity track, football and basketball teams. He was a member of the Science club, Math league and is a member of the Nashville Christian Church.

Congratulations to both men!

Jake Proehl 2008 Trig-Star Contest Winner

Jake Proehl is the son of Scott and Jackie Prine of Wasola, Missouri and attended Gainesville High School. He plans to attend University of Missouri in Rolla and study engineering. The state winner receives a $750 scholarship to help with tuition and fees to the college of their choice. Anyone interested in serving on the Trig-Star committee should contact MSPS at 573-635-9446 or msps @missourisurveyor.org.

ANNOUNCEMENT

The Missouri Department of Natural Resources, Division of Geology and Land Survey Program would like to take this opportunity to announce a web application. The Land Survey Program (LSP) has established 15 Electronic Distance Meter (EDM) calibration baselines across Missouri. These EDM calibration baselines provide users a means to evaluate the performance of their EDM equipment to ensure it is operating within acceptable limits.

Until now the only way a surveyor could check if the equipment were functioning properly was send the results to the LSP for processing. A web application has been released that will allow surveyors to enter their data online and receive a nearly instantaneous result. This EDM application performs a least squares adjustment and statistical analysis on distances observed by the user on a particular baseline. Observations can be entered as horizontal or slope distances but must be entered in meters.

A link to the application can be found at the LSP website, www.dnr.mo.gov/geology/landsurvey/index.html or accessed directly at www.dnr.mo.gov/moedmbaseline

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: Dave Gann
Longview Community College
Science and Technology Bldg.
500 Longview Road
Lee's Summit, Missouri 64081
816-672-2510

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 Communitiy 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)

University of Missouri-Rolla - Rolla, Missouri
Contact: Distance & Continuing Education
University of Missouri-Rolla
conted@umr.edu
103 ME Annex
Rolla, Missouri 65409-1560
573-341-4132

University of Missouri-Rolla - Rolla, Missouri
Contact: Surveying Courses in Civil Engineering
Dr. Bill Schonberg, Chairman
University of Missouri-Rolla
Dept. of Civil Eng.
civil@umr.edu
1870 Miner Circle
Rolla, Missouri 65409-0030
573-341-4461

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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The Education and Experience Debate as Viewed from a Land-Surveyor-in-Training

by Ashley Rose-Nalin

The old education and experience debate is something I've wanted to get back to writing about for some time. It seems like such a topic of unrest in the surveying profession right now. I was given the perfect opportunity to delve back into this issue a while back. In May, I was asked to speak on a panel at the Missouri Society of Professional Surveyor's (MSPS) Spring Conference. During the panel, we discussed some options for surveying education, as well as how much education we should be requiring in the surveying profession. We also chatted about how much experience, both field and office, we should be requiring after one becomes a land-surveyor-in-training in order to take the test for professional licensure. I found it very interesting to hear the discussion on this topic from a room full of surveyors with most likely wildly different backgrounds. I vividly remember one gentleman basically saying you know it seems like we've been continually debating these issues but nothing ever seems to come of it. Being newer to the profession, I have not heard all of the viewpoints on the education and experience debate so I was interested to learn what a room full of surveyors had to say about the issue.

I've read several different arguments on how we should be educating individuals who will eventually become licensed as professional surveyors that seem to range from simply going through an apprenticeship to achieving a Bachelor of Science degree combined with on the job experience followed by an examination. I wish there was some magical answer to get all surveyors to agree on something when it comes to this topic because sometimes it seems like the arguing prevents anything from actually being accomplished. I personally am of the opinion that all states should be working towards requiring a bachelor's degree combined with on the job experience followed by the current examination practices that seem to be in place in most states.

I feel that the current state of the profession seems to inhibit requiring a four-year degree as the only means of registration to become a licensed professional surveyor. Although I think that by requiring a four-year degree we are going to attract the types of individuals who will possess the skills and drive to motivate others to bring the stature of the profession where it needs to be. You hear a lot of talk about the demise of the surveyor and the average age of the surveyor, which was quoted at the MSPS Spring Conference to currently be 58, and I am personally not really surprised by this. I had no clue the profession existed five years ago, and I've mentioned before that there seems to be some kind of secrecy amongst surveyors as to what service they are providing the public, which I do not think is intended. Thus, I'm not sure what has caused the lack of knowledge about the profession.

One of the major reasons I feel requiring a bachelor's degree as the only method of registration at the moment is not going to work out is the fact that there are a lot of talented individuals who can never meet that requirement because of the way that they enter or find the surveying profession. I think before we can require a four-year degree we need to look at inspiring interest in the profession amongst young individuals, especially the elementary age. Not only does the general public not know what service we provide for them, they do not know the opportunities that exist in the profession as a career choice. We need to start selling our profession to the youngsters in third, fourth, and fifth grade. If we all make a personal goal of visiting one classroom a year, that's approximately twenty more people who know about the profession per practicing professional. So, I guess I would have to say my goal would be to attempt to make the pool of talented individuals entering our profession larger, and then we can start requiring more education after we've ensured that we have enough interested individuals to fill those classrooms. Lack of individuals entering the programs we currently have are causing some universities to shut the programs down, so we need to be active in promoting the profession that we all have so much pride in.

> ***It seems to me that the quality of an LSIT's experience would be difficult to regulate.***

I found at the MSPS Spring Conference that most of the surveyors there were not against requiring more education, but seemed to be concerned with some of the ideas that I mentioned above. The education issue actually appeared to be less of a worry for them than was the quality of the experience of the land-surveyor-in-training (LSIT). Based on their results from examinations it appeared to be the consensus that many of the licensed surveyors in the room felt that many or most LSIT's were being short changed when it came to the quality of their experience preparing them to become professional land surveyors. I think this is a responsibility that falls onto both the professional land surveyor and the LSIT. I feel like I have had several great mentors, but I also feel that my experience is guided also by the questions that I ask during the process to fully understand surveying

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The Education and Experience Debate (continued)

projects. So, for all you licensed professionals out there with an LSIT working under you, do you feel that you are giving them a broad and well-rounded experience? Would you feel comfortable with that LSIT carrying on the surveying legacy for the future of the profession? For those LSIT's out there, are you asking questions about some of the challenges you are being faced with to round out your experience so that you feel confident when someday your stamp will be placed on that survey and that mentor is no longer there to answer your questions?

It seems to me that the quality of an LSIT's experience would be difficult to regulate. I can see regulating the amount of time spent in the field or in the office, but I think it would be difficult to put a specific amount of experience on different types of surveying projects. At the MSPS Spring Conference, it was discussed that some states are awarding professional development hours (continuing education hours) for professional surveyors who make the extra effort when it comes to mentoring LSIT's. I would hope that the pride that most surveyors have in their profession would be enough to motivate them to give their LSIT's the type of quality experience that would make the mentor proud to have them as a fellow licensed individual some day.

I guess in closing to this column (which I could go on some more but I think we would still be beating that dead horse probably at this point), I think it is important once again that we all (that goes for anyone involved in the profession that wants to ensure its future as well as the quality of that future not just the licensed surveyors out there) become active in spreading the word about the opportunities in surveying, as well as working towards giving LSIT's the experience you would want before taking the professional licensure exam. As I said before I think that once we've increased the interest in the profession by appealing to the younger generations, we will be able to require more education because there will be enough warm bodies to fill those seats that will keep the programs from being cut, and I feel that in turn this will eventually raise the stature of our profession because more people will know and understand why it is that they need that survey and that not any "joe" with a metal detector can be a land surveyor.

Dad and Daughter on the Job (Upon Retirement as Missouri State Land Surveyor)

by Nicole

Sandy and John,

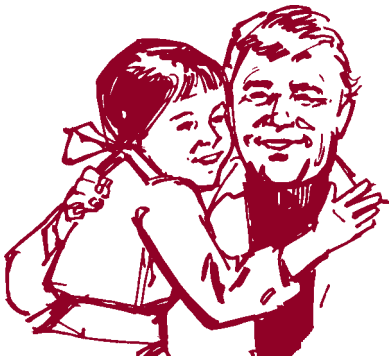
As you know my daughter lives in Florida. She was not able to attend my retirement party. She wrote a brief story she wanted to have read at the retirement party that I was not aware of. Somehow it fell through the cracks and was not presented at the retirement party. She later sent it to me.

She wrote this story about me but I think it would apply to many of the surveyors in our state and US. Take a look and see what you and John think about publishing in the magazine. If it seems a little corny don't worry about it, but I thought you would enjoy reading it.

Mike Flowers

June 2008

As a little girl I remember my dad spending much of his time "out in the field." When you think about it that phrase is rather vague, unless you are a surveyor, and often left my young mind wandering. To me going out in the field sounded like an awesome adventure I just had to experience! My dream came true one summer. I was 7 or 8, so we are talking 1987 or 88. It would not be an over night trip but one that would bring us home really late.



I packed my "Going to Grandmas" suitcase with all the necessities that anyone would need for going out in the field, paper, crayons, and books. I remember my dad stopping by the convenience store to buy me candy and a soda while he worked.

Something I discovered very quickly was surveying did not always take place in a field, but rather in the parking lot in the middle of town. The next thing I discovered was surveying was really boring!!! You had to wait for these satellites to turn a certain way or something like that! As night came I became really sleepy and cold. So dad said I could lie down in the back of the truck (it had a topper) and make a bed in his coveralls. The next thing I am awakened from a sound sleep to my body rolling from one side of the truck to the other as we were obviously traveling to another destination. You see back in the "old days"

(continued on page 12)

Dad and Daughter on the Job (continued)

emphasis added, I guess you had to locate these satellites when they were in a certain position at any given time, even if that meant in the wee hours of the morning.

