



Central Valley Chapter - California Land Surveyors Association
www.californiacentralvalleysurveyors.org

THE Central Valley Chapter PRISM

Volume 2, Issue 1

January 2012

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2012 Chapter Committees

By-Laws Committee:
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Jill Van Houten
Education Committee:
Kevin Genasci (Chairman)
Keith Spencer
Membership Committee:
Keith Spencer (Chairman)
Rich Brown
Monument Preservation Committee:
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James Ryan
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Stanislaus County Liaison Committee:
Rich Fultz (Chairman)
Crolie Lindsay
Keith Spencer
Website Committee:
Keith Spencer (Web Master)
Rich Brown

Up Coming Meetings!

Date: January 25, 2012

Time: 6:30 p.m.

Location: Perko's @ 901 North Carpenter Road, Modesto

Speaker: Leigh Johnson, Micke Grove Historical Museum

Topic: Historical records

Date: February 22, 2012

Time: 6:30 p.m.

Location: Perko's @ 901 North Carpenter Road, Modesto

Speaker: Christopher Neudeck, P.E., KSN, Inc.

Topic: The Future of Flood Control in the California Central Valley

Announcements

Spring Examination Schedule is out

California Land Surveying	Register: New Dec. 5, 2011 / Refiles Jan. 23, 2012
	Exam: April 12, 2012
Principles of Surveying (PS)	Register: New Dec. 5, 2011 / Refiles Jan. 23, 2012
	Exam: April 13, 2012
FS (LSIT)	Register: January 23, 2012
	Exam: April 14, 2012

October 2011 exam results are out!

Chapter goes Hi-tech

Chapter has set up a PayPal account, making it even easier to pay our chapter dues. Go to the [Chapter website](#) for more information on paying online.

Chapter Waives 2012 Dues for Unemployed Members

At the October, 2011 meeting the Central Valley Chapter voted to waive 2012 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 2012 Dues are waived.

[Click here for the 2012 Membership Application](#)

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Mark Your Calendars

CAD Masters — Civil 3D for Surveyors

February 29, 2012, Sacramento — [Register here](#)

CAD Masters — AutoCAD Level I — [Register here](#)

February 6, 2012, Sacramento

February 21, 2012, Walnut Creek

March 5, 2012, Sacramento

March 19, 2012, Walnut Creek

CAD Masters — AutoCAD Level II — [Register here](#)

February 13, 2012, Walnut Creek

March 12, 2012, Sacramento

March 26, 2012, Walnut Creek

CAD Masters — AutoCAD Level III — [Register here](#)

February 2, 2012, Sacramento

March 15, 2012, Walnut Creek

Land Use Navigators — Subdivision Map Act in California

February 23, 2012, Sacramento — [Register here](#)

Pacific Land Seminars — P.L.S. Review Series I

February 25-26, 2012, Orange — [Register here](#)

Pacific Land Seminars — P.L.S. Review Series II

February 25-26, 2012, Orange — [Register here](#)

Pacific Land Seminars — F.L.S. (LSIT) Review Workshop

March 23-24, 2012, Orange — [Register here](#)

Classes, training, and continuing education

**CLSA / NALS
CONFERENCE 2012**
March 23-28
Silver Legacy Resort & Casino, Reno, NV

Featuring:

- Continuing Education
- Scholarship Auction
- Exhibits

Featured Speakers:
Mike Durkee, Esq.
Gary Kent, PLS
Dennis Moulard, PLS
Steve Parrish, PLS

**Surveying
the Future
The Challenges
of Change**

For Registration Information Please Visit:
www.californiasurveyors.org
or www.nv-landsurveyors.org

CLSA-NALS CONFERENCE 2011
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conference@californiasurveyors.org

CLSA-NALS Conference 2012

March 23-28, 2012, Silver Legacy Resort & Casino,
Reno, NV — [Register](#)

If you have information about a training or class, please submit to: editor@californiacentralvalleysurveyors.org

Editor's Message

At our December 7th Chapter meeting, the attending members approved the creation of the Lifetime Membership Status for our Chapter. When awarded this membership status, the member would be exempt from paying Chapter Dues.

Our first Lifetime Membership was awarded to Tom DeLaMare.

