

November 2015

# SIDE SHOTS

Professional Land Surveyors of Colorado

Volume 46, Issue 4



## PLSC Attends the Denver Area Boy Scout Camporee

see page 7

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# SIDE SHOTS

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**VOLUME 46**

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**ON THE COVER: FROM LEFT:** Brandon Haas, Brian Dennis, JB  
Guyton, Heather Robinson, Bill Bowen, Todd Beers, Steve Parker.  
Photo by Gwendy Haas.

*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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in the next issue of Side Shots.**

*We would like to invite anyone who is interested to advertise in Side Shots.*

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Dear Fellow Members of PLSC:

By the time this letter goes to publication we will be in the fall of the year with snow on the horizon — a far cry from the sunny summer months we have become accustomed to!

The PLSC BOD has undergone a transformation in the past few months. Terry Maw decided to step down from the Secretary-Treasurer role and fully embrace his retirement! We thank Terry for all of his contributions over the many years he has served in leadership positions in the PLSC organization and wish him well. Alan Blair has risen to the challenge of becoming the new Secretary-Treasurer and has been working with our Executive Director Becky Roland to complete the transition to his new position. I have full confidence in Alan that he will perform his new duties in an excellent manner—congratulations to Alan! In addition to Alan's new role he has also stepped down from the chair of the Legislative Committee while still maintaining a position on the committee. Paul Bacus has accepted the chair position of the committee and has been very busy in the past 3 months settling into the leadership role. The PLSC BOD is in need of a director—anyone who has an interest in the position please contact myself or Becky Roland.



As I stated in the last President's letter, the PLSC was successful in stopping passage of SCR15-001, which was introduced to eliminate the position of County Surveyor in Colorado. The Legislative committee is active in developing language to address the concerns identified in the defeated bill, and the Survey Symposium, to be presented at the Rocky Mountain Surveyors Conference in March 2016, will provide a forum for input from the surveying professionals regarding the County Surveyor's role.

NSPS membership for 2016: When PLSC members renew, voting members will receive Side Shots, a PLSC membership card and an NSPS membership package. PLSC joined up with NSPS in 2015 and we provided an NSPS Director, JB Guyton.

The legislation committee held discussions for a continuing education requirement and we are formulating a plan to move forward. Due to this being an election year, we will be positioning ourselves and developing a comprehensive action plan to commence once the elections have been completed. Any input from the membership is always desired and appreciated!

Kacey Keane and the Executive Planning Committee are putting the finishing touches on the 6<sup>th</sup> annual Rocky Mountain Surveyors Summit (RMSS) to be held at the Arvada Center March 2-4, 2016.

*continued on page 5*

DEDICATED TO THE IMPROVEMENT OF LAND SURVEYING EDUCATION AND PRACTICE.

# FROM THE EDITOR



The cover photo for this issue was taken during another outstanding outreach effort organized by Brian Dennis, at the 2015 Denver Area Boy Scout Camporee, held on September 19th. This event attracts hundreds of scouts who participate in many different events at this windswept, huge ranch near Elbert, Colorado. I attended along with Brian, President Todd Beers, Steve Parker, Bill Bowen, Heather Robinson, and Brandon and Gwendy Haas. As you will see in the story, over 200 scouts and parents were given a hands-on experience with surveying equipment and instructions from enthusiastic volunteers. Perhaps a few lasting impressions were made that will turn into careers that have been so attractive and satisfying to all of us.

This issue begins with two important ads, one for the Refresher Courses that begin on January 6th of next year, and a 2-page preview of the 2016 Surveyor's Summit held on March 2nd; mark your calendars and watch for email registration invitations. More details about the Summit will appear in our next issue in February.

Joyce Young, Program Director for DORA (the Board of Licensure for Architects, Professional Engineers and Professional Land Surveyors) has provided us with a must-read update that includes an excellent summary of recent board rule changes, news about the NCEES board establishing a student award program to address the declining numbers of professional land surveyors, and how the NCEES exam is going from a written to computer-based format next year.

The informative Statute of the Month article from Earl Henderson is about the judicious use of Affidavits of Correction. Warren Andrews' Control Points series is up to number 30 – thanks Warren! – and offers his views on the history and approaches to surveyor education. Tom Sylvester reports on an amazing success at Grand Junction's Central High School, where their STEM program has incorporated TrigStar, and how a science teacher, PJ Janssen, participated in the TwiST program. A separate column from Julie Christiansen, a teacher there, follows Tom's story. Her words are inspiring: "We passionately want to develop curious, persistent and flexible thinking individuals who will be responsible and socially aware members of our communities. PJ and I truly believe that your field of land surveying is a discipline that will provide just these types of learning and growth opportunities for our students." Let's hope that this attitude will spread to other Colorado high schools.

Paul Bacus has provided us with a Tale of the County Surveyor. The PLSC board minutes from July 15th are included, along with a treasurer's report of fund balances. And the always popular Chapter News wraps up this issue.

Do you have a good idea for an article on a surveying-related topic? Or some news to share? *Side Shots* is a great place to "get published" and be noticed by your peers. Contact me with your articles or ideas. Feedback, including suggestions to make this publication better, is also always welcome.

JB Guyton, Editor, *Side Shots*

## From the President from page 4

Two items of note regarding PLSC outreach initiatives: last week (September 23-24) the PLSC had a booth at the GIS In the Rockies conference. It was encouraging to see the number of students who stopped by the booth and showed interest in the surveying profession. As a result of the PLSC presence we have been invited to present at a couple of seminars at GIS courses in the spring 2016 semester. We may also have convinced a few students

to attend the RMSS conference as well. The second item, coordinated by the GPS committee, included PLSC members from several surveying companies participating in the Boy Scout Camporee held at the Peaceful Valley scout camp in Elbert County. Boy scouts were able to use a robotic total station, GPS rover, optical level, set up tripods over a point and learn a bit of surveying history. A lot of interest was shown by the scouts and troop

leaders and this type of participation has been requested of the PLSC for future events. Thanks to all who contributed to this event!

Please enjoy the various articles included in this edition of *Side Shots*, and I hope all members have a great holiday season.

Todd Beers, PLS  
PLSC President



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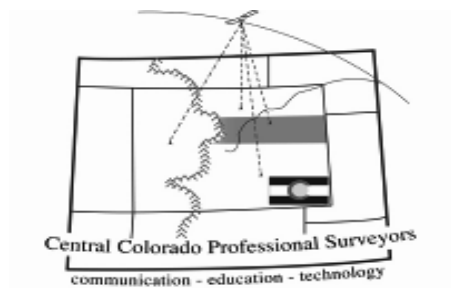
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## 2016 Colorado Land Surveying Refresher Course

The Professional Land Surveyors of Colorado are offering a comprehensive Land Surveying Refresher Course beginning January 6, 2016. This course offers a review and self-study plan for those taking the National Council of Examiners for Engineering and Surveying (NCEES) **Fundamentals of Surveying (FS)** and **Principles and Practice of Surveying (PS)** examinations. The course is designed to aid candidates in developing and expanding exam-taking proficiencies. The Wednesday evening classes will be 3 hours in length, starting promptly at 6:00 PM.

### Fundamentals of Surveying

<u>Session</u>	<u>Date</u>	<u>Topic</u>
1	Wed., Jan. 6	Overview of NCEES FS and PS Examination Use of calculators and formulas
2	Wed., Jan. 13	Fundamental Survey Calculations I
3	Wed., Jan. 20	Fundamental Survey Calculations II
4	Wed., Jan. 27	GIS, State Plane, Geodesy
5	Wed., Feb. 3	Public Land Survey System I
6	Wed., Feb. 10	Legal Terms and Definitions

### Principles and Practice and Colorado Specific

7	Wed., Feb. 17	Boundary Law
8	Wed., Feb. 24	Public Land Survey System II
9	Wed., Mar. 2	Colorado Survey Law I
10	Wed., Mar. 9	Colorado Survey Law II
11	Wed., Mar. 16	Principles and Practice Topics
12	Wed. Mar. 23	Mock PS and FS Examinations

### Registration, Fee, Location

The fee for the entire course is \$400, or \$75 per 3-hour block taken individually. Registration is open beginning November 1, 2015. See <http://www.plsc.net/> for registration information. Classes will be held in one of the conference rooms at the Jefferson County Courts and Administration Building (Taj Mahal), 100 Jefferson County Parkway, Golden, CO. Use the parking lot and main door on the east side of the building. Signage will lead you to the classroom. For questions, contact Becky Roland, Executive Director, PLSC, 303-551-3266, [broland@plsc.net](mailto:broland@plsc.net). Visit the NCEES site at <http://ncees.org/exams/> to learn more about the FS and PS examinations.

# Rocky Mountain Surveyors Summit

March 2-4, 2016 ~ Arvada Center

## PLSC is pleased to announce Dennis Mouland, PLS as our Headline Speaker

Dennis will be presenting Wednesday and Thursday on:

***Footsteps in the Past, Eyes to the Future***—The presentation will include both good and bad things to come, some of which are already in our midst.