Finally after my dad's work was done we arrived home late and my dad carried me to bed where I would remain stationary for the rest of my night's rest. Needless to say that was my last "in the field" rendezvous. As years passed my dad's job changed with less traveling and more of his time spent in the office (although I do remember my mom always saying "I wish your father was going out in the field!").

Although I realized at a young age I was not cut out to be a surveyor, I would say without a doubt it was a perfect fit for my dad! My dad has taught me a lot through his work ethic; the first being hard work, whether that meant staying up late to locate a satellite or giving up his weekend to help boy scouts earn a badge. He taught me to be knowledgeable about my field; for not only did he know the ins-and-outs of surveying, but he even knew the different species of trees and plants, which came in really handy for those 4th grade science projects. He also taught me to put family first, even though he traveled while we were young he was always thinking of his kids as he would bring home turtles or buckeyes. He taught me to show up for work EVERY DAY, it seems I can count the number of times he missed work due to illness on one hand!

Dad, I am so proud of you for your successes in your career and how you have climbed the ladder through hard work and determination. You have given me great tools to implement for my own career and family someday. I just want to let you know that I am your biggest fan and love you very much. Here's to many more good years retired!!!

MCC-Longview Hires Land Survey Instructor, Expands Program

by Nicole A. Fritz

Metropolitan Community College-Longview in Lee's Summit, Mo., has hired Dave Gann as the college's first full-time land survey instructor beginning this fall.

The addition of Gann is one of several steps MCC-Longview is taking to meet the changing demands of the field of land surveying including raising licensing standards. Gann's contributions to the growing program are already evident.

"We have retooled the curriculum to meet what Kansas has set as a guideline," says Gann of program improvements. "We'd like it to mirror what they think is important."

MCC-Longview offers an Associate in Applied Science in Land Surveying, a land surveying certificate, and a new Associate in Engineering with an emphasis in land surveying.

"There are very few programs and only one like this in the two states, Missouri and Kansas," says Gann.

"We have a ready-to-go program. This is exactly what you need to go into the field," Gann adds.

The MCC-Longview department of mathematics, engineering, and physics has recently updated all GPS lab equipment and is working to add online curriculum for land surveying.

"Dave is going to be a very versatile faculty member because of his expertise in the three disciplines of math, physics, and land surveying," says Janet Wyatt, division chair for mathematics, engineering, and physics at MCC-Longview. "He's going to bring a lot of enthusiasm and a lot of diversity."

MCC-Longview is also considering agreements that will allow land surveying students to transfer to a bachelor's degree program and has already adapted the classes to apply to higher degrees, explain Wyatt and Gann.

MCC-Longview's land surveying program offers students flexibility in class schedule and lower class costs that enable students to obtain an associate's degree and, for some, a solid start toward a bachelor's degree.

"There is so much more out there to be able to expand the knowledge base of the students, to get them thinking about where they can go," describes Gann. "What I want to do with these classes is push students beyond what they will ever have to do so they are comfortable with what they have to do every day."

Gann will also be working with local high school Project Lead-the-Way instructors to educate them about the opportunities available in MCC-Longview's land surveying program.

A Kansas City native, Gann has been an adjunct professor at MCC-Longview since 2005. He is a licensed professional land surveyor in the state of Missouri.

Gann earned his bachelor of science in physics from Harvey Mudd College in Claremont, Calif.

For more information on the MCC-Longview land surveying program, visit mcckc.edu/longview/landsurvey/ or call the MCC-Longview division of mathematics, engineering, and physics at 816-672-2510.

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Seiler Instrument Awarded CORS Contract with State of Missouri/Missouri Department of Transportation

WEBSTER GROVES, Mo., April 30th, 2008 – St. Louis, Mo. Seiler Instrument & Mfg. Co. Inc. has been awarded a one year contract with multi year option renewal from the State of Missouri Office of Administration Division of Purchasing and Materials in conjunction with the Missouri Department of Transportation. This contract is for delivery, construction and testing of a Trimble Global Navigation Satellite System Real time Network of CORS (Continuously Operating Reference Stations). The coverage area will initially include the five Missouri counties under MoDOT District 6 or the Greater Metro Saint Louis area including; Saint Louis City and County, Franklin, Jefferson and Saint Charles County. Per Tom Seiler, Vice President of Seiler Instrument, "Seiler is pleased to implement and deliver the software and infrastructure necessary to support this network along with plans for future deployment across the state."

"The Missouri Department of Transportation has been working on this implementation plan for about two years", says George Kopp, Computer Aided Drafting and Design Services Engineer for MoDOT. "This system will be utilized by MoDOT's staff in the areas of Design, Construction and Transportation Management along with contractors, other government agencies and MoDOT's partners to streamline their processes. The contract also has very rigid technical requirements and we are quite pleased to be able to work with a supplier like Seiler Instrument, who has a great level of experience in implementing productive systems with the best value and technology."

About Seiler Instrument Company:

Seiler Instrument and Manufacturing Company, Inc. is a privately held multi-divisional company that is family owned and operated. The Survey/Geomatics division of Seiler is a recognized industry leader and the largest Survey Distributor in the United States for Trimble Navigation Limited / Trimble®. Our primary focus is to provide a total solution package to the Geomatic industry with; surveying, engineering, architectural, construction, VRS/MWRTK networks, utility and government products and solutions. We offer Robotic, Mapping/GPS and Scanning field to finish products along with a full line of AutoCAD® Design Software. Seiler provides the technology and solutions your business needs along with an experienced sales and service department staff in six offices throughout the Midwest. www.seilerinst.com and www.mwrtk.net

"A Surveyor's Lament"

by Anonymous

Is it just me? Three years ago I had a thriving, growing, exciting land surveying business. The phone rang off the hook and, if I bothered to answer it at all, I'd blithely inform callers that, "Yeah, I guess we could do a survey for you and get those corners staked, but we're about six weeks out on jobs and it'll be at least that long before we can get to you". Longstanding customers would come in and politely ask could we please fit their footing certification in or design a septic plan for them at any time during the coming year. We'd hem and haw and, eventually, magnanimously pencil them into our schedule as if we were doing them a favor.

I miss those days. Now I sit in my office amid my drastically reduced staff and stare at my phone. Several times a day I pick up the receiver to ensure it's still working. I've asked my wife to call me a couple of times just to make sure the darned thing still has a ringer. When some poor soul happens into the office to inquire about price or procedure, we descend on him like a pack of wolves. We're so helpful, so solicitous, so supportive of what he wants to do, he's probably thinking he's one savvy landowner. Sometimes, I think, he realizes he's too savvy to be doing business with anyone who has the time and quite so much eagerness to do business with him.

I've zeroed in on the problem, I think. The $500,000 and $600,000 homes that just everyone had to have three years ago — the ones on the three acres of rolling hills with the 50' natural buffers — are destined to sit alone and empty on their landscaped hillsides. They were never designed or built or priced for the 8.5% mortgage interest rate and rising property tax rates. The home that people find they can be quite happy with now is the ten year old three bedroom, one bath starter home on the pre-existing, non-conforming lot. Even when I sit and regret the loss of better times, I think of the developers I worked with the create those lovely subdivisions with the beautiful, expensive homes and of the number of those homes they're still waiting to sell. How can I work up to a healthy level of self-pity when these poor guys have staked their lives and fortunes on selling a dream that everyone recognizes now to be their worst nightmare.

I've been in business for long enough to realize that there are trends — low points and high points — ups and downs. Boy, I loved that high point. And boy, I really think this low point sucks.

Reprinted from "TBM" (New Hampshire), May 2007

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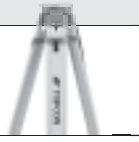

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When I need an answer, I need it now. I'm not real interested in excuses, and I don't appreciate the line: 'Johnny is busy right now and maybe he can call you back tomorrow.' If I tell my clients that maybe I can meet their schedule, I'm reasonably certain they will tell me that maybe they can get someone else. Hayes understands that and they have always given me strait answers to every question I've asked. Sometimes the answer is yes and sometimes the answer is no, but my clients get the truth from me and that's what I get from Hayes.

There will always be logistical issues in surveying. The one thing I haven't learned to do is to be in two places at once, but I am working very hard on learning how to do that. Hayes in Tennessee and me in Florida has never been an issue. The truth of the matter is that with overnight deliveries, the internet, email, FTP access and the telephone we can all do business with just about anyone we want.

I'm a Consulting Surveyor and I wouldn't have it any other way. Things change and my business will change right along with them. The keys are motivation, support and always remembering that the harder we work, the more luck we have."

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Key Practice Pointers

by Terry W. McHenry, PLS

One of the interesting aspects of the U.S. Public Land Survey System (USPLSS) is the unique relationship between chains and acres. For those who work with the USPLSS, and the records of same, often the Township Plats contain acreage and fractional part distances that are either difficult to read, partially missing or, in some instances, incorrect.

There are three convenient rules available to apply in working with these matters when one understands the unique relationship between chains and acres. Before discussing these rules, it might be helpful to review this relationship through deductive definitions, as follows:

1 Chain = 66 feet (by definition)
1 Statute Mile = 5,280 feet (by definition)
1 Acre = 43,560 square feet (by definition)

Thus — 5,280 / 66 = 80, and 80 chains = 1 Statute Mile

One theoretical Section of Land is one mile on a side, or 80 chains, or 5,280 feet;

5,280 x 5,280 = 27,878,400 / 43,560 - 640 ac.
Or, 80 chains x 80 chains = 6,400 / 10 = 640 ac.