Tom DeLaMare has been involved with surveying for over 50 years. He was attending Modesto Jr. College in 1959 when he applied for a chainman position with the City of Modesto. He was hired to work under the City Engineer, Roy E. Fredrickson. That started his long and distinguished career in Land Surveying. Tom received his license for Land Surveying in 1967, and then passed the exam for his RCE in 1983. Currently, Tom has several family members following in his Engineering/Surveying professional footsteps, including 1 Civil Engineers, 2 Land Surveyors, 1 Engineer-In-Training, 2 President/CEOs, & 5 Principals.

I would like to thank Tom DeLaMare for his dedication and contributions to the Surveying community.

If you have information on an upcoming event, training or class, please submit it to:

editor@californiacentralvalleysurveyors.org



President's Corner

By Bill Koch

Welcome everyone to the New Year. I look forward to the upcoming year with all of the exciting topics and interesting guest speakers I know our chapter will have. I would like to thank our past President, Mike Turnrose, for his service as an officer to the chapter. In addition, I want to welcome the new officers, Bill Jones as Treasurer, Rich Brown as Secretary and Jon Scarpa as one of our Representatives. I feel that we have a great group of people that will lead the chapter for many years to come.

I would like to give a special thank you to a couple of individuals for their tireless contributions to the chapter. Keith Spencer, who presently serves as one of the chapter

Representatives as well as serving on multiple committees, gives untold hours to making the chapter function productively. He has provided me with much needed assistance over the last two years with finding and scheduling our guest speakers. Rich Brown who presently serves as our chapter Secretary has also gone above and beyond in his support to the chapter. He currently prepares the chapter newsletter "The Prism" which I believe is one of the best newsletters by any chapter. The Prism is a great addition to the chapter and helps with not only funding, but keeping the members up to date and connected. A big "thank you" to both Keith and Rich!

Our chapter has come a long way since I began attending the meetings back in 2004. I remember attending meetings every other month and having only around 5 to 10 people. We now hold monthly meetings with an average of 20 attendees and can have up to 40 attendees for certain topics or speakers. A couple of years ago, the chapter progressed and created a website. This has helped organize and provide the chapter with great resources. The Prism Newsletter, which began last year, is just another example of our growth. This year, the chapter added the ability to pay chapter dues with PayPal. I look forward to ongoing progress and improvement within our chapter and hope the chapter continues to be a source for growth, learning and leadership.

Happy New Year and I hope to see all of you at the next meeting.

Regards,

Bill Koch

Chapter President

State News

New Test Specifications for the California Specific P.L.S. Examination

An Occupational Analysis (OA) study of current land surveyor practice was conducted earlier this year. The OA was used to update and construct the new test specification for the Professional Land Surveyor Examination.

General Definition of California Professional Land Surveying Practices:

The practice of land surveying in the State of California consists of determining, establishing, reporting and mapping the positions, contours and/or geospatial configuration of points, physical features, property interests, boundary and/or property lines by applying the principles of surveying, mathematics, measurement and law to meet the distinctive requirements of the State of California to protect the health, safety and welfare of the public.

The following is the revised breakdown for percentage of each subject:

Project Management 13%

Research, Pre and Post Field Analysis 25%

Field Work 20%

Mapping and Document Preparation 28%

Consultation and Legal 14%

[Click for complete breakdown of Knowledge Areas](#)

Technology and Info

How Precise is OPUS? - Part 3: The Rest of the Story

By Richard Snay, Kevin Choi, Gerald Mader, Charles Schwarz, Tomas Soler and Neil Weston

This is the third of three articles discussing the precision obtainable with the Online Positioning User Service (OPUS) offered by NOAA's National Geodetic Survey (NGS). The first two articles appeared in preceding issues of this magazine. OPUS is a Web-based utility available at www.geodesy.noaa.gov/OPUS to which surveyors and others can submit a dual frequency GPS data set and quickly receive an email containing positional coordinates for the location where their data were collected. OPUS computes these coordinates by processing the submitted data together with GPS data from the U.S. Continuously Operating Reference Station (CORS) network and/or the International GNSS Service (IGS) network. Actually, there are two OPUS processing engines. One engine is called OPUS-S, where "S" stands for static, which is designed for use with GPS data spanning more than two hours. The second engine is called OPUS-RS, where "RS" stands for rapid static, which is designed for use with GPS data spanning between 15 minutes and two hours.

