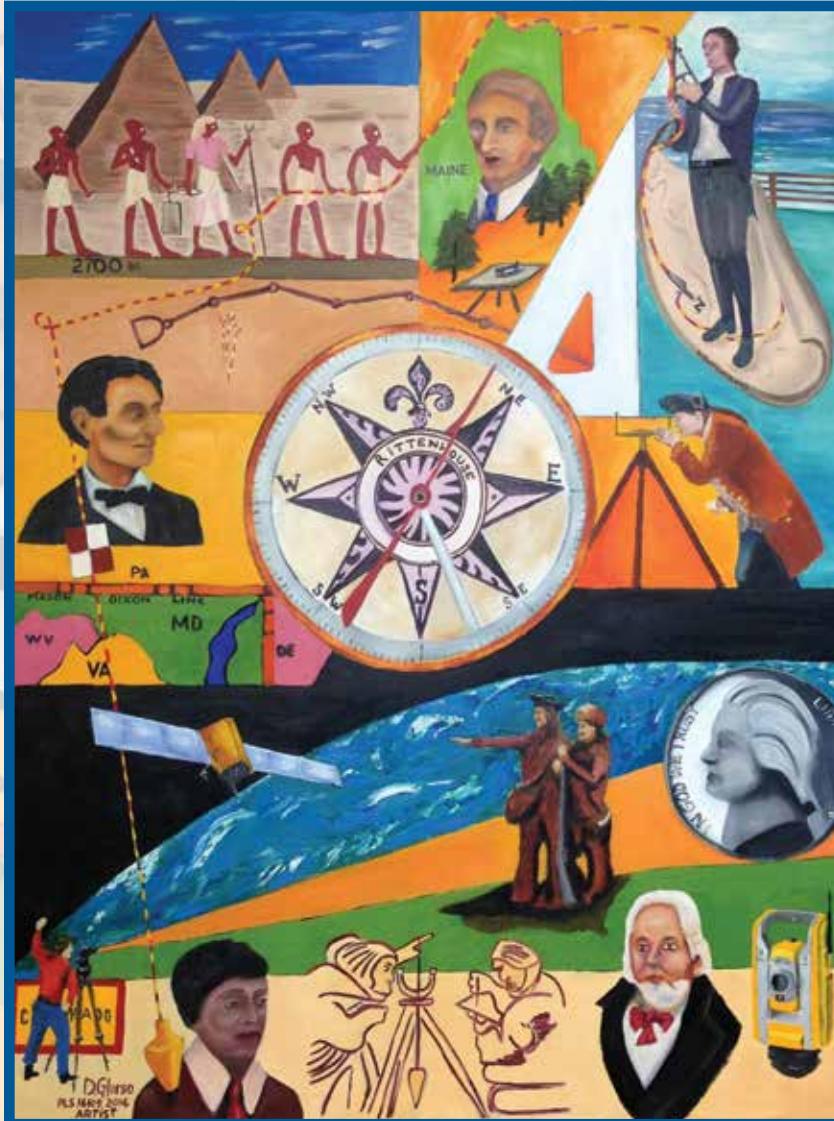


November 2014

SIDE SHOTS

Professional Land Surveyors of Colorado

Volume 45, Issue 4



A
**LONGSTANDING
PROFESSION**
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SIDE SHOTS

NOVEMBER JOURNAL 2014

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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.

Roger Nelson
President

Micheal Bouchard
Vice President

For Editorial Correspondence, contact:

John B. Guyton

Editor: Side Shots

5385 Centennial Trail, Boulder, CO 80303

303-443-7001 • jguyton@flatsurv.com

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Deadlines for editorials, articles, pictures and advertising are January 1, April 1,
July 1 and October 1. All material received after the current deadline will appear
in the next issue of Side Shots.

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Do you have something you want to sell, trade or buy? Why not use Side Shots for your
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VICE PRESIDENT
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mbouchard@f-w.com

TOM ADAMS
PAST PRESIDENT
O: (719) 546-5454
tom.adams@plsc.net

ROGER NELSON
PRESIDENT
O: (303) 353-3916
roger.nelson@merrick.com

TERRY MAW
SECRETARY/
TREASURER
O: (719) 590-9194
tmaw@f-w.com

BECKY ROLAND
EXECUTIVE DIRECTOR
O: (303) 551-3266
broland@plsc.net

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I would like to take this opportunity to revisit the PLSC's Mission and Purpose. Our mission is to be dedicated to the improvement of land surveying education and practice. Our purpose is:

- To improve and protect the profession of land surveying in Colorado.
- To provide educational and instructional opportunities for those persons presently licensed as land surveyors within the State of Colorado, and for any other persons who are in any manner interested in learning of the profession of land surveying.
- To promote in general the good and welfare of the profession of land surveying within the State of Colorado.
- To provide a forum for the discussion of matters of professional interest to land surveyors.



We facilitate our mission and purpose by offering the annual Surveyor's Summit, providing scholarships, promoting legislative initiatives that improve the practice of land surveying in Colorado, providing survey related resources on our web site, producing the quarterly publication *Sideshots*, and promoting a surveyors code of ethics. We are also supporting attempts to reinstitute survey education in Colorado in keeping with our purpose. It is time to expand our view for the good of the survey profession.

Ballots will have arrived or be in the mail for elections that will contain a proposal for PLSC to join NSPS. In keeping with the PLSC mission and purpose, it is my hope that this initiative will be approved by the membership. This will provide PLSC equal footing on the national stage with other state survey associations and allow our voices to be heard on survey matters. Please join me in approving PLSC's full NSPS membership.

PLSC's legislative committee is investigating the possibility of changing the requirements for Land Survey Plats. The vision is to reduce the number of pincushion monuments in the field by possibly requiring a brief narrative on land survey plats explaining the basis for establishment of new monuments in a differing location that are intended to represent the same corner of existent monuments. A well thought out reasoning will be required on land survey plats so that retracing surveyors can more easily either substantiate the work or offer a basis for rejecting the work of another professional surveyor. I don't believe that "I measured better than another surveyor" will pass muster and will have the desired effect.

