

SURVEYOR

California

Spring 2007 Issue #150



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“Recognizing that the true merit of a profession is determined by the value of its services to society, the California Land Surveyors Association does hereby dedicate itself to the promotion and protection of the profession of land surveying as a social and economic influence vital to the welfare of society, community, and state.”

“The purpose of this organization is to promote the common good and welfare of its members in their activities in the profession of land surveying, to promote and maintain the highest possible standards of professional ethics and practices, to promote professional uniformity, to promote public faith and dependence in Land Surveyors and their work.”

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On The Cover:

From the Collection of
Bryant N. Sturgess, PLS, PE.



From the Editor



John Wilusz writing editorial while on a train in Egypt



Traditional values go back a long way in Luxor. I see this in the friendly, welcoming faces everywhere I go. People here live in a world where hieroglyphs are easier to find than graffiti. Donkeys are nearly as common on the streets as motorbikes, and mosques a thousand years old stand alongside Pharaonic temples that are thousands of years older. The past and present coexist quite comfortably in the tapestry that is Egypt.

When the Macedonian king Alexander the Great conquered Egypt in 332 B.C., he inherited a culture that had been around for three millennia. Unlike most conquerors he was ultimately welcomed by the conquered. This was largely because he recognized the value of embracing the existing culture, beliefs, and architecture of his people. He adopted Pharaonic traditions and proclaimed himself Pharaoh, son of the Egyptian god Amun. He founded a prosperous new city, humbly named after himself, and then left Egypt never to return.

Alexander's successors, the Ptolemys, continued his wise policy of assimilation. Within a century Alexandria became the largest city in the world and its Royal Library grew to symbolize the entirety of knowledge. One of the first librarians was the Greek scholar Eratosthenes, a man of particular interest to Land Surveyors. Among other things, Eratosthenes was a mathematician, astronomer and a geographer. He devised a system of latitude and longitude, and in approximately 240 B.C., calculated the circumference of the earth to within five percent of modern figures. Don't believe anyone who tells you ancient man thought the world was flat.

You probably guessed by now that I like history. I do, but not for romantic attraction. As a Land Surveyor I sift the rubble of the past to find evidence of where we've been, for clues to where we're headed, and for understanding of where we are today. From the collection of Bryant N.

Sturgess we have rare and wonderful images of our predecessors. Look at them and you'll be as thrilled as I am to have them in the California Surveyor. Then laugh out loud at Lt. George Derby's timeless burlesque about a government survey party. Dust-off your buckskin suit and make reservations for the Surveyors Historical Society annual Rendezvous. Take pleasure in knowing that Edward R. Murrow could throw a survey chain as well as the best of them. As Land Surveyors we're interested not only in history, but also professional growth and improvement. I am especially pleased to publish Richard Hauck's superlative guide for writing land descriptions. This kind of information, and the decision to share it for the betterment of others, is precisely that which makes us professionals.

I know you're wondering how you can help so here it is. Consider submitting an article for TechTips. Ask Michael Durkee a question about the Subdivision Map Act. Suggest a pertinent liability topic for Vista International Insurance Brokers. Come up with a clever theme for the crossword puzzle and send it to Ian Wilson. Dip into the well of your experience and write us an educational article. Help your competition to stop underbidding jobs because they don't know what they're getting themselves into. If you help them do that you'll be helping yourself.

From the rooftop terrace of the Nefertiti Hotel I can see far to the west, across the Nile, into the arid desolation of the Sahara. I smell the aroma of sizzling kabobs and wood smoke, mingling with frankincense and rising from the streets below. I hear the Phrygian melodies of Arabic music weaving with the sounds of honking horns and laughter. It is warm tonight. Tomorrow I leave and my visit to Luxor will itself become history, but for now I remain wrapped in the tapestry that is Egypt.

11 February 2007, Luxor, Egypt

John P. Wilusz, PLS, PE, is in private practice in Citrus Heights, CA.

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President's Message



This past Fall I had the opportunity to visit about half of the CLSA Chapters throughout the State. One of the topics that we discussed at some of the meetings was a 1990 legal opinion regarding responsible charge and a surveyor's relationship with a subordinate photogrammetrist. I ran across this opinion while doing some research on a late 1980's effort to license photogrammetrists in California. This document and a subsequent 1997 opinion make a very interesting read and a great reminder of our responsibility as licensed land surveyors when working with subordinates whether they are photogrammetrists, laser scanner or GPS service providers, or even our own non-licensed employees. The information provided herein is a summary of my understanding of some of the legal opinions and the laws that dictate our responsibility. It is not my intention, nor am I authorized, to give legal advice so I encourage you to research this issue as well.

In the State of California, photogrammetry services are included in the practice of land surveying as defined in section 8726 of the Land Surveyors Act (LSA). In 1960, approximately 125 persons were grandfathered in by the State of California as "Photogrammetric Surveyors". Since 1960, there has been no vehicle in California for licensure as a photogrammetrist other than to pass the land surveyors exam. Many, if not most, of the Photogrammetric Surveyors licensed in 1960 are no longer in practice today. As a result, most firms that are providing photogrammetric services in the State of California are doing so under the license of a California land surveyor or without any license at all.

In a series of legal opinions issued in 1988, 1990 and 1997, the Department of Consumer Affairs (DCA) opined that a licensed land surveyor may hire an unlicensed person (subordinate) to provide photogrammetry services included in the scope of the practice of land surveying as defined in the LSA provided the licensed land surveyor assumes responsible charge of the work product.

Section 8705 of the LSA defines a subordinate as "any person directly supervised by a licensed land surveyor or registered civil engineer and who assists a licensed land surveyor or registered civil engineer in the practice of land surveying without assuming responsible charge of work".

The DCA legal opinion states "land surveyors and civil engineers do not personally perform all of the land surveying services, but instead delegate some tasks or assignments to unlicensed subordinates. Such actions are permissible where the land surveyor (LS) or civil engineer (CE) retain responsible charge over the work which has been delegated to the unlicensed person". In other words, if a land surveyor or civil engineer contracts with an unlicensed photogrammetrist, that land surveyor or civil engineer assumes responsible charge for the subordinate's services.

Section 8703 of the LSA defines responsible charge as "the independent control and direction, by use of initiative, skill and independent judgment, of the observations, measurements and descriptions involved in land surveying work". Section 404.2 of the California Code of Regulations Board Rules further states that an LS or CE to be in responsible charge must (partial list):

"In making or reviewing and approving the land surveying decisions, determines the applicability of survey criteria and technical recommendations provided by others before incorporating such criteria or recommendations".

"Selecting the methods, procedures and tolerances of field work".

"Determining calculations and adjustment methods".

"Reviewing the sufficiency and accuracy of the work product".

One could summarize that under responsible charge, an LS or CE must review and approve proposed procedures prior to implementation and that he or she is required to judge the qualification of technical specialists and the validity and applicability of their recommendations before such recommendations are incorporated in the work.

The 1988 legal opinion (and confirmed by the 1997 legal opinion) states that:

"It is our opinion that a land surveyor or civil engineer can retain an unlicensed person to perform photogrammetric services so long as the licensed person retains responsible charge over the photogrammetric services to be performed by the unlicensed person. Conversely, a licensee who fails to exercise responsible charge over photogrammetric work which has been delegated to an unlicensed person would be guilty of aiding and abetting the unlicensed practice of land surveying".

The 1990 legal opinion further states that:

"It is not enough that the licensee has reviewed the accuracy of the photogrammetry work product after it has been completed. Responsible charge requires that the licensee be the one who exercises independent control and direction over the land surveying decisions and work. That is, the licensee must be responsible for controlling the manner and means by which the subordinate will accomplish the desired land surveying work."

The company I work for does not currently provide "in-house" photogrammetric services. We contract with several local photogrammetric firms, some of which have a licensed surveyor on staff and some of which do not.

In the situation where we are using a photogrammetrist with a licensed land surveyor on staff, our policy is to have a contract that requires the photogrammetrist's land surveyor to sign and stamp a hardcopy of the final topographic map with a statement that the map was prepared under his or her supervision. We are also involved in the setup and quality check of the photogrammetrist's process and product, much as we would be with an unlicensed photogrammetrist, but our hope is that our liability is reduced by the responsible charge of the photogrammetrist's surveyor.

Since we also contract with unlicensed photogrammetric firms, our firm has adopted policies and procedures to avoid being in a situation of aiding and abetting an illegal practice. We have accomplished this by educating our licensed land surveyors as to their responsibility and by standardizing how we maintain responsible charge of a photogrammetric project. We found that standardizing our procedures was made fairly simple by implementing a checklist. The checklist we use defines what our surveyor must have from the photogrammetrist and visa versa.

Although I believe there are some benefits to having a separate license for Photogrammetrists, we should be able to operate under the current law by better educating ourselves and by truly taking responsible charge for our projects.

Anyone who is interested in reading the 1998, 1990 and 1997 Department of Consumer Affairs legal opinions can find a PDF version on the CLSA web site under selected statutes. ❖

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Simple format for Writing Legal Descriptions



Land surveyors should find the following guide a useful aid when drafting a legal description. I developed the guide from many sources over a number of years of teaching and so due credit cannot be given to the many persons who contributed their knowledge and ideas to this guide. I was an assistant professor of Land Surveying at Pasadena City College in California and we had many seminars offered by specialists in the surveying field including Gurdon Wattles. At each conference or seminar, I updated this guide when it was appropriate.