Thus — Area (in acres) = Width (in chains) x Length (in chains) / 10

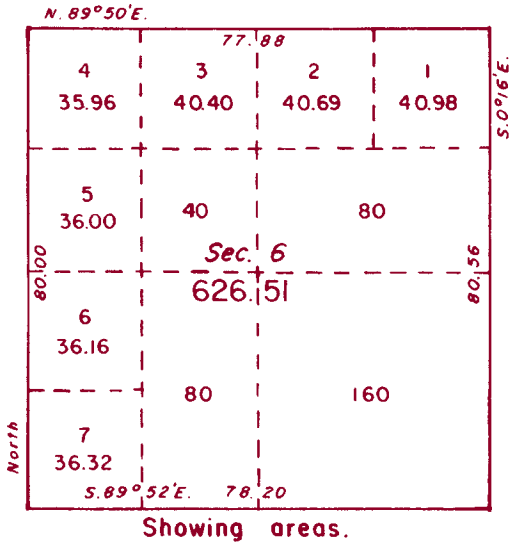
For example, in a theoretical Quarter-Quarter Section, being 20 chains by 20 chains, the product is 400. Divided by 10, the result is 40 acres.

Given the above definitions and relationships, and working with lengths of sides in chains, and areas in acres, one can derive the following three rules:

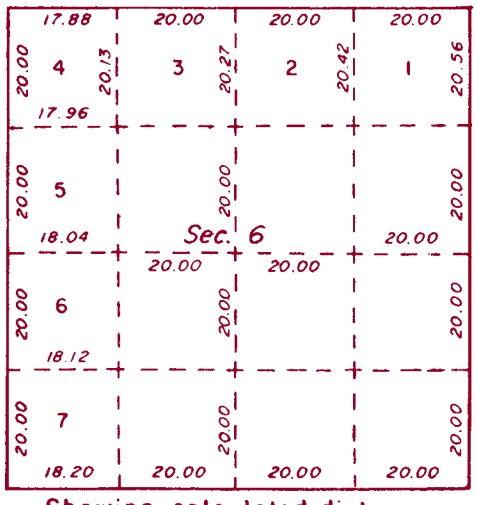
1. By multiplying the average width (in chains) of a fractional lot or aliquot part by the average length (in chains), and dividing by 10, one can derive the area in acres.
2. The area of an aliquot part (in acres), minus an adjoining side (in chains), will equal the length of the opposite side (in chains).
3. The area of a lot (in acres), added to the area (in acres) of an adjoining lot, divided by 4, will equal the distance (in chains) of the common side. This rule does not work, however, when applied to aliquot parts of differing size (e.g., a 40-ac. and an adjoining 80-ac. Part), but is valid where convergency of meridians is involved in fractional lots adjoining the west boundary of a township. And, the area in acres of each lot in the west tier is found by adding the lengths in chains of its north and south boundaries, or for the north tier of lots (except Lot 4 of Section 6), by adding the lengths in chains of the west and east boundaries.

It should be noted that minor differences will sometimes occur using these rules. These differences should be averaged to resolve the discrepancies. One can also check the results from these rules by proportioning, for example, the exterior dimension shown on a tier of fractional lots across the Section's north or west side, to the opposite exterior, using the difference divided by 4, and distributing across to derive the three interior lot dimensions of the tier of four lots. The three rules can also be applied to determine if, and to locate where, an error has occurred on the Township Plat.

I have provided below a diagram from the *Manual of Surveyor Instructions 1973*, published by the U.S. Department of the Interior, Bureau of Land Management, so the reader can test the above rules.



Showing areas.



Showing calculated distances.

The diagram on the left shows a Section 6 breakdown into aliquot part and fractional lots along the north and west side of the township, indicating the areas in acres only. The diagram on the right shows the same Section 6 with corresponding dimensions in chains. By superimposing data from the two diagrams, one can run through the rules to see how they work.

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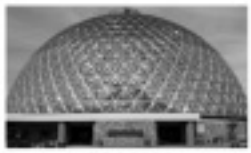

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Fresh Boundaries Bring Hope to Bugala

by Adam Teale, LS


Local Bugalan villagers, eMi interns and volunteers gather for a send-off celebration at the conclusion of our field project.

Setting out for a ten-day field project, the minivan carrying twelve of us with our luggage and surveying equipment bumped along for two hours on narrow, dusty, rutted out roads. We were headed for the village of Bugala in the Nakaseke District of Uganda, located approximately 30 miles north-northwest of the capital city of Kampala. I have to admit, that in the days when I was studying and training for a career in land surveying, I never imagined practicing outside the continental United States, let alone boarding a plane for a 26-hour flight to survey in Africa.

Onboard the minivan were three civil engineers, two architects, and urban planner, a land surveyor (me), and volunteers and eMi EA interns from the US and the UK. We were members of a design team mobilized by Engineering Ministries International East Africa (eMi EA) to provide preliminary planning for a Campus Master Plan for a project called Hands of Mercy.

Engineering Ministries International East Africa had been contacted by Amazing Grace Christian Assembly (AGCA) of Uganda in seeking help for their Hands of Mercy project. AGCA had created the project to respond to the growing problem of children orphaned due to AIDS, malaria, and other causes, as well as promoting AIDS prevention and women's education.

Hands of Mercy had purchased approximately ten acres of land in Bugala. Our team's objective was to determine a long-term master plan. This required a topographic survey of the existing ten-acre site, and development of an architectural master plan and a utilities plan to include rain water collection, water distribution, and sanitation and wastewater disposal.

The amenities and comforts that we take for granted simply do not exist there. Roads within the village were no more than a foot path like cattle would make. Our diets consisted of pastas, meats, fresh vegetables and fruits. It was a well-balanced diet that allowed me to lose more than 15 pounds. Our living quarters had concrete floors and walls, unlike our neighbors' dwellings that had dirt floors and thatched roofs. Nobody had indoor plumbing, running water or electricity. The nearest public electricity is located in the village of Kigege, located about a half-mile from the site. Water is collected from rainwater or pumped from bore holes. There are no flushing stools. Plans for the future include a combination of public electricity and solar generated electricity, additional bore holes and rainwater collection systems, and flushing toilets for the orphanage, schools, and a few other select buildings. Pit latrines and composting toilets are proposed for the sanitary needs in other proposed buildings.

Boundary Lines to the Future

The site to be surveyed was 10.6 acres that was irregular in shape. A traditional Ugandan village hut with a thatched roof was located at the southeast corner of the compound. Existing concrete markers and boundary trees defined the boundaries of the property. The topography spanned a vertical range of about 23 feet, from approximately 3,707 feet above sea level to 3,730 feet. Small fields of sweet potatoes, beans, maize, and other various crops were separated by dense vegetation.

Our survey crew consisted of three to five local villagers who served as local ambassadors and "jungle whackers", Jean (an eMi intern from the UK) and Brent (a volunteer engineer from California) who served as instrument operators, and me, the project surveyor and rodman. The villagers spoke limited English and Jean was hearing impaired. Although our communication was potentially challenging and our technical experience was limited, our survey crew turned out to be surprisingly efficient and a complete pleasure to work with. We collected data using a donated Sokkia Set5 and an SDR31 data collector, then downloaded the data to my personal laptop per the approval of my employer.

The field project consisted of three long working days with another two days spent on the drawing and contouring of

(continued on page 20)

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Fresh Boundaries Bring Hope to Bugala (continued)

Above: Our under-experienced, but over-achieving and hard-working field crew of local villagers and eMi volunteers proved to be a successful team.

the land. In my own estimation I know enough about AutoCad to be dangerous, and I had never contoured a project until then. It was challenging to work on the survey plat with no direct access to e-mail or technical support, but I found the help tools within the software to be of much assistance.

No amount of office planning could have prepared me for this job. As a team we donated over 1,500 hours (valued at more than $80,000 USD) to aid in the development of this facility. Eventually, the Hands of Mercy campus will include: a medical clinic to provide low-cost treatment for school children in the community, a school (preschool through secondary) free to orphaned or very poor children, an orphanage for victims of the widespread AIDS epidemic, a church to provide a central place of worship, a Bible college with classrooms and dormitories, and a vocational school that will provide instruction in carpentry, tailoring, iron or metal works, as well as instruction in arts and crafts to provide vocational opportunities to the many widows that have been left to provide for the children.

Above: Traditional Ugandan boundary markers are identified with 2 ft. x 3 ft. concrete blocks and a designated boundary tree with orange flagging.

Muzungu Meets Susan

We also had the opportunity to spend many hours with the local villagers and their children. Our eMi team, with the addition of some local church members, enjoyed a futbol (soccer) match against the local club. As a father of two young children, I knew that candy would be a special treat for the children. It was common to be surrounded by children asking for a "sweetie from the Muzungu [white man]" One young child regularly brought me kiwi fruit and jackfruit picked from his family's trees to thank me for the candy and for helping his village.