Let's elevate the Survey Profession together!

Roger D. Nelson, PLS, CFedS
PLSC President (2011-2015)

DEDICATED TO THE IMPROVEMENT OF LAND SURVEYING EDUCATION AND PRACTICE.

FROM THE EDITOR



This edition includes the preliminary lineup of speakers and topics for the 5th Annual Rocky Mountain Surveyors Summit, to be held from February 26th to the 28th next year at the Arvada Center. The list is subject to change this far in advance, of course, and a more finalized list will appear in the next issue. PLSC members will be receiving emails about the details and registration information, and you can see the latest updates on www.plsc.net under the Education/Events tab. But this early lineup can give you an idea of the new and different topics that will be available.

Also, for you or anyone you know who is preparing to take the NCEES examinations for licensure next year, the 2015 Colorado Land Surveying Refresher Course announcement is also included in this issue. I had the privilege of conducting the boundary law review courses earlier this year, and found it to be a great experience. Helping the next generation on their paths to learning and licensure is a fundamental mission of the PLSC, and the refresher courses are a great resource. Please help spread the word.

The very colorful cover is a reproduction of a painting created by our frequent and enthusiastic contributor, Dean Glorso, PLS. Dean also has included the story behind it, very nicely done.

I would like to include a big thanks to Brian Dennis for promoting GPS day, and getting young people interested in GPS and surveying. Be sure to read his CSRN

column in Chapter News for the details, and for the latest news from the other six chapters as well.

The accepted cadastral surveys letter is included as usual. Randy Bloom at the Bureau of Land Management also asked that I let our PLSC members know that the 2009 Manual of Surveying Instructions can be found online at the following address: http://www.blm.gov/wo/st/en/prog/more/cadastralsurvey/2009_edition.html

Now we can all download and store this important reference resource on our various portable devices that we just can't live without. Thanks, Randy for this valuable tip.

This issue also includes a Control Points installment from Warren Andrews, PLS about borehole surveying, an interesting account of surveying in foreign countries by Kevin Kenna, PLS of Merrick, and another excellent Rule of the Month from Earl Henderson, PLS about having to set monuments in areas where they are about to be obliterated by construction. Becky Roland also contributed the minutes of the September 10th Board of Directors meeting.

Thanks to everyone who has ever extended a kind word or two about *Side Shots*. It inspires me to keep it going. I can assure you, criticism would be welcome too; I am always trying to find ways to improve it. If you would be interested in becoming a published author, please contact me with your article ideas.

JB Guyton, PLS
Editor, *Side Shots*

Correction

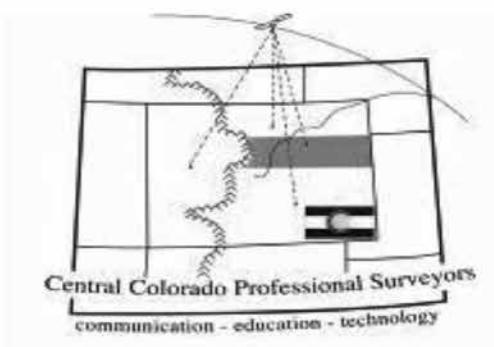
The cover article in the August, 2014 issue of *Side Shots* about Art Hipp USMC, by Dean Glorso, was excellent. Art was a very good friend of mine. But the first sentence that stated that Art was the founding editor and originator of *Side Shots* is, unfortunately, not correct.

The first editor of *Side Shots* was Jerry Pesman, who served in that capacity until the May 1971 issue when he assumed the duties of PLSC President. The other early editors were Walter Swackenberg (May 1971 through August 1972), Ted Rousses (October 1972 through February 1973), and Sharon Summers (May and August 1973). I, Warren Andrews, assumed the editorial duties in October 1973 and served in that capacity until Art Hipp began his 32-year tenure in May, 1975. With Art's death in September 2007, John B. (JB) Guyton has served as editor.

Art was a gifted writer and also had a talent for persuading many surveyors to share their knowledge on "paper." As the editor of *Side Shots*, Art was recognized in 1983, 1989 and 2005 by the American Congress on Surveying and Mapping and the National Society of Professional Surveyors with their "Excellence in Professional Journalism" award. In a February 19, 1990 letter to Art announcing that he had won the award for a second time, Kenneth Curtis noted, "Congratulations! You have done a continuing excellent job for the Colorado surveyors! You are the first affiliate society to repeat as a winner in the fifteen years of its existence!" All three were richly deserved.

Art's 32 years as editor will probably be a record that will always remain unbroken. Thanks to Dean's story, Art will be remembered for having served both his country and his profession exceptionally well.

Warren Andrews, PLS



2015 Colorado Land Surveying Refresher Course

The Professional Land Surveyors of Colorado are offering a comprehensive Land Surveying Refresher Course beginning January 7, 2015. 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

Session	Date	Topic
1	Wed., Jan. 7	Overview of NCEES FS and PS Examination Use of calculators and formulas
2	Wed., Jan. 14	Fundamental Survey Calculations I
3	Wed., Jan. 21	Fundamental Survey Calculations II
4	Wed., Jan. 28	GIS, State Plane, Geodesy
5	Wed., Feb. 4	Public Land Survey System I
6	Wed., Feb. 11	Legal Terms and Definitions

Principles and Practice and Colorado Specific

7	Wed., Feb. 18	Boundary Law
8	Wed., Feb. 25	Public Land Survey System II
9	Wed., Mar. 4	Colorado Survey Law I
10	Wed., Mar. 11	Colorado Survey Law II
11	Wed., Mar. 18	Principles and Practice Topics
12	Wed. Mar. 25	Mock PS and FS Examinations

The Wednesday evening classes will be 3 hours in length, starting promptly at 6:00 PM.

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, 2014. 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.

Visit the NCEES site at <http://ncees.org/exams/> to learn more about the FS and PS examinations.

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5th Annual Rocky Mountain Surveyors Summit

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Preliminary Lineup of Speakers\Topics

Don Wilson, PLS — “Easements, Rights of Way and other Encumbrances on Land” and “Advanced Easement Topics.” Don Wilson is a nationally known speaker on the surveying industry.