The program at Pasadena City College had a star-studded set of professional land surveyors as advisors that included Bob Mollinaur and George Psomas from private practice, Jim Robinson, a Title Company representative, Bob Young from the Riverside County Flood Control District, Gurdon Wattles and Lou Zefus with the State of California.

As for myself, after a stint with the U. S. Forest Service, I worked for the Los Angeles County Road Department for 13 years supervising survey crews prior to taking the teaching position and then began teaching surveying at Pasadena City College for twenty-two years from 1963 to 1985. I used my summer vacations to further my skills. For example, one summer I went to Holland to study new photogrammetry techniques. Subsequently I worked for Psomas & Associates in Los Angeles till I retired in 1993.

The guide was written with Southern California practice in mind. However, it can be easily modified for use in other locations.

The following six texts are the core of my library on this subject and are highly recommended:

- Brown, Curtis M., Boundary Control and Legal Principles, November 1965.
- Minnick, R., Ownership, Title, and Boundaries, 1970.
- Phelps, G., Legal Description Manual, 1968
- Wattles, William C., Description and Survey in Title, 1947
- Wattles, William C., Land Survey Descriptions, 1965 & 1968.
- Wattles, Gurdon H., Writing Legal Descriptions, 1976 (This text especially recommended as a guide for the preparation of legal descriptions)

I would like to thank Matt Rowe with Psomas & Associates in Los Angeles and Michael Daly in Gallup, New Mexico for encouraging me to submit this for publication. I would also like to thank engineer Ross Barker with Psomas & Associates. Special thanks to my wife, Charlotte, for the administrative assistance that made this article possible.

Guide to Writing a Legal Description

I. General

A. Every piece of property is unique and is identified by its location. To be valid, the description of the property must be sufficient for a competent surveyor to identify and locate the property.

B. Descriptions are prepared from, or based on, information obtained from some previous survey or some previously recorded or filed document, and/or survey map.

C. Each description will consist of two parts. First, the property through which the parcel will extend is identified. As indicated above, this normally will be accomplished by reference to a previously recorded map or document as: "A portion of Lot A of Tract 2 in the City of, County of, State of, per map recorded in Book 1, Page 2, of maps, records of County".

D. Second, the position and limits of the parcel itself are defined. Occasionally this may be very simply stated as "The Westerly 15 feet of said Lot "A". In many instances, however, a recitation containing both lineal and angular measurement will be required.

E. Accuracy of dimensions, both mathematical and physical, is necessary in the record so that it may be duplicated in the field.

II. Use the following as a guide for writing the description

A. Avoid complicated phraseology - the simpler the form, the better the description.

B. Recite one or more ties to monuments of record in order to identify and locate the described land.

C. Write the bearing of a line in the direction on which the description progresses, even though the bearings may be shown in an opposite direction on the map from which the description is being written.

When read clockwise:

- 1 North 74°52'34" East, 222.16 feet;
- 2 South 43°49'24" East, 205.39 feet;
- 3 South 75°37'51" West, 169.25 feet;
- 4 North 55°32'47" West, 233.42 feet.

Continued on next page

D. Describe general directions, as "northerly, northeasterly", etc., instead of "north, northeast", etc. Use the indicated general direction when the bearing falls within the limits shown below:

- N. 22-1/2° W. to N. 22-1/2° E. – northerly
- N. 22-1/2° E. to N. 67-1/2° E. – northeasterly
- N. 67-1/2° E. to S. 67-1/2° E. – easterly
- S. 67-1/2° E. to S. 22-1/2° E. – southeasterly
- S. 22-1/2° E. to S. 67-1/2° W. – southwesterly
- S. 67-1/2° W. to N. 67-1/2° W. – westerly
- N. 67-1/2° W. to N. 22-1/2° W. – northwesterly

E. Avoid repetition of names, places, records, subdivisions, etc., or of descriptions of lines, corners, streets, etc., except when necessary for clarity. Say instead: "said", "before described", "above mentioned", "last above mentioned" (tracts, maps, miscellaneous records, southerly line, northeasterly corner etc.), as the case may be.

F. Since street names are subject to change, do not use them without specifying the place of record of the map or deed in which said names occur or qualify as "formerly known as First Street". Also specify the width of the street.

G. Make the title of tracts, subdivisions, or ranches, identical with titles on original record.

H. The designation San Bernardino Base and Meridian (S.B.B. & M.) or Mount Diablo Base and Meridian (M.D.B. & M.), are to be used to identify only section property subdivided by U.S. Government surveys.

I. Use "as shown on map" instead of "as per map".

III. Abbreviations and Characters

With certain exceptions, use full words in place of abbreviations and characters.

A. Figures of a number are useable instead of words.

B. Write bearings with the sense of direction and the figures with the engineering symbols for the quantity of degrees, minutes, and seconds (North 80°10'37" East). Write the cardinal directions in full.

C. For all bearings except the cardinal ones (North, South, East, and West) show degrees, minutes and seconds, substituting zeros if no finite quantity is given (North 00°00'06" East), using two zeros for degrees and two for minutes or seconds, with one pre-ceding the minutes or seconds as the case may be if less than two significant figures.

D. Do not write decimal figures in fractions; quantities are stated in units and decimals rather than units and fractions, e.g., use 55.25' rather than 55-1/4'.

E. Unless quite apparent, use the word together with the character, e.g., Block 1 (one) or Block I (eye). In referring to a record using the Roman numerals, show as "Lot III (3)". However, quotation marks may be used for distinction of special letters or numbers such as Block "I" or Lot "III".

F. The foot (') mark and inch (") mark are not used in writ-

ten descriptions because of the similarity of minutes (') and seconds ("). Use the word feet or inches. Any use of inches is confined to reference to the recorded use of inches.

G. All decimal dimensions less than 1.00 (one) are shown with 0 in the unit place (0.27) to make certain the decimal point is recognized.

H. In writing or typing descriptions, do not split bearings or angles on successive lines. It is also incorrect to split a distance.

IV. Types of Legal Descriptions

The following types of descriptions are covered:

- A. Metes and bounds
- B. Directional division
- C. Center line
- D. Offset line
- E. Combination of center line and offset line
- F. Blanket

A. Metes and Bounds Description

1. Preambles of metes and bounds descriptions, center line descriptions, and side line descriptions, are similar in that they set forth the rancho, section or subdivisions thereof, in which the parcel or strip of land to be described is located.

Continued on next page

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Guide to Writing a Legal Description

a. Sample forms of preambles:

i. That portion of lot ____, Block ____, Tract No. ____, in the City of ____, County of ____, State of ____, as shown on map filed in book ____, pages(s) ____, of Maps, in the office of the Recorder of said County, within the following described boundaries:

ii. That portion of Parcel ____, in the City of ____, County of ____, State of ____, as shown on map filed in Book ____, page(s) ____, of Record of Surveys, in the office of the Recorder of the County of ____, within the following described boundaries:

iii. That portion of Section (or Fractional Section) ____, Township ____ South, Range ____ West, S.B.B.M., in the City of ____, County of ____, State of ____, within the following described boundaries:

iv. That portion of Lot ____, Block ____, Division ____, Region ____, in the City of ____, County of ____, State of ____, as shown on map filed in Book ____, page(s) ____, of Official Maps, in the office of the Recorder of the County of ____, within the following described boundaries.

b. Court cases maps (known as Clerk's Filed Maps) are not used in preambles except in cases where these maps show partitions of land. See samples below:

i. That portion of the 141.11 acre parcel of land allotted to O. Addison Sanford, in the City of ____, County of ____, State of ____, as shown on map of partition of the Rancho La Ballona, filed in Case No. ____ of the District Court of the 17th Judicial District of the State of California in and for the County of Los Angeles, within the following described boundaries:

ii. That portion of the tract of land marked "O. Addison Sanford 141.11 acres", on map of partition of the Rancho La Ballona, in the City of ____, County of ____, State of ____, filed in Case No. ____ of the 17th Judicial District of the State of California in and for the County of Los Angeles, within the following described boundaries:

c. To limit the boundaries described in a preamble to a parcel of land described in a deed, use phraseology similar to the following:

i. That portion of that certain parcel of land within Lot ____, Tract No. ____, in the City of ____, County of ____, State of ____, as shown on map filed in Book ____, page(s) ____, of Maps, in the office of the Recorder of the County of Los Angeles, described in deed to Virgil Homer et ux, recorded as Document No. ____, on ____, 19 ____, in Book ____, page ____, of Official Records, in the office of said recorder, within the following described boundaries:

ii. If land was registered under the Torrens System, end (3a) above as follows: "described in Certificate of Title No. ____, recorded in the office of the County Recorder of said County."