***Why Records Research is NOT an option***—A look at this required action on most surveys, with a look at a few disasters created by surveyors who failed to search the record.

***To Accept or not to Accept, That is the Question***—As our profession embraces perfectionism in measurement (which is false anyway), we see surveyors totally forgetting what the law says and how it is to be applied.

***Where the Manual is Silent***—Where the 2009 BLM Manual is either silent, or appears to be silent, on PLSS retracement issues.



Dennis is a registered professional surveyor in Arizona, New Mexico, and Colorado. He has a Bachelor of Arts degree in Organizational Management, and has been in the surveying profession since 1972.

Dennis has been an instructor and course manager for the BLM/Forest Service "Advanced Cadastral School" and served as the National Cadastral Training Coordinator for BLM in Phoenix, AZ for over 6 years. In that position he developed the Certified Federal Surveyors Program for the Department of the Interior. In addition to having over 300 technical articles published in the U.S. and Canada, Dennis is a contributing author to the textbook ***"The Surveying Handbook"***, and authored ***"Ethics for the Professional Surveyor"*** in 1996, now in its third printing.

Dennis has taught boundary law subjects in higher education institutions since 1995, and is currently a Surveying Instructor at the University of Wyoming, Metro State University of Denver and Oklahoma State University. He lives near Prescott, Arizona.

NETWORKING

/

EXHIBITS



## Here are just some of the reasons you should attend the 2016 Rocky Mountain Surveyors Summit

- National and Local Speakers all in one place
- The latest products and services in the industry, with experts onsite to answer all of your questions
- Networking time with your colleagues and PLSC leadership
- Up to 24 hours of continuing education and 2 CFedS continuing education credits



**Cost (same as 2015):**

	1-Day	2-Days	3-Days
<b>PLSC MEMBER:</b>	\$200	\$375	\$550
<b>NON-MEMBER:</b>	\$300	\$475	\$650
<b>STUDENT:</b>	\$ 75	\$125	\$200
<b>EXHIBITORS (PLSC Sustaining Members Only):</b>	\$400		

PLSC Voting Member Dues are only \$150/year  
and include NSPS membership.

There are many sponsorship opportunities available, in addition to exhibiting. Contact Becky Roland for more information (broland@plsc.net) or go to [www.plsc.net](http://www.plsc.net) for complete Summit information and to sign up online.

An additional \$25.00 will be added to registrations received after February 24, 2016. Catered breakfasts & lunches will be provided on all days. Online registration is available at the PLSC web site ([www.plsc.net](http://www.plsc.net)).

**Silent Auction/Exhibits:**

We will be holding a silent auction during the conference. If your equipment room is cluttered up by equipment you are no longer using, please consider donating an item or two to the PLSC silent auction.

In keeping with our traditional practice, our Sustaining Members have been invited to display their latest products and services. Exhibits will be in the Arvada Center entrance hall adjacent to the classrooms. Please visit their displays and show our appreciation for their continued support.

**Hotel:**

The Doubletree Hotel at 8773 Yates Dr., Westminster, CO, will once again be our host hotel. There will be a shuttle bus to and from the conference hotel each day. Pick up and drop off times will be announced prior to and at the conference. For reservations, call 303-427-4000 and mention PLSC for discounted rates.

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## EXCEPTIONAL PRESENTATIONS



**Additional Presentations Include:**

- Discrepancies in the Official Record—Ron Schherler (this is also a CfedS Continuing Education Program)
- Colorado Case Law—Dave Pehr
- GPS Modernization and GNSS plus Errors and Statistics—Jan Van Sickle
- Ethics—Jill Norris
- How you can help Colorado prepare for new datums—Pam Fromhertz
- The Importance of Surveyors to Floodplain Management—Matthew Buddie and Marsha Hilmes-Robinson
- DatuGram 3D—Mel Philbrook
- DORA Presentation—Earl Henderson and Joyce Young
- Survey Mathematics Overview—Gaby Neunhertz
- County Surveyor and County Surveyor Symposium—Jason Emery and Panel
- Migrating CAD into GIS—Warren Geissler

Abstracts, scheduled times and full details of the Summit are available at [www.plsc.net](http://www.plsc.net).

# PLSC at 2015 Denver Area Boy Scout Council Camporee

By Brian Dennis and John B. Guyton



*Photos by Gwendy Haas and Brian Dennis.*

In an effort to extend the PLSC GPS Day event and introduce land surveying to a new group of young people, the PLSC participated in this year's Boy Scout Council Camporee, held at Peaceful Valley Scout Ranch near Elbert, Colorado, approximately 28 miles southeast of Castle Rock, on September 19<sup>th</sup>. It was organized by Brian Dennis and other volunteers representing the PLSC and the surveying profession, including J.B. Guyton, Todd Beers, Steve Parker, Heather Robinson, Bill Bowen, Brandon Haas and Gwendy Haas. A tent was provided, decorated with the PLSC flag, and hands-on equipment demonstrations were provided. The group was able to directly engage over 200 folks in the discussions and exercises of land surveying. Everyone reported learning something new, or that their false impressions about surveying were overturned. We were told that no one had ever seen actual, practicing land surveyors host a scouting activity in Colorado before, and our participation was much appreciated.

The kids had a blast with using the various technologies, and the feedback received indicated what they had accomplished and how much fun they had. We had several Scout leaders tell us that word of mouth of our activity had spread throughout the enormous campus, although not all were able to make it to our setup area due to the large number of other activities at the event. Everyone told us how much they appreciated what we were doing and expressed their hope and excitement that we continue to attend the Scouting events in the future.

Over 75 business cards were handed out to parents and troop leaders, wanting contact information to invite us to come to their individual troop meetings to continue the discussions and activities about land surveying. It was exciting and rewarding

for members of the PLSC to be invited to further teach and expand upon the knowledge of land surveying to the youth.

We performed differential leveling, set up a robotic total station, used RTK GPS, performed pin finding with metal locators, showed how to set up a tripod over a point, and had a discussion about the history of surveying. A Trimble representative stopped and took a group photo of us with the equipment to send to Trimble for marketing material, perhaps providing the PLSC with recognition far beyond Colorado.

Brian promoted the PLSC scholarship program to the troop leaders for their older Boy Scouts and Eagle Scouts. They want us to continue to promote this and have more focused discussions and opportunities at the troop level.

An idea was suggested to the parents and troop leaders that each troop could adopt older NGS monuments for updating and bluebooking as a public service. This would be a partnered effort with the PLSC chapters and would allow the troops to have direct contact with a land surveyor(s) and learn about land surveying practices and procedures while providing a fun and exciting environment for learning. This would also be a great value to NGS and the public, to have those NGS monuments updated. There is a high level of interest in this idea by

everyone we spoke with, to do this with the troops on a local level. As a result, the PLSC has a vehicle for its youth outreach efforts, the troops get further exposure to the land surveying profession and perform a needed public service, and NGS receives updated information on its passive network to strengthen its geoid models. I believe the best way to ensure each troop receives recognition for each monument they update is to write a new monument description in the data sheet for NGS and note that this monument was adopted and updated by "TROOP 444 Denver Area Council". This provides the troop with historical recognition for their efforts on each monument observed. In addition, a potential competition could be developed between area troops as to which troop adopted and updated the most monuments annually. Everyone involved wins with this scenario!

The Scout leaders who invited us quickly responded via email that they heard nothing but good things about our activity from the kids and their parents, and are excited to have us return. They also want to get the annual PLSC GPS Day event on their calendar, which is usually held each April. This will be a welcome boost to our attendance. We have made significant gains towards exposure of the surveying profession to young people in Colorado this year, perhaps planting a seed that will grow into a lifelong interest. ♦

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# Control Points – Number 30

## The Uneducated Surveyor

By Warren Andrews, PLS

The original reason the organization titled “The Professional Land Surveyors of Colorado,” formed primarily by Dex Brinker, was to address the lack of education in Colorado for surveyors. Dex had gotten crossways as Chairman of the Land Surveys Division of ACSM, I think primarily on the surveyor’s education issue, and was trying to do something about it in Colorado. He even set up his own Brinker School of Surveying (which later evolved into Westwood) by buying out a previously existing drafting school and revamping it. (I think the drafting school owner was Mrs. Goforth – Dex, correct me if I’m wrong).

The education of Colorado surveyors was THE major issue, hopefully assisted by statutory and board requirements, which didn’t happen, in the early days of the PLSC. I know because I was in the middle of many of the discussions and many of the attempts at reform. The big argument, then as now, was between the proponents, such as Dex, for more basic classroom and theoretical instruction and education (including math, law and history), and those proponents, such as Sebe King and others who had become competent surveyors the long, hard apprentice way in the field without any or little classroom education.

Even though my Dad was a Civil and Irrigation Engineer by degree from Fort Collins and I had worked with him as a kid as a rodman and making blueprints when he was Larimer County Surveyor several times, I came to be a surveyor in a little different way. My attitude toward surveying education and surveying apprenticeship was eventually biased by two things.