James Beckwith, Esq — “Establishing Access Rights Using Historic Roadways.” Jim is an Attorney At Law and specializes in transportation and motor carriers, motor vehicle titling and processing, boundary law; road, easement and access; and complex case management performing as a special counsel; trial counsel and case manager.

Pamela Fromhertz — “Latest Developments in the National Geodetic Survey.” Pam has been the NOAA National Geodetic Survey Colorado State Geodetic Advisor since 2004 and interacts with the geospatial community at the local, state, and Federal levels, as well as with private industry. A variety of subjects will be discussed.

Bob Wendover, CSP — “Current Status of the Surveying Industry — What the Future Looks Like for the Profession.” Discussion at the Survey Symposium. Bob is the Managing Director of the Center for Generational Studies and has authored the training curriculum, “Generations: Understanding Age Diversifying Today’s Workplace.”

Martin Cobb, PLS, BLM Project Manager — “Professional Passage: Conflict Resolution.” Martin Cobb is a retired Navy Commander who commanded a 16-state recruiting organization before leaving the Navy. He has a Master in Education in Organizational Performance and Change from Colorado State University, is a member of Professional Presenters Toastmasters in Denver, and is a mediator for the Bureau of Land Management (BLM) receiving his training from the Federal Mediation and Conciliation Service. Martin is an instructor for the BLM’s National Training Center and leads adult education in his church.

Chuck Jones, PLS, — “Title—There Can Be Only One.” This presentation will analyze three case studies of multiple monuments for common public land survey system corners.

Earl Burkholder, PLS — “Projections, Coordinate Systems” and “Low Distortion Projections.” This class will be a general description of datum’s, projections, coordinate systems, followed by a presentation on low distortion projections.

J E Parker, Jr., — “Reexamining the ‘Centerline Presumption’ – Asmusen v. United States.” This session analyzes this decision, its effect on adjacent landowners, boundary law and title research and reporting going forward.

Jason Emery, PLS, “Riparian Rights.” This presentation will focus on riparian rights and how they were affected due to the devastating flood in Boulder County in September, 2013.

Chuck Hutchins, Vectors, Inc. — “Grid to Ground Conversions.” This presentation will focus on the process and procedures to convert state plane “grid” coordinates to “ground” coordinates.

Ken Goff, Underground Consulting Solutions — “Knowledge of Utilities and Advantages of Utility Locating.” Presentation on utilities, physical utility features in the field and markings on the ground. Advantages of locating within ROW and easements.

Earl Henderson, PLS, Colorado State Board of Registration Member, “Plat Requirements From the Colorado Board of Registration Perspective.” Discussions will include what are some common problems with plats that are reviewed by the Board.

Alyssa Martin & Nathan Wysocki — “Surveyors and GIS Geeks”

Haim Zelikovsky, Datumate — “Revolution of Close-Range Photogrammetry”

Bryan Baker, Leica Geosystems — “Introduction To Unmanned Aircraft Systems (UAS)”

Ken Perry, Hixon Manufacturing — “The Use and Applications of the MS 50”

For the latest information on the 2015 Surveyor’s Summit, go to www.plsc.net and find the link under the Education/Events tab. Also, watch your email for registration details. A final syllabus will appear in the February, 2015 issue of Side Shots.



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Control Points – Number 26

Borehole Surveying

By Warren Andrews, PLS

With all the publicity and controversy in the media about “fracking” (fracturing), there seems to be one thing that’s missing; from the surveyor’s viewpoint, where is the hole? With deliberate directional drilling by deflecting the drill bit in the direction desired, by wedges down the hole, the driller has some control. But unintentional directional drilling due to slanted rock layers of alternating hard and soft rocks, and due to faults and slips, is a different and sometimes unknown problem.

An example story that I heard about years ago, as I remember, was about a deep oil field in East Texas at over 20,000 feet to the producing sand. The driller kept on adding drill pipe sections and more drill pipe sections, and only stopped when, to the consternation of the oil man who was financing the well, when the drill bit popped up out of a field over a mile away. (The drill bit had deflected a full U).

There are quite a few different techniques used for borehole surveying, either as a spot method or as a continuous method such as a camera or TV down the hole. The particular method I was taught in mine surveying at CSM was probably the simplest and cheapest.

First, you have to have the open hole. Second, you have to have a means of lowering a glass capsule on a line down the hole. This is a spot method so the readings are taken at intervals, say 50 or 100 feet, to determine orientation (direction and inclination). Third, from each position you have to raise the capsule to the surface

to record the reading. And Fourth, you put on a new capsule to go down the hole again to the next depth for the next positional data.

The accompanying figure (Fig. 114 on page 261 of Staley's *Introduction to Mine Surveying*, 2nd Ed.) shows the glass capsule for the gelatin-hydrofluoric acid method. The upper half of the glass capsule has a tiny Maas compass in a water-gelatin mixture timed to set up when you reach the depth at which you want to take the reading. The lower half of the glass container has the hydrofluoric acid solution similarly timed by dilution to etch the glass at the time wanted down the hole. The greater time needed to reach a position in the hole the more dilute the gelatin and the hydrofluoric acid solutions and the longer time in place to get a reading. There would be a practical limit how deep you could survey using this particular method.