2. BODY OF DESCRIPTIONS

a. When any line in the boundary of the parcel being described is running along, parallel with, or at right angles to, a line of record, or arriving at a definite point in such line of record, this should be stated.

b. The last course before intersecting a record line may be given by bearing only, (1) with a length, (2) or if to a definite point on a record line, may be given without bearing or length, (3) thus:

i. South 75°00'05" east to some described point.

ii. Southeasterly 100.00 feet to some described point.

iii. Southeasterly to some described point.

c. If the boundary of the parcel described goes along or to the prolongation of a record line, write as follows: thence (northeasterly, easterly, etc.) along (a described line) and the (northerly, southerly etc.) prolongation thereof to the (southerly, northerly, etc.) prolongation of . . . (a described line).

d. If running along several courses in the boundary of a lot, etc. write: thence in a general (easterly, southerly, westerly, etc.) direction along the boundary of lot, tract, etc.) to (definite point, intersection, etc.).

e. If in the last above case the boundary of the lot, tract, etc. has many boundaries of said (lot, tract, etc.), and following the same in all its various courses and (and curves) to (a definite point).

f. If the last course of a description is indeterminate or in doubt it may be written: thence in a direct line to the point of beginning; or if the general direction is known it may be written: thence (northeasterly, southeasterly, etc.) in a direct line to the point of beginning.

g. In a metes and bounds description using specific bearings a basis of bearings should be established at the beginning of said description by reference to the bearings of some record line. Use phraseology similar to the following:

i. Beginning at the northwesterly corner of said lot; thence 50.00 feet along the northerly line of said lot, which has a bearing of North 85°33'30" East as shown on said map, and was taken as the basis of bearings for this description.

ii. Beginning at the northwesterly corner of said lot, for the purpose of this description the northerly line of said lot has a bearing of -North 85°33'30" East; thence South 45°30'30" East. . . .

Continued on page 14

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Guide to Writing a Legal Description

Example 1

That portion of the northeast quarter of Section 18, Township 6 North, Range 3 West, San Bernardino Base and Meridian, in the City of _____, County of _____, State of _____, lying within the following described boundary:

Beginning at a point in the North line of said Section 18, said point being the terminus of the center line of that certain right-of-way granted Southern California Gas Company and Southern Counties Gas Company of California as tenants-in-common, and recorded in Book 4819, Page 524 et. seq., of official records in the office of the recorder of the County of San Bernardino; thence along the center line of said right-of-way, South 50°46'30" West; 3.94 feet; thence — — — etc. to the true point of beginning.

Example 2

That portion of Lot 70 of Tract 22972, in the County of Los Angeles, State of California, as shown on map recorded in Book 616, Pages 77 and 78, of maps, in the office of the recorder of said County, lying within the following described boundary:

Beginning at the most easterly corner of said Lot 70, said corner being a point in the northerly line of that certain right-of-way granted to Southern California Gas Company, recorded in Book 32171, Page 124 of official records in the office of said recorder, said northerly line was taken as the basis of bearings for this description and it has a bearing of North 71°31'31" East; thence etc. — — — to the point of beginning.

Beginning at the most southerly corner of Lot 8 of said Tract No. 8009, which is a point on a curve in the southeasterly line of said Lot 8, concave southeasterly, having a radius of 76.00 feet, a radial line through said point bears North 69°35'37" West; thence northeasterly along said curve through a central angle of 9°51'39" an arc distance of 13.08 feet; thence — — — etc. to a point in the southwesterly boundary of grantor's property.

B. Directional Division Description

1. Involves strips of land of even width taken from record lots or parcels, or from tracts, ranchos, etc.
2. This type of description may be written in various forms, the style being developed from the property to be covered and from information of record.
3. Be certain that the directional statements are correct. A directional error will place the parcel in an entirely different location than intended.

Example 1

The West 10.00 feet of the East 100.00 feet of the South 40.00 feet of Lot 4612 of Tract 6179, in the City of Covina, County of Los Angeles, State of California, as shown on map recorded in Book 86, Pages 40 to 43 inclusive, of maps, in the office of the Recorder of the County of Los Angeles.

Example 2

The westerly 30.00 feet of the northerly 10.00 feet of Lot 2, the westerly 30.00 feet of Lot 3, and the westerly 30.00 feet of the southerly 20.00 feet of Lot 4, all in Book 16, of Highland Tract, in the County of Tulare, State of California, as shown on map recorded in Book 16, Pages 42 and 43 of maps, in the office of the Recorder of the County of Tulare.

Example 3

The westerly 20.00 feet of the easterly 50.00 feet of the southerly 20.00 feet of the northerly 548 feet of the South half of the northeast quarter of the northeast quarter of Section 7, Township 3 South, Range 11 West, San Bernardino Base and Meridian, in the Rancho Santa Gertrudes, in the County of Los Angeles, State of California, as shown on map recorded in Book 1, Page 502, of miscellaneous records, in the office of the Recorder of the County of Los Angeles.

C. Center Line Descriptions

1. Center line description defines a strip of land of uniform width by giving the length and direction of each course along its center line.

2. Preambles

See discussion of preambles under Metes and Bounds descriptions, which applies also to preambles of center line descriptions, except that the phrase "described as follows" should be changed to "within a strip of Land xx.xx feet wide, lying xx.xx feet on each side of the following described line."

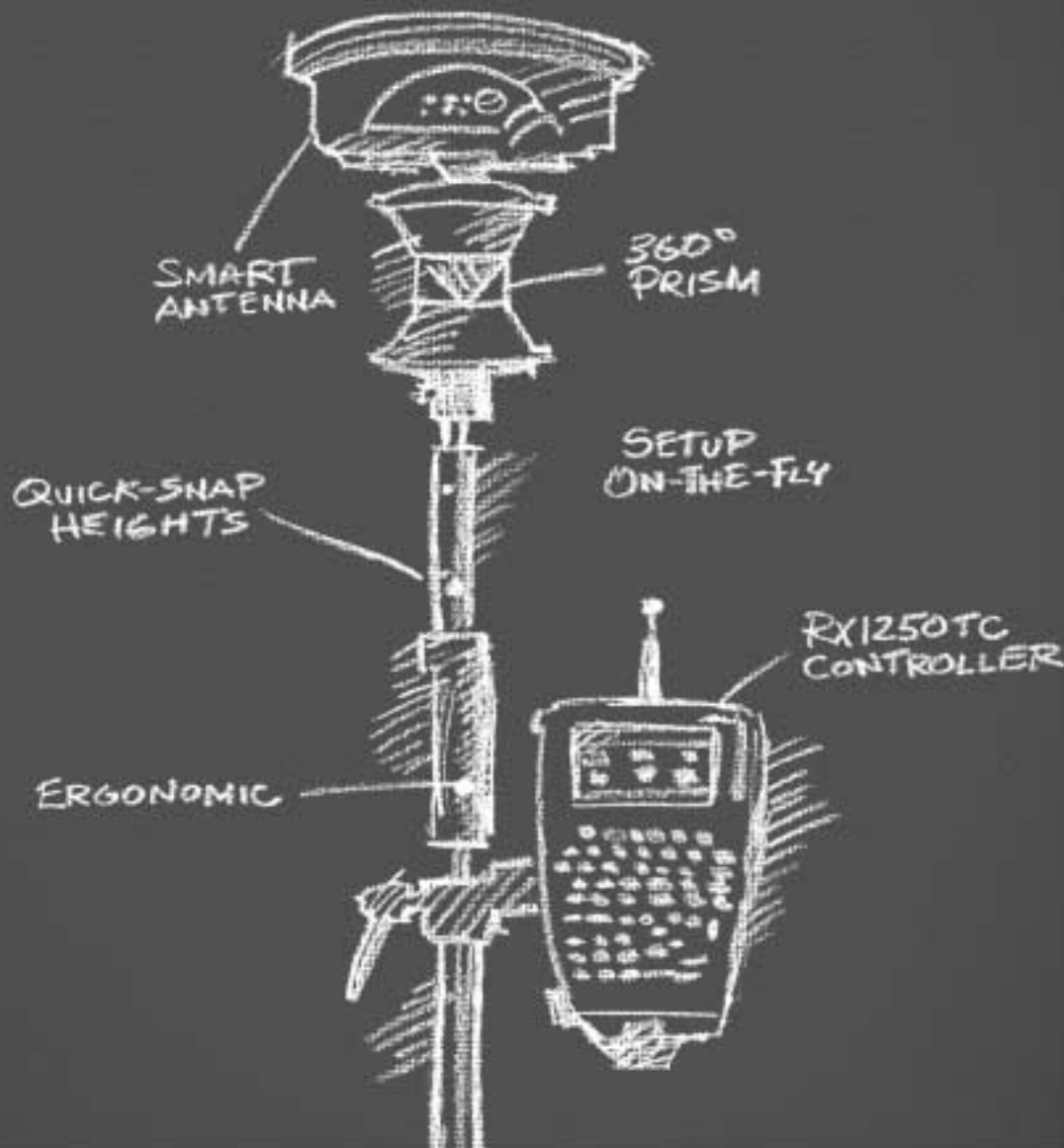
3. Body of Description

- a. A center line may be described as being some record line or prolongation thereof, or as being a line parallel with and xx.xx feet (southeasterly, westerly, etc.), measured at right angles, from such record line.
- b. The point of beginning of a center line in which courses are described by specific bearings, is tied to some record corner, intersection or point on a record line, and a basis of bearings is established along the record line in which said corner, intersection, or point lies.
- c. If the point of beginning is on a curve, use phraseology similar to that in the following sample description:

"Beginning at a point in the easterly line of Section 1, Township 3 South, Range 13 West, S.B.B. & M., which is South 00°39'45" West along said easterly line 613.39 feet from the northeasterly corner of said Section, said point being the beginning of a curve concave to the South having a radius of 350.00 feet, a radial line of said curve to said point of beginning having a bearing of North 10°33'40" East; thence westerly along said curve an arc distance of 37.26 feet. (radial line should be given from the radius point to the point of beginning). _____"