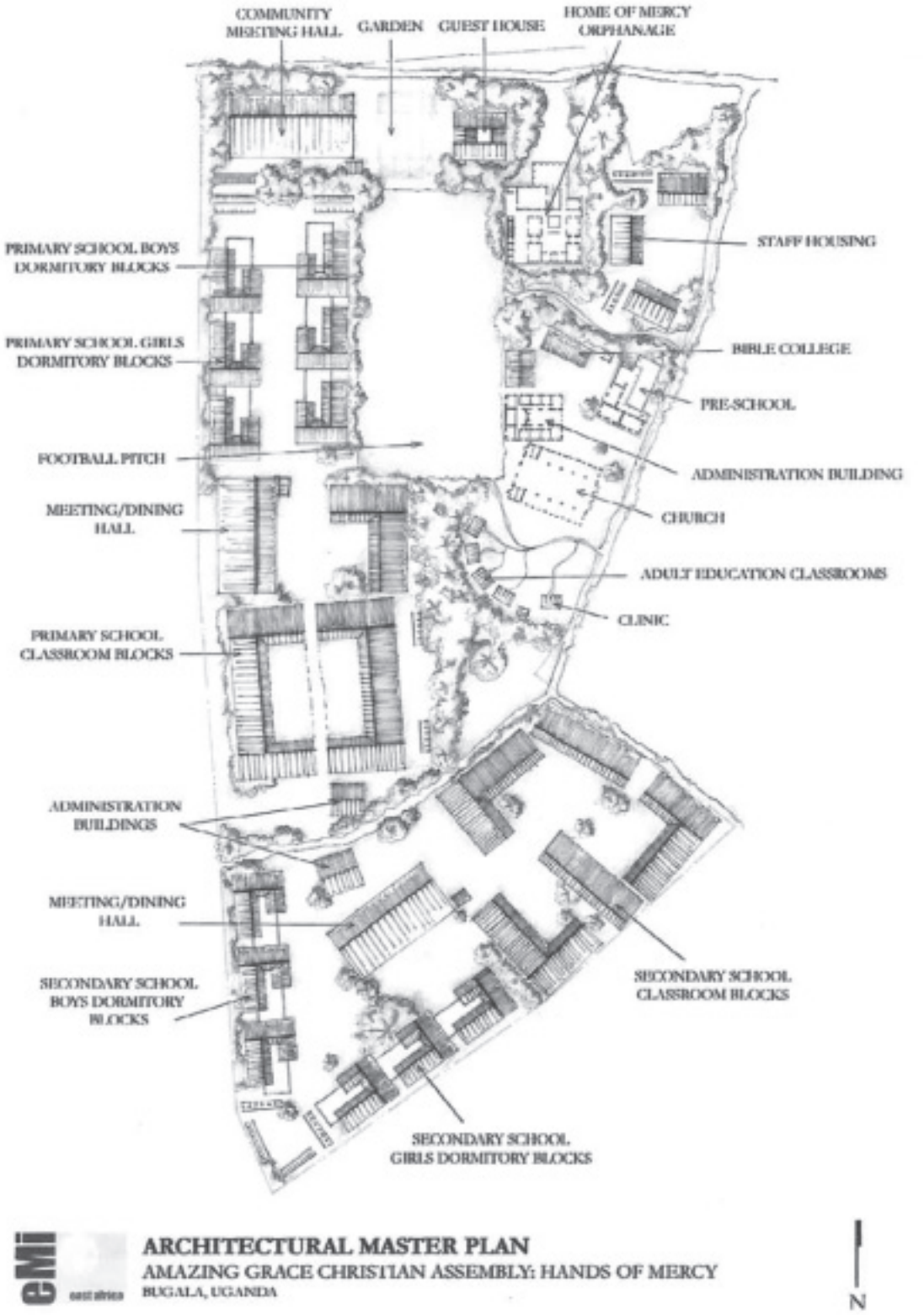
Wildlife provided another fascinating angle to our trip. The experience of a lifetime came one morning at 4:30 a.m. Upon making an early visit to the latrine, I heard what sounded like someone dragging their feet in the gravel as they circled outside the building. Exiting the latrine to investigate the sound, I came face to *rump* with a three-ton hippopotamus that the villagers had affectionately named Susan. Apparently

Above: the architectural staff of our design team worked hard on site renderings and master plan development despite abnormal working conditions.

Above: Badru, a local villager, sketches his ideas on the proposed master plans.

(continued on page 21)

Fresh Boundaries Bring Hope to Bugala (continued)



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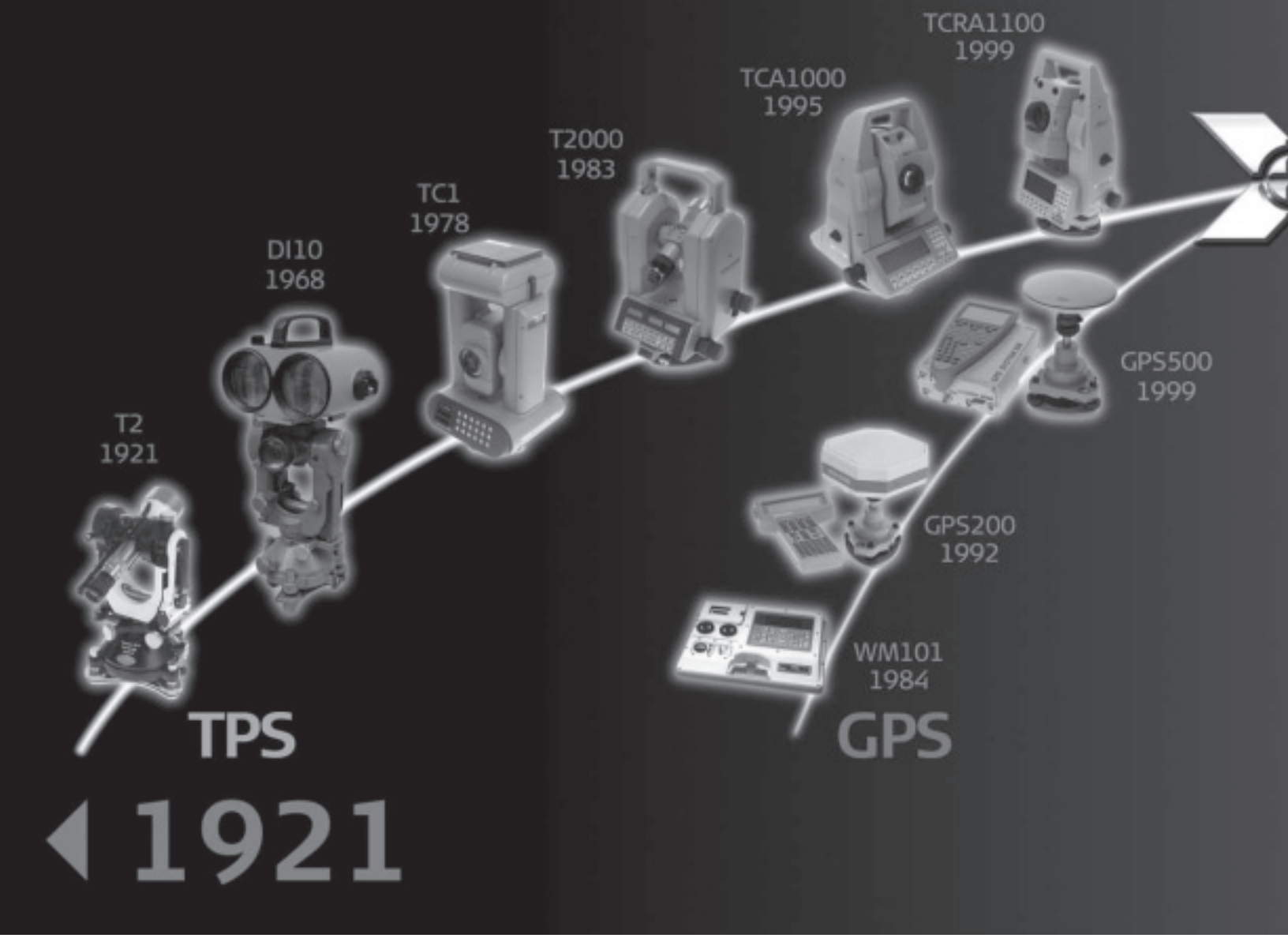

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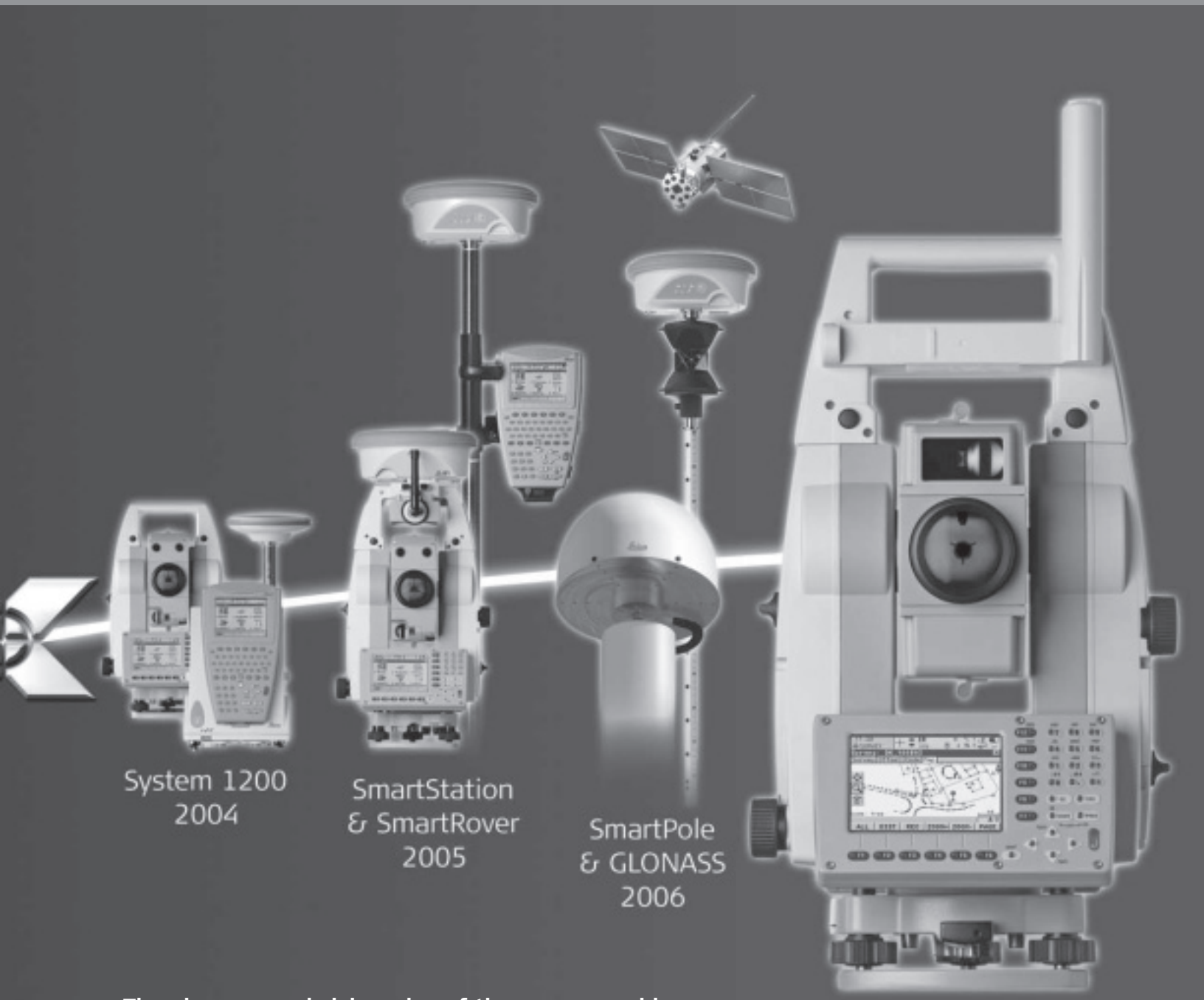