The first was finally getting the old Engineer of Mines (EM) degree at the Colorado School of Mines in 1963. This required 207 semester hours of blood, sweat and tears (now 143 for the BS in Mining) and eventually spread out over twelve years because of migraine headaches after I got out of the U.S. Navy as an ET3 (Electronics Technician 3<sup>rd</sup> Class Petty Officer). The EM degree included one full summer session of plane surveying under Professor Henry Babcock and others and a second full summer session of mine surveying under Professor Ben Parker, Jr. The regular semester classroom work went up through differential equations and the field work in mine surveying went up through

wiring a shaft to carry the meridian underground. So much for theory and classroom.

The second part (of course, including the field work at CSM) was the apprenticeship, first as a rod and chainman, then instrument man, then party chief, then corporate survey business owner. First was for my Dad, then Herbert H. Linn three times in between school, Thorwald Sackett in Fort Collins, Prouty Bro’s in Denver, Chas. L. Harrington in Idaho Springs, and Ben Parker, Jr. Then for 3½ years after graduating from CSM, I worked full time surveying for Art Betchart in Evergreen. This was before I spent 30 years with the U.S. Bureau of Mines and its successors as a mine safety engineer (still

surveying on the side as a professional land surveyor). So much for the practice.

All the preceding is just to show it takes BOTH education and apprenticeship to reasonably learn surveying. Oh, and by the way, there is the history of surveying, on which I gave a four-hour presentation at one of the PLSC annual seminars on how surveying developed. To help educate surveyors I also taught surveying at

Arapahoe and at Metro.

My personal bias expressed many times is that an uneducated surveyor in the field is potentially dangerous and doesn’t have the knowledge and wisdom to make a right decision. If that surveyor cannot visualize a slope distance correction or doesn’t know how to calculate the secant of part of a curved lot line or hasn’t a clue whether adverse possessory rights or maybe riparian rights or mineral rights exist or not, or how to trace title in the courthouse, I don’t want that surveyor setting a pincushion corner on my lot in Golden, such as has happened.

Sebe King and the other old timers like Loren Adams are correct, you have to have the field experience but by that path only, it probably will take a lifetime. Otherwise, you have to have the education to detect whether the GPS unit or the total station is malfunctioning on you and something just doesn’t look right. If you think I’m pushing too much education just ask any PLS who just lost a big expensive lawsuit against him by not thinking it worthwhile to check in Brown or Clark or Robillard and unknowingly setting a property corner in the wrong location for a very expensive building. ♦



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# United States Department of the Interior

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CO-956  
9650

September 24, 2015

Mr. John B. Guyton, Editor  
Side Shots  
3825 Iris Ave.  
Boulder, Colorado 80301

Dear Mr. Guyton:

This letter is to inform you of official BLM cadastral surveys in Colorado that have been accepted and officially filed from May 12, 2015, through August 19, 2015, and are now available in the Public Room, Bureau of Land Management, Colorado State Office, 2850 Youngfield Street, Lakewood, Colorado 80215. The surveys will also be available at <http://www.glorerecords.blm.gov>.

The accepted surveys are listed below by township, range, meridian, group number, type, approval date and number of plats.

<u>Township</u>	<u>Range</u>	<u>Meridian</u>	<u>Group No.</u>	<u>Type</u>	<u>Approved</u>	<u>Plats</u>
Tps. 45&46 N.	R. 7 E.	NMPM	1641	Plat & Notes	05/12/15	2
T. 43 N.	R. 6 E.	NMPM	1140	Plat & Notes	05/18/15	1
T. 14 S.	R. 77 W.	Sixth	1636	Plat Only	06/10/15	1
T. 35 N.	R. 15 W.	NMPM	1633	Plat Only	06/19/15	1
T. 5 S.	R. 78 W.	Sixth	1651	Supp Plat	08/19/15	1

As other surveys are completed, I will advise you of their acceptance. You may circulate this letter among the membership of the Professional Land Surveyors of Colorado.

Sincerely yours,

Randy Bloom  
Chief Cadastral Surveyor for Colorado



# DORA Update

By Joyce J. Young,

Program Director for the Board of Licensure for Architects, Professional Engineers  
and Professional Land Surveyors ("Board")

Hello, Professional Land Surveyors! I hope you all had a productive and lucrative summer as the sun shined and Colorado's economy continued to grow. We at the Board office have been busy with many projects for the Board as well as our Division - the Division of Professions and Occupations. We would like to highlight the following.

## **Renewals**

All Colorado Professional Land Surveyor licenses expire on October 31, 2015 unless you renew. You can now renew your license by visiting the Board's **NEW** website at <https://www.colorado.gov/pacific/dora/AES> and clicking on the blue **RENEW A LICENSE** bar.

## **New Rules**

The following are *some* of the recent changes to the Board Rules directly related to PLS licensees. These rules became effective on September 1, 2015. For a complete copy of the updated Board Rules, please visit the Board's **NEW** website at <https://www.colorado.gov/pacific/dora/AES>. A special thank you to the PLS' that assisted in the drafting and review of the new rules. We encourage all that are interested to interact with the Board during the rulemaking sessions. If you would like to participate in future rulemaking sessions, please email the Board office at [dora\\_AESboard@state.co.us](mailto:dora_AESboard@state.co.us) to get on our stakeholder's list.

## **Discipline in Other States**

It is a violation of the Board's statute for a licensee to receive discipline in another US jurisdiction and licensees are required to report this disciplinary action to the Board. Failure to report may result in discipline against your license to practice.

### **Board Rule 3.1.10**

#### **Reporting Disciplinary Action in Another**

**Jurisdiction.** Licensees shall inform the Board of the licensee's violation of any law or regulation governing the practice of architecture, engineering, or land surveying in another state or jurisdiction. Notification shall be submitted to the Board:

- (a) Within 45 days of the effective date of the action in another state or jurisdiction;
- (b) In writing; and,
- (c) Shall include a copy of the final order or document from the jurisdiction imposing the discipline.

## **"Pin-Cushioning"**

The following was adopted to address the issue of multiple monuments found within a single property corner.

### **Board Rule 6.5.4**

#### **Monuments Shall Conform to Statutes.**

##### **6.5.4.1 Documenting New and Existing Monuments.**

If a monument is set, as a result of a land survey, that represents the same corner or control corner of an existing monument, the professional land surveyor setting the new monument shall, on the resulting land survey plat, make note of the reason the professional land surveyor did not accept the existing monument.

## **ILC Drafting Standards**

The Board frequently reviews issues where consumers think that the Improvement Location Certificate (ILC) they received is a property boundary survey. The following section (c) was repealed from the rules in an effort to address this issue.

### **Board Rule 6.6**

#### **Minimum Standards for Improvement Location Certificates.**

**6.6.2 Drafting.** A sketch or diagram of the parcel shall be used in support of the certificate required by Section 38-51-108, C.R.S., and the following standards shall be used:

**REPEALED> (c)** Major improvement locations shall be shown with dimensions to the nearest property lines, with a minimum of two dimensions shown, and shall be sufficient to locate structures.

## **NCEES Takes Active Role in Promoting Professional Land Surveying**

In 2014, the National Council of Examiners for Engineering and Surveying (NCEES\*) formed the Future Surveying Task Force to address the national decrease in the number of Professional Land Surveyors entering the profession. At the 2015 NCEES Annual meeting, the membership boards considered the motions of this task force which would provide financial support to study the issue and establish an awards program to promote the college level education needed for future surveyors. As

the Board supported these issues, we are very happy to report that the motions passed!

Motion 1: NCEES will fund and facilitate meetings with stakeholder groups to consider and recommend additional outreach opportunities and strategies to promote careers in land surveying.

Motion 2: In the coming year NCEES will develop the *NCEES Professional Surveying Program of Distinction Award*. Each year NCEES will award 5 to 10 qualifying land surveying programs this award of up to \$10,000. The program must be a college level program and must meet established criteria.

\* NCEES is a national nonprofit organization whose membership is comprised of the engineering and surveying licensure boards from all 50 states, the District of Columbia, Guam, Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands.

## **State Specific Examinations**

In 2014 NCEES transitioned the Fundamentals of Surveying examination from a pencil-and-paper examination to computer-based testing.

On **October 1, 2016**, the Principles and Practices of Surveying examination will be transitioned from the pencil-and-paper examination to computer-based testing. At that time, NCEES will no longer be able to administer the state specific examinations.

To address this issue, Colorado has already begun work to transition the state specific examination to computer-based testing with another vendor, which will be effective **January 1, 2016**. Directives will be provided to approved applicants as part of the examination registration process.