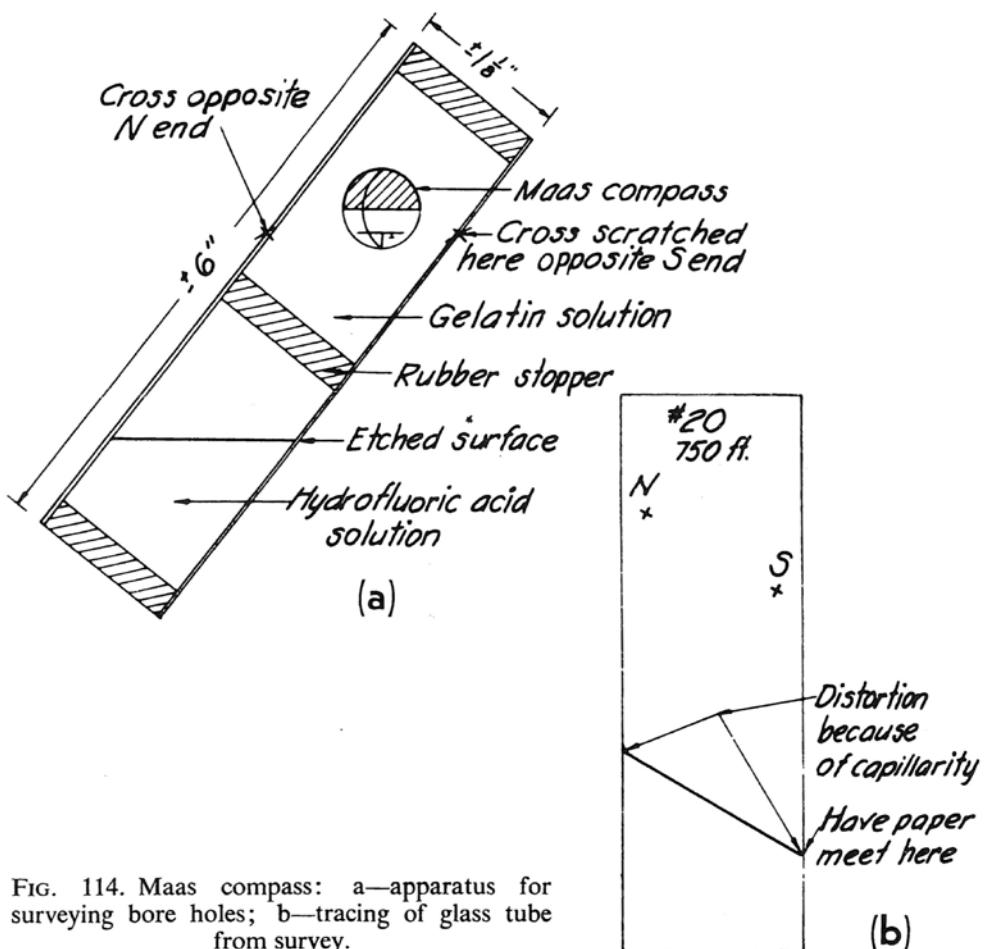


FIG. 114. Maas compass: a—apparatus for surveying bore holes; b—tracing of glass tube from survey.

The International Experience

By Kevin Kenna, PLS, Geodesist

During the last several years, I have had an opportunity to do some mapping and design surveys outside the United States. Traveling to Djibouti, Africa, Guyana, South America, and Andros Island in the Bahamas brought some new challenges and completely different environments. Each culture has its own lifestyle and you must adapt to the local customs and laws of your host country. You must be careful not to criticize and look at each culture as an opportunity to learn and try to keep a low profile by dressing in moderate clothing. A cool head and a smile can go a long way. Nearly every country you visit has people that speak English. A local contact can give perspective and help you plan and accomplish your work.

There are definitely some costs and conditions that can affect your budgets. Weather conditions are the most significant factor. Extreme heat or cold can affect the length of time you can safely work. Keep yourself hydrated and have a place to cool off or warm up as needed. Be patient with security checkpoints and plan to spend time each day waiting for clearance to proceed. Sending your equipment via shipping is very costly and the timing of arrival is not guaranteed. Bringing your equipment with you can be cumbersome and present security challenges as well, as customs can cause delays. This issue should probably be looked at on a case by case basis. I took equipment with me on the way to each project to ensure it was available to start work as anticipated. Airline tickets can be very expensive based on destination and date of purchase.

In many cases communication is limited back to your home office and a hotel with good internet service and a

restaurant can make emails and dining easy. Clean bottled water and a wary eye towards what foods to avoid can help keep you healthy during your stay. I have had shots and pills available for each country prior to departure. Sufficient money should be brought and kept in a couple different places to ensure there are no financial issues. Understand that many of these projects are in underdeveloped countries and you are a source of income for the locals. Tips for assistance and services are expected. Power sources can be different and an adapter to charge your equipment is mandatory. Check to make sure all equipment and charging units are working well and calibrate your equipment before use if necessary.

Plan your work by viewing any mapping or imagery available and determining the best approach to accomplish the project within its specifications. Coordinate systems are different and geoid models will differ. UTM is commonly used with a global transformation. Make sure you are clear with the location of project control or a means to establish new values. Work with your client to ensure your methods will achieve the project goals.

Opportunities for surveying outside the United States are on the increase and is an experience that will open your eyes to new and different cultures. These out of country experiences can be very rewarding as one sees developing economies take steps to improve their infrastructure. Knowing that survey is the foundation future improvements will be established upon provides a sense of satisfaction. There is more to think about than getting your feature codes correct. Check your work carefully. Additional costs and environmental conditions will affect your project.



Kevin Kenna surveying in Africa.



United States Department of the Interior

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September 25, 2014

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 16, 2014, through August 28, 2014, 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.glorecords.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>
T. 35 N.	R. 14 W.	NMPM	1579	Plat & Notes	05/16/14	1
T. 11 S.	R. 96 W.	Sixth	1634	Suppl. Plat	08/28/14	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

A Longstanding Profession

By Dean F. Glorso, PLS 16109

"I went to the woods because I wished to live deliberately, to front only the essential facts of life. And see if I could not learn what it had to teach. And not, when I came to die, discover that I had not lived"

— Henry David Thoreau, 1817-1862

Thoreau is mostly known for his writings while living in a cabin at Walden Pond in Concord, Massachusetts. He traveled often to Maine and worked as a Land Surveyor for about 9 years of his short 44 years of life. As with most "famous" people of our profession, Thoreau didn't become famous for his particular work as a surveyor, but for his accomplishments of a passion most dear to his heart.

As an artist, I wanted to illustrate a history of our profession in a "picture". After all, they say a picture is worth a thousand words. J. B. Guyton, Editor of *Side Shots*, graciously allowed my painting, "A Longstanding Profession", to be displayed on the cover of this wonderful publication.