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Fresh Boundaries Bring Hope to Bugala (continued)

a frequent visitor, Susan is no one to mess with. We had been warned that these beasts, if startled, will run over anything in their path on their way back to the water. Quietly and cautiously I put as much distance between Susan and myself as possible. Upon conclusion of the trip we spent two days on an African safari viewing lions, baboons, elephants, crocodiles, kob, cape buffalo, giraffe, and warthogs in their natural environment.

The opportunity to serve as a volunteer with eMi was the most rewarding experience of my life both professionally and personally. By lending our skills and our time, we helped to make a difference for people and a village desperately in need.

Engineering Ministries International (eMi) is a nonprofit Christian development organization made up of architects, engineers, land surveyors, and design professionals who donate skills to help children and families around the world step out of poverty and into a world of hope. For more information, visit www.emiusa.org.

Above: Jean, an eMi intern, takes advantage of some shade while taking field measurements with a Sokkia Set5.

Adam Teale works for Midland Surveying, a company with offices in Maryville and St. Joseph, Missouri.

Above: Author Adam Teale encounters three graceful giraffes at Murchison Falls National Park during the team's two days of rest and relaxation on an African safari following the completion of the design project.

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Nominations for 2008 Officers

President
Darrell D. Pratte, PLS

Darrell Pratte is a Professional Land Surveyor with the Land Survey Program in Rolla, Missouri. He began his surveying career as a chainman with S. H. Smith & Co. of Poplar Bluff, Missouri in 1975 and was licensed as a Professional Land Surveyor in 1985. In 1987, Darrell took the position of Surveyor for the Missouri State Park System, a position he held until 1991. From 1991 until 2004 he was a Project Surveyor with the Land Survey Program's Cadastral Survey Section. In June of 2004, Darrell accepted the position of Geodetic Survey Section Chief and is responsible for the Geodetic Survey Network in the State of Missouri. Darrell is a member of ACSM, NSPS and an Associate Member of the Missouri Association of County Surveyors. His duties with MSPS include serving on the Board of Directors and Chair of the Scholarship Committee. Darrell and his wife Nancy have a few acres outside Rolla where three Labradors and one three-year old grandson run wild.

President-Elect
Ralph Riggs, PLS

Ralph Riggs is a professional land surveyor licensed in Missouri, Arkansas and Kansas. He is president of Riggs & Associates, Inc. and has been a licensed surveyor since 1985. He is serving in his fifth term as the Howell County Surveyor, is a past president of the Missouri Association of County Surveyors and a past chairman of the Land Survey Advisory Committee.

Call in your reservation for the MSPS Annual Meeting at 573-635-9446.

Vice-President
Mark Nolte

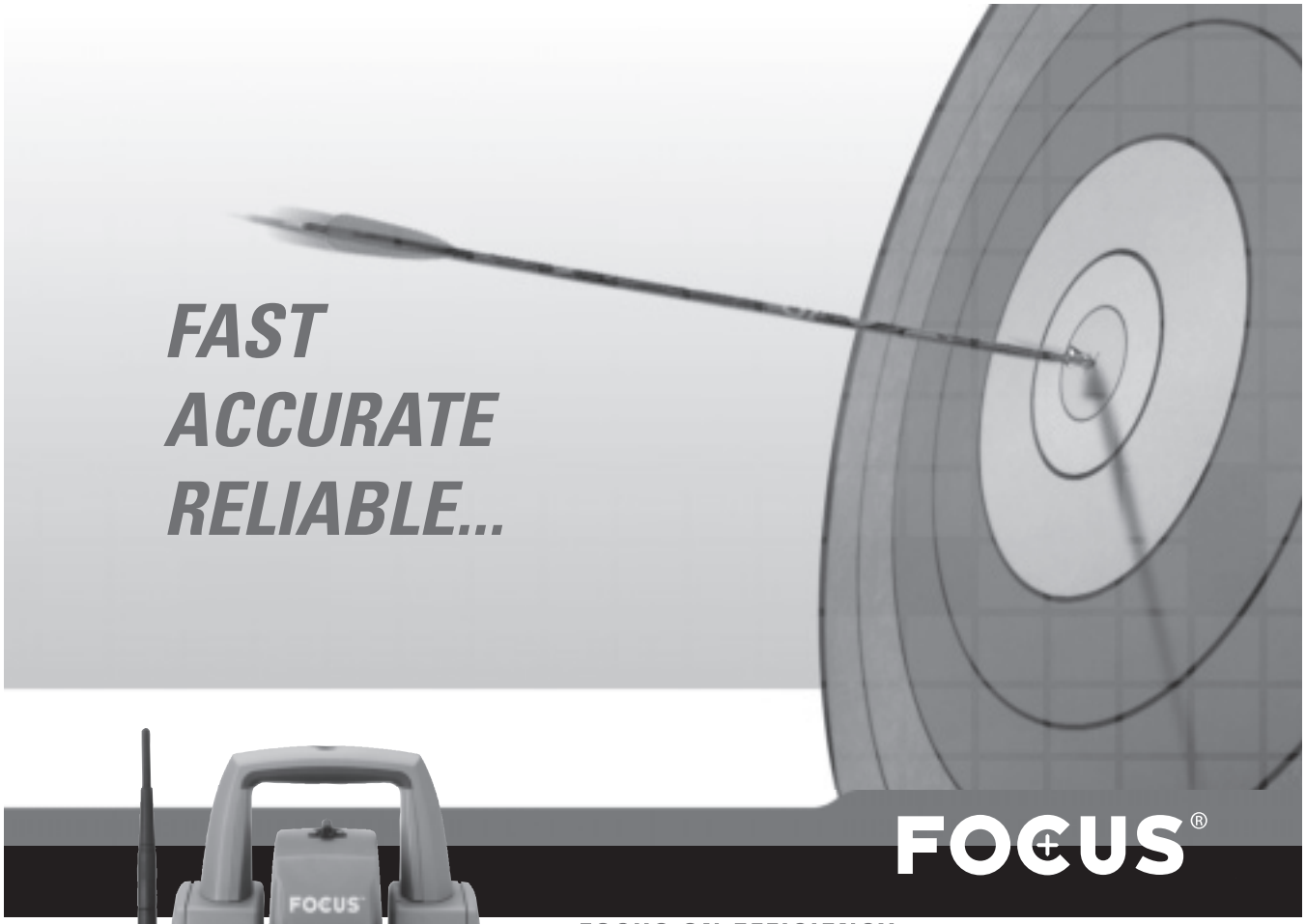
Mark Nolte is the owner of Nolte Land Surveying in Higginsville, Missouri. He graduated from the University of Missouri in 1981 and received his registration in 1992. He has been the County Surveyor of Lafayette County since 1992 as well. The majority of the work he performs is Sectional work in the rural areas of Lafayette and Saline Counties. Mark is married to Carol. They have a 14-year-old daughter, Lily.

Secretary-Treasurer
Mark Lindenmeyer

Mark Lindenmeyer is the owner of Missouri Valley Engineering & Surveying, Inc. located in Lee's Summit, Missouri. He is licensed to practice land surveying in Missouri, Oklahoma, Kansas, Nebraska, South Dakota and Arkansas. Mark recently achieved certification as a Certified Federal Surveyor (CFedS) from the Department of Interior. As a strong believer in survey education, he has been an adjunct instructor for several surveying courses at Longview Community College where he serves on the Advisory Committee. Mark is a US Army veteran and is active in his church as well as veteran organizations, including the American Legion and the American Engineers Association. Mark and his wife, Pamela, have two grown daughters, Ashley and Holly, and one son in high school, Kyle.

Secretary-Treasurer
Joe Carrow

Mr. Carrow is a Professional Surveyor at Zahner & Associates, Inc., in Perryville, Missouri. He became licensed in 1998 and has been an employee for many years. 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 and Noah, where they raise cattle and Quarter horses.



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Nominations for 2008 Board of Directors

Kevin DeSain

Kevin DeSain is a licensed Professional Surveyor in the states of Missouri, Illinois and Texas. He is past-president of the St. Louis Chapter of the Missouri Society of Professional Surveyors. Mr. DeSain is a former board member of the Land Surveying Division of the Missouri Board for Architects, Professional Engineers, Professional Land Surveyors and Landscape Architects. He serves on several MSPS committees such as the History Committee, the CST Committee, and is co-chair of the VISION/GIS Committee. He is active in St. Charles County where he was a member of the 2015 Master Planning Committee and currently serves as the President of the Board of Community Living which is a $6 million not-for-profit agency benefiting adults with developmental disabilities.

