



Central Valley Chapter - California Land Surveyors Association  
[www.californiacentralvalleysurveyors.org](http://www.californiacentralvalleysurveyors.org)

# THE Central Valley Chapter PRISM

Volume I, Issue 6

September 2011

## 2011 Chapter Officers

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## 2011 Chapter Committees

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Jill Van Houten  
Education Committee:  
Kevin Genasci (Chairman)  
Keith Spencer  
Membership Committee:  
Keith Spencer (Chairman)  
Rich Brown  
Monument Preservation Committee:  
Mike Quartaroli (Chairman)  
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Josh Elson (Chairman)  
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Kevin Genasci (Chairman)  
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Stanislaus County Liaison Committee:  
Rich Fultz (Chairman)  
Crolie Lindsay  
Keith Spencer  
Website Committee:  
Landon Blake (Chairman)  
Keith Spencer  
Rich Brown

**Up Coming Meetings!**

**Date:** September 28, 2011

**Time:** 6:30 p.m.

**Location:** Perko's @ 4300 E. Waterloo Road, Stockton

**Speaker:** Tom Gau, Public Works Director, San Joaquin County

**Topic:** Monument Recovery for San Joaquin County

**Date:** October 26, 2011

**Time:** 6:30 p.m.

**Location:** TBD

**Speaker:** Neal T. Colwell, RCE

**Topic:** Irrigation Water Consumptive Use Based On Documented Crop Patterns

## Editor's Message

### Survey Information is being lost forever

Since I have been working within the Surveyor community, I have learned that there is a wealth of survey information that can not be obtained by studying books. This information is in the minds of some great surveyors within our community. Just this year alone we have lost two of those minds. Use the near future to visit with a keeper of this historical information. Whether you have been surveying for one year or 20 years, there is always something that can be learned just by asking questions.

If you have information on an upcoming event, training or class , please submit it to: [editor@californiacentralvalleysurveyors.org](mailto:editor@californiacentralvalleysurveyors.org)

## Announcements

### Corner Records now available on GIS

Stanislaus County has made all County corner records available on their GIS Site. [gis.stancounty.com/giscentral/](http://gis.stancounty.com/giscentral/)

### Congratulations to the Newest Land Surveyors

Chad Johnson (LS8833) of Stanislaus County Public Works is our newest Corporate Member. His membership has been upgraded due to his passing the LS Test in April. Others within the local area passing the LS test in April: Alex Calder (LS8863) Kevin Cole (LS8853) Brian Pierce (LS8859)

### Chapter Waives Dues for Unemployed Members

At the December meeting the Central Valley Chapter voted to waive 2011 chapter dues for any members (or new members) who have become victims of the current economic downturn and are unemployed. Please fill out the Membership Application, enter "Unemployed" on Line 7 for the Name of Firm, Agency or College, submit your application, and your 2011 Dues are waived.

[Click here for the 2011 Membership Application](#)

## Classes, training, and continuing education

CalTrans — LS/LSIT Video Exam Preparation Course  
Online Video Course — [View online videos here](#)

PESI Law & Accounting — Principles of Boundary Law for Surveyors in 2011  
September 20th, 2011, 12:30 PM — 2:00 PM, Webinar — [Register here](#)

Land Use Navigators — Subdivision Map Act in California  
September 22nd, 2011, Pardini's Catering & Banquets, Fresno — [Register here](#)

CLSA Seminar — Research, Recovery, Remonumentation, Recordation & Double Monumentation  
September 23rd, 2011, Crown Plaza, Concord — [Register here](#)

CCVGPG Meeting — Speakers: Annette Lockhard and Erin Mutch  
September 30th, 2011, 11:00 AM — 1:00 PM, SSJID Headquarters, Ripon — [More information here](#)

PESI Law & Accounting — GPS and GIS: Can they solve our boundary problems and put Surveyors out of business?  
October 18th, 2011, 12:30 PM — 2:00 PM, Webinar — [Register here](#)

PESI Law & Accounting — Surveyor Reports for Surveyors in 2011  
November 15th, 2011, 12:00 PM — 1:30 PM, Webinar — [Register here](#)