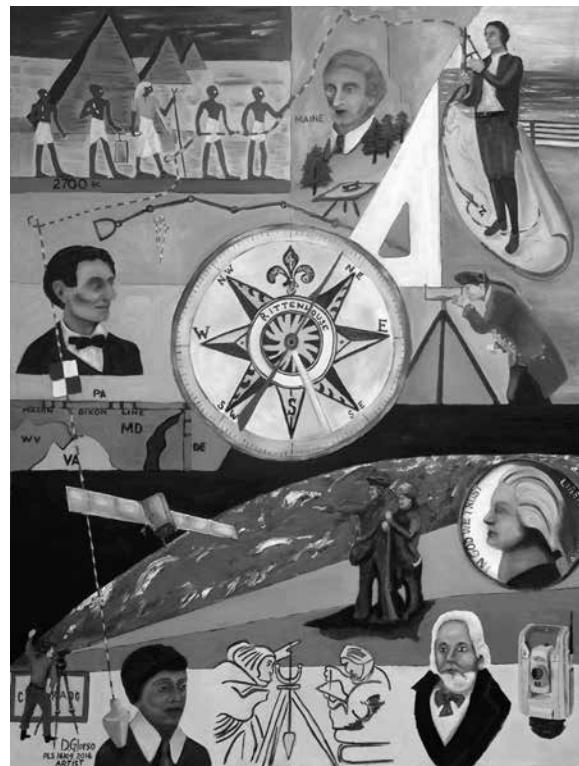
In thinking about an art project, I first Googled: "Land Surveyor Artists." One name that came up was G. K. "Ken" Allred, a past president of the Alberta Land Surveyor Association, Canada. Ken published a remarkable article, "Survey Art – An Interesting Subject". (I encourage you all to surf the web and read it.) As I read Ken's article, and did more searching of "Land Surveyor Art" images, I realized no one had made a painting telling the longstanding history of our profession, thus my reason for doing so. I hope you all enjoy my painting, and read into it whatever you wish.

The famous surveyors and surveying objects depicted on the cover of this issue of *Side Shots* are: Beginning at the top right of the painting, Captain James Cook (1728-1776) standing on his chart of the Newfoundland Coast; Thence continuing *boustrophedonically* (as fields are plowed); to Henry David Thoreau (1817-1862); thence to the Egyptian Rope Stretchers (2700 B.C.); thence to Edmund Gunter's Chain (1620); thence to the Surveyor's Plane Table (prior to 1830); thence to the 30/60 Degree Triangle; thence to George Washington (1732-1799); thence to David Rittenhouse's Compass (1732-1796); thence to Abraham Lincoln (1809-1864); thence to the Plumb Bob Target; thence to the Charles Mason (1728-1786) & Jeremiah Dixon (1733-1779) Line; thence to a GPS Satellite (1st Launch 1978); thence to Meriwether Lewis (1774-1809) & William Clark (1770-1838); thence to Thomas Jefferson (1743-1826) on the US Nickel; thence to Charles Trimble's Robotic Total Station (2000);

thence to Andrew Ellicott (1754-1820), the surveyor who completed the Mason / Dixon Line to the West; thence to the Roman & Greek Surveyors (about 300 A.D.); thence to Benjamin Banneker (1732-1796), the surveyor appointed by Washington to layout Washington D.C.; thence to the Brass Plumb Bob (about which a poem I wrote and was published in *Side Shots* many years ago by Art Hipp), and thence to terminating at Arthur Hipp (1925-2007) a Colorado Land Surveying Giant, and long-time editor of *Side Shots Magazine*.

The placement of this collage has significance to me as a surveyor/artist. Example: Lincoln is placed north of the Mason / Dixon line in Pennsylvania where he made a very famous speech. Everyone has their own interpretation of a piece of art. I challenge you, the surveying viewer to write less than a thousand words to describe your interpretation of this art. Then send your thoughts to *Side Shots* for possible publication. The surveying community would be interested to know what you think.

High quality gallery-wrapped copies of Glorso's copyrighted art can be purchased in various sizes at: <http://fineartamerica.com/profiles/dean-glorso.html>



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Rule of the Month, 38-51-104(3)(a)

By Earl Henderson, PLS

We're going to talk about this statute, but first let's start elsewhere. I want to remind everyone reading about Board Rule 6.12 because I believe that it's in relation to ALTA surveys that this issue arises quite often. Board Rule 6.12 states, "It is the Board's interpretation that the Minimum Standard Detail requirements for ALTA/ACSM Land Title Surveys cannot be met without all monuments being found or set, even if Item 1 of Table A Optional Survey Responsibilities and Specifications is not requested. The ALTA/ACSM Land Title Survey is considered by the Board to be a monumented land survey and a land survey plat shall be deposited if required by Section 38-51-107, C.R.S." So simply stated, an ALTA survey requires a Land Survey Plat (LSP) which must meet all the requirements of a LSP. Hopefully we've all come to grips with this, but there are some PLS's out there that have yet to do so. And of course one of those requirements is that all monumentation for LSPs, including ALTAs, must be set according to 38-51-104. Now there are quite a few requirements for the monumentation of LSPs, and 38-51-104(3)(a) is just one, but let's now concentrate on that one.

38-51-104(3)(a) states, "If the monuments or markers required by subsection (1) of this section cannot practicably be set because of steep terrain, water, marsh, or existing structures, *or if they would be lost as a result of proposed street, road, or other construction*, one or more reference monuments shall be set." (emphasis added)

If you're doing ALTA surveys you likely run into the situation quite often where your survey immediately precedes the total obliteration of the site for reconstruction into a gas station, bank, or Super Store of some generic kind. And of course when I say total obliteration that includes the monuments you just set. And like all of us you hate to set monuments that you know are going to get annihilated by scrapers before you can even leave the site. And to top off all that, we all want to provide the best service to our clients for their money, so setting monumentation that we know in advance will be destroyed goes against our grain and seems unnecessarily costly to the client, who will be charged for re-setting those monuments that we knew were going to be destroyed in the first place. No

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client likes to pay for duplicate services. Unfortunately, my response to all that has to be..."I'm sorry, but the statutes are clear." The monuments have to be set. Did you notice the underlined word "shall"? So what's the solution?