While the precision of OPUS-S and OPUS-RS were addressed in the first two articles, there is more to the story. Certainly precision is important, but other factors also serve to distinguish between OPUS-S and OPUS-RS. One factor is that OPUS-RS requires much more computational resources than OPUS-S. Also of particular importance is the success rate of each of these two utilities. While OPUS-S has successfully computed coordinates for over 90% of the data sets submitted to it, OPUS-RS has successfully computed coordinates for only approximately 67% of the data sets submitted to it. These success rates do not address the precision of the computed coordinates, just the ability to perform the computation.

To better understand why OPUS-RS experiences so many failures, NGS personnel studied the collection of error messages issued by failed OPUS-RS solutions during the 30-month period from January 2008 to June 2010. A total of 31 different types of error messages were encountered. Table 1 identifies the top ten types of error messages issued during this 30-month period. These ten error types account for approximately 86% of the failed OPUS-RS solutions.

According to Table 1, the most frequent cause of failure is users submitting more than two hours of GPS data to OPUS-RS. This two-hour limitation is indeed an artificial restriction imposed by NGS. For sure, OPUS-RS could process many more hours of data if NGS allowed it to do so. However, the code within OPUS-RS invokes some simplifying approximations. The most critical of these approximations is based on the assumption that the travel time delay due to the distribution of molecules in the neutral atmosphere (commonly referred to as tropospheric refraction) remains constant for the entire time span of the data. Hence, the longer the time span,

Continued on page 7

Rules of the Game: Implied Easements Part 2: Grantor's Road as Boundary

By Knud Hermansen, LS, PhD, PE, Esq. and A. Richard Vannozzi

Readers are cautioned that they should investigate state cases dealing with the particular application of the law to determine how the law applies in your state. Many states have modified the common law that is presented here.

The previous article, subtitled "Deed Reference to a Subdivision Plat," states that surveyors are often obligated to show the location and extent of easements that may not be expressly created. Standards such as the ALTA/ACSM Land Title Survey Standards require the surveyor to be aware of and to consider easements that may arise by implication (known as implied easements).

One often overlooked implied easement arises within the content of a deed description where:

1. the grantor conveys property calling for a private road as a boundary, and
2. the grantor owns the road at the time of the initial conveyance of the lot.

As a consequence, the grantor gives the grantee an easement in the private road by implication.¹

Consider this [diagram](#) showing a lot the grantor is conveying using the description shown. As a result of the underlined phrase in the description, the grantee of the lot obtains an appurtenant easement in the grantor's

Continued on page 5

Rules of the Game: Implied Easements Part 2: Grantor's Road as Boundary, *cont. from page 4*

road. The fact that the easement is not necessary for lot access is not significant in many states.

It is important for the surveyor to understand that once the appurtenant easement is created, it remains in favor of the lot. In other words, even though the ownership changes, the easement, once created, continues to benefit the lot.

When preparing descriptions, the surveyor should not mention the grantor's road as a boundary. If the description does call for the grantor's road, the surveyor should include a statement that there is no implied easement in the road (unless, of course, one is intended). In this example the word "grantor" is used when describing the lane for emphasis, but a surveyor who uses the term "along the lane" when the grantor happens to be the owner of the lane would create the same implied easement.