For question about any of the information provided here, please email us at [dora\\_AESboard@state.co.us](mailto:dora_AESboard@state.co.us)

Wishing you all a holiday season filled with peace and joy! ♦

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# Statute of the Month

## 38-51-111, Surveyor's Affidavit of Correction

By Earl Henderson, PLS

The surveyor's affidavit of correction is a very useful, and I think necessary tool. Because let's face it, we've all made scrivener's errors on something or other and it may seem excessive to some to be required to deposit an updated and revised plat because of a transposed number or something similar. But be clear. A surveyor's affidavit of correction is an option, or alternative to depositing a revised plat, not a requirement. If you so choose, you can revise a plat and deposit an updated copy instead of recording a surveyor's affidavit of correction. Sometimes it's actually easier and quicker because it only takes one drafting change and a printer rather than creating a whole new document. And in many instances I think it's advisable to deposit an updated plat. But that's a choice we as professionals have, and make on occasion. For instance, in Boulder County our Land Survey Plats are deposited in the Land Use Department and not the Clerk and Recorder's office. So if an error is discovered on your plat, and you deposit a surveyor's affidavit of correction with the clerk and recorder, that error may not be discovered by the public or other surveyors during their research since it's in a separate location from the plat. It might slip through the cracks. Similarly, even in counties where Land Survey Plats are recorded at the clerk and recorder's office, even though you record a surveyor's affidavit of correction, many people stop their research efforts upon finding a recorded plat and don't take those extra steps to see if a surveyor's affidavit of correction was recorded for each and every plat they find and use. If you recorded a surveyor's affidavit of correction, you're not at fault in that you did what was required of you, but if your true intention is to notify the public (and fellow surveyors) in a way in which they can easily find it, then you may want to consider depositing an updated plat instead of a surveyor's affidavit of correction. We're professionals. It's our responsibility to do what's best, not what's easiest.

38-51-111(1) reads "If an error *described in subsection (2) of this section* is discovered on any *subdivision plat, land survey plat, or any other survey plat or parcel description* duly recorded in the clerk and recorder's office of the county in which the subdivision, land, or parcel is situated, the professional land surveyor of record may prepare and record in that clerk and recorder's office a surveyor's affidavit of correction to correct the error." (*emphasis added*)

You'll notice I emphasized a couple of portions for further clarification. The first emphasized portion we'll discuss later because (2) follows (1), but suffice it to say at this point that there is a specific list of corrections that

are appropriate and allowable for a surveyor's affidavit of correction. The second emphasized portion lists the documents on which those errors can occur. So you can see that the situations in which a surveyor's affidavit of correction is appropriate is limited. Contrary to the popular opinion of many PLS's, clerks, lawyers, etc a surveyor's affidavit of correction cannot be used to correct any and every error on a recorded document. (And as an aside, the statute specifically mentions that the original document has been recorded in the clerk and recorder's office, so a surveyor's affidavit of correction on a Land Survey Plat, deposited at the Land Use Department in Boulder County, as mentioned above, may not even be allowable.) So, if you're considering using a surveyor's affidavit of correction, first take stock of the situation and see if it fits within the parameters allowable. And although this is my opinion, it seems as though the document list is intended to reflect those documents for which the surveyor has ultimate responsibility.

I was recently asked to complete a surveyor's affidavit of correction for a description and exhibit map I created for an easement deed. I chose not to do so. Instead, I told the client I would foot the bill to have a Correction Deed recorded which would be signed by the two parties. My concern was that the easement deed was an agreement between those two parties of which I was not one. And I didn't want to make a correction/change that, no matter how unlikely or inadvertent, could under some unforeseen circumstances, significantly alter the easement deed in such a way that it resulted in something other than what the two parties were intending. By recording a surveyor's affidavit of correction the two parties end up possibly completely unaware that a change has even occurred. But by having them sign a Correction Deed, they are agreeing to the change. Conversely, if a correction is needed for a subdivision plat I may consider a surveyor's affidavit of correction, keeping in mind the issues outlined above of course. And besides, it's at best unclear, but in my opinion an easement deed does not fit within the parameters of (1) & (2).

38-51-111(2) reads "The following errors may be corrected by a surveyor's affidavit of correction:

(a) Any bearing, distance or elevation that has been omitted or labeled incorrectly;

(b) Any text that has been misspelled or mislabeled;

(c) Any error or omission, if the error or omission is ascertainable from the data shown on the recorded plat or parcel description; or



(d) An error within a parcel description shown on a recorded plat."

That's it and that's all. If any correction you need to make doesn't fit into one of those four situations (and on one of the documents listed in (1)) then you do not have the option to record a surveyor's affidavit of correction. And notice that (c) & (d) both say "...on a/the recorded plat..." so those only apply to plats and not easement deeds (for instance). Apparently the conditions sound much simpler than they actually are because there are plenty of surveyor's affidavits of correction recorded that don't fit into the allowable parameters. And you may find this hard to believe, but the County Clerk doesn't understand this or know this list by heart. Plenty of us have had the County Clerk request a surveyor's affidavit of correction be recorded for a particular situation that doesn't fit the parameters, but as professional it's our responsibility to either know, or refer to, this list and tell the clerk that we are not able, under the law, to comply with their request. My experience has been that most clerks think a surveyor's affidavit of correction can be used for anything (possibly even Grandma's will).

38-51-111(5) reads "Nothing in this section shall be construed to permit changes in courses, distances, or elevations for the purpose of redesigning any lot, tract, or parcel configurations."

As if (1) & (2) combined aren't limiting enough, (5) puts additional emphasis on a surveyor's affidavit of correction that seems to me like it shouldn't even need

to be there at all. But consider this; is it possible that this statement is really saying, "use your common sense"? (1) & (2), when taken together are essentially saying that correcting scrivener's errors is what this is for and (5) is essentially saying don't use this for anything other than scrivener's errors. Or put another way; The law is clear, now obey the law.

Lastly, I'd like to expand on that not so common sense. A surveyor's affidavit of correction is an option, but it's not always the clearest, simplest, easiest, or even the most cost effective option. I once encountered a surveyor's affidavit of correction for a subdivision plat that was almost 30 pages long. Assuming for the purposes of this example that all those errors fit within the allowable parameters of a surveyor's affidavit of correction, how could that have been easier, quicker, simpler or more cost effective to create than simply recording an updated plat? And how could that 30 page surveyor's affidavit of correction have been a more effective way to communicate to the public, the client, and future surveyors the correct situation? It wasn't of course. (And I haven't even mentioned that with so many corrections, there's a likelihood of errors within the corrections.) Is it possible that the surveyor was trying to hide the extent of the errors rather than communicate them? I don't know. But guess what happened? I was approached by the same client several years later and found the surveyor's affidavit of correction and had to point it out to that client. Guess who was hired for Phase II?

Be safe out there. ♦

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# Professional Land Surveyors of Colorado, Inc. Membership Application



The PLSC represents land surveyors' interests in the State, proposes new legislation and changes to existing legislation as the industry's needs change, and works with the State Board of Licensure as an advocate for Land Surveyors. PLSC Chapters include: Central Colorado Professional Surveyors (CCPS), Colorado Spatial Reference Network of the PLSC (CSRN), Northern Chapter—PLSC (NCPLSC), Northwest 1/4 Colorado Land Surveyors (NW1/4CLS), Southern Colorado Professional Land Surveyors (SCPLS), Southwest Chapter PLSC (SWPLSC) and Western Colorado Land Surveyors (WCLS). Voting membership includes NSPS membership. Others can add this option.

---

## 1. Member Information:

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: ☐ Home ☐ Work  
\_\_\_\_\_

City, State Zip: \_\_\_\_\_

Daytime Phone: \_\_\_\_\_

Email: \_\_\_\_\_

PLS or LSI Number(s) and State(s): \_\_\_\_\_

☐ Please do not include my information in the PLSC Member Directory or online directory.

---

## 2. Membership Information:

Membership Type: ☐ Sustaining—\$230 ☐ Voting—\$150 ☐ Associate—\$75 ☐ Student—\$30 ☐ Retired—\$60  
(Please check.)

Included Chapter: ☐ CCPS ☐ NCPLSC ☐ NW1/4CLS ☐ SCPLS ☐ SWPLSC ☐ WCLS

(Each membership includes one free Chapter membership. Please check—see above for descriptions.)

Additional Chapter: ☐ CCPS ☐ NCPLSC ☐ NW1/4CLS ☐ SCPLS ☐ SWPLSC ☐ WCLS

(additional Chapter memberships are \$20 each. Please check.)

NSPS Membership (included in Voting Membership): ☐ \$40 for professionals/\$10 for students

---

## 3. Payment Information:

Membership Type: \$ \_\_\_\_\_

Add'l Chapters/NSPS: \$ \_\_\_\_\_

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# A Wonderful Thing Happened on the Way to Trig Star This Year!

Thomas W. Sylvester, PE & PLS

As many of you know, it is difficult to get Trig Star participation at the schools these days with all of the competition for the students' time. They have their normal curricula, extracurricular activities, pushing for finals, COMMON CORE testing, CSAPP testing, and a myriad of other diversions, including spring fever. And it is even harder to break into a new school for the Trig Star competition.