CLSA-NALS Conference 2012  
March 23-28, 2012, Silver Legacy Resort & Casino, Reno, NV — More info to come

If you have information about a training or class, please submit to: [editor@californiacentralvalleysurveyors.org](mailto:editor@californiacentralvalleysurveyors.org)

Mark Your Calendars

## Register Today – CLSA WORKSHOP

### *Research, Recovery, Remonumentation & Recordation and Double Monumentation*

**SPEAKER:** Steve Parrish, PLS  
September 16th - Ontario, CA  
September 23rd - Concord, CA



Visit [www.californiasurveyors.org](http://www.californiasurveyors.org) to register today!



## President's Corner

By Mike Turnrose

Hello Chapter members! I hope you have enjoyed your summer. Fall is just around the corner. Cooler days are ahead, which is good news for Central Valley surveyors.

I just wanted to highlight some of our recent chapter meetings. We have had some great speakers this summer. In May, we had our state CLSA President Elect, Frank Lehman give a presentation on chain of title research and business ideas for land surveying firms. This talk was quite informative. He gave some examples of exhibit maps that he has prepared for title companies regarding chain of title issues, etc. I believe this type of work is a lucrative and interesting market that has not been fully tapped by the land surveying business community. Frank also emphasized that California licensed land surveyors have the rights to practice certain aspects of land planning under the PLS Act. I did not know that! Again, this is highly untapped market for surveyors.

In June, we had Lance Bishop from the BLM give a Power Point presentation on the key differences between the 1973 and 2009 manual. I was not in attendance at this meeting but I heard it was informative. There is information posted on the chapter website.

Speaking of the chapter website, I **highly encourage** members to utilize its resources. There is a lot of information on the "Members Library" page including maps from local counties, field books, etc. This is a great help for chapter members in any map and boundary research. For instance, there are Merced County maps available. If you need any help, please contact [Keith Spencer](#). He can help you with any questions or problems you may have.

In July, we had Ian Wilson, a well known California surveyor from Roseville give an interesting talk on the 2011 ALTA/ACSM standards. He has worked hard on implementing the recent changes.

In August, we had Annette Lockhart, the state CLSA GIS chairman give a presentation on digital map submittals. There was some lively discussion about the benefits and problems of paper hard copy maps and digital files. Bill Jones gave a spirited presentation on the benefits and values of the "original" hard copy maps which included some valuable props (gold and silver coins)!

I encourage members (and non-members) to attend our next meeting. Besides the great speakers we have had, I think this a great opportunity for job seekers to network and find out about possible employment opportunities.

Hope to see you at the next meeting! Until next time... thanks for reading.

Regards,

Mike Turnrose  
Chapter President

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## National News and Info

### Surveying the Capitol: Mid-year Legislature Summary

With Congress starting its August recess, it is a good time to review issues introduced in Congress and the Federal government thus far that will affect surveying and mapping professionals. Here are some of the more important ones.

#### LightSquared/FCC/GPS

One of the biggest and most discussed federal issues this year has been the LightSquared/GPS issue. I discussed this in detail in my [June column](#), but on June 30, LightSquared submitted a final report of the technical working group co-chaired by LightSquared and the U.S. Global Positioning Industry Council (USGPIC) to the FCC.

The technical working-group effort identified significant technical issues related to potential LightSquared operations in the upper portions of the L-Band spectrum, which is most proximate to the band used by GPS. The group tested more than 130 representative GPS devices in seven different receiver categories, in different test environments. The tests demonstrated potentially significant interference between LightSquared

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## Word Search - Terms of the Profession



ADJUSTMENT  
ALUMINUM CAP  
BILL HOFFERBER  
CONFERENCE  
HUB  
IRON PIPE  
LIGHTSQUARED  
PARCEL  
PLUMB BOB  
POCKET TAPE  
PRISM  
QUARTER  
RECORD OF SURVEY  
ROD  
SHOVEL  
STEEL TAPE  
SURVEYOR  
TOWNSHIP  
TRIMBLE