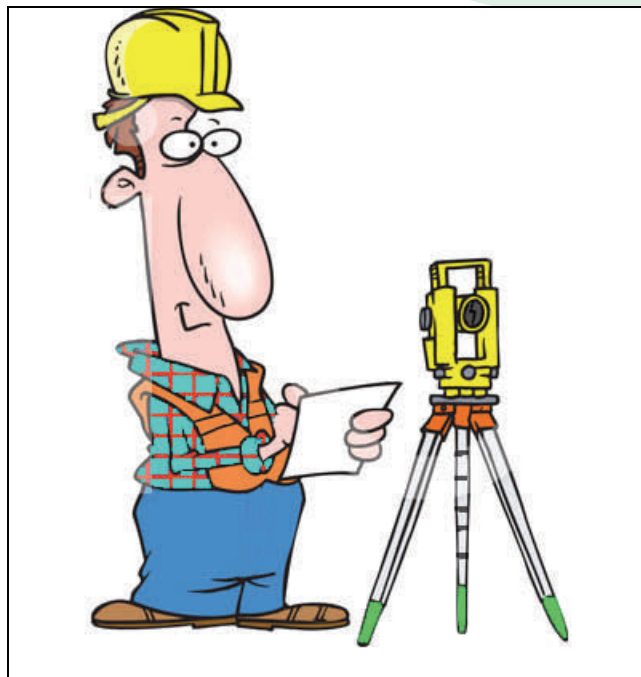
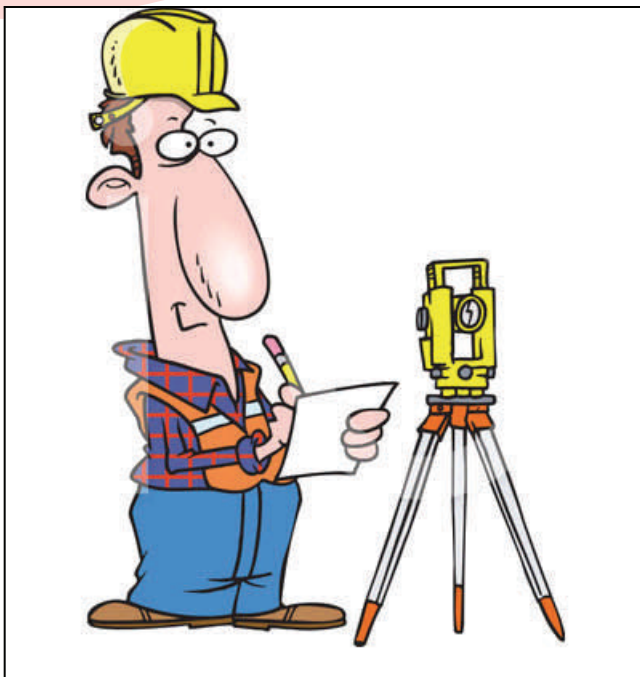
For surveyors preparing descriptions, knowing the nature as well as the extent of abutting ownerships is essential to avoid implying the conveyance of rights not intended by the client. This is one instance where ignorance of the law could subject the surveyor to liability.

When retracing a lot where the deed description originally called for the grantor's road (or lane) as a boundary, the surveyor should be aware that the road (or lane) may be an appurtenant easement, and he or she should look for encroachments.

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Puzzle Page

Find the Difference: There are 10 things different between the two pictures below, can you find them?



The Solution to November's Logic Puzzle:

Archie
Survey Solutions
Orange Ribbon
3/4" Pipe
Doug
Blue Moon Surveying
Blue Ribbon
3/4" Square Bar

Bob
City
Green Ribbon
1/2" Rebar
Ed
Zodiac
Engineering
Yellow Ribbon

Charlie
Rocket Land Surveying
Pink Ribbon
1" Rebar

National News

LightSquared Files Petition for Declaratory Ruling

Reston, VA, December 20, 2011

LightSquared today asked the Federal Communications Commission (FCC) to confirm LightSquared's right to use the spectrum licensed to the company by the federal government. In addition, the company asked the FCC to confirm that commercial GPS manufacturers have no right to interference protection from LightSquared's network since they are not licensed users of that spectrum.

Click [here](#) to access a copy of LightSquared's petition for declaratory ruling to the FCC.

"The one inescapable conclusion from two rounds of independent testing is that the incompatibility problem is not caused by LightSquared's network," said LightSquared's executive vice president for regulatory affairs and public policy Jeff Carlisle. "It is clear that GPS devices are purposefully designed to look into LightSquared's licensed spectrum, and given this evidence, we believe decision-makers should consider LightSquared's legal rights as the licensee."

The company asserts that commercial GPS manufacturers are responsible for having designed and sold unlicensed devices that use spectrum licensed to LightSquared and its predecessor companies.