I see two possibilities to solve this dilemma, but then again, my sight is sometimes limited so there may be additional possibilities. First, inform the client of the statutory requirements that you must practice within and let them know ahead of time that your cost includes the setting of the monumentation at the time of platting and the re-setting of the monuments after construction. The re-setting is a highly valuable commodity for them since it will continue to outline their property lines for a long period of time following the completion of their project. Not only that but it will prevent them from being charged with a Class 2 Misdemeanor based on C.R.S. 18-4-508 for destroying the first set of monuments. And referencing monuments that are scheduled for destruction as a result of construction and then re-setting them is an acceptable practice. Just make sure you also document that effort after re-setting them with a deposited plat, monument record, exhibit map, or some other means. But since you already have a plat drafted and deposited, it's a simple matter to draft a revision to the plat indicating that the monuments were destroyed during construction and reset on Thanksgiving Day.

But within 38-51-104(3)(a) there also lies another option that is italicized above. If you know that your monuments are going to be lost as a result of anticipated construction activities, then simply set reference monuments in a better location and document that on your ALTA survey plat. To my way of thinking, why would you do it any other way? If you know the monuments in their accurate locations are definitely going to be destroyed, then setting reference monuments allows for the possibility that the reference monuments won't be destroyed. If they are destroyed then you and your client are back to the first situation and nothing is lost, whereas if the reference monuments are not destroyed your client saves money and you've provided a valuable service that they will hopefully come back for again and again. And now that you've read this, you can anticipate the situation during a meeting with the client and describe to them how much more knowledgeable you are and how much more valuable your services are than your competitor's, who are also reading this and telling their clients.....

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PLSC Board of Directors Meeting Notes

September 10, 2014; 4:00 PM, Greenwood Village, CO

Call to Order: (Roger)

Recognition of PLSC Board Members and Officers:

Officers: Roger Nelson (Central), Mike Bouchard (VP - Southern), Terry Maw (Treasurer - Southern), and Becky Roland (Exec. Dir.).

Board: Todd Beers (Central), Alan Blair (Central), Bill Buntrock (Central), Patrick Green (Western), Leif Joy (NW1/4), Peter Krick (Western), Parker Newby (SW), and Kayce Keane (Northern).

Exofficio: Brian Dennis (CSRN)

Nonvoting: Warren Ward, Tom Adams (Past President), J.B. Guyton

County Surveyors Representative: Patrick Green – Also Board Member

Present: Roger Nelson, Terry Maw, Becky Roland, Todd Beers, Alan Blair, Bill Buntrock, Patrick Green, J.B. Guyton, Leif Joy, Kayce Keane, Pam Fromhertz and Steve Parker.

Absent: Mike Bouchard, Peter Krick, Parker Newby, Brian Dennis and Warren Ward.

Determination of Quorum (Terry Maw).

Welcome of Guests:

Additions, deletions and modifications to agenda: None. Agenda approved by unanimous consent.

1: Pam Fromhertz provide a report on the Arsenal Calibration

2: Approval of Minutes from Previous meeting(s): (Terry Maw)

MOTION: To approve the June 13, 2014 Minutes as amended (Maw/Nelson). Edit: Mike Bouchard was in attendance. Approved by unanimous consent.

3: 2013 Budget – Terry Maw & Becky Roland.

3.1 – 2014 Budget Review – Financials were presented and reviewed. Forecast is for a positive net income for the year. It was noted that there will be one more WFPS Meeting this fiscal year.

3.2 – Scholarship Funds, Checking & Savings Accts. – reviewed balances.

3.3 – Membership Renewals – delayed until after the ballot vote, which includes NSPS membership (2015 dues will include NSPS dues if approved). Send regular updates for an outreach campaign; make sure there is a list of Committees for members to volunteer for.

3.4 – Board was asked to consider Lynne Patton to teach as part of Refresher Course (paid) – should be

included in 2015 budget.

4: 2014 Surveyor's Summit, Chair, Todd Beers. Apprentices: Kayce Keane & Steve Parker. Venue, Sponsors, Track assignments, speakers, advertisements.

4.1 – Planning Status Update; Planning Meeting tomorrow; agenda is being finalized – number of fee speakers that need to be approved.

4.2 – Promotion: Notify IRWA, contact Al Morganfield, other organizations.

5: Review PLSC 2014 Goals

- All Chapter Membership Drive – Central and Northern completed
- Financial Stability
- Public Outreach - Status
 - CSRN GPS Day – Status of CSRN? Brian Dennis Appointed Pres.
 - Trig Star – Jan Sterling \$500 Check not requested yet
 - Twist Program (2 – Teachers 2015)

6: PLSC Elections: President, Vice President, Treasurer, 4 BOD's Positions (Todd Beers, Peter Krick, Bill Buntrock, & Parker Newby).

Assignment of new PLSC GIS in the Rockies representative.

Nominations:

President: Mike Bouchard, Todd Beers

Vice President: Kayce Keane

Treasurer: Terry Maw

Board Member #1: Yes (Paul Bacus)

Board Member #2: Yes (Jan Sterling – since withdrawn)

Board Member #3: Yes (Steve Parker)

Board member #4: Yes (Eric Carson)

Need bios and photos, 30 days to return ballot.

7: Reports:

President, Roger Nelson – nothing to add.

Vice President, Mike Bouchard – no report.

Secretary-Treasurer, Terry Maw – nothing to add.

Executive Director, Becky Roland – Revise By-Laws to remove procedures – post to website by early October.

NSPS Governor – Warren Ward – no report.

WFPS Delegates Mike Bouchard and JB Guyton- working on revised mission statement.

Front Range Surveying and Mapping Program, JB Guyton, Chair. University of Colorado – still meeting and still

looking for a major endowment.

8: Standing Committees

Legislative Committee – Alan Blair, Chair – spoke with Joyce on where rule change is – unknown at this time.

MOTION: To retain Peg Ackerman at the monitoring level for the next session. (Blair/Green); Approved unanimously.

Survey Monumentation and Standards, - Inactive.