Continued on page 28

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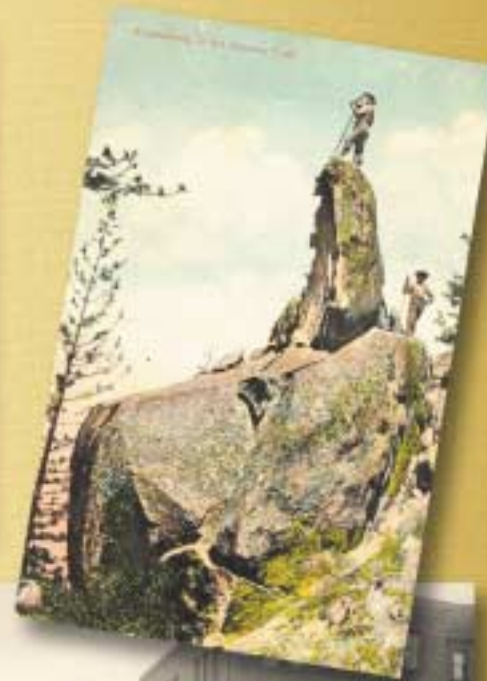
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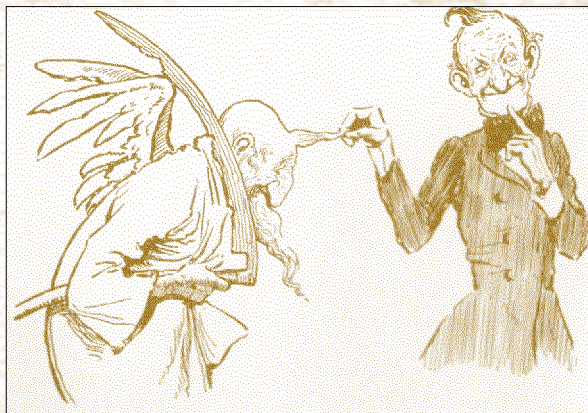
Mission of Dolores, San Francisco, CA

Of a Military Survey and Reconnaissance of the route from San Francisco to the Mission of Dolores, made with a view to ascertaining the practicability of connecting those points by a Railroad.*

[Note: The Mission Dolores is only 2 1/2 miles from the City Hall of San Francisco, and a favorite suburban locality, lying within the limits of the City Survey. This fact noted for the benefit of distant readers of these sketches.]

Mission of Dolores, Feb. 15, 1855.

IT having been definitely determined, that the great Railroad, connecting the City of San Francisco with the head of navigation on Mission Creek, should be constructed without unnecessary delay, a large appropriation (\$120,000) was granted, for the purpose of causing thorough military examinations to be made of the proposed routes. The routes, which had principally attracted the attention of the public, were the Northern, following the line of Brannan Street, the Central, through Folsom Street, and the extreme Southern, passing over the Old Plank Road to the Mission. Each of these proposed routes has many enthusiastic advocates; but the Central was, undoubtedly, the favorite of the public, it being more extensively used by emigrants from San Francisco to the Mission, and therefore more widely and favorably known than the others. It was to the examination of this route, that the Committee, feeling a confidence (eminently justified by the result of my labors) in my experience, judgment and skill as a Military Engineer, appointed me on the first instant.



Having notified that Honorable Body of my acceptance of the important trust confided to me, in a letter, wherein I also took occasion to congratulate them on the good judgment they had evinced, I drew from the Treasury the amount (\$40,000) appropriated for my peculiar route, and having invested it securely in loans at three per cent a month (made, to avoid accident, in my own name), I proceeded to organize my party for the expedition. In a few days my arrangements were completed, and my scientific corps organized, as follows:

Continued on page 20

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Official Report of Professor John Phoenix, A.M.

JOHN PHOENIX, A.M. Principal Engineer and Chief Astronomer.

LIEUT. MINUS ROOT Apocryphal Engineer. First Assistant Astronomer.

LIEUT. NONPLUS A. ZERO Hypercritical Engineer. Second Assistant Astronomer.

DR. ABRAHAM DUNSHUNNER, Geologist.

DR. TARGEE HEAVYSTERNE Naturalist.

HERR VON DER WEEGATES Botanist.

DR. FOGY L. BIGGUNS Ethnologist.

DR. TUSHMAKER Dentist.

ENRY HALFRED JINKINS, R.A. Draftsmen.

ADOLPHE KRAUT Draftsmen.

HI FUN Interpreter.

JAMES PHOENIX (my elder brother) Treasurer.

JOSEPH PHOENIX ditto Quartermaster.

WILLIAM PHOENIX (younger brother) Commissary.

PETER PHOENIX ditto Clerk.

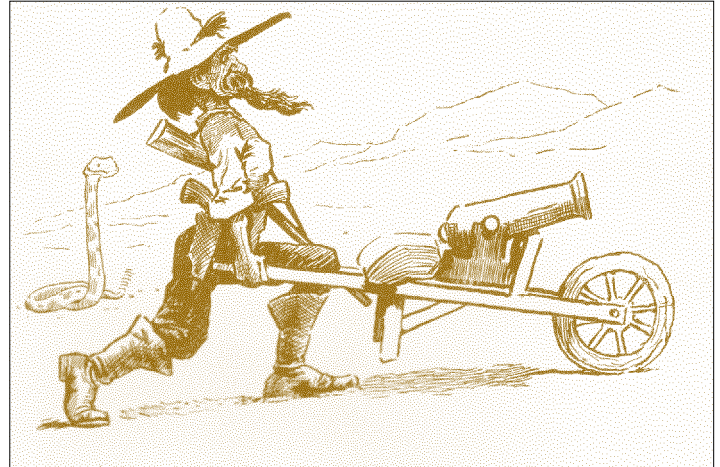
PAUL PHOENIX (my cousin) Sutler

REUBEN PHOENIX ditto Wagon-Master.

RICHARD PHOENIX (second cousin) Assistant ditto.

These gentlemen, with one hundred and eighty-four laborers employed as teamsters, chainmen, rodmen, etc., made up the party. For instruments, we had 1 large Transit Instrument (8 inch achromatic lens), 1 Mural Circle, 1 Altitude and Azimuth Instrument (these instruments were permanently set up in a mule-cart, which was backed into the plane of the true meridian, when required for use), 13 large Theodolites, 13 small ditto, 8 Transit Compasses, 17 Sextants, 34 Artificial Horizons, 1 Sidereal Clock, and 184 Solar Compasses. Each employee was furnished with a gold chronometer watch, and, by a singular mistake, a diamond pin and gold chain; for directions having been given, that they should be furnished with chains and pins, -meaning of course such articles as are used in surveying--Lieutenant Root, whose zeal somewhat overran his discretion, incontinently procured for each man the above-named articles of jewelry, by mistake. They were purchased at Tucker's (where, it is needless to remark, you can buy a diamond pin or ring), and afterward proved extremely useful in our intercourse with the natives of the Mission of Dolores and indeed, along the route.

Every man was suitably armed, with four of Colt's revolvers, a Minie rifle, a copy of Colonel Benton's speech on the Pacific Railroad, and a mountain howitzer. These last-named heavy articles required each man to be furnished with a wheelbarrow for their transportation, which was accordingly done; and these vehicles proved of great service on the survey, in transporting not only the arms but the baggage of the party, as well as the plunder derived from the natives. A squadron of dragoons, numbering 150 men, under Captain McSpadden, had been detailed as an escort. They accordingly left about a week before us, and we heard of them occasionally on the march.



On consulting with my assistants, I had determined to select, as a base for our operations, a line joining the summit of Telegraph Hill with the extremity of the wharf at Oakland, and two large iron thirty-two pounders were accordingly procured, and at great expense imbedded in the earth, one at each extremity of the line, to mark the initial points. On placing compasses over these points to determine the bearing of the base, we were extremely perplexed by the unaccountable local attraction that prevailed; and were compelled, in consequence, to select a new position. This we finally concluded to adopt between Fort Point and Saucelito; but, on attempting to measure the base, we were deterred by the unexpected depth of the water intervening, which, to our surprise, was considerably over the chain-bearers' heads. Disliking to abandon our new line, which had been selected with much care and at great expense, I determined to employ in its measurement a reflecting instrument, used very successfully by the United States Coast Survey. I therefore directed my assistants to procure me a HELIOTROPE, but after being annoyed by having brought to me successively a sweet-smelling shrub of that name and a box of Lubin's Extract to select from, it was finally ascertained that no such instrument could be procured in California. In this extremity, I bethought myself of using as a substitute the flash of gunpowder. Wishing to satisfy myself of its practicability by an experiment, I placed Dr. Dunshunner at a distance of forty paces from my Theodolite, with a flint-lock musket, carefully primed, and directed him to flash in the pan, when I should wave my hand. Having covered the Doctor with the Theodolite, and by a movement of the tangent screw placed the intersection of the cross lines directly over the muzzle of the musket, I accordingly waved; when I was astonished by a tremendous report, a violent blow in the eye, and the instantaneous disappearance of the instrument.