## Technology and Info

### How Precise is OPUS? - Part 1: Experimental Results

NOAA's National Geodetic Survey (NGS) introduced its Online Positioning User Service (OPUS) in 2001 as a means to provide both easy and accurate access to the National Spatial Reference System (NSRS). Surveyors and others can submit dual frequency GPS data to the OPUS web page [www.geodesy.noaa.gov/OPUS](http://www.geodesy.noaa.gov/OPUS) and receive an email containing positional coordinates, with pertinent error estimates, for the location where their data were collected, often within minutes. OPUS computes these coordinates by processing the user-submitted data with corresponding GPS data from the U.S. Continuously Operating Reference Station (CORS) network and/or the

International GNSS Service (IGS) network. OPUS-computed coordinates are thus consistent with NGS-published coordinates for the stations contained in the combined CORS/IGS network, and consequently they are consistent with the NSRS. By incorporating OPUS-computed coordinates into their survey work, geospatial professionals and others can be highly confident that their work is consistent with other survey work that has been tied to the NSRS.

This article is the first of three that will explore with what precision OPUS can compute positional coordinates. In this article, precision is measured by processing GPS data from each of several

CORS/IGS stations and comparing the OPUS-generated coordinates with corresponding NGS-published coordinates where the published coordinates have been independently determined from many days worth of GPS data. The second and third articles will appear in subsequent issues of this magazine.

A limiting condition of the original OPUS utility is that its users must submit at least two hours of dual frequency GPS carrier phase data to be reasonably confident that OPUS will correctly resolve the integer ambiguities associated with these data. When these ambiguities are

*Continued on page 5*

## How Precise is OPUS? - Part 1: Experimental Results, *cont. from page 4*

correctly resolved, OPUS-computed coordinates will be precise to a few centimeters. Otherwise, the coordinates might be precise to a few decimeters. To overcome the need for two hours of data, NGS developed the OPUS-RS utility, where "RS" stands for rapid static. Consequently, the original OPUS utility was renamed OPUS-S where "S" stands for static. OPUS-RS was designed so that users may submit as little as 15 minutes of dual frequency GPS data. OPUS-RS uses a data processing engine that differs significantly from that utilized in OPUS-S. The OPUS-RS processing engine was designed by researchers at the Ohio State University with support from NGS. NGS then refined the original design and developed appropriate software for a production environment. OPUS-RS was released for public use in 2007.

The primary difference between the OPUS-RS processing engine and the OPUS-S processing engine relates to how they respectively

handle the travel-time delays caused by atmospheric refraction and experienced by a GPS signal during its journey from a satellite to the user's receiver, hereafter called the rover. In the case of OPUS-RS, the processing engine uses at least one hour of GPS data, overlapping in time with the user's observing session, from at least three and as many as nine CORS/IGS stations, each located within 250 km of the rover, to determine the atmospheric delays experienced at these CORS/IGS stations during the user's observing session. That is, OPUS-RS will use an hour's worth of CORS/IGS data even if the user's observing session is only 15 minutes long. (For longer observing sessions, OPUS-RS will always use at least as long a time span of data from the CORS/IGS stations.) The atmospheric delays include those caused by free electrons residing in the upper atmosphere as well as the delays caused by the distribution of molecules residing in the neutral

atmosphere. The delays experienced at the CORS/IGS stations can be determined rather precisely because the computational process constrains the coordinates of these stations to values that have been previously determined from rigorous analysis involving many days, if not years, of data. Then OPUS-RS interpolates (or extrapolates) the computed atmospheric delays at the selected CORS/IGS stations to estimate corresponding delays at the rover. Finally, OPUS-RS constrains the atmospheric delays at the rover to their interpolated/extrapolated values when it computes the rover's coordinates. These constraints are weighted in inverse proportion to their estimated variance. In the case of OPUS-S, the processing engine computes all atmospheric delays (for the rover as well as the selected CORS/IGS stations) simultaneously while it is computing the rover's coordinates.

