

November 2010

# SIDE SHOTS

Professional Land Surveyors of Colorado

Volume 41, Issue 4



**Doyle Abrahamson**  
1949-2010

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# SIDE SHOTS

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Volume 41 Number 4

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## This Month on WWW.PLSC.NET

*In the online version, click on the titles below to download the documents.*

In Memorium — Doyle Abrahamson (full text).

Board of Directors Meeting Minutes, full version with attachments

*Side Shots is the official publication of the Professional Land Surveyors of Colorado, Inc.  
and is published quarterly for the betterment of the surveying profession.*

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Deadlines for editorials, articles, pictures and advertising are January 1, April 1,  
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Dear Fellow members:

I was extremely saddened to hear of Doyle Abrahamson's passing. This issue of *Side Shots* has been dedicated to him accordingly. Please read the feature article in this issue. With the passing of Chic Chichester and Bob Stollard in 2010, and now Doyle, all of whom were former presidents of the PLSC, the Colorado surveying community has suffered some major losses this year.



Note that PLSC elections for 2011 are coming up, and nominations are still being accepted. See the "Call for Nominations" advertisement for details. Please consider taking an active role in the PLSC. As of this writing, we need someone to run for Secretary-Treasurer. The deadline for nominations is December 15, 2010. All of the officer positions and half of the director positions are coming to the end of their terms. The PLSC is your voice in the laws and standards-of-practice for surveying. Make a difference – get involved!

The PLSC will soon be working on laws that will govern or influence land surveying and land surveyors in the next few years. Because of this, next year will be an interesting time to be an officer or director of the PLSC, and your input will have a lasting effect on our profession. Two of the major issues include 1) the minimum requirements for licensure, and 2) continuing education/continuing competency. Many surveyors are strongly in favor of the elimination of the apprentice-only route for land surveying, while others feel that the apprenticeship option should be retained at all costs. The legislative committee first looked into increasing the minimum requirement for apprenticeship-only to 20 years, and later reached an agreement to eliminate the apprenticeship-only route completely by the year 2020. Also, as you may be aware, we no longer have an ABET-certified surveying and mapping program in Colorado. A much harder look at the requirements for land surveying licensure may be taken. Similarly, the PLSC has debated in the past a continuing education program for already licensed surveyors. If a new policy for continuing competency/continuing education is going to be implemented, it may well come about at the time of the sunset review in 2013.

Our "Rocky Mountain Regional Conference" is coming up in the first weekend in March. See this issue for a preliminary list of presenters at the workshops. This new "combined conference" will be well attended, and will be a great way to meet and network with your fellow Colorado professionals. In conjunction with the conference, we will also have our annual meeting where new officers will be installed. Attendance at the annual meeting is a good way to become involved with the PLSC, see the new board for the upcoming two years, and to make your voice heard.

As we near the end of 2010, please consider taking care of your membership renewal for next year. A form is included in this issue, and email notifications will be sent to existing members with email addresses on file. We depend upon your support in order for us to support you.

Sincerely, Tom Adams, PLS

DEDICATED TO THE IMPROVEMENT OF LAND SURVEYING EDUCATION AND PRACTICE.

The education and training of future generations of professional surveyors in Colorado is among the highest priorities of the PLSC. The available academic programs in the state have been undergoing changes as a response to the economy, student interests, high tuition costs, and changes in educational requirements for licensure. Changes to the program at the Metropolitan State College of Denver have been well documented in *Side Shots* over the past year. In this issue, we are featuring the two-year surveying degree program that is available at Westwood College in Denver.

If you are an aspiring professional surveyor interested in pursuing formal education to reach that goal, or know of someone who is, you should be aware that the PLSC has scholarship funds available. Please contact Di Askew, Executive Director at [Diana.askew@plsc.net](mailto:Diana.askew@plsc.net) for details.

If you are in or approaching your Junior or Senior year of a four-year surveying program, there is another little-known scholarship program you

should investigate: The Western Federation of Professional Surveyors, which includes Colorado, provides up to \$7,200 each year for scholarships, with individual awards dependent upon the number of applicants. While as many as eight students divided the funds a few years ago, only two students were chosen for the 2010-2011 academic year, due to a lack of applicants. So if you qualify, it is well worth it. For details and a link to the application form, visit: [www.wfps.org/files/scholarsh.html](http://www.wfps.org/files/scholarsh.html)

This issue features a memorial tribute to our friend, and former PLSC President, Doyle Abrahamson, who passed away very suddenly in late August. He touched many lives, personally and professionally, and he will be missed.

The ACSM Structure Committee has issued a draft-only report on recommendations for future restructuring and reorganization, including a much broader mission statement. The NSPS Strategic Planning Committee has also issued a report analyzing the merits

of their membership in the ACSM. These documents, as well as a memorandum on these issues from Dan Martin, Chair of the ACSM Structure Committee, were distributed to the PLSC Directors as this issue went to press, and anyone with an interest in these can contact any of our Directors for these drafts.

Please look carefully at the impressive list of speakers tentatively scheduled to appear at the new combined conference on March 3-5. It will almost certainly be the largest educational and networking event in the history of the PLSC. It will be the perfect way for surveying professionals to start a new year of what we hope will be increased business activity and opportunities for us all.

JB Guyton  
Editor



## Your deadlines <sup>are</sup> our deadlines

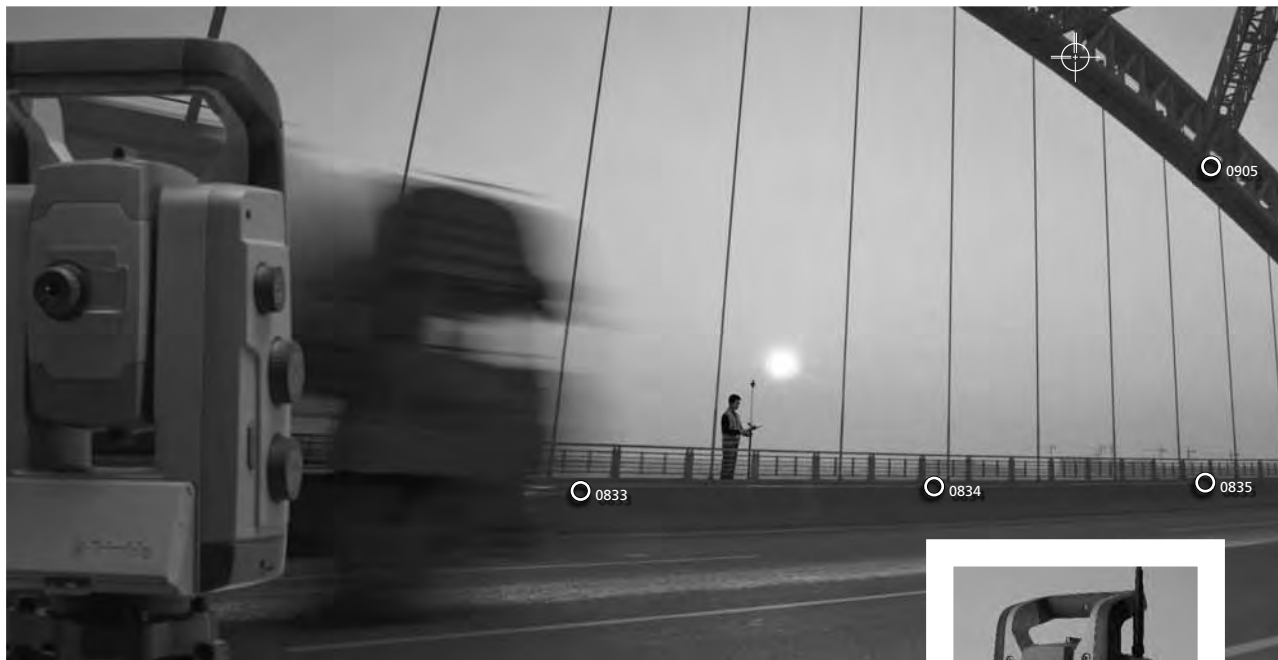


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# In Memoriam

## Doyle G. Abrahamson, PLS

By John B. Guyton, PLS

*Editor's Note: I asked several members of the PLSC to send me a few sentences about Doyle Abrahamson for this article. Every person who responded sent much more text than could possibly be published here. For a version of this article with the full text of what people had to say, go to "This month on plsc.net" Thanks to everyone who contributed their thoughts.*

The Colorado surveyor community has lost another one of its most prominent and accomplished leaders, Doyle Abrahamson, PLS #13155. He passed away unexpectedly at the age of 60 on Saturday, August 28, 2010, while traveling on business in Florida.

Doyle was a longtime member and supporter of the PLSC, and served as its President. He was also named Surveyor of the Year in 1991. He held licenses in 15 states. His surveying career spanned more than 40 years, the last 31 of which were with Merrick & Company as Vice President of Surveying, where he worked with such high profile clients as Xcel Energy, Tri-State Generation and Transmission, and the Denver Regional Transportation District. His name is listed on the Merrick & Company plaque at Coors Field for surveying that included the correct placement of home plate.

He was born October 7, 1949 in Rolette, North Dakota and grew up on his family's homestead near the Canadian border. He had a degree in Civil Engineering Technology from Lake Region Junior College in North Dakota, and continued his education with the US Army, the University of Arizona Advanced Cadastral Survey program, and Metropolitan State College of Denver where he was a student and later, an instructor.

He was a recognized expert mineral surveyor, and a well known authority on the Public Lands Surveying System. His expertise was sought on many difficult boundary cases in Colorado.

His service to the PLSC was exemplary. He was a vital instructor in the annual Fall Technical Session workshops, as well as an instructor in the Metro State

sponsored PLSC Refresher Course on Colorado Law for surveyors, and will be greatly missed. He was generous with his time, with his knowledge and experience, and even his personal funds. He would always refuse any reimbursement for travel or other expenses associated with his PLSC roles, and if he received them, they would be returned or given to one of the scholarship funds. Doyle became a PLSC President at a difficult time for the organization, but through his leadership, he initiated reforms, restructured the organization, increased membership, and led it back to financial stability. He was also a founding member of the Central Chapter of the PLSC, which remains the largest chapter in the state.



Personally, I had great admiration for Doyle as a surveyor and a professional. He was a master of thorough preparation and research, always conducted before any field mobilization began. Once it did, he excelled at finding evidence on the ground. He was unfaltering, patient and persistent. I had the honor of being part of the team that conducted an expedition to retrace and remonument the 40th Parallel on the west side of the Continental Divide, which was documented in the July, 2007 issue of *American Surveyor*. After a long day of climbing and searching for a corner stone and bearing trees described in the 1859 survey notes, the group was about to quit for the day in frustration. Then Doyle said something I will never forget, "Gentlemen, I think you may be in the wrong place..." In an expanse of nothing but stones, he found the stone placed all those years ago, and then found the decaying stumps of the bearing trees. The nearly miraculous discovery of this monument was the last piece required to accurately reestablish the historic "Proper Summit of the Rockies."