Membership Committee, Mike Bouchard, Chair – All Chapter membership drive, New SI's and LS's free membership invitation – October new SI's and LS's.

Ethics and Fair Practices, Patrick Green, Chair – no additional report.

Education Committee, Todd Beers, Chair – Apprentices: Kayce Keane & Steve Parker. CFedS presentation/continuing education classes in 2016.

Liaison Committee, (QBS Colorado) – Inactive.

GIS-In-The-Rockies – Steve Parker – GeCo in the Rockies is the 2014 conference – Pam is heading the Geodesy Track – Todd will be there with David Evans

& Assoc. – promote Summit and job opening (Summit flyers – Pam needs 40) – expecting 200 attendees.

8: Chapters

Southern – Steve Parker, President – golf tournament went well, Paul Lukacovic presented in August, Christmas Party location being finalized, UAS users group meeting next month.

Central – Chris Raml, President – no report.

Northern – Kayce Keane, President – new Board of Directors, Laine Landau is the new President, need a President-Elect.

NW ¼ - Brian T. Kelly, President – no additional report.

Western – Richard Bullen – Western Slope exofficio appointment - Peter Krick – meeting tonight.

Southwestern – Josh Casselberry, President – no report.

CSRN – Brian Dennis, President – GPS Day – no report.

9: Next Meeting Date and Location: December 10 – Merrick & Co.

10: Adjourn 4:55PM: (Maw/Keane)

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CHAPTER NEWS

CSRN

The CSRN has been working on hosting the 4th annual GPS Day event. While we have held the event in late May and June to try and take advantage of warmer weather, this year we will have the event in mid-April to ensure we capture Scouts/4H members, teachers, professors and others during the current school sessions. We are still trying to lock in a park/facility which will dictate the final date. We are trying to move the event around the Denver metro. In the past we have held the event at the CDOT Headquarters and at the City of Aurora Parks. This year we are working to move the event into the north Denver area. As soon as date and place is solidified, we will send emails out to the membership for you to "SAVE THE DATE". The CSRN has been contacted by the Northern Chapter of their interest in participating and incorporating some events specific to the Boy Scout/ Girl Scout survey/mapping badging requirements. The CSRN has been involved with the Scouts each year of this event but the Northern Chapter appears to have a strong connection with the Scouts that will allow our involvement in the badging requirements to be even better than past years.

We look forward to seeing you at GPS Day.

Brian Dennis, PLS
CSRN Acting President

CCPS

The August CCPS general membership meeting was held at the Aurora Doubletree Hotel on Thursday, August 28th. Bryan Baker from Leica presented on the current state of affairs regarding UAVs and the FAA regulations involving their use. Unmanned aircraft systems (UAS), commonly called unmanned aerial vehicles (UAVs) or drones, have a host of applications including

law enforcement, land surveillance, wildlife tracking, search and rescue operations, disaster response, border patrol and photography. State legislatures across the country are debating if and how UAS technology should be regulated, taking into account the benefits of their use, privacy concerns and their potential economic impact. Very interesting and highly informative.

Charlie Tucker also spoke about current railroad issues in eastern Colorado. Specifically, railroad tracks being removed prior to proper right of way monumentation and the issues local governments have faced in enforcing laws regarding track abandonment.

We have five General Membership meetings every year. We welcome topic or speaker suggestions. Free dinner, cash bar, great speakers! Come out and support your chapter.

We are currently offering the "Colorado Land Surveying Laws – 2014 Sunset" booklet to our membership. This booklet is an invaluable reference and can be obtained at one of our general membership meetings.

If you know of anyone pursuing an education in land surveying or a related field please advise them to review the scholarship application on our website and contact David Kuxhausen at 303-925-1400 for more information.

The 2015 CCPS board of directors will be in need of at least 2 new directors. This is a great opportunity to voice your opinions and help your chapter promote land surveying in Colorado. Contact any of the current board members for more information.

Please visit us at www.centralcosurveypro.com for contact information, meeting details, and general CCPS news.

Christopher Raml, PLS
CCPS President

NC-PLSC

We're back from our summer hiatus but it still seems like summer, both with the workload and the weather. September is our change-over month for leadership and I want to take this opportunity to thank Kayce Keane for her devotion to, and excellent leadership of the PLSC Northern Chapter and her many contributions to the parent chapter. Kayce has been instrumental in guiding us to being a program-based chapter under the umbrella of the larger PLSC organization.

We have a full line-up of programs for this year starting this month with Jim Reinbold giving us a look at using Carlson as a cost-saving alternative to AutoCAD and Civil 3D. In November John Vonieda, City Surveyor for Fort Collins, will be following up on the issue of lot line adjustments getting recorded without going through the subdivision process. This is something we uncovered last year in our Chapter visit to the Larimer County Clerk & Recorder's office. December will find us feasting together for our annual holiday dinner meeting in a new venue (TBD) as my husband and I have closed Abbondanza Pizzeria. We anticipate a full program through the late winter and spring including a presentation on the issues faced in performing the complex survey for the new MAX transit line within the railroad ROW running along Mason Street in Fort Collins, as well as math tips to simplify Section 4 of the CFEDS course. The Chapter has also committed to design and staff booths or activities for GPS day hosted by the CSRN. Our goal is to team with Boy Scouts and Girl Scouts in order to help them earn survey or engineering related badges. We are hoping these ties will help garner interest in the career of land surveying as well as community support for the Trigstar program that we are hoping to re-introduce in Northern Colorado.



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Paul Bacus has reported back to the chapter on the Legislative Committee's activities involving "pincushions" and we are sure to have a lively discussion about what we should or should not legislate based on the material he has provided.

Our meetings are the first Wednesday of September through May. We meet in various locations and notifications go out via email. We did an audit of the membership rolls but there were quite a few people who had not selected Chapters as well as members who did not appear to have renewed. If you are not presently getting our notices, need to renew, or would like to join the Northern Chapter, please contact Becky Roland, PLSC Executive Director, at 303-551-3266 or broland@plsc.net.