Observing Dr. Dunshunner lying on his back in one direction, and my hat, which had been violently torn from my head, at about the same distance in another, I concluded that the musket had been accidentally loaded. Such proved to be the case; the marks of three buckshot were found in my hat, and a shower of screws, broken lenses and pieces of brass, which shortly fell around us, told where the ball had struck, and bore fearful testimony to the accuracy of Dr. Dunshunner's practice. Believing these experiments more curious than useful, I abandoned the use of the Heliotrope or its substitutes, and deter

Continued on page 22

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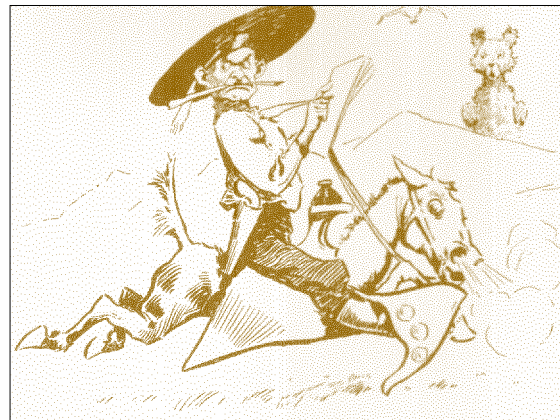
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Official Report of Professor John Phoenix, A.M.

mined to reverse the usual process, and arrive at the length of the base line by subsequent triangulation. I may as well state here, that this course was adopted and resulted to our entire satisfaction; the distance from Fort Point to Saucelito by the solution of a mean of 1,867,434,926,465 triangles, being determined to be exactly three hundred and twenty-four feet. This result differed very much from our preconceived ideas and from the popular opinion; the distance being generally supposed to be some ten miles; but I will stake my professional reputation on the accuracy of our work, and there can, of course, be no disputing the elucidations of science, or facts demonstrated by mathematical process, however incredible they may appear per se.

We had adopted an entire new system of triangulation, which I am proud to claim (though I hope with becoming modesty) as my own invention. It simply consists in placing one leg of a tripod on the initial point, and opening out the other legs as far as possible; the distance between the legs is then measured by a two-foot rule and noted down; and the tripod moved, so as to form a second triangle, connected with the first, and so on, until the country to be triangulated has been entirely gone over. By using a large number of tripods, it is easily seen with what rapidity the work may be carried on, and this was, in fact, the object of my requisition for so large a number of solar compasses, the tripod being in my opinion the only useful portion of that absurd instrument. Having given Lieutenant Root charge of the triangulation and detached Mr. Jinkins with a small party on hydrographical duty (to sound a man's well, on the upper part of Dupont

Street, and report thereon), on the 5th of February I left the Plaza, with the savans and the remainder of my party, to commence the examination and survey of KEARNY STREET.




Besides the mules drawing the cart which carried the transit instrument, I had procured two fine pack-mules, each of which carried two barrels of ale for the draftsmen. Following the tasteful example of that gallant gentleman who conducted the Dead Sea Expedition, and wishing likewise to pay a compliment to the administration under which I was employed, I named the mules Fanny Pierce, and Fanny Bigler. Our cort ge passing along Kearny Street attracted much attention from the natives, and indeed, our appearance was sufficiently imposing to excite interest even in less untutored minds than those of these barbarians.

First came the cart, bearing our instruments; then a cart containing Lieutenant Zero with a level, with which he constantly noted the changes of grade that might occur; then one hundred and fifty men, four abreast, armed to the teeth, each wheeling before him his personal property and a mountain howitzer; then the savans, each with note-book and pencil, constantly jotting down some object of interest Dr. Tushmaker was so zealous to do something, that he pulled a tooth from an iron rake standing near a stable-door, and was cursed therefor by the illiberal proprietor), and finally, the Chief Professor, walking arm in arm with Dr. Dunshunner, and gazing from side to side, with an air of ineffable blandness and dignity, brought up the rear.

I had made arrangements to measure the length of Kearny Street by two methods; first, by chaining its sidewalks, and secondly, by a little instrument of my invention called the Go-it-ometer. This last consists of a straight rod of brass, firmly strapped to a man's leg and connected with a system of clock-work placed on his back, with which it performs, when he walks, the office of a ballistic pendulum. About one foot below the ornamental buttons on the man's back appears a dial-plate connected with the clock-work, on which is promptly registered, by an index, each step taken. Of course, the length of the step being known, the distance passed over in a day may be obtained by a very simple process.


We arrived at the end of Kearny Street, and encamped for the night about sundown, near a large brick building, inhabited by a class of people called The Orphans, who, I am credibly informed, have

Continued on page 24



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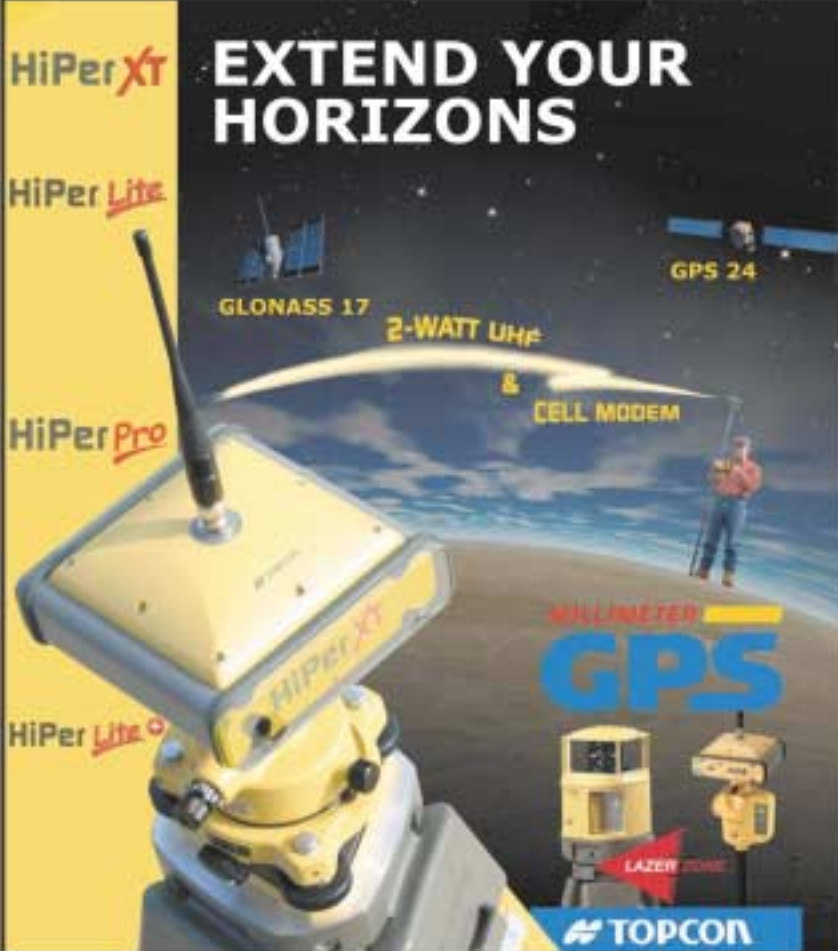
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Official Report of Professor John Phoenix, A.M.

no fathers or mothers! After seeing the camp properly arranged, the wheelbarrows parked and a guard detailed, I sent for the chainmen and Go-it-ometer bearer, to ascertain the distance travelled during the day.



Judge of my surprise to find that the chainmen, having received no instructions, had simply drawn the chain after them through the streets, and had no idea of the distance whatever. Turning from them in displeasure, I took from the Go-it-ometer the number of paces marked, and on working the distance, found it to be four miles and a-half. Upon close questioning the bearer, William Boulder (called by his associates, Slippery Bill), I ascertained that he had been in a saloon in the vicinity, and after drinking five glasses of a beverage, known among the natives as Lager Bier, he had danced a little for their amusement. Feeling very much dissatisfied with the day's survey, I stepped out of the camp, and stopping an omnibus, asked the driver how far he thought it to the Plaza? He replied, Half a

mile, which I accordingly noted down, and returned very much pleased at so easily obtaining so much valuable information. It would appear, therefore, that Slippery Bill, under the influence of five glasses (probably 2 1/2 quarts) of Lager Bier, had actually danced four miles in a few moments.



Kearny Street, of which I present above a spirited engraving from a beautiful drawing by Mr. Kraut, is a pass, about fifty feet in width. The soil is loose and sandy, about one inch in depth, below which Dr. Dunshunner discovered a stratum of white pine, three inches in thickness, and beneath this again, sand.

It is densely populated, and smells of horses. Its surface is intersected with many pools of sulphuretted protoxide of hydrogen, and we found several specimens of a vegetable substance, loosely distributed, which is classed by Mr. Weegates as the stalkus cabagiensis.

It being late in the evening when our arrangements for encamping were completed, we saw but little of the natives until the next morning, when they gathered about our camp to the number of eighteen.