The Western Colorado Land Surveyors (WCLS) chapter of the Professional Land Surveyors of Colorado, Inc. (PLSC) has been coordinating and administering the National Society of Professional Land Surveyors (NSPS) annual Trig Star competition in the Grand Junction, Colorado area. We have a superb math teacher at Central High School, Ms. Julie Christianson, who has been pushing the Trig Star completion and encouraging her students to enter the competition for several years. Because of the various conflicts for the students' time, we have been averaging only about 3 to 4 participants per year. And we have not been able to make any penetration into the other schools in our School District 51 which covers all of the public schools in the Grand Valley from Fruita, through Grand Junction, to Palisade. The district even covers the little school in Gateway, Colorado on the Dolores River near the Utah border.

Early in this year's planning, Ms. Christianson and I started discussing ways to increase participation. I suggested some nominal prizes but didn't know the District's policy on such. Ms. Christianson said they do that all of the time with gift cards and other types of

awards geared toward the educational route. Our WCLS chapter agreed to grant a \$100 gift card to the winner, and \$10 gift cards or cash to all of the participants.

This is where it starts getting amazing. Central High School has recently been designated the STEM (Science, Technology, Engineering, and Math) school for the district. Central's Math Department was meeting to discuss new curricula because of the STEM designation. Because of all of the mandatory testing, several class days a year have been taken away from the actual teaching time. As such, they have had less time to present trigonometry to the students. Ms. Christianson suggested trig be added and mentioned our Trig Star competition and our cash awards for the upcoming Trig Star competition. The head of the Math Department was so impressed that there were private parties in the community willing to spend money on their students that he suggested they go a step further and start an investigation into teaching a surveying course in the coming years. I was called upon to participate in an exploratory committee headed by Ms. Tracy Alredge, Vice Principal at Central, and Ms. Christianson, to get the ball rolling.

When I presented the success story to the PLSC Board, we suggested that the PLSC be the sponsor of the \$100 gift card and \$10 cash award, and to make it state wide, which they agreed to do. Because of the enthusiasm Central High School is showing towards surveying, the PLSC Western Federation of Professional Surveyors representative suggested that we extend an invitation to Central High School to send a teacher to the TwiST program, a one week class in Vancouver, Washington on Teaching with Spatial Technology in June of this year. Central's Science Department Head, Ms. P. J. Janssen, accepted the invitation. During my interview with her and upon being selected to go, she was as excited as a kid at Christmas. She will work with the Math Department to incorporate her new knowledge into the surveying courses. I hope to have a future report for Side Shots on her experience.

Back to Central High School. On the day of the examination, which had to be given before most of the school classes started, we had 16 students participate instead of our normal 3 to 4! That is a 300% to 400% increase over our previous years! They all





diligently tried their best on the test and I know that \$10 doesn't buy a student getting up an hour early to go to school to take a test. Our Trig Star winner this year was Maxwell Soko, a three time participant and two time winner. And he is only a Junior and will be able to take the test again next year. The day following the test, Central High School held their annual Awards Ceremony for all of their students. Our chapter President, Peter Krick, and I were delighted to call all of our participants on stage to be presented to the entire student body and

parents in attendance. Each participant was awarded a certificate and a pouch of 10 each \$1 "gold" coins. Max was awarded a letter, certificate and \$100 gift card. Because of her diligent championing our competition each year, we also presented Ms. Christianson with an award letter, a certificate, and a pouch of 10 each \$1 "gold" coins. It was a grand opportunity to show off these outstanding students and teacher and promote our profession of surveying. ♦

I want to thank Thomas W. Sylvester for inviting PJ Janssen and me to address the September meeting of the Western Colorado Land Surveyors. Tom asked that we speak about our efforts to include surveying in our STEM program at Central High School. The STEM program at Central is fully supported by our professional staff and administration and is our avid attempt to provide our students in Grand Junction opportunities for learning and understanding STEM disciplines in an environment where inquiry, technology, and history compete to capture their interests and imagination.

I presented a general course description that included a sampling of the historical context of the field of surveying, geodesy, the applied technical mathematics used, the impact of technologies such as GPS and GIS to the field, and the need to understand boundary law. I was encouraged by the genuine interest demonstrated by the WCLS members as they listened to my ideas for an introductory course at Central. They asked some tough questions about the scope and sequence of our proposed class as well as the funding available for the course. The WCLS members also demonstrated their passion for the field of surveying by committing so freely their professional expertise and time to support our efforts at Central.

PJ described her experiences this past summer with the Teaching with Spatial Technology (TwIST) conference in Vancouver, WA and thanked the members of the WCLS who made her experience possible. She found the course to be extremely beneficial in providing lesson skills and ideas that she will incorporate into Central High's AP Environmental Science course. The Vancouver course offered lessons utilizing compass, GPS, and GIS. These skills will be helpful when her students identify, map



and document varieties of plant species in an outdoor setting. TwIST also covered basic lessons in ARC GIS & ARC Map. PJ anticipates that these programs will be utilized in teaching students how to connect field data with location data. Our hope is to utilize an existing outdoor classroom to introduce basic GPS, compass, surveying and mapping techniques to our students.

We passionately want to develop curious, persistent and flexible thinking individuals who will be responsible and socially aware members of our communities. PJ and I truly believe that your field of land surveying is a discipline that will provide just these types of learning and growth opportunities for our students. Our goal is to have a STEM Introduction to Surveying course submitted for approval through our CTE (Career and Technical Education) program by the end of October and hope to offer the class for the first time in the 2016-2017 school year. We look forward to developing not only this course for our STEM program, but building a partnership between our faculty and staff and the members of WCLS.

By Julie Christiansen  
Teacher at Central High School, Grand Junction

# The Tale of the County Surveyor

By Paul Bacus PLS

One day the people of England cried out to their king, "Our roads are horrible, please help us." So the king of England proclaimed the first Highway Act saying that all of my subjects will spend one day a month working on the roads. This was not the support they were hoping for. So the ever resourceful people of England thought "I will work on the road in front of my house and my driveway". As you would guess this did nothing for the main roads that went through forests on their way from town to town. So there was another highway act and another, as a matter of fact we still have highway acts to this day. In spite of human nature, and born out of need, a system of roads developed.

Around this time a text from France had just been translated and became all the rage in the leading institutions of learning, it was called Geometry. It was considered the perfect thing for the rising aristocrat; it tied you to your property, it required neat technical toys and the end product was a map of your possessions, the perfect backdrop for a portrait. Now as we all know, surveying is a skill and an art that requires a great deal of time to develop and refine, you know, actual work. Now the Lords had a very complex system of government that gave them the final word, they had other people to do the actual work. You had an Assessor to assess taxes, a Reeve to enforce laws (our word Sheriff comes from Shire Reeve) and a Clerk to keep the records. The person whose job it was to "over see" their lands became known as the surveyor.

Now geometry is taught in the form of proofs, a string of logical statements leading to a solidly proven result and as such the rules do not leave a lot of room for debate. Cartography in England was slow to develop because the document that kept track of the king's possessions was the Domesday Book. The Domesday Book was an accounting of everything and relied upon performance based measurements, you can march at 4 miles an hour and plow an acre in one day. This tied your possessions to your expectations, how much hay can I get from here, to my army, by tomorrow. But you see a road may take longer to go uphill to a destination than to return. So you developed a system of long miles and short miles, this was one of the problems that the highway act had to address which has led to the statute mile as a set distance.

This set the stage. We had a need for someone who was trained in measurement, reliable standards and a system that could return trustworthy results. Each county would measure the amount of road work needed and keep track of progress. Since the laws of geometry allowed for little creative interpretation, cheating would be difficult and always discovered, county surveyors were considered the most honest and trustworthy. To

insure peace Surveyors were, and still are, chartered by the crown to conduct their business.

In all questions of boundary the Lord sent out the County Surveyor. As colonization developed and English law spread so did the county and so did the county surveyor. Mason and Dixon were sent by the crown to settle the dispute between the county surveyors of Pennsylvania and Virginia.

The position of the county surveyor became a staple of our form of government. George Washington graduated with a certification in surveying from William and Mary. He was not only the first president he was also the first registered county surveyor. As a matter of fact, three out of the four Presidents on Mount Rushmore three were County Surveyors. All of the states established the position whether it is a County, Shire or Parish, each had surveyors. When Colorado wrote the constitution it was obvious that the position of County Surveyor should be required.

County Surveyor is an elected position because of the nature of the job. Democracy demands the voice of the people take the place of the crown in a position of this responsibility. Our system of government is based upon the distribution of work established in England. The assessor keeps track of the taxable value, the sheriff enforces the law, the clerk records documents, and the surveyor keeps track of boundaries.

During the formative years of Colorado the county surveyor was a hot position. The state engineer was establishing boundaries and not doing a very good job, boundary law is more than just the math. There are numerous court cases during the late 1800's and early 1900's where the foundations of boundary law in Colorado were established.