Ronald Elston Kliethermes

Ronald Elston Kliethermes has thirty years experience in the land surveying profession. He is currently a project surveyor for MECO Engineering Company, Inc., Jefferson City, Missouri.

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 been an adjunct instructor of surveying fundamentals at Linn State Technical College, Linn, Missouri, and has been employed by MECO Engineering Co., Inc. since 2002 to direct and supervise the engineering surveying and land surveying services conducted from the Jefferson City office.

A past president of the Missouri Association of County Surveyors (MACS), and formerly elected as County Surveyor in Cole, Cooper and Moniteau Counties, Mr. Kliethermes is currently serving MACS and MSPS as liaison and chairperson of the County Surveyors Committee. He and Brenda, his wife of thirty-two years, have raised a daughter, and reside in Loose Creek, Missouri.

Adam Teale

Adam Teale is a principal owner for 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 a member of the GIS/Vision 21 Committee. Adam has a B.S. in Geography and Surveying from East Tennessee State University. He is a licensed professional land surveyor in Missouri and Iowa and has 14 years of surveying experience. Adam and his wife Anna reside in Maryville, MO with their two children.

Robert W. Ross

Robert is the Cadastral 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 while working for a Branson land surveying company. Upon graduation, he relocated to his hometown of Eunice, Mo., and began working in Salem for Ruble Surveying on boundary projects ranging from lot surveys to large scale boundary retracements under government contract.

Shortly after being employed by the Land Survey Program as an LSIT, he received his license as a Professional Land Surveyor, and was promoted to the position of Project Surveyor. In his current capacity of Cadastral Section Chief, he oversees section staff, in-house cadastral projects of the Land Survey Program, administers boundary project contracts with private surveyors, and the Private and County Surveyor Cooperative Remonumentation programs. Robert continues to enjoy working on corner investigations and large dependent resurveys and is also responsible for presenting the United States Public Land Survey Corners portion of the Missouri Minimum Standards Workshop. As an active member of MSPS, he currently serves on the Legislative and GIS/Vision 21 committees.

Away from work, Robert enjoys spending time with his wife Chrissy, boating the Current River, and competitively shooting 1000 yard benchrest rifles which he has built.

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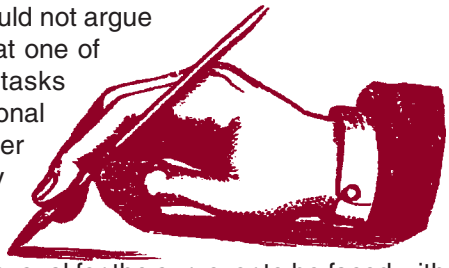
Understanding and Applying the "Written Intentions of the Parties" in Boundary Resolutions

by Gary R. Kent, PS



Most surveyors would not argue with the assertion that one of the most important tasks faced by the professional surveyor is the proper resolution of boundary lines. At the same time, it is interesting to note that it is not unusual for the surveyor to be faced with a set of facts and evidence that does not lend itself to one obvious, singular "correct" boundary resolution.

There are virtually no statutes that dictate rules for resolving boundaries. Nearly all law in this regard comes from "common" or case law and every state has a history of appellate and supreme court rulings that outline the boundary law principles for that state. On most principles, the courts across the states have been consistent, even citing cases from other states when their own state has not developed a lineage of case law regarding a particular issue. In order to resolve boundaries with confidence and integrity, the surveyor must have a strong knowledge of the boundary case law in his or her state.

Some states have compiled their own documentation of relevant judicial decisions related to boundary law using a variety of means. Some state surveying societies have taken on the project themselves. For example, the Indiana Land Title Association maintains yearly updates to its Indiana Land Title Handbook, which is an excellent resource for surveyors.

Intention

Determining the intentions of the parties to a conveyance is the primary objective in construing the meaning of a description. This is the starting point or the resolution of the associated boundary. The "parties" in this sense are the grantor in particular, but may also include the surveyor, if there was one, and perhaps the grantee.

The courts have consistently stated that "intent" means the intention as expressed in and interpreted from the deed — the "written intentions of the parties" — not what the grantor may have "meant" to say. This position is consistent across the country; the true intention of the parties is what was written in the conveyance.

Only when there is an ambiguity in the document may extrinsic evidence be called upon to explain what the words in a deed mean. Such "extrinsic ambiguities" include the need to explain the meaning of words existing within a written conveyance and the need to explain conditions existing as to the date of the document. Following are a variety of statements drawn from court decisions regarding this issue . . .

"When the boundaries of tract can be determined by reference to the description in a deed . . . parol evidence is not admissible to enlarge the scope of the description."

Canady v. Cliff, 376 S.E.2d 505 (1989)

"[S]tatements and acts of adjoining landowners are not competent evidence of the location of a boundary when the boundary can be located by the calls in a deed."

Canady v. Cliff

"The reputation in a community is inadmissible evidence." [Parol evidence showing that others in a community believed that the eastern boundary of the deed holder's land was located to the east of an old road was inadmissible in the boundary dispute inasmuch as the boundaries of the tract could be determined by reference to the description in the deed.]

Canady v. Cliff

"There being no ambiguity in this deed, it follows that what the grantor, or grantees understood by its terms, or in what manner they subsequently treated it, has no bearing upon the construction thereof."

Wilkins, et al v. Young, 144 Ind. 1 (1895)

"Where the description in a deed is not ambiguous, but certain and complete, there is not occasion to resort to extrinsic evidence to ascertain the intent of the parties as to the land intended to be conveyed."

Ault c. Clark, 112 N.E. 843 (1916)

"The grantor's intention control, and the question for the court is not what the parties mean to say, but what they meant by what the did say."

Pointer v. Lucas, 169 N.E.2nd 196 (1960)

To allow or consider extrinsic evidence in the form of verbal statements of the parties when there are otherwise no ambiguities violates the statute of frauds which calls for conveyance of real property to be in writing.

(continued on page 32)

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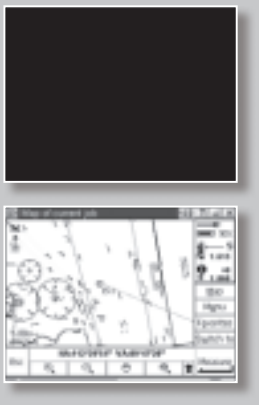

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"Written Intentions of the Parties" (continued)

Mutual Mistakes of the Parties

On the other hand, if it can be shown that the parties to a conveyance, in fact, collectively made mistake in describing the real estate to be conveyed, the courts will allow the written conveyance to be 'amended' based on testimony to that effect.

"If an incorrect description as incorporated in the deed from the defendant to the plaintiff by mutual mistake of the parties, the defendant is entitled to so show and to have the deed reformed so as to conform to the true intent of the parties."

Yopp v. Aman, 193 S.E.822 (1937)

"...though parol proof is not, as a rule, admissible to contradict a plain, written description, it is always competent to show by a witness that the parties by a contemporaneous, but not by a subsequent survey, agreed upon a location of lines and corners different from that ascertained by running course and distance."

Clark v. Aldridge, 162 N.C. 326, 78 S.E. 216, 217

While the principles with regard to intent are clear, the problem often faced by the surveyor is how to property interpret the written intentions when the writings contain patent or latent conflicts.

While the courts have, by virtue of hundreds of years of decisions, developed a weight of authority to be given to the various elements of a description — what Curtis Brown called the "Order of conflicting Title Elements" in Boundary Control and Legal Principles — the exact application of those rules is highly dependent on the individual set of facts and evidence for the given boundary.

The courts have held that, notwithstanding the weight of authority, the elements of the deed will be applied in a manner that best express the intentions of the parties. Thus, a call for what would normally be a higher ranking element may, in some cases, be overridden by an ostensibly lower ranking element if it can be shown, for example, that the higher ranking element was used in error, or that by holding the higher-rated element, numerous other elements would have to be disregarded. In keeping with this, all of the terms of a description must be considered in light of each other when attempting to resolve what the intent actually was.

Relying on the intent of the parties to resolve boundaries has only one qualification — it cannot adversely affect the pre-existing rights of third parties. The net effect being that intent is subject to unwritten and senior rights.