For the February, 2010 issue of *Side Shots*, I asked Doyle for some encouraging words concerning this long recession, and how it compares to previous ones he experienced during his career. He wrote, "Surveying is always one of the first professions to pick up after our economy has had a downturn."

Here are some excerpts of what others had to say.

Tom Adams, PLS and President of the PLSC, said, "I first met Doyle when he took time to talk to me (a new PLS) at a seminar we were both attending in the early 1990's. I have had a number of discussions with Doyle on legal issues throughout the years, be it over a beer, over the phone or in any other setting. I will always appreciate all that I have learned from Doyle and his dedication to the profession."

Diana Askew, PLS and Executive Director of the PLSC, wrote, "Back when I worked for the City and County of Denver, I had a conversation with Doyle regarding how to prioritize my activities to provide balance between work, play, and my personal life. At the time I was working full time, commuting two plus hours per day, working toward my IT degree full time, and was the president of the CCPS Board. Doyle must have had that "knowing" smile on his face as we discussed my options. Doyle offered a solution that continues to work for me today; I needed to put things into perspective according to what was important to me, and there was no one better to know what was important to me, than me. Sometimes it is difficult to remain focused on my goals, but those few minutes of discussion with Doyle changed my life."

Roger Nelson, PLS, a member of the PLSC Board of Directors and Chairman of the Legislative Committee, distinctly remembers Doyle as the consummate mentor

and professional. "A knowing grin would appear on Doyle's face when an opportunity arose to teach a fellow surveyor. Too often I was on the receiving end of that knowing grin early on in my career at Merrick." Doyle would begin, "Mr. PLS, how would you handle the situation?" Then, I would eagerly respond as Doyle smiled and led me down the path to learning by asking probing questions regarding the foundation of his quick answer. This was Doyle's way to develop sound decision making abilities. As my career advanced under Doyle's tutelage, he witnessed this same instructional dance with younger surveyors and then realized what a blessing that he was given. Doyle quietly taught many lessons to surveyors over the years without the expectation of anything in return but knowing that he had advanced another surveyor's knowledge. Doyle gave selflessly his time to others that sought his professional opinion and advice."

Gene Kooper, PLS and former Executive Director of the PLSC, wrote, "Several years ago, I was involved with a mineral survey retracement that had some interesting twists. I phoned Doyle and asked if I could get his opinion on what I had uncovered. The "plan" was to visit for an hour and then have lunch. I arrived promptly at 11:00 AM and before we realized it, almost 3 hours had elapsed. Lunch had to wait for another day. One of my lasting remembrances of Doyle will be of a land surveyor that always took the time to assist another. Thank you, Doyle!"





Bryan Clark, PLS and a member of the Board of Licensure for the AES Board, wrote, "I first met Doyle Abrahamson in the fall of 1975. Doyle and I remained good friends through the years. I last saw Doyle July 31 of this year; he and his lovely wife Cindy were having breakfast at a café in Estes Park. When he saw me, he broke into that big smile of his. Doyle, thanks for being my mentor, more importantly, thanks for being my friend."

Lisa Isom, President of Assurance Risk Managers in Aurora and former PLSC Executive Director Assistant to Art Hipp, wrote, "Doyle was one of the most giving of himself and to others regarding his knowledge and love of the profession. As I have known him for over 20 years and starting with PLSC, I really knew nothing from the surveyor's side of the business. He was always willing to sit down and explain any question I would have and in a manner that I could understand it. He was that ray of "sunshine" when you were in need; he was always there to help with that smile that will be remembered forever. A few years ago, he came into the PLSC library and we sat for hours talking about stories he had with fellow surveyors, farm life and family experiences and of course the famous Longs Peak climb. I am proud to have known Doyle and prouder to call him a friend; he will be greatly missed."

Larry Connolly, PLS, a former member of the PLSC Board and current member of the Board of Licensure for the AES Board, wrote, "Doyle hired me in 1985 fresh out of school in Idaho with 3 months experience with the Salmon National Forest cadastral survey. I worked with Doyle from Coors Field and the Union Pacific Railroad property surveys downtown to riding with him in a helicopter to reroute a transmission line north of Silverthorne. After moving to Durango 18 years ago, Doyle and I have always kept in touch to swap stories and scenarios and to work on some common projects together in southwest Colorado. I was deeply saddened to hear of his passing. He was passionate about land surveying and was a great mentor to me. I am personally going to miss "Ahhhhhhhhhhh, Mr. Connolly" when Doyle spoke to me. Rest in peace, my friend."

Geof Stephenson, PLS of the Lund Partnership, wrote, "If not for Doyle we would still be looking for the small chiseled x. I will miss Doyle; for me his legacy will always carry on, not only through his surveys, but also through the beauty and peace of the high mountain tundra he so loved."

Steve Brosemer, PLS, the Kansas surveyor who was part of the 40th Parallel group, wrote, "I am very saddened to hear this horrible news. I saw and spoke with Doyle by chance at the Denver Marriott downtown on Thursday the 19th while attending the NCEES convention. He was there to see Bob Dahl who had spoken earlier. I introduced him to a friend of mine as my "guardian angel" for his friendship and perseverance in getting me up the mountain. I meant this figuratively. I am forever grateful and at a loss for words."

Dave DiFulvio, PLS, WFPS Delegate and another former PLSC President, said that "Doyle was passionate and devoted to the surveying profession unlike anyone I know. He was always teaching and mentoring others in the profession, even sometimes when they didn't know it, in a way that demonstrated his love of the profession. Sometimes it was a friendly suggestion, or comment, or a very definite and deliberate statement in support of or opposed to an issue, but always with the respect and dignity that professional surveyors aspire to. I remember always seeing Doyle with a smile on his face, even when those around him did not. He was a great surveyor, a great leader, and a great man. The surveying profession, especially in Colorado, will not quite be the same without Doyle."

Randy Bloom, PLS and Chief Cadastral Surveyor for Colorado at the BLM Colorado State Office, wrote,