Currently the county surveyor is tasked with the maintenance of records concerning monumentation and survey related records. Not all survey records are plats and attached legal descriptions, the notes, maps, the history of the process is invaluable to our profession. It is their job to ensure and when called upon adjudicate monuments to ensure that the south 1/4 of section 10 is a monument, not a family of monuments. They are empowered by the constitution and statute to keep the peace. Without them all we can do is to produce an opinion, and in fact add to conflict.

In going on 40 years in this game I have never had someone say "I want to take someone else's property" they always say "I just want what is mine". Boundary law is often combined with complicated possessory aspects that go beyond our area of expertise. We can't always simplify the lives of our clients, sometimes the problem

is not the location of the boundary. 30-10-906 and 38-44 allows the courts and the county commissioners to call upon our discipline to resolve questions of boundary.

Last year the position of County Surveyor was questioned and was to be stricken from the constitution. It was considered archaic and of no value since the late 1800's. By the time it came up for a vote concessions had been made to allow the counties that had surveyors to keep them, but the requirement that each county have a County Surveyor was up for the vote. We were told that in a divided senate that it would fall along party lines, it did not. The proposition failed by only two votes.

During this time a very important fact emerged. At the time 30 out of 64 counties did not have County Surveyors. The Clerk and Recorder received and recorded the documents, some are Land Survey Plats, Surveys, or Maps. No one is taking the time to ensure that the boundary history is being preserved and catalogued in a fashion to keep it from being lost.

As the head of the Legislative Committee it is my job to look into this problem. In my search of county websites when a county surveyor was not listed I found that according to the ballot there were "no candidates for this position". Now there are plenty of dysfunctional relationships between the County Surveyor and the County Commissioners, this is the nature of politics. From what I can tell most of these counties don't have a

County Surveyor because no one will step up.

I have been warned by many sources that we will again face the question of the future of the County Surveyor. It can not be a question of money, the cost of living increase that the County Commissioners are asking for is three times the annual salary of the County Surveyor. This is an attack on the position of County Surveyor. There is no question that there is a problem, the only question is who is going to fix it.

We are creating legislation that will clear up ambiguous language that has led to conflicts between surveyors and County Commissioners. We are sponsoring panel discussions about the problem and having successful County Surveyors give lectures on their duties and how they do the job. But if the position does not exist after the next legislative session it won't matter.

We must be prepared to contact our Senators and Representatives, they will decide our future. We all need to make personal contact, at least speak with them on the phone. Our problem is that there is no face to our profession, we need the contact with those who vote on our behalf. Otherwise we are a statistic, and right now we could use some work on our "stats".

We must remember that *Legacy* is not just the history of our profession, it is the future of our profession. ♦

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# PLSC Board of Directors Meeting Minutes

July 15, 2015

## Farnsworth Group

### Call to Order: (Todd) 4:06PM

Recognition of PLSC Board Members and Officers:

#### Present:

##### • Officers:

Todd Beers (P-Central)  
Kayce Keane (VP - Northern)  
Alan Blair (Secretary- Treasurer - Central)  
Becky Roland (Exec. Dir.)

##### • Board:

Paul Bacus (Northern)  
Eric Carson (Central)  
Patrick Green (Western) and County Surveyors  
Representative  
Leif Joy (NW1/4)  
Steve Parker (Southern)  
James Rihanek (Central)  
Thomas Sylvester (Western)

##### • Nonvoting:

Mike Bouchard, WFPS Representative  
Roger Nelson (Past President) and WFPS

##### • Representative

J.B. Guyton, NSPS Representative  
Pam Fromhertz, NOAA

##### • Determination of Quorum (Alan Blair - 6 voting members) - Quorum present

##### • Additions, deletions and modifications to agenda: Move Pam Fromhertz report to item 5

##### 1. Approval of Minutes from Previous meeting(s): (Alan Blair)

**MOTION:** To approve the April 2015 Minutes as presented. (Green/Keane)  
Approved unanimously

##### 2. Appointing Alan Blair to Secretary-Treasurer due to resignation of Terry Maw. Remaining term will be through 2016. Thanks to Terry for his time and support of the organization. (Todd)

##### 3. Need to appoint a BOD member to replace Alan Blair's remaining term (through 2016). Suggestions:

a. Josh Castleberry or Southwest Chapter

b. **Board members are asked to send suggestions to Todd and Becky**

##### 4. Modification of Legislation Committee Chairperson-

Alan Blair is stepping down from the legislation committee chair position to a committee member.

Paul Bacus will become the new Legislation committee Chairperson effective immediately. Thanks to Alan for his leadership of this very important committee for the past several years. (Todd)

##### 5. Pam Fromhertz/NOAA Report

###### a. NGS Advisor Program

Transition from State of Colorado to Regional Advisor occurs January 2016.

P. Fromhertz will then be responsible for multiple states. Currently it appears to be Montana and Wyoming in addition to Colorado. NGS is encouraging States to have their own Coordinator. NGS will provide future training for such identified coordinators. Pam asked the PLSC to name a member who could assist in identifying a need for such a person, who in the State could house and fund, what their responsibilities would be and who they would work with. In discussions with Dan Smith, CDOT, he would like someone focused with GIS as well as geodesy and GPS. The BLM would like someone with geodesy.

**Eric Carson volunteered to assist in such efforts to identify the need. Pam will set a meeting with Dan Smith and Eric to discuss next steps.**

###### b. PLSC Chapter Meetings

Pam is currently scheduling meetings with the chapter to provide a presentation on the NGS tools that will assist surveyors in their job as well as assist in the transition to the new datums. Things such as new videos, DS-World, Data Explorer, OPUS-Share, new datums, heights, GRAV-D, GSVS16/17 will be discussed. She plans to visit the majority of the chapters this year and has presented to the Western Chapter Seminar and is scheduled to present to the Northern and Southern Chapter in September and October.

###### c. Geoid Slope Validation Survey (GSVS) 16/17

NGS has narrowed the search for the Geoid Slope Validation Survey to US 160 from Walsenburg to Durango. Mark setting of over 200 marks will be installed approximately every mile this fall. Field work of various surveys (leveling, gravity, GPS, DOV, ..) will be performed next summer.

###### d. Not discussed - Adopt a Station

T. Beers had suggested 'Adopt a Station' for individuals to take GPS/GNSS measurements at specific bench marks. This will assist in preparing us for the new datums by collecting GPS/GNSS measurements over a bench mark. NGS has provided tools to assist in which areas/stations are priority. Pam continues to work to

develop further tools to identify bench marks that have a difference greater than 5 cm (this value can be modified) between the orthometric – ellipsoidal height compared to the geoid height. Pam would like a PLSC member to assist to make some headway.

6. 2015 Budget– Alan Blair & Becky Roland.

- a. Review and modifications
  - a.i. Refresher Course Speaker honorariums – paid Jan and Lynn \$300 each session in 2015 (two session each); consider a minimum number of students (20) before offering honorarium; this would be a 2016 budget item
  - a.ii. Board reviewed financial statements for June 30, 2015
- b. Scholarship Funds, Checking & Savings Accts
  - b.i. Per Board direction \$150,000 of operating funds have been moved from Wells Fargo Savings to Investment Accounts
- c. Membership Renewals-issues, where are we with 2015 numbers
  - c.i. **Set the renewal/application so that it is clear what membership levels are meant for what type of professional (LS, PLS, GIS, Student). Steve will work with Becky to make sure this is clear**
  - c.ii. **Send a letter to Associate members that are PLS (JJ will cross reference this list) that they can renew as a Voting Member, since they are qualified for that membership level**
- d. Membership Numbers 2015 and (2013):
 

Associate	\$75	74	(89)
Retired	\$60	4	(7)
Sustaining	\$230	27	(19)
Voting	\$150	250	(316)
Honorary	\$0	10	(7)
Newly Licensed	\$0	39	
Total		404	
- e. **Congratulations card after passing the exam with automatic membership and Chapter contact.**
- f. **New Members recognized at Summit – ribbon on badge and/or drink ticket for reception.**
- g. **Welcome call/email to new members from Chapter Chair/PLSC Membership Chair – make sure to send this as a list of calls to make; welcome eblast**
- h. **Mentor program for newly discharged military members and new graduate to assist through work/education**
- i. **Welcome packet to include pin, pen, sticker, card and certificate**
- j. **Ask members to pay it forward or sponsor a membership if they cannot afford it**

- k. **Renewal packet to include card and sticker**
- l. **Promote Affiliate membership through member companies; develop a handout for members that explained benefits**
- m. **Send invitation to members who have lapsed and invite them back; then send to leadership to follow up with anyone they know**
- n. **Send list of lapsed members to Chapters to divide and call; invite to meeting or to renew; need to collect feedback if they say no**
- o. **Get a Member – receive \$10 off Summit or next year's membership**
- p. **Interview surveyors on “how they became a surveyor” and put on YouTube channel/ website**
- q. **Film “A Day in the Life of a Surveyor” and post online, Southern Chapter is going to do a program that will take an attendee through a survey project**