[Click for complete article](#)

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## The Passing of a Survey Legend, Jesse Leon Stanley, 1934-2011



Jesse Leon Stanley, born June 6, 1934 in the hills of West Virginia. Worked as a deputy for the Calaveras County Sheriff as he started his surveying career. At one time, he was a licensed surveyor in five States: California, Nevada, Vermont, New York, and New Hampshire. He loved his family, especially his grandchildren. He is survived by his wife Barbara, his brother Gary from Vermont, and his children and grandchildren. Although Surveying was his life, he did put it aside to try his hand at a furniture store in Vermont. That did not last long, he would survey in Vermont during spring through fall and come back to California during the winter. Jesse put a lot of time in helping with the development of the SMI software for surveying. He always kept up with technology being one of the first to have the latest gadget. He loved surveying and always said he would be surveying until the day he died. On August 11, 2011 Jesse past away. Grandpa will be missed.

*Submitted by Bill Morris, LS—Morris Engineering & Surveying, Inc.*

One of Jesse's most admirable qualities, was his willingness to help fellow surveyors with the latest technology. In particular, he was always at the top with data collection and post processing. I do know that Jess was one of Stanley Trent's, of SMI, main developer of the software that is still in use today. Jess applied a lot of common sense to survey programs that came from his practical experience in the field. Additionally, he was a program designer of a particular drawing software program that he used in his everyday mapping. Even though Jess, like many of us, did not have a degree or any extended education beyond high school, he at one time, was licensed in 5 states. He was a proponent of CEU's as it applied to his own personal surveying education. Many of us would see him at surveying seminars and conferences that are held every year. Of course, Jess would always bring a wad of cash with him and always try and get the best deal on equipment just as they were closing for the conference. Jess was a hands on type of guy.....he loved the field, the office and everything that went with the surveying profession. When you worked with Jess, you paid attention, ate on the run, and knew what a hard day of surveying felt like. He will be missed by all who knew him, worked with him and learned from him. May you rest in peace my dear friend, all of us will miss you!

*Submitted by Bill Anberg, Surveyor—Retired*



## Surveying the Capitol: Mid-year Legislature Summary, *cont. from page 3*

operations in the upper portion of the band and various GPS receivers. The tests also identified some interference issues in the lower 10 MHz portion of the band. The overall conclusion of the testing is that transmissions in the upper 10 MHz channel—the channel nearest to the 1559-1610 MHz GPS band—will adversely affect the performance of a significant number of legacy GPS receivers.

LightSquared has submitted its recommendations to address the problems identified by the working group. In particular, LightSquared indicates its willingness to:

1. “operate at lower power than permitted by its existing FCC authorization;
2. agree to a ‘standstill’ in the terrestrial use of its upper 10 MHz frequencies immediately adjacent to the GPS band; and
3. commence terrestrial commercial operations only on the lower 10 MHz portion of its spectrum and to coordinate and share the cost of underwriting a workable solution for the small number of legacy precision measurement devices that may be at risk.”

Of course, that “small number of legacy precision measurement devices that may be at risk” is used by professional, licensed surveyors around the country.

The link to all portions of the LightSquared/USGPIC FCC report can be found at the new ECFS home page: <http://fjallfoss.fcc.gov/ecfs/comment/iew?id=6016826095>.

By Laurence Socci

[Click for full article](#)

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## The Subdivision Map Act: A One-Day Seminar in Several California Locations

**Allen Matkins**  
*in association with*  
**LAND USE NAVIGATORS**

**Cost: \$195**

Group discounts available

### Time

9:00 am - 4:30 pm

Registration opens at  
8:30 am

### Includes:

Map Act Navigator 2011  
a \$49.95 value



### WHAT IS COVERED?

This seminar provides guidelines for effective use of the Subdivision Map Act. The instructor will discuss the responsibilities and powers of local agencies under the Act, as well as particular issues regarding when the Act applies.