We were surprised to find them of diminutive stature, the tallest not exceeding three feet in height. They were excessively mischievous, and disposed to steal such trifling things as they could carry away. Their countenances are of the color of dirt, and their hair white and glossy as the silk of maize. The one that we took to be their chief, was an exceed-

ingly diminutive personage, but with a bald head which gave him a very venerable appearance. He was dressed in a dingy robe of jaconet, and was borne in the arms of one of his followers. On making them a speech, proposing a treaty, and assuring them of the protection of their great Father, Pierce, the chief was affected to tears, and on being comforted by his followers, repeatedly exclaimed, da, da,--da, da; which we were informed by the interpreter, meant father, and was intended as a respectable allusion to the President. We presented him afterward with some beads, hawk-bells, and other presents, which he immediately thrust into his mouth, saying Goo, and crowing like a cock; which was rendered by the interpreter into an expression of high satisfaction. Having made presents to all his followers, they at length left us very well pleased, and we shortly after took up our line of march. From the notes of Dr. Biggins, I transcribe the following description of one of this deeply interesting people:

Kearney Street native; name--Bill;--height, two feet nine inches;--hair, white;--complexion, dirt color;--eyes, blue;--no front teeth;--opal at extremity of nose;--dress, a basquine of bluish bombazine, with two gussets, ornamented down the front with crochet work of molasses candy, three buttons on one side and eight button holes on the other--leggings of tow-cloth, fringed at the bottoms and permitting free ventilation behind--one shoe and one boot;--occupation, erecting small pyramids of dirt and water; when asked what they were, replied 'pies,' (word in Spanish meaning feet; supposed they might be the feet or foundation of some barbarian structure)--religious belief, obscure;--when asked who made him, replied 'PAR' (supposed to be the name of one of their principal Deities).

We broke up our encampment and moved north by compass across Market Street, on the morning of the 6th, and about noon had completed the survey as far as the corner of Second Street.

While crossing Market Street, being anxious to know the exact time, I concluded to determine it by observation. Having removed the Sidereal Clock from the cart, and put it in the street, we placed the cart in the plane of the Meridian, and I removed the eye and object-glass of the transit, for the purpose of wiping them. While busily engaged in this manner, an individual, whom I have reason to believe is connected with a fire company, approached, and seeing the large brazen tube of the transit pointed to the sky, mistook it for a huge speaking trumpet. Misled by this delusion, he mounted the cart, and in an awful tone of voice shouted through the transit Wash her, Thirteen! but having miscalculated the strength of his lungs, he was seized with a violent fit of coughing, and before he could be removed had completely coughed the vertical hairs out of the instrument. I was in despair at this sudden destruction of the utility of our most valuable instrument, but fortunately recollecting a gridiron, that we had among the kitchen apparatus, I directed Dr. Heavysterne to hold it up in the plane of the true Meridian, and with an opera glass watched and noted by the clock the passage of the sun's center across the five bars. Having made these observations, I requested the principal computer to work them out, as I wished to ascertain the time immediately; but he replying that it would take some three months to do it, I concluded not to wait, but sent a man into the grocery, corner of Market and Second, to inquire the time, who soon returned with the desired information. It may be thought singular, that with so many gold watches in our party, we should ever be found at a loss to ascertain the time; but the fact was that I had directed every one of our employees to set his

Continued on next page

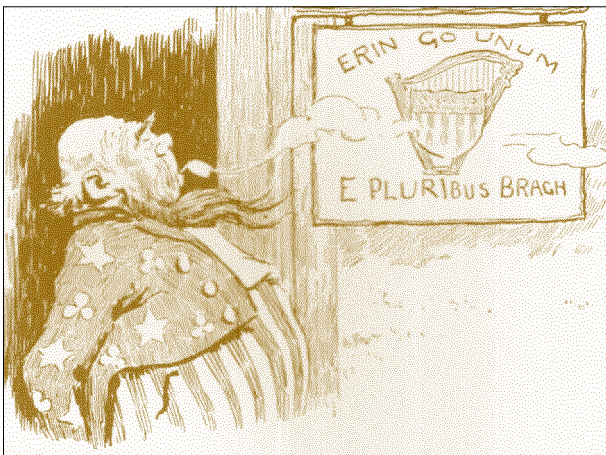
Continued from previous page

watch by Greenwich mean time, which, though excellent to give one the longitude, is for ordinary purposes the meanest time that can be found. A distressing casualty that befell Dr. Bigguns on this occasion may be found worthy of record. An omnibus, passing during the time of observation, was driven carelessly near our Sidereal Clock, with which it almost came into contact. Dr. Bigguns, with a slight smile, remarked that the clock was nearly run down, and immediately fainted away. The pursuits of science cannot be delayed by accidents of this nature, two of the workmen removed our unfortunate friend, at once, to the Orphan Asylum, where, having rung the bell, they left him on the steps and departed, and we never saw him afterward.

From the corner of Market to the corner of Second and Folsom Streets, the route presents no object of interest worthy of mention. We were forced to the conclusion, however, that little throwing of stones prevails near the latter point, as the inhabitants mostly live in glass houses. On the 8th we had brought the survey nearly up to Southwick's Pass on Folsom Street, and we commenced going through the Pass on the morning of the 9th. This pass consists of a rectangular ravine, about 10 feet in length, the sides lined with pine boards, with a white oak (*quercus albus*) bar, that at certain occasions forms across, entirely obstructing the whole route. We found no difficulty in getting through the Pass on foot, nor with the wheelbarrows; but the mule-carts and the two Fannies were more troublesome, and we were finally unable to get them through without a considerable pecuniary disbursement, amounting in all to one dollar and fifty cents (\$1.50). We understand that the City of San Francisco is desirous of effecting a safe and free passage through this celebrated ca on, but a large appropriation (\$220,000) is required for the purpose.

From Southwick's Pass, the survey was continued with unabated ardor until the evening of the 10th instant, when we had arrived opposite Mrs. Freeman's American Eagle, where we encamped. From this point a botanical party under Prof. Weegates was sent over the hills to the S. and W. for exploration. They returned on the 11th, bringing a box of sardines, a tin can of preserved whortleberries, and a bottle of whisky, as specimens of the products of the country over which they had passed. They reported discovering on the old plank road, an inn or hostel kept by a native American Irishman, whose sign exhibited the Harp of Ireland encircling the shield of the United States, with the mottoes

ERIN GO UNUM, E PLURIBUS BRAGH.



Continued on next page

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Official Report of Professor John Phoenix, A.M.

On the 14th the party arrived in good health and excellent spirits at the Nightingale, Mission of Dolores.

History informs us, that The Nightingale club at the village was held, At the sign of the Cabbage and Shears.

It is interesting to the Antiquarian to look over the excellent cabbage garden, still extant immediately opposite the Nightingale, and much more so to converse with Mr. Shears, the respected and urbane proprietor.

The survey and reconnaissance being finished on our arrival at the Mission, it may be expected that I should here give a full and impartial statement as to the merits or demerits of the route, in connection with the proposed Railroad.

Some three months must elapse, however, before this can be done, as the triangulation has yet to be perfectly computed, the sub-reports examined and compiled, the observations worked out, and the maps and drawings executed. Besides, I have received a letter from certain parties interested in the Southern and Northern routes, informing me that if I suspend my opinion on the Great Central for the present, it will be greatly to my interest--and as my interest is certainly my principal consideration, I shall undoubtedly comply with their request, unless, indeed, greater inducement is offered to the contrary.

Meanwhile I can assure the public, that a great deal may certainly be said in favor of the Central Route. A full report accompanied by maps, charts, sub-reports, diagrams, calculations, tables and statistics, may shortly be expected.

Profiles of Prof. Heavysterne, Dr. Dunshunner and myself, executed in black court plaster by Mr. Jinkins, R. A., one of the Artists of

the Expedition, in his unrivaled style of elegance, may be seen for a short time at Messrs. LeCount & Strong's--scale 1 1/2 inch to 1 foot.

In conclusion I beg leave to return my thanks to the Professors, Assistants, and Artists of the Expedition, for the energy, fidelity and zeal, with which they have ever co-operated with me, and seconded my efforts; and to assure them that I shall be happy at any time to sit for my portrait for them, or to accept the handsome service of plate, which I am told they have prepared for me, but feel too much delicacy to speak to me about.

I remain, with the highest respect and esteem for myself and everybody else,

JOHN PHOENIX, A.M.,
Chief Engineer and Astronomer, S.F.A.M.D.C.R.

The annexed sketch of our route, prepared by Messrs. Jinkins and Kraut, is respectfully submitted to the public. It is not, of course, compiled with that accuracy, which will characterize our final maps, but for the ordinary purposes of travel, will be found sufficiently correct.

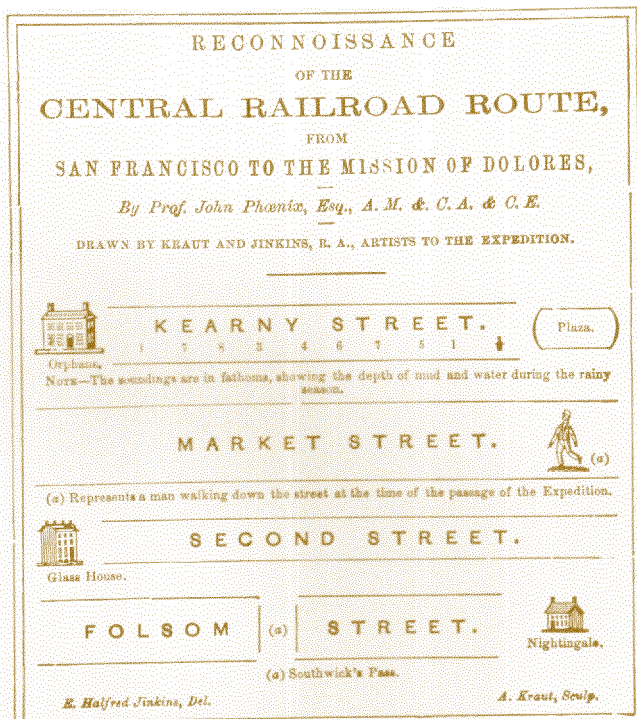
J.P.,A.M.C.E. & C.A. ❖

Lt. George Horatio Derby, 1823-1861

Lt. George Horatio Derby of Massachusetts graduated from West Point in 1846 and served in the Army Topographical Engineers. After combat service in the Mexican American War, he arrived in California, with General Bennett Riley, to survey and map the Sacramento Valley in 1849.