As seen in Point of Intersection, June 2007

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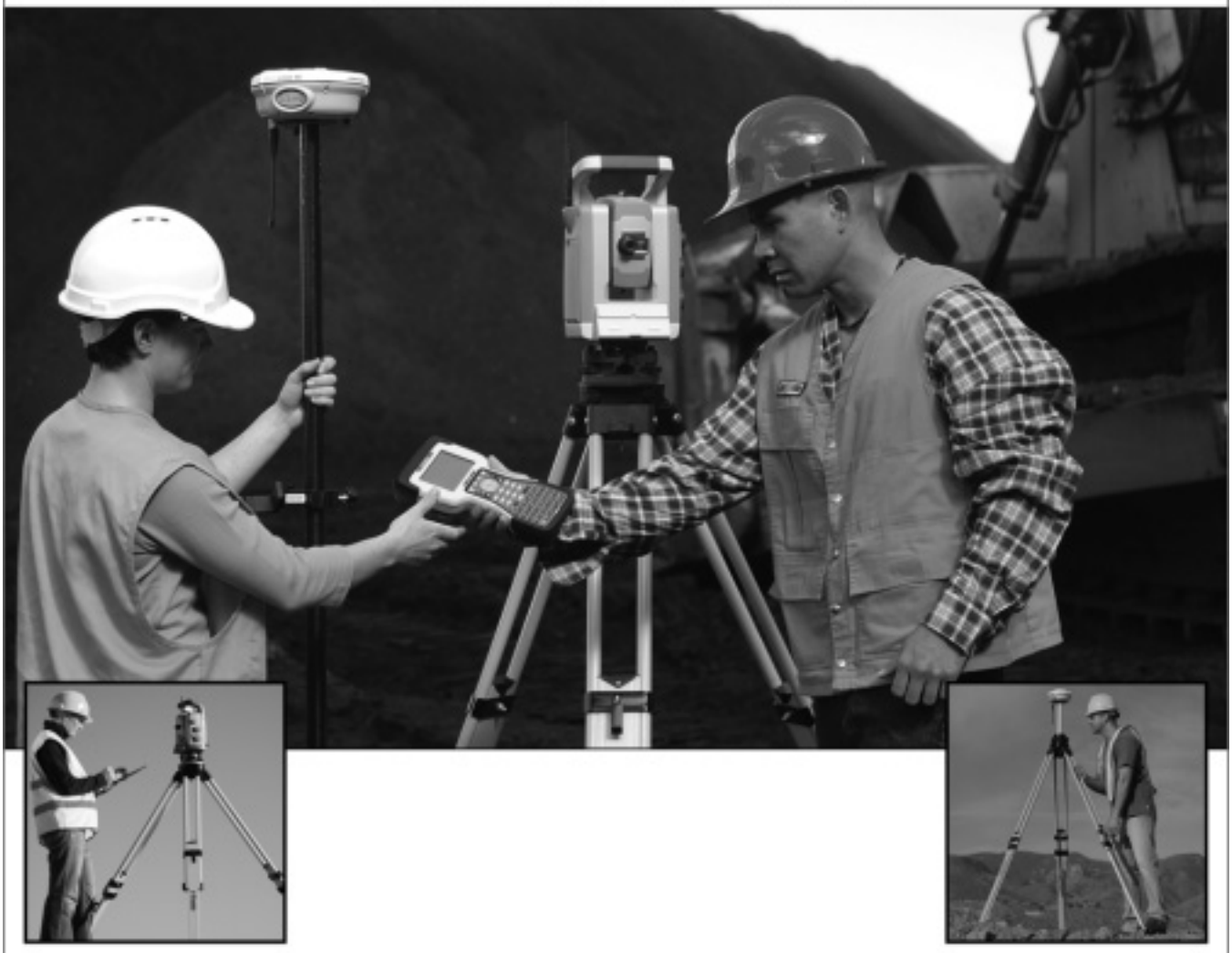

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"True North"

by Jeffrey N. Lucas, PSM

"What is truth," asked Pontius Pilate. My inquiry isn't nearly as profound as Pilate's but have you ever wondered what the term "True North" really means? To slightly re-phrase Pilate's question, "What is true north?" I have heard many answers to this question given by regurgitating the question in the form of an answer. "True north is true north!" This is no answer at all. It's a circular argument that gets us nowhere in discovering the "truth." I think this term "True North," had a specific meaning at one point in time, but is now misused and has no real meaning at all. It should be struck from our surveying vocabulary and banished to the wilderness never to be heard from again. Those who use the term should be forced to surrender their survey license for failure to join the twentieth century (not to mention the new one coming up or already entered into, depending on your persuasion). And this would be a time for a clean break. If you failed to join the last century, you shouldn't be a part of the next one.

To begin my inquiry, I turned to the *Glossary of the Mapping Sciences*, 1994 edition, jointly published by the American Society for Photogrammetry and Remote Sensing (ASPRS), the American Congress on Surveying and Mapping (ACSM), and the American Society of Civil Engineers (ASCE). After all, it's not knowing all the answers: it's being able to find the answers that separate the men from the boys, right? Unfortunately, the glossary was a big let down. They don't have a definition for "true north." They don't even have a definition of "north" for crying out loud. I turned to *Black's* next and started to make some headway. I found "true" and I found "north." It's now becoming apparent that I'm going to have to break this problem down into its constituent parts in order to come up with a satisfactory answer.

First of all, and before I go into that, let me run down the "norths" that I have come to know. There is, of course, astronomic north. This is probably the basis for origination of the term "True North" as it relates to surveying. After all, most of the country, with the exception of the original thirteen colonies and places like Tennessee and Kentucky, were subdivided during the public land surveys. In the early days, at least, these surveys were run with a compass. The principal meridian of any given subdivision was to be run on a "true" north-south line. How did they define "true?" Some of the earliest instructions to deputy surveyors state that they were to hang a plumb line, observe Polaris, and adjust their compass accordingly — thus calibrating to "true north."

Along these same lines and in keeping with the thought of the Subdivision of the Public Domain, "true north" has also been interpreted to mean the cardinal directions run along the meridional lines of the sections. The bearing of a compass when pointed "due north" has also been interpreted to mean "true north." Of course we know that magnetic north is subject to change and is somewhat unreliable due to local attraction, so this definition does not garner much support.

Grid north is sometimes referred to as "true north." This definition is also somewhat suspect. After all, this definition is subject to change depending on your location, as well. The three state plane coordinate zones for the State of Florida all have their own reckoning of grid north. Other states with multiple zones have the same situation. In addition, grid north will be different given the source datum. Coordinates derived from the 1927 adjustment will be different than coordinates derived from the 1983 adjustment, and subsequent adjustments will further define and redefine the location of grid north. How can it be true, if it's constantly changing?

How about "true north" based on the ellipsoid? The first question to ask here is which ellipsoid? One that we used for a long time was Clarke of 1866. This is what the North American Datum on 1927 was based on, but there were plenty of others. Airy of 1830, Bessel of 1841, Clarke of 1880, Everest of 1830, Fischer of 1968, GRS of 1967, Hough of 1956, WGS 60 — you get my point. Each of these mathematical representations of the Earth has a different definition of north. If one definition is true, then the others must be false, true?

Other, less common definitions of "true north" include reference to a deed line or reference to a line on a recorded plat. After all, in both of these cases, the world within which you are working (the deed or plat) is based on the north that was used to derive the system of bearings and angles revealed on the document, thus controlling your orientation and thereby making north — "true north" for your closed system. Another less obvious north is the north derived from the rotational axis of the Earth. Maybe it's abundantly obvious to you, but I had never even thought of this "north" until a few weeks ago when it came up in a conversation I was having with a surveyor in Ohio. Apparently he has an instrument, a type of gyro, that will orient itself to north based on the rotation of the Earth.

On last "north" that I just recently came across was at a senior in Gulf Shores. I was foolish enough to ask the question: "What is true north?" And someone replied that it was a "General North." We quickly concluded that General North was a Yankee general who marched on Meridian, Mississippi during the Civil War. Ah Hum! And I'm sure there are many other definitions and I've probably only scratched the surface, but we must press on.

We have now exhausted, at least in my mind, all of the obvious answers and must now break our term down in order to determine the "Truth" of the matter. Let's start with the easy one first, "north." I can tell you the definition of north without even looking it up in a dictionary: it's the opposite of "south." But just for yucks, I'll look it up in *Black's*. According to Mr. Black, north "means due north: opposite direction of south." Funny how those things work out! Now let's move on to the word "true". *Black's* defines "true" as "conformable to fact; correct; exact; actual; genuine, honest. In one sense, that only is "true" which is conformable to the actual state of things." *Webster's* defines "true" as "in agreement with fact." All of the definitions of north that we discussed above are in agreement with some set of facts, aren't they? Give me an ellipsoid and the orientation to north will be "in agreement with fact[s]" concerning that ellipsoid. Similarly, give me a state plane coordinate zone and grid north is "conformable to [the] fact[s]" of that zone. So "true north" is what ever is conformable to the facts of a given system and it's the opposite of south. But when you consider ALL systems *together* there can be no "True North" because no one direction, which is the opposite of south, is "conformable to the actual state of things." It's everything and it's nothing! At the end of the matter we are left with our opening question, "What is true north?"

As seen in the Treasure State Surveyor, July 2001 & "Backsights & Foresights" (South Dakota)

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Wittiness

by Wilhelm A. Schmidt, PLS

Editor's Note: This is the first of three articles given to me by my friend Wilhelm Schmidt for publication in the *Missouri Surveyor* on what he calls the social virtues.

"Those who joke in a tactful way are called ready-witted."
Aristotle, *Nichomachean Ethics*, Book IV, Chapter 8

Surveying is a serious business. There is hardly a joke about it. Years ago, after making that observation, someone told me one about George Washington cutting down the cherry tree. When his father confronted him about the deed, George explained that he had been cutting a traverse line — which only proves that there is hardly a *good* joke about surveying.

That doesn't mean that surveyors don't enjoy a good laugh, and even less that there are no good jokesters among them. The best one I ever met was a co-worker in the seventies that could wisecrack about anything, anytime, especially after a few drinks. He was the proverbial life of the party. Regrettably, I don't remember any of his witticisms. Besides, his verbal felicity used to degenerate all too quickly into verbal diarrhea. There is only so much hilarity any of us can spout — or take — at one time.

—

According to Aristotle, being witty is a virtue; it is the third of the virtues of sociability, the other two being honesty and courtesy. Honesty, he writes, "is concerned with truth, and the other two with pleasantness." Courtesy is pleasantness displayed in the conduct of daily life; wittiness is pleasantness displayed in verbal repartee.

If it is a virtue, wittiness must fit into Aristotle's mold of being the mean between two extremes. The two extremes in this case are buffoonery and boorishness. The first (derived from the Latin word for toad) means carrying humor too far, while the second (from the Dutch word for farmer) means being humorless oneself, but at the same time the convenient butt of jokes. Among my fellow professionals, I know one with an unlimited supply of dumb blonde jokes and another that fidgets when you ask him how he is. As in any group, the majority of surveyors fall in between. They get it, when an amusing remark is made, and are quick to come back with another.