"(C)ommercial GPS receivers are not licensed, do not operate under any service rules, and thus are not entitled to any interference protection whatsoever," LightSquared wrote in its petition to the agency. The petition also notes that the [FCC itself stated that the GPS industry had been on notice for almost a decade that LightSquared was planning to use its spectrum](#) to launch a nationwide broadband network.

"LightSquared has had FCC authorization to build its network for over eight years and that authorization was endorsed by the GPS industry, and fully reviewed and allowed to proceed by several other government agencies," said Carlisle. "Commercial GPS device-makers have had nearly a decade to design and sell devices that do not infringe on LightSquared's licensed spectrum. They have no right to complain in the eleventh-hour about incompatibility when they had ample opportunity to avoid this problem."

In addition to more than 300 million GPS-enabled cell phones that government testing has confirmed are compatible with LightSquared's spectrum, several GPS device manufacturers, including Javad GNSS and Hemisphere, have also successfully developed and tested devices that are also compatible. The development of these LightSquared-compatible GPS devices proves that GPS manufacturers could have designed their equipment to filter out LightSquared's signals and avoid interference.

"While we ask the FCC today to confirm our legal rights, LightSquared remains fully committed to cooperate with all parties – the GPS industry, GPS users, and the federal government – to ensure that LightSquared's network is deployed in a way that is compatible with GPS users," said Carlisle. "LightSquared has always recognized the critical importance of the GPS system, and we firmly believe that GPS devices can peacefully co-exist adjacent to our network."

[Click for complete article](#)

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Chapter News

Central Valley Chapter Changes Membership Procedures

Renewals:

You do NOT need to fill out an application with your annual Chapter Membership. If you have moved, changed jobs, or otherwise want to update your membership information, fill one out and the Chapter will update your file.

New Memberships:

Please fill out an application and bring it with your annual Chapter Membership dues to the next Chapter Meeting.

OR

Fill out the application online then email it to: membership@californiacentralvalleysurveyors.org and pay your dues online.

See [Chapter's Membership page](#) for more information

How Precise is OPUS? - Part 3: The Rest of the Story , *cont. from page 4*

the more likely the tropospheric refraction will vary significantly from a constant value. By way of contrast, OPUS-S partitions the data's total time span into 30-minute segments and assumes that the tropospheric refraction remains constant for each of these segments, but allows this refraction to vary from segment to segment.

As an aside, the assumption that the tropospheric refraction remains constant for a period of time can be the downfall of both OPUS-S and OPUS-RS when trying to process GPS data collected when the weather changes abruptly such as during the onset of a thunderstorm. NGS has experienced many poor OPUS-S and OPUS-RS solutions when trying to process GPS data collected during summer months in subtropical regions like southern Florida.

As mentioned in the second article, NGS is planning to revise the code behind the OPUS Web page so that the new code will automatically direct submitted data that spans more than two hours to OPUS-S while directing data that spans less than two hours to OPUS-RS. This new code will thus eliminate the most frequent error type causing OPUS-RS to fail.

According to Table 1, the second most frequent cause of OPUS-RS failure is the unavailability of at least three CORS/IGS stations within 250 km of the rover. Without at least three CORS/IGS stations, OPUS-RS cannot effectively interpolate/extrapolate the effect of atmospheric refraction to the rover. Maps, such as Figure 1, can help users identify the geographic regions where OPUS-RS is doomed to failure due to a lack of CORS/IGS stations in those regions. NGS creates such maps on a weekly basis to reflect the latest distribution of available CORS/IGS stations. RS will improve significantly, because these two error types have accounted for approximately 38% of the OPUS-RS failures during recent times.

[Click for complete article](#)

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THE SUBDIVISION MAP ACT

A One-Day Seminar in Several Locations

This seminar provides guidelines for effective use of the Subdivision Map Act.

- New Legislative and Judicial developments in 2012
- 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 (incl. Vesting Maps, Development Agreements and Common Law Vesting)
- Conditions of Approval/Exactions/Dedications/Fees
- Creative mapping approaches
- Appeals/Judicial Actions

WHO SHOULD ATTEND?

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.

Qualifies for 6.0 hours of California MCLE Credit.