Laine Landau, PLS, President
PLSC Northern Chapter

NW 1/4 CLS

Those of us in the NW1/4 of the State are beginning to see a situation with GIS that is both rewarding and problematic. Rewarding in that the future County Surveyor noted this week the clarity of images posted on Goggle Earth, once merged with the City or County GIS, gave him a tool to check certain types of surveys. This due to the June 2014 Goggle Earth image that now shows manholes, valves and utility boxes visibly within the city limits of Steamboat Springs, and even portions of Routt County. Problematic in that many members of the public are starting to call the surveying professionals throughout the County, wondering why their survey does not agree with the County Assessors map or the City GIS. Surely the County or the City cannot be inaccurate. This image is being held by the public, despite the disclaimers up front on both the County and City GIS websites.

Thus, those of us in the surveying community seem to be defending our work against a combination of GIS and Goggle Earth, which was intended to be informational, but instead is being construed by many

CHAPTER NEWS

members of the public as surveying quality. It is on the computer, therefore it must be right.

If we are witnessing this phenomena in a place as relatively remote as Routt County, what is happening in the rest of the state, region and Country? Many of us practice across a widespread area in many states. Just in the last year, I have seen three sets of CDOT plans which were partially based on Goggle Earth. Needless to say, we had to field survey portions of these projects as Goggle Earth or the Eagle County GIS was not accurate enough to field locate curb and gutter, storm inlets or potential catchpoints for the roadway slope. Yet, CDOT used it in three different situations and each time it failed to pass muster on accuracy. It was left to the surveyor to explain to CDOT why it was not accurate enough for the purposes intended. In order to save money, many municipalities, counties and even CDOT are using the GIS or Goggle Earth to cobble together plans that leave the contractor and field surveyor to rectify the situation.

And so what is the solution to this growing problem? What can we do as a surveying community to mitigate its impact in the future?

Brian T. Kelly, PLS
President, NW 1/4 Chapter

SCPLS

In August, the Southern Colorado Professional Land Surveyors hosted the 26th Annual Paul Grout Memorial Golf Outing and BBQ on a flawless day at the Holydot Golf Course in Colorado City where, Dan Hanten's team took 1st place, and CDOT's Greg Jones hit the longest drive. Also in August, during the members meeting in Colorado Springs, Paul Lukacovic, BLM Surveyor of 32 years, presented on his once in a lifetime adventure, hiking 2,650 miles on the Pacific Crest Trail. Entertaining & inspiring, it was a first-hand, photographic tour of the

Sierras and the Cascades from the perspective of a land surveyor.

In September, the SCPLS board of directors donated \$500 to the Sawyer & Garstin Map Collection at the Miramont Castle in Manitou Springs for the curators to purchase transparent, acid-free document protection supplies.

This fall we have our October members meeting which will include good food and an update on UAS technology for surveying and mapping companies. Come and pick up your Colorado Statues book, if you haven't already done so. And, as always, on December 12th, the SCPLS will hold its Christmas Party and white elephant gift exchange. Since the closure of La Renaissance, this year we will be celebrating the holiday at DJs hand-cut steak house in Pueblo. All are welcome, and every year we all have a great time. For more information visit our website: www.scpls.net.

Steve Parker PLS CFM
SCPLS President

SWC-PLSC

The SW-PLSC held our most recent chapter meeting on Tuesday, September 16 in Durango. We had a re-cap of our Four Corners Survey Seminar, which was held Friday and Saturday, June 13 and 14, 2014 at Fort Lewis College in Durango.

The 2013 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. Attached is the order form for the Refresher Courses. These are on DVD and being offered to the Chapters at a 25% discount. Please contact Parker Newby at pnewby@goffengineering.com with questions

or to request an enrollment form.

Our next meeting is scheduled for Tuesday, November 11 here in Durango. We are planning some changes and will be having a guest (or SWPLSC chapter member) speaker at all of our future chapter meetings. Look for guest speaker information, time and location in the upcoming email. If anyone has any ideas about future speakers or topics, please contact Josh Casselberry at josh@morenosurveying.com. We are trying to accommodate surveyors in our area by having technical, professional and other associated topics.

Southwest Chapter members are encouraged to show up and receive a copy of Paul Bacus' Colorado Land Surveying Laws Booklet.

Joshua J. Casselberry, PLS
President, SWC-PLSC

WCLS

The regularly scheduled September 10th meeting of the WCLS was held at the City of Grand Junction break room with over 20 members present. A dinner of chicken wings and potato salad was served to all in attendance. A \$1,500 scholarship was awarded to Mr. Alec Thomas, a surveyor with River City Consultants. The two runner-ups will be awarded a one year membership in the PLSC/WCLS for 2015. A discussion was held regarding the upcoming May 2015 Spring Seminar to determine a subject matter and guest speaker(s). There was a discussion among all members present concerning SURVEYOR'S REPORTS and why they should be used on all survey drawings and reports. There was a very lively discussion concerning the location and positional tolerances for found corners before the placement of another corner, thus creating the infamous pin-cushion. This discussion will be continued at another meeting.

Peter T. Krick, PLS
President, WCLS

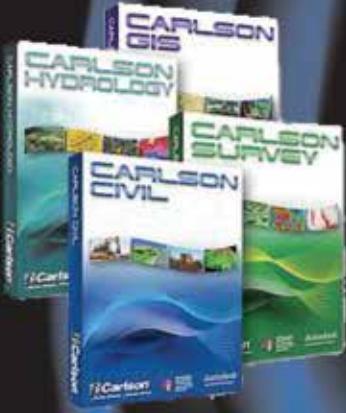
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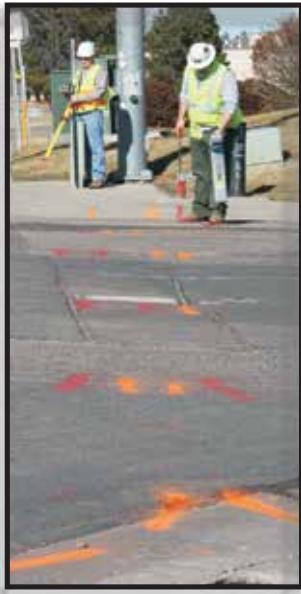
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