Writing was another source of income and amusement for the lowly paid lieutenant. During the seven years he spent in California he published articles, in various newspapers under the noms de plume Professor John Phoenix and Squibbob. With his captivating, burlesque style, he lampooned topics as diverse as Army life and women's literary societies. His travel accounts of Benecia, Sonoma, San Francisco, and San Diego, among others, are still a joy to read.

Though some may recognize a curious similarity between Derby's writing and that of Mark Twain's, his work predated Twain's by a decade. Lt. George Horatio Derby, soldier and surveyor, was one of California's first humorists.

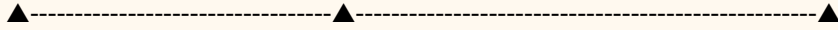


Field Testing of Prism Offsets



Here is a quick and easy field procedure to check your prisms and determine the prism offset.

Point A Point B Point C



- ✓ Establish 3 points on a line. Set the instrument on Point A and the prism on Point B. Measure line AB several times and record the average reading AB.
- ✓ Move the prism to Point C. With the instrument still at point A, measure line AC several times and record the average reading AC.
- ✓ Now move the instrument to Point B. Measure line BC several times and record the average reading BC.
- ✓ The prism offset = $AC - (AB + BC)$. A negative number indicates that a negative number is set in the instrument.

Norman Peet, PLS, is a field supervisor with the County of San Diego.

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Guide to Writing a Legal Description

d. In descriptions of center lines comprised of courses and curves, the phraseology of the main portion of the description, not including the beginning thereof, is similar to the following sample description: "thence North 30°15'20" West, 36.19 feet to the beginning of a tangent curve concave northeasterly, and having a radius of 1500 feet; thence northwesterly along said curve through a central angle of 15°04'16" an arc distance of 394.56 feet; thence North 5°19'36" West, 29.35 feet, etc."

e. If a course in a center line is coincidental with, or parallel to and at a known distance from a record line, mention this fact.

f. If a center line terminated in the boundary or boundaries of the parcel of land set forth in the preamble, unless such center line is at right angles to said boundaries, the following provision is added to the description: "the side lines of the above described strip shall be prolonged or shortened so as to terminate in the (describe definite line or lines here)".

g. In center line descriptions, the end lines of the strip described are understood to be at right angles to the center line at the termini thereof, unless limited by the preamble or provisions.

Example 1

That portion of Lot 7, Tract No. 8009, in the City of Covina, County of Los Angeles, State of California, as shown on map recorded in Book 131, Pages 69 to 81 inclusive, of maps, in the office of the County recorder of said County, being a strip of land 10 feet in width, lying five (5) feet on each side of the following described center line:

Beginning at the most southerly corner of Lot 8 of said Tract No. 8009, which is a point on a curve in the southeasterly line of said lot 8, concave southeasterly, having a radius of 76.00 feet, a radial line through said point bears North 69°35'37" West; thence northeasterly along said curve through a central angle of 9°51'39" an arc distance of 13.08 feet; thence — — — etc. to a point in the southwesterly boundary of grantor's property.

The sidelines of the above described strip shall be prolonged or shortened so as to terminate in said northeasterly and southwesterly boundaries of grantor's property.

Example 2

That portion of Lot 1 of Tract No. 18895, in the City of Pasadena, County of Los Angeles, State of California, as shown on map recorded in Book 479, Pages 49 and 50, of maps, in the office of the County Recorder of said County, being a strip of land 10 feet in width, lying five (5) feet on each side of the following described center line:

Beginning at the most easterly corner of said Lot 1; thence along the most southerly boundary of said Lot 1 South 83°31'15" West a distance of 6.40 feet to the true point of beginning; thence parallel to the northeasterly boundary of said Lot 1 North 45°03'40" West 96.23 feet; thence — — — etc.

The sidelines of the above described strip shall be prolonged or shortened so as to terminate in said southeasterly boundary of Lot 1 and said westerly boundary of said Lot 1.

D. Offset descriptions

Example 1

That portion of Lot 103 of Tract 16520, in the City of Duarte, County of Los Angeles, State of California, as shown on map recorded in Book 491, Page 32, of maps, in the office of the Recorder of said County, being a strip of land 10 feet in width, lying four (4) feet westerly and six (6) feet easterly of the following described line: Beginning — — — etc. to the point of beginning.

E. Combination centerline and offset description

Those portions of Section 17, Township 11 North, Range 12 West, San Bernardino Base and Meridian, in the City of ____, County of ____, State of ____, being strips of land 20 feet and 30 feet in width; the first portion being a strip of land 20 feet in width, lying 10 feet on each side of the following described center line; the second portion being a strip of land 30 feet in width, lying 10 feet easterly and 20 feet westerly of the following described line and the third portion being a strip of land 20 feet in width, lying 10 feet on each side of the following described line:

Beginning at the East quarter corner of Section 17, Township 11 North, Range 12 West, San Bernardino Base and Meridian; thence along the easterly line of said section 17, South 00°11'00" West, a distance of 200.00 feet to a point in the northerly boundary of said Section 17; thence along said northerly boundary South 89°13'14" West, 10.00 feet to the true point of beginning of the first portion of this right-of-way; thence South 00°11'00" East 1197.67 feet to the southerly terminus of the first portion of this right-of-way, which is also the true point of beginning of the second portion of this right-of-way; thence continuing South 00°11'00" East, 40.00 feet to the southerly terminus of the second portion of this right-of-way, which is also the true point of beginning of the third portion of this right-of-way; thence continuing South 00°11'00" East 29.27 feet to a point in the southerly boundary of said Section 17, which is the southerly terminus of the third portion of this right-of-way.

F. Blanket descriptions

Involves entire lots, parcels, private drives, etc., taken from record lots or parcels, or from tracts, ranches, etc.

Example 1

An easement for sewer purposes over Lot A, tract No. 10386, in the City of ____, County of ____, State of ____, as said lot A is shown on map recorded in book 8, Page 71, miscellaneous records in the office of the county recorder of said county.

Continued on next page

G. Other Examples

1. Sample Street Vacation Legal Description:

That portion of _____ as vacated by _____ of the City Council of _____, a certified copy of which was recorded _____ as instrument number _____, that would pass by operation of the law, to those parallels and adjacent landowners thereto which are included in lots _____.

2. To Include an Exhibit with Description

The above described land is shown on Exhibit "A" attached hereto and made a part of this description by reference thereto.

OR: This legal description as described is delineated on the accompanying "Legal Description Map" and made a part hereof for reference purposes.

OR: This exhibit is upon an aerial photograph, scale variations exist throughout the exhibit.

3. Qualification of Legal Description:

This legal description was prepared as a convenience only and is not intended for use in the division and/or conveyance of land in violation of the Subdivision Map Act of the State of California.

Legal Description Checklist

I. _____ CAPTION (preamble)

- A. The City (if any), County, and State in which the land is situated.
- B. A statement or recital of the larger area or areas out of which the instant land is carved, together with a correct reference to the record of such larger area.

II. _____ BODY

- A. A point of beginning and a closing statement "to the point of beginning", if the description is in the metes and bounds form.
- B. Proper "calls" and ties to adjoiners.
- C. Map check for closure.
- D. Basis of Bearings.
- E. Complete definition of all terms (curve data).
- F. Radial Bearings.

III. _____ QUALIFYING CLAUSES.

- A. Exceptions (lessening of interest).
- B. Reservations (additions to interest).

IV. _____ Most legal descriptions should have the following statement attached: "This legal description was prepared as a convenience and is not intended for use in the division and/or conveyance of land as governed by the Subdivision Map Act of the State of California."