7. Colorado County Surveyor position

- a. Discuss current issue and potential actions of PLSC-Paul Bacus, Alan Blair
  - a.i. 36-110 – updating
  - a.ii. Symposium at 2016 Summit to discuss that 30 counties do not have a County Surveyor appointed and what can be done, what the County Surveyor does and the value provided
    - a.ii.1. Need to work with Leif and Colorado Assn. of County Surveyors – their conference is in the Fall, and Leif will invite Patrick, Alan and Paul to present on this issue
    - a.ii.2. Consider a video promoting the value of County Surveyors

8. Continuing Education Requirement for Colorado Land Surveyors

- a. Todd provided history of prior attempt by AES with input from Earl Henderson
- b. Discussed actions to be taken
- c. Todd provided surrounding States legislation examples
- d. Alan Blair contacted ACEC and they are not in favor of CE requirements
- e. We will need something soon to get Peg to find a sponsor – likely not this year so DORA can be part of the process
- f. **Roger, Alan, Kayce, Steve and Todd are interested in this process**
- g. Dick Elgin and Gary Kent are resources

9. 2016 Surveyor's Summit, (Kayce Keane)

- a. Venue, Sponsors, Tract assignments, speakers, advertisements

- b. Moving forward nicely
  - c. Two hour mass session on the first day
  - d. Wednesday through Friday – no Saturday
  - e. Three tracks each day – concepts have been identified
    - e.i CFed Refresher Course
    - e.ii Keynote: Dennis Moulard
    - e.iii GIS and FEMA
    - e.iv. Sent call for abstracts
    - e.v. **Track Assignments made – email Kayce**
- if interested in draft program**
- 10. Establish PLSC 2015 Goals & Purpose
    - a. Increase PLSC Membership overall- All Chapter Membership Drive? Steve Parker
      - a.i. Out reach to all chapters for goals, assistance, input
      - a.ii. Continuing Education requirement
    - b. History of prior attempt by AES
  - 11. Website
    - a. **Page on the website to promote Sustaining Member events/training, links to their pages**
    - b. **WE NEED MEMBER SPOTLIGHT MATERIAL!!**
    - c. **Steve is willing to assist with the website within the Membership Committee**
    - d. Southern Chapter has a program to find a surveyor on their site – Steve and Becky discussed how this could be modified for the PLSC site
    - e. **Consider bringing Brian Dennis back in to assist with the website (Todd)**
  - 12. Items for new and current PLSC members
    - a. Membership cards (wallet cards)
    - b. Certificate of membership (letter size)
    - c. Book on statutes (Paul's book)
  - 13. Reports:
    - a. President, Todd Beers – no additional report
    - b. Vice President, Kayce Keane – no additional report
    - c. Secretary-Treasurer, Alan Blair – no additional report
    - d. Executive -Director, Becky Roland
      - d.i. The State Directors Group of NSPS has asked Becky to consider serving as Co-chair beginning next Spring for a two-year term. This would require attendance at two NSPS meetings each year.
    - e. NSPS Governor – JB Guyton – no additional report
  - f. WFPS Delegates Mike Bouchard and Roger Nelson
    - f.i. Held in Denver in May, submitted report for Side Shots
    - f.ii. TwiST program - PJ has been paid and we are awaiting a report from her
    - f.iii. **Becky needs to submit expenses to WFPS (Mike will forward the email request)**
    - f.iv. Looking into QBS
    - f.v. Next meeting in September in Portland or Seattle and 2016 will be in Hawaii
    - f.vi. Interest in Colorado Board Rule on multiple monumentation (Oregon and California)
  - g. Front Range Surveying and Mapping Program, JB Guyton, Chair
    - g.i. MSCD – 2 students
    - g.ii. University of Colorado
    - g.iii. University of Wyoming has a program that has an online program (possibly a two year program)
    - g.iv. Still need to find an endowment to create a program/educator – online only for now
    - g.v. **Gene Kooper has the survey equipment from Metro's program – need inventory and consider moving to storage unit**
    - g.vi. Arapahoe Community College and Pikes Peak Jr. College need instructors
  - 14. Standing Committees
    - a. Legislative Committee – Paul Bacus, Chair
      - a.i. Survey – Rules go up for review in September
    - b. Monumentation and Standards, - Inactive
      - b.i. 2022 – New Datums
    - c. Membership Committee, Steve Parker, Chair
      - c.i. All Chapter membership drive
      - c.ii. New SI's and LS's free membership invitation
    - d. Ethics and Fair Practices, Patrick Green, Chair – no report
    - e. Education Committee, Kayce Keane, Chair – no additional report
    - f. Liaison Committee, (QBS Colorado) - Inactive
    - g. Special Committees
      - g.i. CSRN – Eric Carson
        - g.i.1. GPS Day planning started, 2015 had 60+ people, considering pre-registration so we know how many will be attending
        - g.i.2. Trig Star – Roger spoke at the Aurora presentation, about 30-35 people attended, having incentives improved attendance to 17 kids on the Western Slope



- g.i.3. GIS-In-The-Rockies – Steve Parker – All abstracts received, program full, pre-enrollment is above expectations, **September 23-24 at Cable Center, PLSC will have a booth**, will have a job fair and poster competition, Heather Lasner will be our track representative

#### 15. Chapters

- a. Southern – Steve Parker, President
  - a.i. Golf Tournament August 8
  - a.ii. Member's meeting in September
  - a.iii. Technical Seminar October 3
  - a.iv. Holiday party everyone is invited to
- b. Central – Dave Kuxhausen, President
  - b.i. event at Punchbowl Social was a good idea with new faces attending but expensive
  - b.ii. Next meeting in Golden in August

- c. Northern –Kayce Keane, Past President
  - c.i. County Surveyors presented at the last meeting
  - c.ii. Next meeting is in September,
  - c.iii. Holiday party everyone is invited to
- d. NW ¼ - Brian T. Kelly, President (not present)
  - d.i. Steamboat is working on a Core Station
- e. Western – Tom Sylvester and Patrick Green
  - e.i. Had a presentation on retirement planning and planning for selling consulting companies - **Todd requested the speaker name**
  - e.ii. Baseball game rained out
  - e.iii. Next meeting is in September
- f. Southwestern – no report

#### 16. Next Meeting Date and Location: October 14

17. Adjourn: Carson/Parker ♦

## Treasurer's Report

By Alan Blair, PLS

PLSC Secretary/Treasurer

Good Day PLSC membership and honored guest readers. I introduce myself as the former Legislative Committee Chair and the new Secretary-Treasurer. I volunteered for the position after the resignation of Secretary Sanders. I would like to thank President Beers and the BOD for entrusting me to oversee the funds of our great organization and for my new vacation home in Steamboat Springs.

The attached report shows that under the stewardship of President Nelson and the previous BOD the finances of the PLSC have recovered from the previous deficits. My goal as the treasurer will be to continue that responsible stewardship while, under the leadership of President Beers and the BOD, seeking ways to use the money to benefit the surveying profession in Colorado.

The membership needs to look at a way to provide viable educational opportunities for the next generation of surveyors. The apprenticeship path is no longer viable for the obvious reasons related to technological changes that have made opportunities for entry level positions almost impossible.

Exploration into starting a 4-year degree program at the University of Colorado or the School of Mines has been stymied by the cost and the lack of qualified instructors. It may be time to look at an AAS degree. The PLSC Leadership and the membership need to determine if this is the right place to invest in the future of surveying in Colorado. Should we be looking into whether the legacy scholarship funds could be used to provide a place for scholarship to take place?

The Legislative Committee will be exploring bills to require continuing education and to clean up the statutes related to the county surveyor position. The attack on the later has prompted a call for action on that front. There are costs associated with proposing and pushing legislation that are anticipated in the coming year.

The PLSC BOD is interested in feedback on these and other issues of interest to the membership.

Membership renewals will be mailed out next month. The BOD is looking into wallet cards or some other acknowledgement of membership.

#### Account Balances

PLSC Business Checking, Wells Fargo	\$ 72,488
Franklin Templeton Investments	41,907
American Funds	108,093

Total Operations, as of 8/31/2015:	222,488
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PLSC Scholarship Fund Savings, Wells Fargo	52,348
Merrill Lynch	36,749
Franklin Templeton Investments	35,413
American Funds	91,343

Total Scholarship Funds, as of 6/30/2015:	215,853
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Grand Total:	\$ 438,341
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## CCPS

Greetings. I'd like to start by saying thank you to those of you who showed up for the August General meeting at the Aurora Doubletree Hotel. This meeting was centered on a single topic; how can the CCPS best serve our members? We had a great discussion and heard a lot of great ideas regarding new speakers, fresh new topics, and potential venue changes. We would also like to hear about any special projects some of you may be working on. We would love to offer you or your company an opportunity to showcase one of your exciting projects to the rest of the surveying community. The CCPS desperately wants to hear your thoughts on how we can best serve our members and provide valuable information while having some fun at the same time. Please feel free to contact any of the CCPS directors if you have any suggestions.