### SEMINAR HIGHLIGHTS:

- Discussion of new Legislative and Judicial developments in 2010
- Relationship of Map Act to other planning, zoning and development laws, and to CEQA
- When the Map Act applies (and when not)
- What kind of Map (tentative/final or parcel map) to use
- Certificates of Compliance, Lot Line Adjustments, Contiguity, Remainder Parcels
- Exemptions and Exceptions under the Map Act
- Life of Tentative Map
- Getting the most out of Vested Rights (including Vesting Maps, Development Agreements and Common Law Vesting)
- Conditions of Approval/Exactions/Dedications/Fees
- Creative mapping approaches
- Appeals/Judicial Actions

### WHO SHOULD ATTEND?

This seminar is designed for public and private planners, surveyors, engineers, public works and utilities staff, developers, builders, environmentalists, attorneys, project managers, architects, planning commissioners, city council and board members, property managers, zoning board members, neighborhood groups, and all others involved with the land use process. This course qualifies for 6.0 hours of California MCLE Credit.

Instructor



Michael P. Durkee

**How to Register for a seminar: Call us: 415-273-0310 web: LandUseNavigators.com or, register and pay at the door**

**Red Bluff - January 27**

Red Bluff Community Center

**April 28**

Learning Center

**Santa Maria - July 28**

Santa Maria Minami Community Center

**Burbank - October 27**

Burbank Moose Lodge

**Sacramento**

Sacramento

**June 26**

Heritage Inn

**Rancho Cucamonga - September 15**

Rancho Cucamonga Community Center

**San Diego - November, 17**

San Diego Concourse

**Petaluma**

Petaluma Community Center

**June 23**

Marina Airport Conference Room

**Fresno - September 22**

Pardini's Catering & Banquets

**CLSA Members  
receive \$20 off**

## Classifieds

### 2009 BLM Manual available for \$55

2009 BLM Manual of Surveying Instructions is currently available on the [CLSA](#) website: \$55 for members, \$75 for non-members

### CLSA discounting 2011 publications

CLSA is currently discounting 2011 publications by up to 50%. Available on the [CLSA](#) website

### Submissions for State Awards due December 1st

Award applications for the following State awards are due by December 1st, 2011:

Distinguished Service Award

Member of the Year Award

Chapter of the Year

Chapter Website of the Year

Chapter Newsletter of the Year

Photo of the Year

Information is posted on the CLSA Members Only Website

Have equipment to sell? Looking for a great deal? Check out the [CLSA Forums!](#)

## Picture of the Issue

### Washington DC Boundary Stone:

Monument Designation-SW7

Approximate Date-May 1, 1791

Location of Monument-Fairfax County

USGS Quad-Kenmore Jr. High School,

USGS Annandale VA

Website-[www.boundarystones.org](http://www.boundarystones.org)



In 1791 and 1792, Andrew Ellicott and his surveying team placed 40 boundary stones around the perimeter of the District of Columbia, one at each mile of the original diamond shape. They laid the first stone, the south corner stone, at Jones Point on April 15, 1791, under the guidance of Benjamin Banneker.

From there, Ellicott's team embarked on a 40-mile journey that took nearly two years. They created the boundary lines of the capital by clearing 20 feet of land on each side of the boundary and setting a uniquely marked stone at each mile interval. On each stone, the side facing the District of Columbia displayed the inscription "Jurisdiction of the United States" and a mile number. The opposite side said either "Virginia" or "Maryland," as appropriate. The third and fourth sides displayed the year in which the stone was placed (1791 for the 14 Virginia stones and 1792 for the 26 Maryland stones) and the magnetic compass variance at that place. The stones along the northwest Maryland boundary line also displayed the number of miles they fell from NW4, the first stone placed in Maryland. Stones placed at intervals of more than a mile included that extra distance measured in poles.

If you have a historic or interesting photo you would like to see in a future edition of The Prism, please submit to:

[editor@californiacentralvalleysurveyors.org](mailto:editor@californiacentralvalleysurveyors.org)



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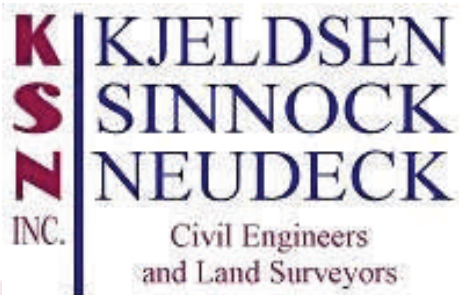


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