"It was his knowledge and the respectful way he imparted that knowledge.  
It was his smile in the face of adversity.  
It was his style that did not allow for petty remarks about his fellow surveyors.  
It was his work ethic.  
It was his stone-courageous attitude that allowed him to go to work each day.  
It was his shining pride when he spoke of his son Justin finding an old stone corner on Father's Day.  
It was the sum of the man that I admired and will never forget."

~~~~~  
Doyle took on some demanding personal challenges with the same passion as he took on projects at Merrick. On August 19, 2005, Doyle climbed Long's Peak, in spite of his life-time struggle with diabetes, earlier knee damage, and his fear of heights. He said, "In years to come, when I have a hard time just getting into my recliner chair, I want to be able to tell my grandchildren that Grandpa climbed that mountain," which he could see from his home in Estes Park.

Doyle enjoyed hiking, fishing, hunting, gardening and photography. He made annual visits to the family homestead in North Dakota to maintain a close link to his family, which was very important to him.

Doyle is survived by his wife Cindy and their three sons: Justin, Paul (Skipper), and Matt.

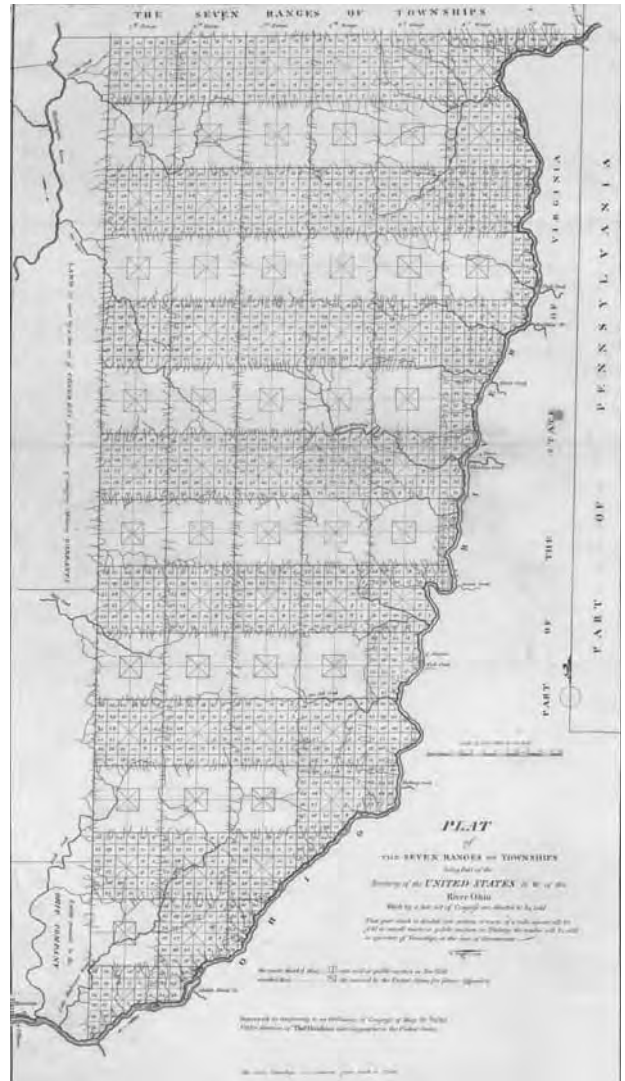
# Control Points – Number 11

By Warren Andrews, PLS

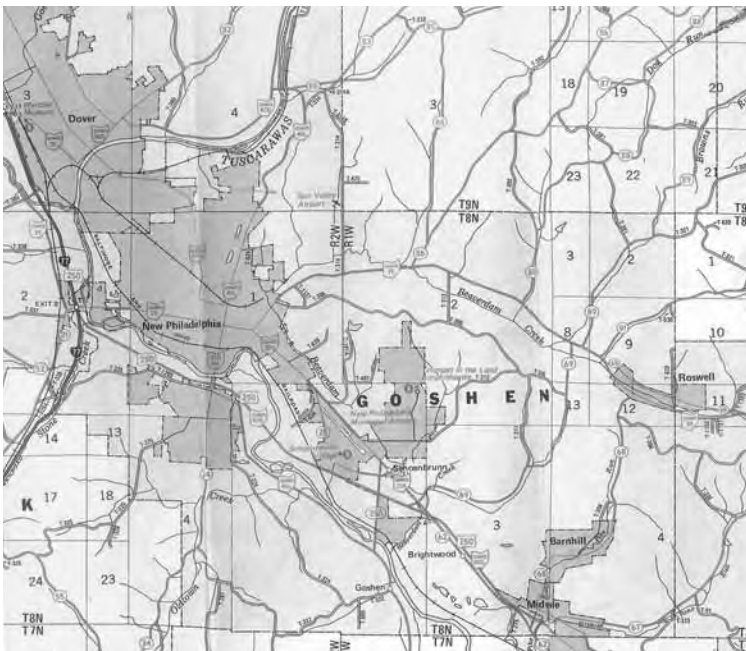
## Westward Ho, the Surveyors Go

As a tribute to Doyle Abrahamson, who was superb in digging back to beginnings on corners (such as the stone of Auraria he found), the original plan for U.S. sectioning of the land by Thomas Hutchins was orderly and regular, as shown on his original plat from the *National Geographic's Historical Atlas of the United States* (p.99).

Thomas Jefferson's original plan of 10 by 10 sections in a township was shot down by Congress to a 6 by 6 plan, which is in the Seven Ranges. (The only decimal thing of Jefferson's that survived the Congress was our decimal currency. Thank goodness we didn't have pounds, 20 shillings to the pound and 12 pence to the shilling.) But the orderly 36-section township didn't survive the next Range west, as shown on the county map I picked up from the county surveyor's office while in Tuscarawas County, Ohio a number of years ago. Perry Township in Township 5 North, Range 1 West is a regular 5 by 5 pattern of one-mile square sections. But the second plat as shown is of Goshen Township (New Philadelphia, Ohio), which fits nothing, and of course, the town of Gnadenhutzen in Clay Township isn't even in a Section! What happened to the surveyors? Was it human greed for land that upset the system?



Seven Ranges



New Philadelphia, Ohio

[Corrections to "Control Points – The Meter," from the August, 2010 issue: It should be Control Points No. 10, not 9; in the second column, the intended length of the metre was "one" ten millionth, not "on," and Legendre came up with a way to best fit a "curve" to the data, not "cure." ]

# An Interview with Thomas Jefferson

By Gaby Neunzert, PLS,  
Professor Emeritus, Colorado School of Mines



Portrait of Thomas Jefferson by Rembrandt Peale, 1800.

## Prologue

Very few activities in the history of mankind had as direct an influence on individuals as the US Public Land Survey System (PLSS).

In order to understand and follow in the footsteps of our predecessors, this presentation highlights the thought processes and, to some extent, “how did they do it,” rather than the instructions of the Manual.

Thomas Jefferson is considered to be the “father” of the GLO surveys, creator of many of the original ideas, to be followed later by scores of deputy and private surveyors whose names are perpetuated in numerous volumes of field notes. Ideas, concepts and equipment evolve slowly over time and with the hindsight of modern times, these beginnings appear to be primitive, yet most modern surveying methods would not exist without these roots of the past. Surveying, by whatever definition, did not advance by itself but relied on many disciplines, most notably mathematics (plane and three-dimensional) as well as celestial navigation for latitude, longitude and GPS. The timing of many events is vague at best, usually within a 10 year or longer timeframe, unless tied to some legislative action or a specific written document.

The following is a hypothetical interview with the third president of the United States, Thomas Jefferson, with the questions coming from a hypothetical, present-day surveyor with a strong curiosity of how Jefferson would answer his questions. My goal is to illustrate the thinking at the time that led to the creation and later the implementation of the PLSS.

*Editorial note: In the narrative below, the broad historical pictures are factual, smaller details have been added to supplement the presentation.*

## Cast of Characters:

### THOMAS JEFFERSON (1743-1826)

Chairman of committee dealing with measurements and western lands,

Minister to France 1785 - 89

Secretary of State 1789 – 93, 1793 French Academy of Science defined the metre.

President of US 1801 – 1809

### GEORGE P. SMARTY – Professional Surveyor

DOB: February 22, 1978

## The interview:

Following below is an interview between Thomas Jefferson in late 1784, just prior to his departure to France, and George P. Smarty, as spokesman for the “modern” surveyors.

**G.P.S.:** Good morning Mr. Jefferson, how do you feel on the eve of your departure to France with their novel ideas about metric units?

**T.J.:** As already demonstrated with the dollar, decimal units are the wave of the future and we should survey the western lands into blocks of 10 sections each. In turn, the subdivision should be into fractions of 10.

**G.P.S.:** As chairman of the committee of dealing with western lands, what should we do to survey this land ?

**T.J.:** It is obvious that we cannot extend the metes and bounds surveys of the east coast in an orderly fashion to the west. We need to have a survey system which is easy to understand by both surveyors and lay people and which can be laid out quickly and efficiently. It also should be possible to start these surveys from many different places. Maybe a checkerboard pattern would be the answer.

**G.P.S.:** Well, how much unsurveyed land do you think there is?

**T.J.:** We have no idea. At present the land stretches from the Gulf of Mexico to the 49th parallel, the border with the British Dominion of Canada, and from the Appalachian Mountains to the Mississippi River. Ultimately I could even envision our country stretching all the way to the South Sea (Pacific Ocean) on the west.



We don't even know the location of the Spanish missions in San Diego (est. 1697) or San Francisco (est. 1776). Based on some very inaccurate maps, the area covered is very roughly 2,000 miles E-W and roughly 1,200 miles N-S; in all probably about 2,000,000 sq.mi. (modern value about 2,343,000 sq.mi.)

**G.P.S.:** Why is it so important for the government to survey the land?

**T.J.:** In the past only the sovereign classes owned land and the farmers worked it as tenants. Now, it has become possible for every private person to own land outright and realize the American dream. Treating the land as a commodity made it possible to buy, trade and sell land by the government and private citizens alike. The government has a crushing debt from the War of Independence, which could be reduced by the sale of land, and there are also many war veterans who would like to redeem their "scrip" for land. Without an orderly way to survey and easily describe the land and then file and record the deed at a courthouse, there would be chaos and the possibility of corruption.

**G.P.S.:** Mr. Jefferson, did you realize that when you first proposed it in 1776, the Northwest Ordinances of 1786 and 1789 would lay out the pattern for creating new states, and as a condition of joining the union would "force" the original member states to cede their lands west of the Appalachians to the central government?

**T.J.:** Yes, those ordinances were necessary for two reasons; first, without the power of taxation and with the enormous debt accumulated from the War of Independence, selling land by the National Government was virtually the only source of revenue and second, by making all future member states about the same area would help balance their apparent power in Congress.

**G.P.S.:** A checkerboard pattern; how would this be laid out or surveyed out?

**T.J.:** It all could start with a stake driven into the ground at strategic places across the country, to be called a "principal point". From this principal point a true north-south line called a meridian would be surveyed and then an east-west line, to be called a "baseline", would pass at 90° to the meridian. Next, the layout of the squares would have to be in three ever smaller steps; first the largest squares, say maybe 30x30 miles (later 24x24 miles), then inside them 10x10 miles (later 6x6 miles) and finally inside each of them 1x1 mile squares. Inside this framework, for example, a farmer could have his land surveyed and uniquely described within less than 1 mile from an "official" monument.

**G.P.S.:** How could one identify land in this checkerboard pattern ?

**T.J.:** First, each starting point (principal point) should have a name, for example: 6th Principal Meridian, Mt. Diablo, etc. Then starting at the principal point and in 10 mile (later 6 mile) steps would be "Range" blocks, counting 1 east, 2 east, etc. or 1 west, 2 west, etc. Likewise "Townships", in 10 mile (later 6 mile) steps, would be designated in steps of 1 north, 2 north or 1 south, 2 south, etc.

**G.P.S.:** Yes, this is great, but the way you have just described it, the land is now broken up into 10x10 mile (later 6x6 mi.) squares, maybe confusingly called "townships". What good would that do to, say, a farmer ?

**T.J.:** Well, as the name implies, a town could be built at the center of each "township" and a farmer could easily drive his horse and buggy into town and back again without missing any farming chores, and farming kids could walk to school. But for an individual farming, the township is too large and must be broken down further, say into 1x1 miles squares, to be called "sections", or even further into aliquots (fractional) parts.

**G.P.S.:** With no money or even a national treasury, how could local schools be financed within a township ?

**T.J.:** With an abundance of Federal land, schools initially could be financed by selling one or two sections (1 or 2 square miles) dedicated within each township of land. Especially in areas with natural resources, adding the mineral rights to the surface land deed in the "school sections" would provide much needed operating revenue for the schools and mining related colleges.

**G.P.S.:** How will you now measure distances to lay out the rectangular pattern ?

**T.J.:** Especially since there are no metric chains, we will have to revert back to the Gunter chain of 66.00 ft in length. By starting with a mile of 5280 ft. and 66 ft./chain, this makes 80 chains to a mile, 40 chains for a 1/2 mile, etc.; actually fairly easy since it includes the old English system of dividing by 2 or 4. In turn, Edmund Gunter (1581 - 1626) incorporated the decimal system, by dividing his chain into 100 links of 0.66 ft each. Areas work out also by multiplying the length and width in chains and dividing by 10 to get acres.

For example:

an area of 2 chain wide and 5 chains long =

$(2 \times 5)/10 = 1 \text{ Acre};$

an area of 4 chain wide and 2.5 chains long =

$(4 \times 2.5)/10 = 1 \text{ Acre};$

a square, 5 chains on each side =  $(5 \times 5)/10 =$   