\$195 - Discounts available for Groups & CLSA members
Time 9:00 am - 4:30 pm • Registration opens at 8:30 am
Includes: **the Map Act Navigator 2012 a \$49.95 value**

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February 23 - Sacramento

Tsakopoulos Library Galleria 828 I St

March 22 - Lafayette

Lafayette Library 3491 Mt. Diablo Blvd

April 19 - Redwood City

Redwood City Woman's Club 149 Clinton St

May 17 - Marina

Marina Airport Conference Room 781 Neeson Rd

June 21 - Bakersfield

Bakersfield Marriot 801 Truxton Ave

July 19 - Costa Mesa

Neighborhood Community Center 1845 Park Ave

September 20 - San Diego

San Diego Concourse 202 C St Copper Room

Register by calling 415-273-0310
or at LandUseNavigators.com
or register and pay at the door



LAND USE
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Classifieds

Part time Party Chief / Mapper wanted:

Riverside County Surveying firm has an opening for a part time party chief. Must have at least 5 years experience as a party chief. Experience in boundary surveys, topographic surveys, construction surveys and ALTA surveys are required. A candidate with an LSIT, experience with AutoCAD LDD and Carlson SurvCE or TDS is preferred. Qualified candidates can e-mail a cover letter and resume to Info@Zonesix.net. (posted on CLSA Forums 01/05/12)

Senior CAD Technician wanted

Stantec has an opening in their San Francisco Office for Senior CAD Technologist. The position is in the Transportation Group, which provides comprehensive planning, design, and engineering services for all phases of airports and aviation, bridge, rail, roadway, and transit projects.

For more information or to submit your resume [CLICK HERE](#) (posted on Monster.com 01/10/12)

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

Amendments to 2012 Professional Acts

Amended (or Added) Sections of the 2012 Land Surveyors Act: 8710, 8710.1, 8714, 8726.1, 8780, 8780.1, 8805

Amended (or Added) Sections of the 2012 PE Act: 6710, 6710.1, 6711, 6712, 6714, 6721, 6731.1, 6731.2, 6763.1, 6775, 6775.1, 6788

Amended (or Added) Sections of the 2012 Subdivision Map Act: 66426.5, 66428, 66452.6, 66452.23, 66484, 66484.3, 66484.7, 66484.9, 66499.7

Amended (or Added) Sections of the 2012 Board Rules: 400, 401, 404, 424, 425, 438, 460, 463.5

Amended (or Added) Sections of the 2012 Civil Code: 8319

Printed copies of 2012 Professional Acts Booklets available to purchase through [CLSA Website](#)

Picture of the Issue

Wyatt Earp - 1848-1929



Flagman: circa 1880

FINAL OATH FOR SURVEYS OF MINING CLAIMS & MILL SITES.

A LIST of the names of individuals employed to assist in running, measuring, or marking the lines and corners described in the foregoing field-notes of the survey of the Fort Mohave extension of the of the Mountaineer lands, Mining District, Colorado located in Yoshimatsu Mining District, Colorado showing the respective capacities in which they acted

R. J. Windsor, Chairman.

Thomas Kelly, Chairman.

Wyatt Earp, Flagman.

WE hereby certify that we assisted Thomas A. Davis U. S. Deputy Surveyor in surveying the Fort Mohave extension of the Mountaineer lands claimed by U. S. Corp. H. S. Corp. G. S. Corp. W. S. Corp. located in Yoshimatsu Mining District, Colorado, and in Township No. 10 Range No. 10 of the 11th and 12th Ranges and meridians, Arizona, and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully executed, and the boundary monuments placed according to the instructions furnished by the Surveyor General.

R. J. Windsor, Chairman.

Thomas Kelly, Chairman.

Wyatt Earp, Flagman.

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

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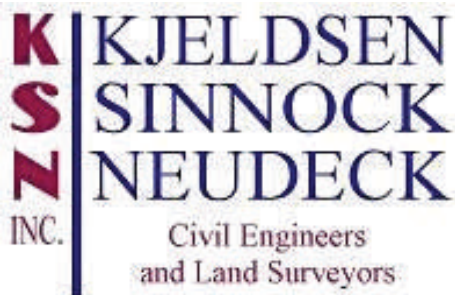
Keith W. Spencer, L.S. 6406
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