What saves us from falling into the extremes is tact. All jokes, of course, verge on tactlessness. The trick is to keep them from being abusive – which they become when they purposely single out an ethnic or a professional group, such as Poles and lawyers.

Here's one about lawyers, attributed to no less a practitioner of that profession than Abraham Lincoln: How many lawyer jokes are there? Few, the rest are true stories. Prompting the question: How many surveyor jokes are there? Even fewer, the rest are war stories, which we delight in telling as much as lawyers like to brag about their fees.

Getting back to tact, the difference between being tactful and being tactless in telling a joke is whether or not you yourself want to hear it. If you are a tactful person, you will refrain from telling a joke because you find it distasteful. The presupposition, of course, is that you have some taste.

—

The exercise of tact is not limited to telling jokes. It is manifest in the give and take of any conversation, even small talk. The process of picking up the conversation is largely intuitive. Erudition can add some sparkle, but most often it just adds pomposity. Education by itself does not make a person more quick-witted. The educated person is usually too wrapped up in a subject and its jargon to discourse freely. The witty person, by contrast, even if appearing to be naïve, is acute in perception and inventive in speech, and for this reason delightful.

This presence of mind is an asset to a surveyor. It is indispensable in dealing with attorneys, for whom matching wits is part of the trade. Some surveyors shy away from giving depositions or expert testimony. But they cannot avoid it entirely. Nor can they avoid meetings at which their plans are on the table. In all these situations, surveyors must be doubly sharp. Not only is their work under scrutiny, but also their presentation of it. Acceptance of their plans often turns on their ability to respond decisively to probing questions and to deprecating comments. At the same time, they must have a sense of the ridiculous, or else they will loose a lot of sleep. At the end of a meeting, they must be able to laugh off nonsense that has been spouted, sometimes out of ignorance, sometimes out of malice. Misunderstanding, if not mistrust, of their work is par for the course.

Which reminds me of the foursome on a golf course that meets a somber looking man emerging from the tree row lining the fairway, with a machete in hand and a clear line of sight behind him. At the end of the line, a golf ball happens to lie. The quickest of the four quips: "Now *there* is a determined golfer." — (No groans, please.)

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Waypoint Descriptions

by Joel Leininger, LS

It was only a matter of time, and we shouldn't be surprised, really. A couple of years ago in Monroe County, Wisconsin, someone transferred a tract of land described in the main using "waypoints" of latitude and longitude coordinates. Some have surmised that a handheld GPS receiver was the instrument of offense, but that is not provable on the face of the document. (The use of the term "waypoint," however, given its wide use in the sport of geo-caching, lends credence to the supposition.) A comparison of the geometry specified by those lat/long coordinates and the more-or-less distances also noted in the description reveals differences of up to 80 feet. The tax map, which purports to reflect the transaction, only approximates the shape specified in the grant. The actual intent of the deed is a matter of conjecture.

The serious errors in the description, I suppose, should not come as a shock given the likely participants in the drama. It has been apparent almost since the dawn of written conveyances and legal descriptions that the general public has only a smattering of understanding about how we go about establishing property lines. That manifests itself most frequently when Joe Average first learns how much that boundary survey he wanted will cost.

After picking himself off the floor, his first comment is likely to be, "Just to have it *surveyed?*" I had someone hang up on me just yesterday after reciting that script, What a guy!

The root cause of both the astonishment at our prices, and the folly of assuming a land-held GPS unit can obviate the need for our services, is that the public has no idea of the complexities inherent in our land tenure system. Our professional is to blame for some of that complexity — or, at least, our predecessors are to blame, because their failure to render consistently reliable measurements spawned the court responses to surveying uncertainty.

But that is only part of the story. The other part is that the parcel fabric itself, and conveyancing doctrine in general, requires that new parcels have a known relationship to elder parcels. It is the *knowing* of the elder parcels that commands all the time and money.

We of course, take all of that in stride, because those elements are facts of our life. But there is little about our written products that would alert laymen to those facts. And so, when presented with the opportunity, they forge ahead — blissfully ignorant of the minefield they traverse.

Don't Try this at Home

I recall many years ago reading a "whole earth"-type magazine article entitled "How to Survey Your Own Land." One of my colleagues at the time was incensed at the shallowness of the piece and the temerity of the magazine publisher in running it. He was right, of course, but at the same time it should have come as no surprise. We are a nation of do-it-yourselfers. We hate paying for something we can dispatch ourselves. The waypoint description is merely a high-tech version of that old article, and likely a dumbed-down one at that, given the general erosion of mathematical understanding in our society. The real damage is that its results have been entered into the stream of commerce; instead of merely clouding the physical evidence by having unsubstantiated pipes banged into the ground, this survey will end up clouding the title of the tract for future owners and other stakeholders to inherit. Both "surveys" produce collateral damage. The waypoint description creates damage with a longer shelf life.

We surveyors have had a love affair with technology, but it is an unfaithful sweetheart. Others have embraced it too, and will continue to do so. Perhaps the most damaging response we can have about the home-written waypoint description is to assume that it is as bad as things get. This is most certainly untrue. The march of technology will not end with PCs or GPS or with the Internet or wireless, or . . . whatever. Inexorably we (and society at large) are on a treadmill of progress, creating and using innovations that make our lives easier and more productive, while at the same time empowering laymen and enticing them to "do for themselves" what they used to delegate to experts. In part, the machine control controversy is another skirmish in this same conflict. But only in part. Where machine control owes no duty to history or to evidence considerations, boundary surveys, by their very nature, require close attention to the previous actions of parties-in-interest. (That requires, of course, an understanding of which parties were actually in-interest and which were not.) And, since those parties depended on and embraced imperfect surveys (which are the only ones yet available), the boundary surveyor must recognize and sort through the mounds of conflicting evidence the average retracement generates.

Transactions

It seems to me, then, that our call to arms over waypoint descriptions must be on the education front, and the primary audience is conveyancing attorneys' and lenders' counsel. We do not operate in a vacuum; our products get repackaged and infused into other transaction documents, the efficacy of which presume a "correct" description. (We'll set aside, for this discussion, the various meanings "correct" can have.) Those who have purchased property and obtained a mortgage generally recall two things about the event: 1) signing dozens of papers, and 2) not remembering what most of them were. Those papers constituted "the deal" for most of the other participants in the transaction, and most of those documents depended upon the legal description. It should be obvious that serious deficiencies in the survey underpinning that description would concern those other parties. It is the advisors to those parties, then, who are the best situated to insist on reliable work. They must understand why surveys have been conducted as they have been, and the ramifications to the property fabric resulting from ignoring it.

Seminars are in order. Organize them.

Joel Leininger is a principal of S.J. Martenet & Co. in Baltimore and Associate Editor of the magazine.

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Preparing a Survey Report
Encroachments, Overlaps and Gaps

by Knud E. Hermansen, PhD, LS, JD

In my previous article [February 2008], I discussed reporting opinions on the location of corners and boundaries. In this article, I will discuss how surveyors can communicate encroachments, gaps and overlaps in a survey report.

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

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

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

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

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

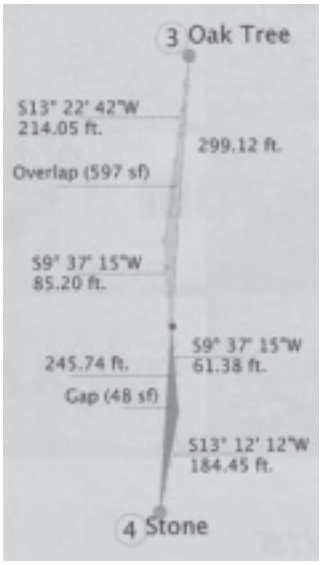
This situation could arise where the client is discovered to be encroaching on the neighbor or have the junior title in an overlap. If the client is in possession of the overlap or the client is encroaching, the client may wish to perfect their title by adverse possession or prescription, in the case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

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

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

Consider the following examples:

OVERLAP & GAP, BOUNDARY 3



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

ENCROACHMENT AT CORNER 5

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

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

(continued on page 41)

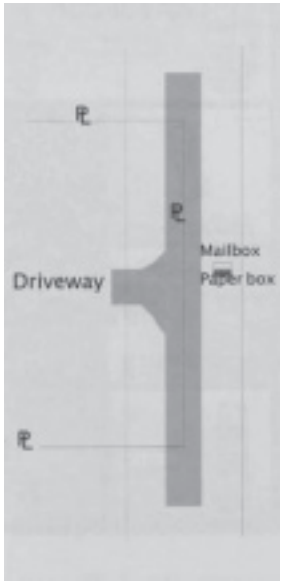
Preparing a Survey Report (continued)

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

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

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

ENCROACHMENT
PAPER BOX



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

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

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

If you have questions on the encroachment of your paper box on your neighbor's property, you should consult with an attorney experienced in real estate matters.

ENCROACHMENT GARAGE

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

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

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

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

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

You should consult with an attorney experienced in real estate regarding this situation.

As the examples illustrate, the report can provide the client with considerably more information than portrayed on a plat.

Surveyors that commonly use survey reports often spend a great deal of time preparing a good explanation for the first time the situation is encountered. Thereafter, the surveyor can reuse much of the narrative previously written when the same or similar situation is encountered in the future. Accordingly, the surveyor that has another client with a structure encroaching on the neighbor will be able to quickly adapt the former explanation into the survey report for the present client.

Knud Hermansen is a professional land surveyor, professional engineer, and attorney at law. He is a professor in the Surveying Engineering Technology program and the Construction Management Technology program at the University of Maine.

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