2.5 Acres;

10 chains on each side =  $(10 \times 10)/10 = 10 \text{ Acres};$

40 chains on each side =  $(40 \times 40)/10 = 160 \text{ Acres},$   
etc.;

# Use of Manuals of Surveying Instructions for the Retracement Surveyor

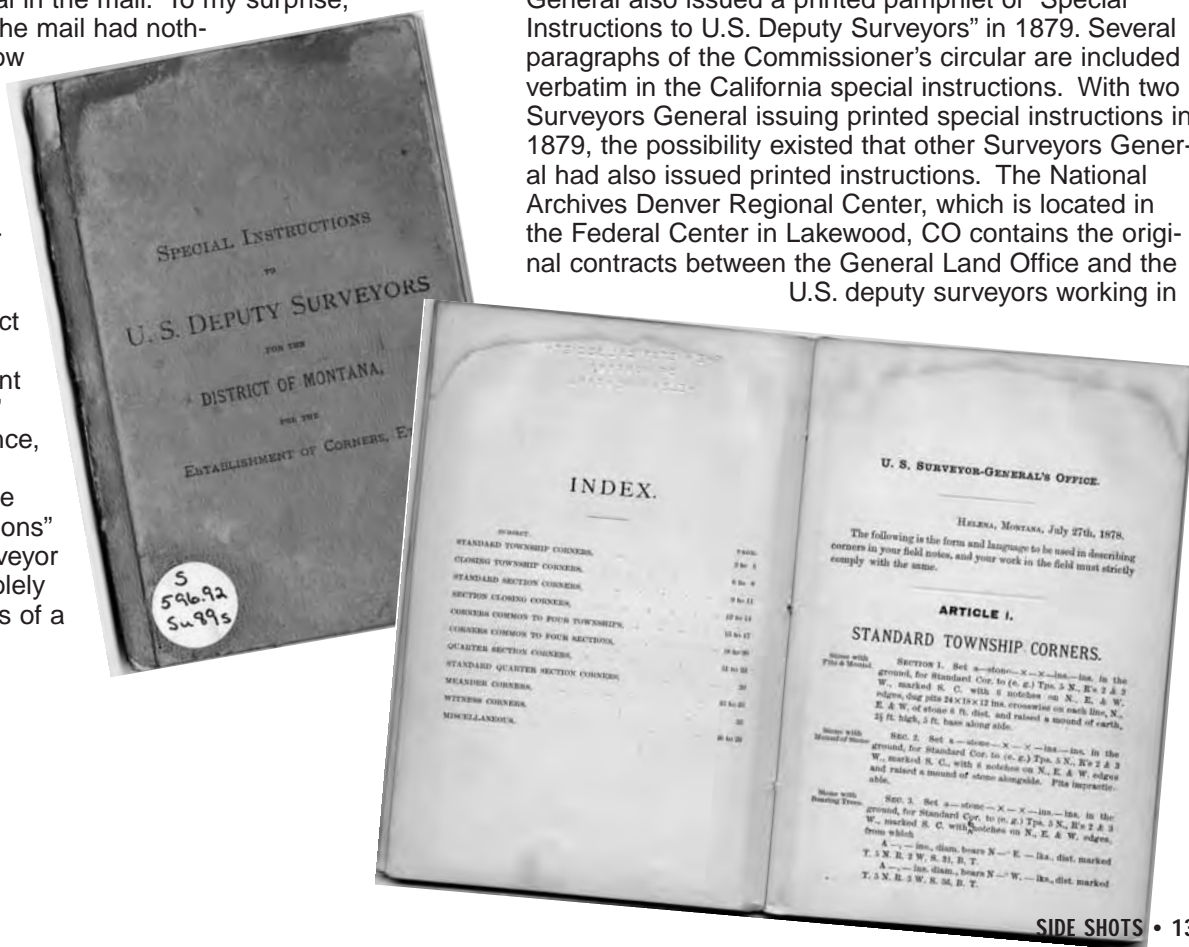
by Gene Kooper, PLS

I had the pleasure to serve on the PLSC Legislative Committee for four years with Doyle Abrahamson. Since Doyle was also a U.S. Mineral Surveyor, the committee meetings provided an opportunity to discuss my research on mineral surveys. While Doyle was intrigued by my "finds" of old mineral survey instructions, his real passion remained with the rectangular PLSS. Doyle spent many years researching the old rectangular PLSS manuals and instructions. A major obstacle to his early research was finding copies of the old manuals. Doyle made inquiries with several libraries, but had all but given up hope of obtaining copies of the manuals when an unexpected package arrived in the mail several months later. His research occurred before C.A. White published his book, "A History of the Rectangular Survey System." Today, one simply has to pull Mr. White's book off of the shelf to learn what the Instructions were for a given time period.

Last winter, I found a library purporting to have an 1879 copy of "Special Instructions to U.S. Deputy Mineral Surveyors for the District of Montana for the Establishment of Corners, Etc." The Montana Historical Society's library in Helena, MT agreed to provide a copy of the 29-page, leather-bound pamphlet and I anxiously awaited its arrival in the mail. To my surprise, what arrived in the mail had nothing to do with how to conduct mineral surveys! Instead, I was sent an 1879 copy of "Special Instructions to U.S. Deputy Surveyors for the District of Montana for the Establishment of Corners, Etc." Through ignorance, I had always assumed that the "special instructions" issued by a Surveyor General dealt solely with the specifics of a given contract.

Not being familiar with the issuance of printed special instructions booklets to U.S. Deputy Surveyors, I asked Robert Dahl if he had discovered any of these special instructions during his research for the new Manual. Bob suggested looking at the appropriations circular letters issued annually by the GLO Commissioner. In addition to instructing each Surveyor General on how they were to allocate their annual appropriations, the GLO Commissioner would occasionally include updated instructions on how surveys were to be conducted. These annual circular letters were usually included in the "Annual Report of the Commissioner of the General Land Office". Finding old references today is greatly aided by the advent of online repositories such as Google books and the Internet Archive. Google books has many of the GLO Commissioner's annual reports scanned with downloads in several formats. The 1879 annual report of the Commissioner includes a copy of the July 15, 1878 appropriations circular letter sent to the sixteen Surveyors General. The Commissioner outlined several issues that the Surveyors General were to incorporate into instructions to their deputies.

In addition to the special instructions prepared by the Montana Surveyor General, the California Surveyor General also issued a printed pamphlet of "Special Instructions to U.S. Deputy Surveyors" in 1879. Several paragraphs of the Commissioner's circular are included verbatim in the California special instructions. With two Surveyors General issuing printed special instructions in 1879, the possibility existed that other Surveyors General had also issued printed instructions. The National Archives Denver Regional Center, which is located in the Federal Center in Lakewood, CO contains the original contracts between the General Land Office and the U.S. deputy surveyors working in



Colorado, New Mexico and Utah. Printed special instructions are included in the Colorado contracts dated between 1879 and 1885. These consist of three pages of printed instructions along with a blank page reserved for hand-written instructions specific to each contract.

The 1879 Montana special instructions describe in detail the types of monuments and accessories to be established for the ten different types of PLSS corners along with the, "form and language to be used in describing [the] corners" in the deputy's field notes. Each deputy was provided two copies of the special instructions; one for his own use and one for his axemen so that they, "may thoroughly understand the mode of

establishing Corners." A comparison of the Montana special instructions to the "ESTABLISHING CORNERS" section of the May 3, 1881, "Instructions to Surveyors General - Public Lands and Private Land Claims." (pages 22 through 33) shows that the two are nearly identical. There are a few minor revisions to the 1881 Instructions, such as scribing "S.C." before, instead of after the township number on the north face of a wood post that marks a standard corner. The Montana special instructions are very similar to the "Advance Sheets" published in 1919 that modified the 1902 Manual before their inclusion in the 1930 Manual.

Both the 1879 special instructions and the 1881 Instructions state, "It is expected that the deputy

surveyors will carefully read and familiarize themselves with these instructions..." One duty of retracement surveyors is to "walk in the footsteps" of the original surveyor. In my opinion, that duty also includes being knowledgeable of the instructions in force when the original survey was done. Being familiar with the circulars and instructions issued between manuals is not always practical. However, the above example indicates that, in addition to the Manual instructions and contract-specific special instructions, the retracement surveyor may find the instructions issued in the next manual helpful in understanding what was actually done in the field.

## **WCLS Surveyor Appreciation Award Letter To Mike Drissel, PLS**

Dear Mike:

On behalf of the Western Colorado Land Surveyors, I want to award you our May 2010 Surveyor Appreciation Award.

You have continually held yourself and your business to the highest of professional standards and have insisted on the same level of professionalism from your peers in the community.

To help improve and promote high professional standards:

You were appointed by the Governor of Colorado to serve on the State Board of Licensure for Professional Engineers and Professional Land Surveyors in 1993, serving until 2001.

You served as the Chairman of the State Board of Licensure for Professional Engineers and Professional Land Surveyors 1998 – 1999.

You have been a Member of the National Council of Examiners for Engineering and Surveying and served on the Professional Land Surveyor's Examination Committee, writing, formatting and evaluating the national exams for Professional Land Surveyors.

You have been contracted by the Board of Licensure for Architects, Professional Engineers and Professional Land Surveyors to review monument records statewide from 2001 to the present with an insistence on high standards but with a realistic and practical approach to the various nuances required by law and regulations.

You have given seminars to educate and clarify the monument record process for Professional Land Surveyors in the state.

And you have been a steadfast participant, advisor, board member, and supporter of our Western Colorado Land Surveyors Chapter.

Please accept our heartfelt thanks for the effort and dedication you have given over the years to improve and promote the high standards expected of our Professional Community

Sincerely,

Thomas W. Sylvester, PE & PLS,

President, Western Colorado Land Surveyors



# QBS – What Is It? Is It for You?

By Gary D. Gable, PLS

The Board of Directors of the Professional Land Surveyors of Colorado recently decided to join an organization called QBS Colorado. What is this organization and what does it do? QBS stands for Qualification Based Selection. It is an organization that advocates the selection of design professionals based solely on their specific qualifications and experience and not based only on their submitted price. This process has been endorsed nationally by the American Bar Association (ABA), the American Public Works Association (APWA), the Associated General Contractors (AGC), and many others. The QBS process is required by law (Brooks Act) for projects that are funded by either Federal or Colorado State funds. The process is very fair and equitable and helps ensure that the planning, design, and follow-through on a project will meet the functional, aesthetic and budgetary requirements.

## **QBS Colorado Mission Statement:**

"The mission of QBS Colorado is to promote quality and value in professional design services in the construction industry. We believe that a professional and constructive relationship between the government client and design professional is paramount to ensuring team spirit, quality services, and a public building that is a credit to your organization and the citizens you serve.

QBS best serves the interest of the public who expect value and minimum operational and life-cycle costs for their tax dollar expended on public works and buildings."

So how does this work? Let's take a hypothetical example: The BNSF Ry issues a general Request for Proposal (RFP) for a "Bridge renewal survey of a 114 foot long BDTS on the Front Range Subdivision at MP 85.9 in the State of Colorado. The survey must include an H & H Study of the site". The RFP goes on to state that all cost proposals must be submitted by a specific date and that all field workers must be qualified under 49 CFR 214 (c). This is all of the specifics on the project that are given. Take a minute and think about what you would bid on this project. You need the work, so how would you reply to the RFP?

I can well imagine that the proposals will run the gamut from a low bid of about \$3,000 to a high bid of about \$20,000. This is not unusual to have this wide

range of bids. I have discussed price bidding with some local government folks and the range of prices submitted can be this extreme. The obvious reason is that few of the submitters are qualified to propose on this type of work.

If the client was to select the low bidder for this work, the surveyor would be obligated to provide services for the project and most likely would lose money in the process. They would probably ask for extras to at least allow them to break even financially. Using the QBS process the client would have published a Request for Qualifications (RFQ) first. This submittal would not have included any price but would be a resume of the submitting firm indicating their past experience on projects of this type and their availability to perform the work in the requested amount of time.

The client would then, most likely, select a "short list" of qualified firms that would be required to prepare for an oral interview with a specific selection committee of the clients choosing. After the interview a firm is selected and then and only then do they discuss scope and fee for the project. If a reasonable fee cannot be negotiated with the selected firm the one which scored second in the interview is allowed to propose a scope and fee for the project. On a project as small as my stated example this process can be shortened to go from the RFQ submittal to a direct selection of a firm without the interview process. Several national studies have shown that the QBS process actually saves the client money in the long run. They get what they want for a fair price. This is a win - win for all concerned.