For those of you who attended the June general meeting at the Punch Bowl Social we thank you for your support. The meeting resulted in a great membership turnout and lots of good conversation. We felt that this type of meeting was a good way to give back to our members and promote interaction with our peers while having some refreshing beverages. Due to the great attendance we have decided to promote a similar Surveyors Social event annually. We will move the meetings around the Denver metro area in an attempt to serve all of our members.

Currently the CCPS has been diligently working with the PLSC and the other chapters to secure speakers, vendors, and sponsors for the upcoming conference at the Arvada center. We hope to see all of you there!

I would also like to take this time to make my usual imploration for directors. As many of you are aware, we are undersized and short three directors. If any of you are reading this and are interested in serving on the CCPS board please feel free to contact me or one of the other members. It's a great way to get to know your fellow surveyors and make friends in the process.

David Kuxhausen, PLS  
CCPS President

## NC-PLSC

The Northern Chapter is back from our summer hiatus and we're all wondering if it's still summer. Both the weather and the workload are atypical. Having survived "the downturn" I hear a lot of "it beats the alternative" about working too much, and I'm happy so many of us are back to full employment.

Our first meeting was a planning meeting for the year. We came up with some good ideas and the program promises to be interesting. We'll put it up on the website once it gets solidified.

Pam Fromhertz came to speak last week and was phenomenal, as usual. We really appreciate her willingness to share and inspire, which she did. After the meeting I was approached by one of my party chiefs asking if our pending benchmark at Ft. Logan National Cemetery could be an OPUS Share point. Pending permission from our client we will pursue this. Way to go Pam!

Tony Fendick (the party chief mentioned above) presented a package he put together with the help of Carissa Clark at King Surveyors to ask the Office of Veterans' Education and Training to add Land Surveying to the list of approved GI Bill's On-the-Job Training and Apprenticeship program. It would be a win for land surveying to attract young people to our profession and a win for veterans to find employment that can lead to a lifelong career. We'll keep everyone posted on our progress and how you can help move this item forward.

We are all looking forward to the Summit meeting March 2<sup>nd</sup> to 4<sup>th</sup> thanks to an enthusiastic presentation from Kayce Keane. The run-down on the program looks very exciting with some new twists (a mass session with Dennis Mouland that which will set the conference theme) and new topics (County Surveyor presentation and panel discussion). Sign me up!

Laine Landau  
President, NC-PLSC

## NW 1/4 CLS

The NW1/4 met on September 16<sup>th</sup> in the Hayden Town Park, a particular cool and windy night, proving once again how tough-or stupid- we really are!

Chief topics were the establishment of the CORS station at the Steamboat Springs Airport and the Lost Subdivisions of Routt County. The CORS station is now up and running, based at the southeastern corner of the Steamboat Springs Airport property. There is (was) a meeting hosted by the City on October 7<sup>th</sup> to discuss and educate users of the system. So far, at least two local surveyors have been using the CORS station successfully. It does appear to have some issues with Ranger TDS systems, but hopefully those questions are resolved. Next up would be a repeater on top of Emerald Mountain to expand its range.

The new business item of the evening was actually old business. In Routt County, and throughout much of the Western Slope, there are a series of subdivisions that were platted in the late 1960's and early 1970's. This particular era coincides with the advent of state mandated planning. So every good developer worth his salt was platting lots by the hundreds in remote areas, setting up tents and sell, sell, sell! The result of all this activity was that many of the roads and utilities were

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never installed, but in most cases, the corners were monumented so that the lots could be sold. And therein lies the issue. Many of these subdivisions were surveyed by crews using snowmobiles and varying control networks with constraints to set so many corners a day, despite the 3-5' of snow on the ground. The accuracy of the corners is usually on the order of 0.5' to 10' and the front corners tend to agree with each other; the back corners tend to agree with each but because the front and back lines had different control networks, there usually is a discrepancy of upwards of 10' (the record so far is 64'!) over a distance of 200 to 300' along the side lot line. Then along comes a particular local surveyor who re-establishes a brand new network in the 1990's and early 2000's without ever looking for or surveying the long existing monuments that have been in place for over 30 years at the time. All set by the original surveyor. Thus, we have duplicate corners in many areas, houses in setbacks and easements and a multiple choice situation by the homeowner/builder as to which set of corners to use. As the economy once again picks up and these older subdivisions are being sold and built in, this issue just won't go away. Thank goodness we should all be retiring or dying soon and leave this thorny issue to a future surveying generation!

Brian T. Kelly, PLS  
President, NW ¼ Chapter

## SCPLS

In August, the 27th Annual Paul Grout Golf Outing and Barbecue was a complete success. Vendors Richard Chuapoco of Diversified Underground and Craig McCoy of GeoShack supported the tournament by not only sponsoring a hole, but greeting all the teams on the course. The Region 2 CDOT/Farnsworth Group team took the 1st place prize this year. A special thanks to Dan Hanten and company for chairing the 2015 tournament committee, and as usual, thank you to Classic Catering for the incredible pulled pork sandwiches. In September, the Southern Chapter hosted Frontier Precision for the demonstration of new oblique close range/terrestrial photogrammetry software for surveyors. In November we have our embers meeting, to be held Tuesday the 20th at 6:30 P.M. at the Farnsworth Group office in Colorado Springs. And in December (save the date), join us in Pueblo, December 11th for our annual Christmas Party and White Elephant Exchange, always a good time.

Steve Parker, PLS, CFM  
SCPLS President

## SWC-PLSC

The SWPLSC held our most recent chapter meeting on Tuesday, August 8th in Durango. Our guest speaker was Karl Pia of Olympus Aerial Surveys. Karl reviewed the three types of aerial sensors in common use today – the film camera, digital camera and LiDAR and their strengths and how to determine which to use on given projects.

The Colorado Land Surveying Refresher Course is now available to surveyors in the SW Chapter area. This course offers a review and self-study plan for those taking the National Council of Examiners for Engineering and Surveying (NCEES) Fundamentals of Surveying (FS) and Principles and Practice of Surveying (PS) examinations. There is an order form specifically for the SW Chapter. These courses are also on DVD and being offered remotely to the Chapters. Please see the registration page on [www.plsc.net](http://www.plsc.net).

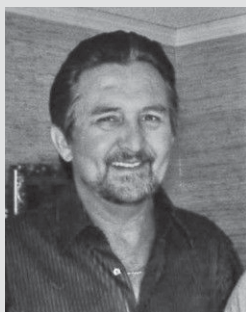
The next Chapter meeting is scheduled for Tuesday, November 17<sup>th</sup>, at 6:00 PM in Durango at the Durango Recreation Center Sunlight Room, 2700 Main Ave. Our guest speaker is Pamela Fromhertz, the Colorado State Geodetic Advisor, of NGS. Pamela will be giving a presentation on current NGS activities and projects. In particular she will be discussing the Geoid Slope Validation Survey of 2016 which will be conducted along US 160 from Walsenburg to Durango. This route was selected to quantify the accuracy of gravimetric geoid modeling in a high and rugged environment. The gravimetric geoid will become the reference surface of the new vertical datum on 2022. She will also talk about the need to collect GPS data using OPUS-Share.

Our Chapter meetings will be focused on technical, professional and other regional survey topics. Some of these will be available with continuing education credits for our neighboring Utah and New Mexico survey professionals. Look for guest speaker information along with time and location information in upcoming Chapter emails. If anyone has questions or ideas about future speakers or topics, or would like to be on the email list for upcoming meetings please contact Josh Casselberry at [josh@morenosurveying.com](mailto:josh@morenosurveying.com). Southwest Chapter members are encouraged to show up and receive a copy of Paul Bacus' Colorado Land Surveying Laws Booklet.

Josh Casselberry, PLS  
President, SW Chapter



## John Dennis Willey, PLS 1950 - 2015



After a hard and courageous 12 year battle with cancer, John passed away at the University Hospital in Denver on August 16, 2015.

He was a widely respected and successful land surveyor for 42 years and was in partnership

in surveying and engineering businesses in Boulder, Denver and Sheridan, WY and later went independent. He is survived by his wife Dixie, daughters Chelsea (John) Perfitt and Snowden Terrill, grandson Oliver, all of Denver, brother Jim Scott and mother Peggy Corson, both of Sheridan.

## CHAPTER NEWS

### WCLS

WCLS held its regularly scheduled bi-monthly meeting on September 9th with attendance a little below normal due to a Colorado pastime called hunting. We were honored with two guest speakers, Julie Christianson and PJ (Phyllis) Jenssen, both from Central High School. They gave a presentation of the TWIST program that has been introduced to Central High School along with the introduction of basic land surveying into their math curriculum. Our organization has supported the TWIST program in the past and all members present were encouraged to hear about land surveying being a topic for a high school math class. We will continue to support this effort with monies and volunteers to speak before their class about a career in land surveying. There was considerable discussion regarding the newly enacted statute regarding the documentation of new and existing monuments.

Peter T. Krick, PLS  
President, WCLS

## S U S T A I N I N G M E M B E R S

### ASSURANCE RISK MANAGERS

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