The Board of Directors for the Professional Land Surveyors of Colorado (PLSC) made the decision to join this organization and have one member become a board member of QBS Colorado. I volunteered to become a QBS Colorado Board Member. This gives the PLSC a voice with the national QBS organization. We have a monthly meeting at the ACEC office at 8th Avenue and Grant Street in Denver. The main function of QBS Colorado is to lobby local government agencies to use the QBS process for all of their acquisition of Architectural, Engineering, and Land Surveying services. Many, as you may be painfully aware, only truly look at the price submitted for professional services. What QBS does besides education offerings, is when RFPs that are price based are submitted to the organization we send a representative not related to the specific RFP discipline to talk to the procurement officer of the agency and educate them how QBS would save them money in the long run. The Architectural and Engineering professions have been well represented with this



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| SUR 3100-3 | Survey Data Adjustment/Analysis I      |
| SUR 3150-2 | Astronomy for Surveyors                |
| SUR 3220-2 | Real Property Descriptions             |
| SUR 3300-3 | Photogrammetry                         |
| SUR 3540-3 | Boundary Law I                         |
| SUR 3700-3 | Geodesy I                              |
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organization for a long time. This is the first time that Professional Land Surveyors have had a voice within this organization.

If anyone receives an RFP that is price based, please submit it to one of the Board members of PLSC or the Executive Director, Diana Askew and it will be submitted to the QBS Director so she can assign a person who works in a different discipline to visit and educate the agency about the advantages of QBS. The Colorado Department of Transportation (CDOT) is a very good example of the QBS process.

Here are the answers to the specifics in my hypothetical example: BDTS means Ballast Deck Timber Structure which will be totally removed. The new bridge must miss all existing pilings. The site is about 6 miles north of Fort Collins, Colorado. The Hydraulics and Hydrology study can be based on a local assumed datum of elevation 100.00 if it is not a FEMA floodway. Once on site the field work can be done in less than 4 hours assuming you are not delayed because of train traffic. A 2000 foot track profile is very important. Now you guess a price.

If you have any questions about this organization or the QBS process, please give me a call on my cell phone at 303-882-0161 and I will be delighted to discuss this with you.

|                               |       |
|-------------------------------|-------|
| First Name                    | _____ |
| Company                       | _____ |
| Primary Address ____W ____H   | _____ |
| Primary State                 | _____ |
| Secondary Address ____W ____H | _____ |
| Secondary State               | _____ |

|                           |       |
|---------------------------|-------|
| Middle Name               | _____ |
| Primary Phone             | _____ |
| Primary Suite or Apt No   | _____ |
| Primary ZIP/Postal Code   | _____ |
| Secondary Suite or Apt No | _____ |
| Secondary ZIP/Postal Code | _____ |

|                             |       |
|-----------------------------|-------|
| Last Name                   | _____ |
| PLS or LSI Number and State | _____ |
| Primary City                | _____ |
| Primary Email address       | _____ |
| Secondary City              | _____ |
| Secondary E-Mail address    | _____ |

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Default = No

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 \_\_\_\_ Yes \_\_\_\_ No  
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 Additional Chapters (\$20 ea) \_\_\_\_\_  
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# Rocky Mountain Surveyors Summit

Presented by: PLSC, CCPS, NCPLSC, SCPLS

## Lineup of Speakers

### John B. Stahl, PLS

John is a registered professional land surveyor in the states of Utah and Montana, currently owning and operating Cornerstone Professional Land Surveys, Inc., and Cornerstone Land Consulting, Inc., in Salt Lake City since 1988. Mr. Stahl specializes in surveying land boundaries, mediating and resolving boundary conflicts, performing title research, and providing land boundary consultation services. He has been qualified as an expert witness and has actively participated in the preparation of amicus curiae briefs to the Utah Supreme Court.

### Larry Phipps, PLS

With 25 years in the field as a licensed North Carolina surveyor and more than a decade teaching surveyors from around the country, Larry P, as he's affectionately called by those who know him well, brings practicality and an easygoing professionalism to the classroom. While he specializes in teaching surveying business practices and C&G software training, Larry teaches courses that cover nearly every aspect of surveying, and he's constantly developing new courses to help surveyors stay current with the latest trends in surveying practices and technology.

### Robert W. Dahl, PLS

Robert W. Dahl, PLS, is a cadastral surveyor for the U.S. Department of the Interior, Bureau of Land Management. Training sessions are planned for the BLM cadastral survey leadership and surveyors, certified federal surveyors and professional land surveyors. To learn more about the BLM's Cadastral Surveying program, the 2009 edition of the Manual and PLSS training opportunities, visit [www.blmsurveymanual.org](http://www.blmsurveymanual.org).

### Dave Doyle, Chief Geodetic Surveyor, National Geodetic Survey

Dave Doyle joined the National Geodetic Survey in 1972, and currently holds the positions of chief geodetic surveyor. He is responsible for the development, technical design and management of plans and programs that enhance the United States National Spatial Reference System. He provides technical assistance in Geodesy to International, Federal, State and local surveying, mapping and GIS agencies.

### William Henning, Senior Geodesist, National Geodetic Survey

Mr. Henning is a Registered Professional Land Surveyor in Maryland with over 40 years of active experience in all phases of surveying technology. He has helped plan, construct, process, adjust and manage height modernization geodetic networks for county-wide projects in Maryland and Virginia. He is currently employed by NOAA's National Geodetic Survey (NGS) as a senior geodesist, where he is helping to develop guidelines and support methodology for real time positioning with state, national and international organizations.

### Pamela Fromhertz

Pamela Fromhertz has been the NOAA National Geodetic Survey Colorado State Geodetic Advisor since 2004. As the State Geodetic Advisor, she launched the GPS User Group which provided a forum to educate the community on GPS Real Time Reference Networks which lead to the Colorado Spatial Reference Network (a Chapter of the PLSC) being formed. In addition, she organizes many workshops and training opportunities in Colorado including CORS, OPUS, precision digital leveling and Height Modernization (HT MOD). She interacts with the geospatial (particularly, survey and GIS) community at the local, state, federal level as well as with private industry educating them about the benefit and use of the NSRS and its datums, models and tools for their programs and projects.

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# Westwood College Surveying Program

By Lynn Patten

Every professional is expected to have an educational background in addition to experience. As the surveying field is being recognized as a true "profession" and not just a "service", education is becoming a key factor. Westwood College can provide the education needed for a successful surveying career.

Westwood College's surveying program began as the "Brinker School of Surveying". Westwood continues to graduate professionally trained surveyors by offering relevant instruction from industry professionals. A surveying degree can be earned in less than two years starting with career-focused classes in the first term. Students gain hands-on experience using state-of-the-art equipment such as reflector-less total stations, digital levels, and GPS.

Westwood's surveying program is comprehensive. Classes range from basic drafting and field courses through advanced topics such as Coordinate Geometry, Boundary Law, and Public Lands. Small classes allow for one-on-one instruction. A broad General Education background is also included in the curriculum. The program culminates in an Associate of Applied Science Degree in Surveying. Graduates are capable of passing the Surveying Fundamentals Exam on their first attempt.



*Instructors with October grads – L to R: Joseph Stice (adjunct faculty), Justin Oberlin, Lynn Patten (lead faculty), Ted Raymond, Sam Selin*



*Lynn Patten, lead faculty, center with Tom Grubestic at left and Sebhathu Goitom at right, graduates in March 2009.*

The Westwood Surveying Program...

## CORE COURSES

|       |                         |
|-------|-------------------------|
| SU110 | Survey Drafting Basics  |
| SU141 | Survey CAD Basics       |
| SU142 | Survey CAD Projects     |
| SU160 | Field Surveying Basics  |
| SU161 | Applied Field Methods   |
| SU162 | Applied Field Projects  |
| SU233 | Construction Surveying  |
| SU234 | Survey Astronomy        |
| SU235 | Electronic Surveying    |
| SU243 | Survey Descriptions     |
| SU244 | Boundary Law            |
| SU245 | Public Lands            |
| SU250 | Survey Trigonometry     |
| SU251 | Horizontal Survey Math  |
| SU252 | Vertical Survey Math    |
| SU253 | State Plane Coordinates |
| SU254 | Advanced Survey Math    |
| SU255 | Coordinate Geometry     |

## GENERAL EDUCATION

|        |                                  |
|--------|----------------------------------|
| COM112 | Communication Skills             |
| ENG121 | College Writing I                |
| ENG221 | College Writing II               |
| HUM180 | Ethical and Critical Thinking    |
| HUM250 | Humanities                       |
| MTH170 | College Algebra I                |
| POL107 | American Government              |
| PSY101 | Introduction to Psychology       |
| SCI121 | Introduction to Physical Science |
| SOC121 | Human Relations                  |

## OTHER REQUIRED COURSES

|        |                       |
|--------|-----------------------|
| CA101  | Computer Applications |
| PDC111 | Success Strategies    |
| PDC200 | Career Management     |

The surveying program at Westwood is taught at the Denver North Campus located at 7350 North Broadway. All Westwood programs are accredited by two national agencies. College credits received from other institutions will be reviewed and may be transferable. Contact the Denver North Campus of Westwood College for more information, or email [jpatten@westwood.edu](mailto:jpatten@westwood.edu). Enroll now for the January start.

## Faculty:

Lynn Patten, Lead Instructor of Surveying, BS and MS in Mathematics from the Colorado School of Mines, 15 years professional experience plus 18 years as an instructor.

Joseph Stice, P.L.S., Instructor of Surveying, AAS in Surveying and Mapping from the Denver Institute of Technology, 18 years professional experience plus two years as an instructor.

# State Board Update

By Angie Kinnaird Linn, Program Director  
State Board of Licensure for Architects,  
Professional Engineers, and Professional Land Surveyors

## BOARD RULEMAKING HEARING TO IMPLEMENT HB10-1085

By the time you read this, the Board will have held a public hearing to adopt a number of revisions to the Bylaws and Rules of the Board. The revisions implement HB10-1085 and HB10-1148, make housekeeping and clarifying improvements, and transform Board Policies that address the practice of surveying into rules. The effective date of the revised rules is January 1, 2011. You can review the revised rules on the Board's website at <http://www.dora.state.co.us/aes/rulemaking.htm>.

## OVERVIEW OF CHANGES TO THE RULES

As required by HB10-1085, the revised rules define the course work required for a 2-year surveying degree, a 4-year engineering degree, and a 4-year non-surveying degree in order to qualify to take the Principles and Practice of Surveying licensing examination. The new rules provide specific parameters about the types of surveying courses that may be credited. They also broaden the mathematics allowed, including trigonometry where before it was not counted.

In addition to the rules addressing education requirements to become a licensed land surveyor, the following information summarizes other major changes to the rules affecting surveyors.

- **Rule 6.4.3 Physical Standards for Cap Markings** and **Rule 6.5.3.2 Surveys Shall Reference Corners** have been updated to reference the new BLM Manual as the "United States Department of Interior, 2009 Manual of Surveying Instructions: For the Survey of

Public Lands of the United States."

- **Policy 60.1 Basis of Bearing Statements** has been revised and adopted as **Rule 6.8 Basis of Bearing Statements**.
- **Policy 60.2 Depiction of Easements and Rights-of-Way on Subdivision Plats** has been adopted as **Rule 6.10**.
- **Policy 60.3 Required Monumentation for Land Survey Plats** has been adopted as **Rule 6.11**.
- **Policy 60.4 Monumentation of ALTA/ACSM Land Title Surveys** has been adopted as **Rule 6.12**.
- **Policy 60.5 Description of Monuments** has been adopted as **Rule 6.13**.

The Board Policies will be formally revised at the Board's November meeting to reflect the above changes and they will also be effective on January 1, 2011.

Please take the time to familiarize yourself with the rule revisions and how they may impact you, your employees and how you practice land surveying.

There were many Board Members and PLSC members that served on the Rulemaking committees during the intense 6-week push that it took to accomplish the rule revisions from start to finish. Thank you very much to all of you who assisted in that effort, contributing time, research, thoughtful deliberation and conference room space.

## CHANGES TO THE STATE SPECIFIC SURVEYING EXAMINATION

Another impact of HB10-1085 and the new BLM Manual is the need to update the State Specific Surveying examination. The Surveyor Board Members are in the process of evaluating the questions on the examination to determine what modifications need to be made. Questions will be updated for the April 2011 administration of the exam.

If you have employees or colleagues who will be taking the State Specific Surveying examination in the near future, please advise them to become familiar with these changes in the rules and policies, the new BLM Manual, and the Study Guide, when it is updated, for the exam found on the Board website at <http://www.dora.state.co.us/aes/licensing/SurveyExamOutline.pdf>.

All the best to you for a safe and prosperous fall season!



# PLSC Board of Directors Meeting Minutes

July 28, 2010 Conference Call

Call to Order: 4:35 PM

## Recognition of PLSC Board Members and Officers:

Present: Adams; Askew; Greer; Gable; Kent; Vermilyea; Green; Guyton

## Approval of Minutes from Previous meeting(s):

Motion: Gary Gable moves to approve the minutes for June 17 and June 24; Stan Vermilyea seconds; no discussion; Vote: Unanimous approval.

## Ethics and Fair Practices, Patrick Green, Chair

Discussion of the Attorney review comments. Remove the reference to the civic (see attached)

Kudos all around for Patrick and the committee members who worked on this!

## PLSC Library, Tom Adams, President

Tom would like to see the

library moved to someplace where it could be managed as a library. Public or college libraries? He suggests that we ask the membership for thoughts and opinions. Gable suggests we form an ad-hoc committee to investigate the options. Gable volunteers to be chair of this committee. Tom agrees to help Gary with this mission. Diana offered to set up an online survey.

Wyoming has a depository for surveyor's records in Cheyenne and Gary will investigate that as well.

## Results of discussion with Ed Bristow regarding case-law book, Tom and Di Askew

See notes from the previous meeting: Possible option is to have a seminar in a hotel venue or similar after the conference. Would Ed need a residual for each book after the initial outlay of funds? The answer is that this would depend on the original outlay of funds from the PLSC. If we pay more for the publication then Ed would waive the per

copy residual. Would it be a PLSC product that we could reproduce at will? Yes, we can produce as many copies as we want to. We will need updates or a plan for a new issue in 5 or so years. The original publication could be updated yearly and then a completely new version could be published every 5 years. Gary Gable asks if the copyright would be owned by the PLSC. The PLSC can own the copyright to the materials. What are the different options for formatting the deliverable? We can publish this in book form, bound or in a loose leaf format so the pages can be updated easily. We can also publish it in DVD format for less money per publication. Gary asks where the funds would come from (which account?) The funding for the publication can be financed through multiple sources, from our savings account, a loan from the scholarship fund, or from donations.

## UNDERGROUND UTILITY LOCATING



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**Next Meeting Date and Location:**

August 6th 5:30 p.m., TBD, in conjunction with the SCPLS Golf Tournament, Pueblo, CO.

**Adjourn: 6:05 PM**

**August 6, 2010 in conjunction with the SCPLS Annual Golf Outing  
Manhattan's Pizza Parlor,  
1110 W. U.S. Highway 50,  
Pueblo, CO, and  
Conference Call**

**Call to Order: 6:00 PM**

**Recognition of PLSC Board Members and Officers:**

Present: Adams; Askew; Greer; Berling; Bouchard; Green; Nelson

Absent: Clark; Gable; Kent; Vermilyea; Newby; Perkins; DiFulvio; Guyton; Ward

**Approval of Minutes from Previous meeting(s):**

"Quick-minutes" from the July 28, 2010 meeting attached. Review of quick minutes: tabled until edited version is available.

**Ethics and Fair Practices, Patrick Green, Chair**

See attachment

The red text indicates the

changes. The second sentence changed. New language has been added for b(1). Patrick will edit the reference to Quality Based Selection (QBS). **Motion: Roger Nelson moves to approve the PLSC code of ethics with the two changes discussed; Seconded by Mike Greer; Vote: unanimous approval.** Kudos to Patrick!

**President, Tom Adams**

PLSC Library: Gary Gable volunteered to head up an ad-hoc committee to recommend alternatives for the PLSC Library location at Assurance Risk Managers offices. **Motion: Roger Nelson moves that we donate all of the books to an educational institution with a surveying program; Mike Greer seconds.** Discussion: Di Askew offered to store them if they need to be moved until the committee finds a home for them. **Vote: Roger Nelson for and Adams, Askew, Greer; Board: Berling, Bouchard, and Green against.**

**Estimate from Ed Bristow regarding case-law book, Tom Adams**

See attachment for the new estimate received from Ed Bristow for the mid-level case law book.

Tom would like to see Dave Pehr and Ed Bristow work together

in a collaborative effort. We don't know if Gene has discussed this with Dave yet. **Motion: Roger Nelson moves to defer or table this discussion until after next years' conference; Seconded by Patrick Green;** Discussion: Tom does not support waiting and feels it will take time to prepare the book. The PLSC could offer the book for sale at a seminar to help pay for it. The board feels we need to be conservative. Di brought up that we will have a change in the board at the end of the year. Roger withdrew the motion.

**Reports****Secretary-Treasurer, Diana Askew**

Diana reported the 2010 membership total at 529. The rosters were updated and the final disbursement to the chapters for 2010 membership was paid. New chapter rosters were sent to each chapter president and treasurer. Mike Bouchard requests that the chapter membership be added to the membership roster. Di will add the chapter information to that and let the board know when it is available. Di explained that the links in the emails that went out will always download the most recent version of the roster.

**NSPS Governor, Warren Ward**

See attached report.

**PLSC Treasurer's Report Last Quarter 2010 - As of 9/30/2010**

(Includes unrealized gains)

As of 9/30/2010

| Account                                 | 6/30/2010<br>Balance | 7/31/2010<br>Balance | 8/31/2010<br>Balance | 9/30/2010<br>Balance |
|-----------------------------------------|----------------------|----------------------|----------------------|----------------------|
| <b>Bank Accounts</b>                    |                      |                      |                      |                      |
| Checking at Wells Fargo - Main          | 31,957.68            | 33,625.09            | 22,608.85            | 17,166.65            |
| Merchant Checking at Wells Fargo        | 5,367.18             | 2,902.34             | 4,305.84             | 4,237.17             |
| PLSC Savings at Well Fargo              | 40,209.97            | 40,218.51            | 40,227.05            | 40,235.31            |
| PLSC Scholarship Fund Inc               | 2,503.78             | 2,495.87             | 2,487.97             | 2,480.06             |
| PLSC Scholarship Fund Savings           | 50,347.32            | 50,364.43            | 48,376.68            | 48,386.63            |
| <b>TOTAL Bank Accounts</b>              | <b>130,385.93</b>    | <b>129,606.24</b>    | <b>118,006.39</b>    | <b>112,505.82</b>    |
| <b>Investment Accounts</b>              |                      |                      |                      |                      |
| ICA                                     | 23,474.92            | 23,186.67            | 23,186.67            | 24,496.64            |
| Investment at Merrill Lynch Investments | 25,030.43            | 24,858.10            | 24,858.10            | 24,164.50            |
| WMIF                                    | 22,791.42            | 23,181.71            | 23,181.71            | 24,258.55            |
| <b>TOTAL Investment Accounts</b>        | <b>71,296.76</b>     | <b>71,226.48</b>     | <b>71,226.48</b>     | <b>72,919.69</b>     |
| <b>OVERALL TOTAL</b>                    | <b>201,682.69</b>    | <b>200,832.72</b>    | <b>189,232.87</b>    | <b>185,425.51</b>    |

Tom will send an email letter to the state representatives in support of the railroad monumentation bill. The board reviewed the four corners monument report from Warren.

**WFPS Delegates, Dave DiFulvio and JB Guyton**

Next meeting in Reno, Nevada on Sat. Sept. 25th.

**Status of AES board rules committee, Mike Greer**

The PLSC made changes to the law regarding educational requirements, which was one of the topics of discussion among the PLS committee. August 13th is the next meeting and the final version is set to be adopted in October. September 10th is when it is published for public review.

**Standing Committees**

QBS – Gary Gable has written a couple of paragraphs for the QBS newsletter and is taking his appointment as a chair seriously.

**Legislative Committee - Roger Nelson, Chair**

Roger reports that the legislative committee is no longer meeting but is having discussions via email.

**Membership Committee, Mike Bouchard, Chair**

Mike Greer made a number of suggestions: Reward and honor members with 5, 10, or more years with the PLSC. Add a member area to *Side Shots* with interviews and a list of new members, etc. Contact the complimentary members and survey them to see if they will join again in 2011. Raffle a conference membership.

**Nominations and elections - Doug Berling, Chair**

Doug will email Diana the list of nominees for the minutes.

**Special Committees:  
Trig Star: Warren Ward, NSPS Governor, Chair**

The board requests the details on the award process. Di will contact the NSPS and report her findings on the status of the award.

ings on the status of the award.

**GIS-In-The-Rockies, Mike Greer, Vice President, Chair**

Scholarship or award at the GIS Rocks conference?

**Next Meeting Date and Location:**

The next physical meeting will be held on Friday, October 29, 2010 at the Taj (TBD).

The next phone-in meeting will be held on September 9, 2010. Tom will send out an invitation and agenda.

**Adjourn: 8:50 PM**

**September 9, 2010  
Conference Call**

**Call to Order: 12:00 Noon**

**Recognition of PLSC Board Members and Officers:**

Present: Adams; Askew; Greer; Bouchard; Gable; Green; Kent; Nel-

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son; Vermilyea; Ward; DiFulvio  
Absent: Berling; Clark; Newby;  
Guyton

## Welcome of Guests: Warren Ruby and Joe Conway from the CCPS board

### Additions, deletions, or modifications to agenda

Final Point for Doyle Abrahamson: Roger is asking for 3 or 4 final point paper weights for the family. **Roger Nelson moves to approve the fee for the final point for Doyle along with the additional paperweights. Michael Greer seconds;** Discussion: Cost of the final point is \$100. We don't know what the cost of the paperweights would be. **Vote: Unanimous approval.**

### Approval of Minutes from Previous meetings (7/28/10, 8/6/10):

Michael Greer requests a correction to the August 6 minutes. In the sentence regarding the status of the AES Board, please remove the number of pages.

Motion: Roger Nelson moves to approve the 7-28 and 8-6 minutes with the correction that Mike Greer suggested. Micheal Bouchard seconds; Vote: unanimous approval.

## Position on NSPS withdrawal from ACSM (Ward, DiFulvio)

Warren Ward - the reason that this has become an issue goes back at least to 1983 on how to structure a national society to best represent the most surveyors. There has always been some confusion as to whether we are a national surveyor's organization or not. This debate has gone on for 15 years and Warren has participated in discussions for the last 8 years. In 1983 the ACSM withdrew \$ from the general fund to pay off some debts. That started a controversy within the organization. Surveyors are 80% of the organization and there is a vast imbalance. Over the last 8 years the organization has restructured the general fund where each organization is its own funded organization. Membership rose for a couple of years and then dropped again. It is the opinion of the NSPS to establish a separate organization. Warren's opinion is that this is a continuation of the same debate that started in the 1980's. Warren prefers to belong to an organization that has geodesists, cartographers, and GIS folks as members. There will be a meeting to discuss this. Nobody is suggesting a change to the way the NSPS works, the societies will provide the input and the NSPS Board of Directors will make the decisions.

Dave DiFulvio thanks Warren for the brief history. October 2nd is the Westfed meeting, and they will weigh in on whether we support the withdrawal or not. The article titled "National Voice" came out a couple of months ago or so (Di emailed this to the board). The NSPS wants the national body of surveyors to study the issue and share their opinion, which matters a lot.

An advanced report will be sent by Curt to Westfed over the next couple of months. Westfed feels that they would like to see assimilation instead of a separation. In a nutshell that is what Curt is looking at. Two completely separate organizations or one. Surveyors in general would like one.

The general consensus is to remain one organization and provide fair governance and equitable representation.

## Letter from CCPS on use of lobbyist, Joe Conway

Warren Ruby indicated that the CCPS Board feels the amount asked by Peg for the annual fee is minimal (\$1,300) and they ask if we can pay her monthly to get by for the short run.

## GIS-In-The-Rockies

Di is looking for volunteers to help with the booth. Steve Parker and Wally Muscott have already volunteered. Di will be there Tuesday afternoon, all day Wednesday and most of the day Thursday.

## Next Meeting Date and Location:

Confirm: Friday, 29 October 2010 @ Jefferson County building (Taj)

**Adjourn: 12:50 PM**



# Call for Nominations

The Nominations and Elections Committee of the PLSC  
is now accepting nominations for the following positions:

- 1 – President, for a 2-year term (2011-2012)
- 1 – Vice President, for a 2-year term (2011-2012)
- 1 – Secretary-Treasurer, for a 2-year term (2011-2012)
- 4 – Directors, for a 4-year term (2011-2014)

The terms for the following individuals will conclude after the election in February/March of 2011:

Tom Adams, President (2009-2010)  
Mike Greer, Vice President (2009-2010)  
Diana Askew, Secretary-Treasurer (2009-2010)  
Douglas Berling, Director (2007-2010)  
Michael Bouchard, Director (2007-2010)  
Russ Clark, Director (2007-2010)  
Roger Nelson, Director (2007-2010)

Directors Gary Gable, Peter Kent, Patrick Green and Stan Vermilyea will continue until 2012.

*At time of publication the following individuals had received nominations:*

President (2 year term) 2011-12: Tom Adams, Roger Nelson

Vice President (2 year term) 2011-12: Mike Bouchard

Directors (4 year term) 2011-2014: Rob Snodgrass, Todd Beers, Gene Kooper, Bill Buntrock, Terry Maw

Your nominations can be sent either by mail or email:

Douglas Berling  
11536 Community Center Drive, #87  
Northglenn, CO 80233  
drberling@earthlink.net

**Deadline for nominations:  
December 15, 2010**

Please include name of nominee, position nominated for, and their contact information.

Ballots will be sent to the membership 36 days prior to the annual meeting, to be held in February, 2011.

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## CCPS

The next CCPS general membership meeting is to be convened at 7:00 PM on October 28th at the Table Mountain Inn on Washington St. in Golden. The featured presentation will be on current happenings at the state board of registration. The presenter will be Angie Kinard-Linn, Department of Regulatory Agencies Program Director. Dinner will be served prior to the meeting at 6:30 with cash bar at 6:00. All CCPS members are cordially invited to attend.

The CCPS scholarship committee awarded 4 scholarships for the Fall, 2010 semester to students of Westwood College of Denver. Rob Snodgrass presented the scholarships, valued at \$500 each, at the August 26th CCPS general membership meeting to Justin Oberlin, Josh Lee, Ryan Reed, and Samuel Salin. All scholarship winners maintained a grade point average higher than 3.9 on a scale of 4. Funding for these scholarships came from PLSC allocated scholarship funds.

CCPS wishes to thank Pam Fromhertz of the National Geodetic Survey for her presentation on new horizontal and vertical datum and NGS geodetic tools that are available on line to all surveyors. There was a lot of praise offered by the attendees for Pam and the work she does in Colorado to support land surveying. The presentation was fast paced, informative, and Pam's effort in organizing and presenting the information is greatly appreciated.

Each year CCPS nominates members in good standing to run for office within the organization. This year the board of directors led by Earl Henderson and the scholarship committee has nominated the following to appear on the ballot in October: JJ Rhinek was nominated to run for President, Earl Henderson for Vice President, Aaron Willis for Treasurer, Chris Raml for Director, Warren Ruby for Director, Eldon

Knoll for Director, Kevin Kucharczyk for Director, Dave Kuxhausen for Director, Randy Zerr for Director, and Jack Sparks for Director. We did not get the 12 volunteers we were looking for to run for open positions this year. Please consider running. You do not have to be a licensed surveyor in Colorado to hold office, but you do need to be a CCPS member. If you are interested in serving the central Colorado surveying community by running for office in any of these vital capacities, email Earl Henderson, earl@zenithls.com. The time commitment is only 4 to 8 hours per month and your services are needed. It is an honor to be elected.

The remaining copies of the Hayden Atlas on hand are very scarce. Order before they are out of print. Email Joe Conway at joeconway@comcast.net to order yours for \$75 which includes shipping costs. You can purchase a copy of the Hayden Atlas at any of our general membership meetings in person for \$70.

Hope your summer was successful and enjoyable. Hope the harvest of your efforts satisfies and sustains you. Hope you are thankful for all that was positive during this past year.

Joe Conway  
CCPS President

## CSRN

The Colorado Spatial Reference Network held its first Summer BBQ on July 31, 2010, at Bayou Gulch Regional Park in Parker, Co. The event was a success and we plan to hold it again next year. Many thanks to everyone that helped and all who attended. We received several compliments and could not have done it without you!

The CSRN gave three presentations at GIS in the Rockies on September 14 – 17, 2010. Bill Henning, RTN Program Manager with

NGS/NOAA presented GNSS Real Time Networks – The Next Generation Infrastructure for all Geospatial Data; Todd Beers, PLS, presented an Overview of the Public Land Survey System; and Daniel Akin, PE/PLS, gave a presentation on Legal Descriptions – A Primer for GIS Professionals and Land Surveyors. Although the overall conference attendance was down, all three of these presentations had strong attendance and received positive feedback.

The next CSRN General Meeting will be held at Trimble on November 17, 2010. The meeting will focus on small businesses that have not yet considered the benefits of using a real time network. Alex Mahrou, Systems Engineer for Trimble's VRSNow USA, will discuss Colorado's VRSNow network coverage, growth, stability, data flow and reliance. Ken Perry, Network Administrator with Hixon Manufacturing for Leica's Smartnet will provide an update on the Leica SmartNet and its recent developments. As always, anyone interested in these topics is welcome whether you are a member or not and there is no cost to attend.

A new statewide real time network map was recently published and posted on our website. I encourage everyone to take a look at the map to see the network coverage Colorado now has and to contact the network providers listed above or the CSRN about the benefits and cost of subscribing.

The CSRN Board was pleased to approve a \$200 contribution to the Four Corners Monument project.

The CSRN elections committee is working on elections for 2011. This is an important election as several key positions are open including President, Vice President, Secretary and three Directors. Information may be found under the elections tab on our website.

In cooperation with the PLSC,



the CSRN has begun collecting annual membership dues from PLSC members effective January 1, 2010. Dues for sustaining and non-PLSC members (i.e. geospatial industries) will continue to be waived for the year. Please consider becoming a member of the CSRN in addition to your regular chapter.

You may contact us through our website at [www.CSRN.us](http://www.CSRN.us) or you may contact me directly at 303-512-4401 or [daniel.a.smith@dot.state.co.us](mailto:daniel.a.smith@dot.state.co.us).

Dan Smith  
President - CSRN

## NC-PLSC

The summer of 2010 has just ended. The days are definitely getting shorter, but the temperatures are a little slower to decline than in previous years. It has been a more gradual passage into fall. The colors are beginning to appear, but the days are still warm for the most part with a bit more crispness in the air in the evenings and early mornings.

The Northern Chapter just had the first meeting of the new season on September 4th. It was hosted by the City of Fort Collins at their office on Maple Street. We had an election over the summer and the new officers were officially installed. Our current officers are:

President – Carl Sumpter; President-Elect – Kayce Wohlman; Secretary-Treasurer – Rob Hintz; Director - Paul Bacus; Director – Bob Edmonds; Director – Steve Varriano;

Director – Douglas Ritter; President Emeritus – Ron Perkins.

We had a lively discussion about when we all think the economy will recover. Generally, it seems to be coming back, but very slowly. Another local surveying company that has been around for 20+ years announced that it will be closing soon unless something miraculous happens. That is not good news, but with all the layoffs and closings

there have been some new startups too. The startups I refer to are people who have gone out on their own, either by necessity or by choice. Maybe a lot of smaller businesses can get by with leaner profit margins and allow our profession to survive until the good times return.

The chapter plans to have a couple of educational meetings in October and November and then our annual Christmas party in December. On October 6th the meeting will be held in the Larimer County Clerk and Recorder's Office at 200 West Oak Street in Fort Collins. The Clerk and Recorder's staff will give a presentation on how to efficiently access all the records there; what's available via the internet; what's available in scanned form on the CIC (Citizens Information Center) computers and how to access and view the original documents if you need to. We haven't set to final topic for November yet, but it's definitely worth checking in toward the end of October to see what we have coming up for November 3rd.

As we have for at least as long as I've been a member, the Northern Chapter has meetings on the first Wednesday of each month from 6 to 8 PM (the time has varied but the day has always been the same) at different locations around northern Colorado. We have dinner first and then our meeting. We are trying to have educational presentations at most of the meetings either by inviting guest speakers or having a member present a topic of interest. If you would like to be included in our email notifications, please email Rob Hintz at [rhintz@fcgov.com](mailto:rhintz@fcgov.com) or call 970-221-6605 and let him know.

Ron Perkins  
President Emeritus

## NW 1/4-CLS

The bright yellow leaves that mark the briefest of seasons here in Northwest Colorado are almost

gone and everyone is starting to settle into the next month, awaiting the inevitable winter. Despite the lack of sizable jobs in this quadrant of the state, most surveyors have been pleasantly surprised by the activity marking the last few months. Our fall meetings will focus on bidding and business models with hopefully a second session presented by one of the local title companies. This title company is perhaps typical of what has gone on in the industry in the past three years: It has changed names and company structures at least twice. The way title companies are conducting business has also changed in the past few years and some of their requirements are having an impact on the surveying industry as well. The price sensitivity of the recent market has the title companies insuring properties in many cases without the benefit of a true survey. These can be large parcels of land with expensive houses on them which historically would have required an improvement survey plat or ALTA, but now may be accepting an Improvement Location Certificate. Given the fact that we normally don't build in the correct location in about 5 percent of the permits in our counties, or there is an access or fencing issue, an ILC is simply not designed to discover these types of issues on the larger tracts of land-20 acres and upwards. If you are a younger surveyor, I would be greatly encouraged by the prospect of rediscovering all of these screw ups in five to seven years. This is when the current batch of buyers will be selling the properties they are currently acquiring for bottom dollar. Everyone will be shaking their heads, wondering how this could have happened, the attorneys will be looking for whom to blame and the surveyor will be writing legal descriptions and generating plats to transfer land between parties and rectify all of the encroachment and access issues. Make sure you put adequate warnings on your drawings!

Our other focus in the next few months will be the state of bidding

and the business model. It is blatantly obvious at this point that we are in the great recession of our time and very few of us were alive during the last one called the Great Depression. This state and country has some fundamental issues confronting it and somehow the small businessman that is the surveyor must survive it. There are no easy answers, but some hard truths: the surveying industry will not be eligible for any type of federal or state bailout. The price of gasoline, insurance, survey supplies and many other items that are needed to run a surveying business have not gone down. The price of GPS and trucks have, but not nearly enough to operate a business at rates of thirty years ago. And those type of business models are taking place in our marketplace. They are unsustainable.

By the time of the next issue, there will be snow on the ground-we hope- and everyone will be watching the economic indicators for continued forward progress.

Respectfully submitted,  
Brian T. Kelly, PLS  
President, NW 1/4

## SCPLS

The 22nd Annual Paul Grout Memorial Golf Tournament & Picnic was held on Saturday, August 7 at the Hollydot Golf Course in Colorado City. It was a great opportunity to get together with other surveyors from around the region to play golf and catch up with each other at the picnic afterwards. Many thanks to the first and third place teams, who donated their prize money to the Southern Chapters scholarship fund. And thanks to all those who participated this year.

This year the Southern Chapter will be electing several officers. Nominations are currently being sought. The results of the election will be available after the first of the year.

The Southern Chapter is formulating plans to organize an event and/or visit schools during National Surveyors Week.

Mark Johannes  
President, SCPLS

## SWC/PLSC

The SW/PLSC Chapter has no new news to report this month. Our next scheduled meeting is for Wednesday, October 13th.

Thanks.

Rob Trudeau, PLS  
President, SWC

## WCLS

The Western Colorado Land Surveyors chapter had a delightful picnic on July 14, 2010. It was a great break from the rigors of summer with the only agenda for the evening being to visit with good friends, eat heartily, and have fun. All who attended did just that.

At our September 8, 2010 meeting, Linda Dannenberger and Donna Ross with the Mesa County Planning and Development Department gave a presentation on the County's new development policies and the differences between the new and old. This was a much appreciated presentation accompanied by numerous questions and discussions. A big thank you goes to Linda and Donna for reaching out to our surveying community.

We also held a discussion of the status of the State Board of Licensure's rewrite of some of their rules and policies, primarily to comply with the new state laws.

The WCLS voted to donate \$500.00 toward funding the intriguing new (and stationary in its rightful position) Four Corners Monument. We look forward to a report of the final results when all is said and done.

Mr. Michael W. Drissel, PLS of D H Surveys, Inc. was presented with our Surveyor Appreciation Award. A much deserved award and thanks go to Mike for his years of hard work and dedication. A copy of the award letter is attached for inclusion in *Side Shots*.

Thomas W. Sylvester  
P. E. & P. L. S.  
President/WCLS

**G.P.S.:** How about the positional accuracy of all the many thousands of monuments initially surveyed with Gunter chains and magnetic compasses?

**T.J.:** The position of the original monument controls. Thus by definition and law the location of each original monument is deemed to be correct, a resurvey with more modern methods can only provide more accurate numbers but cannot change the location of the monument. It is also imperative that the government surveyors establish the most permanent monuments possible during their initial surveys. Yes, there will be defective surveys and then the government can make either a dependent or an independent resurvey.

**G.P.S.:** This brings me to the question of direction. As originally conceived, the borders of the "squares" were to be surveyed either north-south or east-west. How was this to be done?

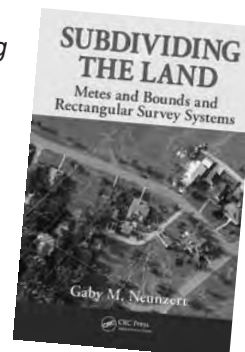
**T.J.:** Just as with ocean navigation, the magnetic compass can be used.

**G.P.S.:** But Mr. Jefferson, the magnetic compass varies from the true direction by the declination and is subject the magnetic influences from the ground, etc.

**T.J.:** Point well taken. When in doubt, the surveyors will probably have to observe the stars or the sun in order to establish geographic directions, but at the present this will not be possible in the field.

This concludes the first interview, undoubtedly to be followed by other notables from within the surveying profession. Interested reader may possibly suggest topics and participants in order to broaden the presentation.

**Editor's Note:** Professor Neunzert has written a new book, "Subdividing the Land: Metes and Bounds and Rectangular Survey Systems," available after November 2, 2010. from the publisher; visit [www.crcpress.com](http://www.crcpress.com) and search for the title. Or, for an introductory 20% discount, write to Di Askew, PLSC Executive Director at [Diana.askew@plsc.net](mailto:Diana.askew@plsc.net) for an order form. Congratulations, Gaby!



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Published by the Colorado Professional Land Surveyors Educational Foundation, Inc., a non-profit foundation, Initial Points of the Rectangular Survey System is undertaken in the spirit of, and dedication to, Mr. White's remarkable contributions to his field. Net proceeds from its sale will be returned to the Professional Land Surveyors of Colorado Inc. Scholarship Fund.



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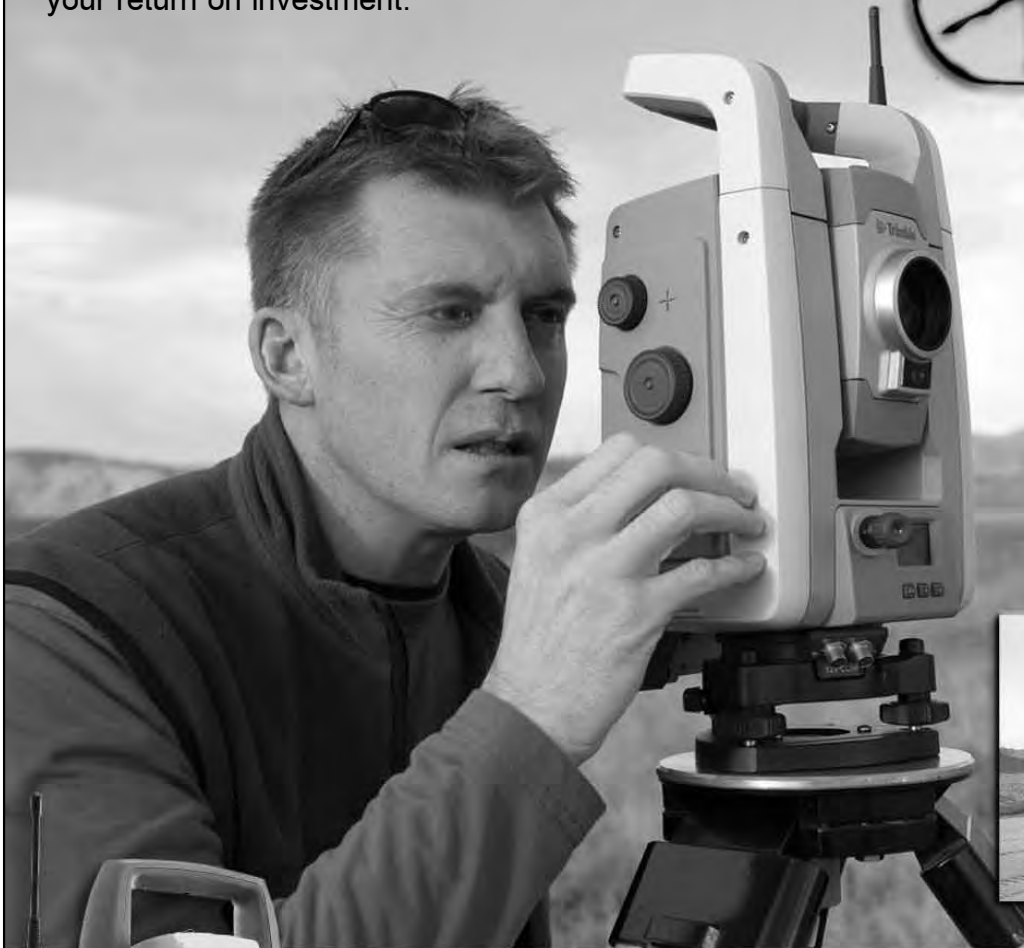
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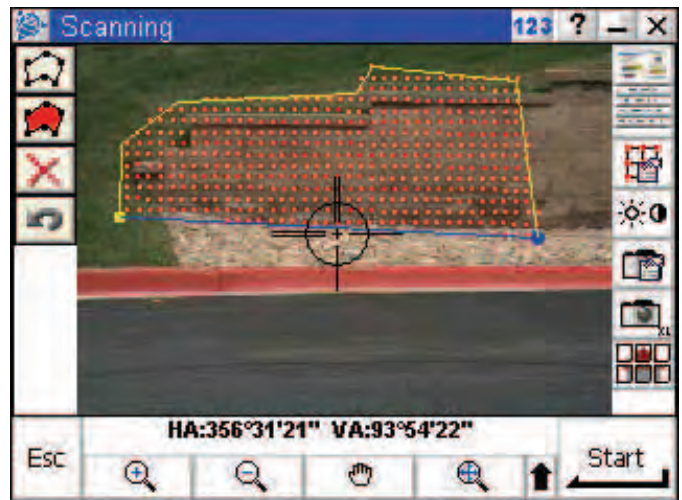




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