V. _____ L.S. Signature and No.

VI. _____ Underlying documents.

VII. _____ Reviewed by _____

VIII. _____ Comments

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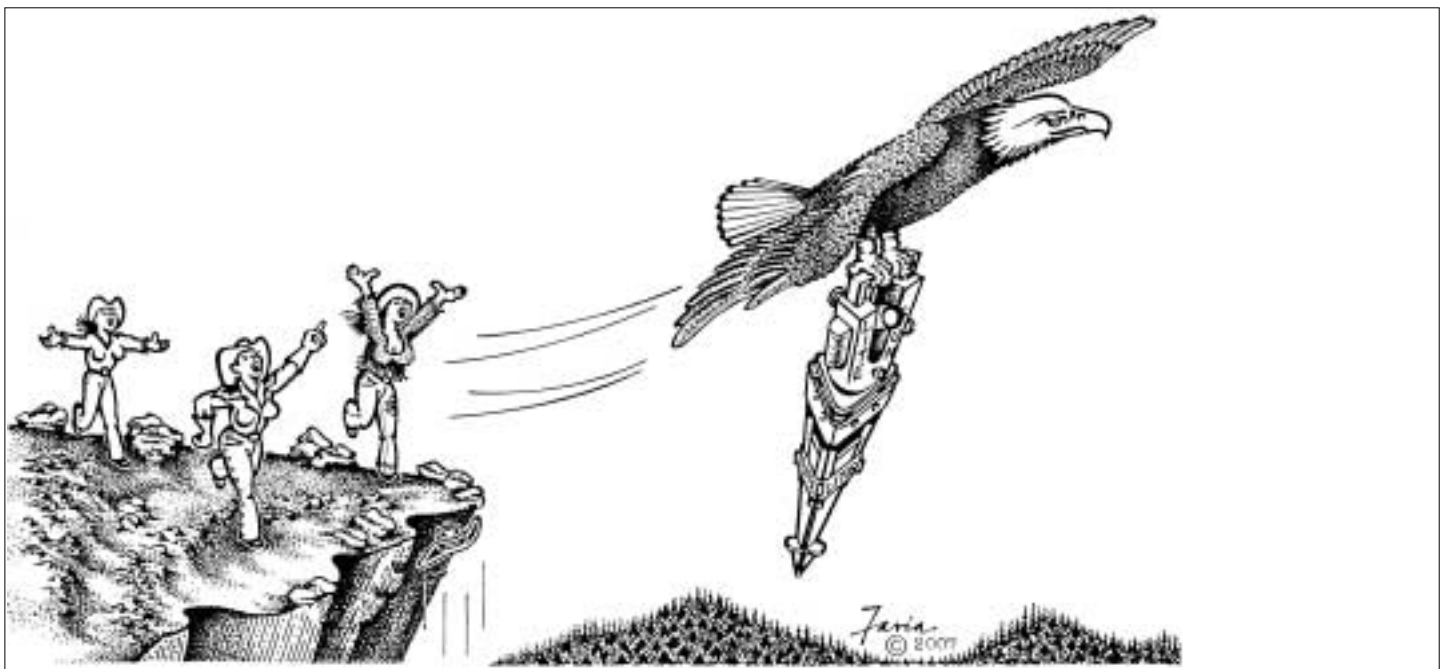
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Passing the Gavel



Incoming CLSA President Steve C. Shambeck, PLS (L), with outgoing CLSA President Robert J. Reese, PLS





SMA Expert

Question:

Does a Certificate of Compliance on a parcel extinguish the underlying historic parcels?

I assume by the question that a Certificate of Compliance was issued for a larger parcel, and that unbeknownst to the owner, the larger parcel actually contained smaller older parcels (that had been created legally some time before), and that the Certificate of Compliance does not show those smaller parcels or recognize them in any way. As such, the question is would such a Certificate of Compliance be said to have extinguished those smaller, interior historic parcels by failing to show them, or do those parcels still exist?

Answer:

This is a very interesting question! Let's walk through the Map Act statute.

We know that Certificates of Compliance are addressed in a couple of sections in the Map Act. Section 66499.35(a) provides that a person owning real property may request that a local agency determine whether the property complies with the Map Act. In other words, the local agency must determine whether the property is a lawful parcel under the Map Act. If the property complies with the Map Act, the local agency must issue a Certificate of Compliance for the property. In addition, under Section 66499.35(c), a Certificate of Compliance must be issued for any property "that has been approved for development" pursuant to Section 66499.34. Section 66499.34 in turn provides that the issuance of a permit or a grant of approval for the development of property, or where improvements have been completed prior to the time that a permit was required for those improvements, such property shall constitute property "that has been approved for development" for purposes of Section 66499.35(c). Finally under Section 66499.35(d), a recorded final or parcel map serves as a Certificate of Compliance.

In other words, several different actions can result in the issuance of, or itself serve as, a Certificate of Compliance. However, none of these Map Act sections addressing Certificates of Compliance expressly speaks to whether the issuance of a Certificate for a parcel extinguishes smaller, older parcels contained within the Certified parcel.

And we know from the Map Act that there are different ways to consolidate, reconfigure and/or reduce or extinguish old, existing parcels, including merger, lot line adjustment, reversion to acreage and "re-mapping" through a subsequent recorded map ("Subsequent Map").

Your question seems to recognize re-mapping and perhaps a fear that a Certificate of Compliance not showing all the legal lots could be argued to have the same effect as a Subsequent Map (i.e., to merge all lots not shown).

Under the Subdivision Map Act sections 66499.20_ and 66499.20_, a subdivider can extinguish earlier created parcels if the Subsequent Map does not show those earlier parcels on the face of the Subsequent Map, the normal mapping process is followed (including all holders of recorded interests signing the Subsequent Map), and the Subsequent Map is recorded. Obviously, those steps are especially easy to complete when the party processing the Subsequent Map hold all rights in the land contained within the Map. However, these re-mapping sections of the Map Act expressly provide for that "consolidation/merger/reversion" result, and set forth the steps required to secure that result. Again, in contrast, none of the Map Act sections addressing Certificates of Compliance expressly provide that same power to extinguish (consolidate/merge/revert) smaller, older parcels contained within the Certified parcel.

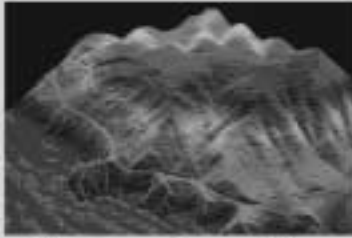
And finally, none of the Map Act sections addressing consolidation/merger/reversion (the merger, lot line adjustment, reversion, re-mapping, exclusion, etc. sections of the Map Act) authorize the extinguishment of smaller, older parcels through the recording of a Certificate of Compliance for a larger parcel containing those smaller, older parcels.

Conclusion:

For the reasons set forth above, I think the better argument is that a Certificate of Compliance issued for a larger parcel, which larger parcel (unbeknownst to the owner) actually contained smaller, older parcels (that had been created legally some time before), does not extinguish those smaller, interior historic parcels by failing to show them. That simply is not within the job description of a Certificate of Compliance. Its sole job is to declare a lot to be in compliance; its job does not include consolidation/merger/reversion. ❖

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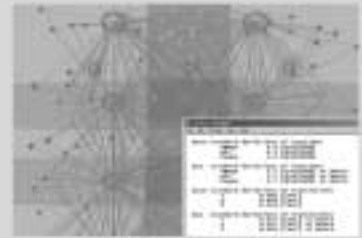
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Conference <small>(Includes Conference Registration, Monday & Tuesday Luncheons, Icebreaker Reception & Scholarship Auction)</small>	\$345	\$415	\$ _____
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Conference & Workshop <small>(Includes BLM Workshop, Conference Registration, Monday & Tuesday Luncheons, Icebreaker Reception & Scholarship Auction)</small>	\$395	\$460	\$ _____
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NON-MEMBER

REGISTRATION	BEFORE Mar. 14	AFTER Mar. 14	AMOUNT
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BLM Workshop <small>(Pre-Conference 8 hrs. - April 14th)</small>	\$155	\$185	\$ _____
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Conference <small>(Includes Conference Registration, Monday & Tuesday Luncheons, Icebreaker Reception & Scholarship Auction)</small>	\$415	\$495	\$ _____
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Conference & Workshop <small>(Includes BLM Workshop, Conference Registration, Monday & Tuesday Luncheons, Icebreaker Reception & Scholarship Auction)</small>	\$465	\$555	\$ _____
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OTHER

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CANCELLATIONS: To receive a refund on registration fees (less a \$35.00 cancellation fee), all cancellations must be received in writing no later than March 14, 2007. Substitutions welcome - additional fees may apply, contact CLSA Central Office at (707) 578-6016 for more information.

Annual Surveyors Historical Society Rendezvous at George Washington Birthplace, Virginia



On September 13, 14, & 15, 2007, land surveyors from all over America will meet in Virginia for the eleventh annual **"RENDEZVOUS"** of the Surveyors Historical Society (SHS). This year's gathering is a joint venture with the National Park Service. Some say that it will be a "birthday party -- Virginia's 400th, George Washington's 275th, and that particular national park's 75th.

Camping, the catered picnic, and retracement of an early G. Washington survey will be in the Park. Lectures, auction, and banquet will be about five miles away in Stratford Hall, the home of Robert E. Lee. Dow & Susan Prouty of Iowa, who have attended all ten previous Rendezvous, suggest that rendezvousers be encouraged to bring donations for the auction.

The educational aspect of the Rendezvous will feature prominent speakers. Some of those confirmed are

1. Ed Redmon, Library of Congress, an expert on George Washington Maps and Surveys.
2. Andrew Packett, Nat'l. Park Service, assembled "How Science and Math Changed George Washington's Life".

3. Larry Sears, Head Surveying and Civil Tech, North Carolina Community College, "Washington's Western Survey Trips"

4. Charles Langelan, "Early Washington, D.C. Surveys".

A growing cadre of SHS members are becoming historically-accurate **Re-enactors**. They appear at the annual Rendezvous in period attire and with instruments which are appropriate for the early period of American history. These members have formed a **"Re-enactors' Forum"** as a committee of the SHS. All of these Re-enactors are highly-motivated to make the public aware of surveying history. Many of them are regularly invited to appear at local and statewide functions. The Rendezvous '07 Committee has learned that a contingent of **"Revolutionary War Surveyors and Mappers"** re-enactors, who reside mostly in Virginia and West Virginia, will be "camping-out" and participating in Rendezvous '07

Note: This article was abstracted from the October and December 2006 issues of INSIGHTS, Member News of the SURVEYORS HISTORICAL SOCIETY



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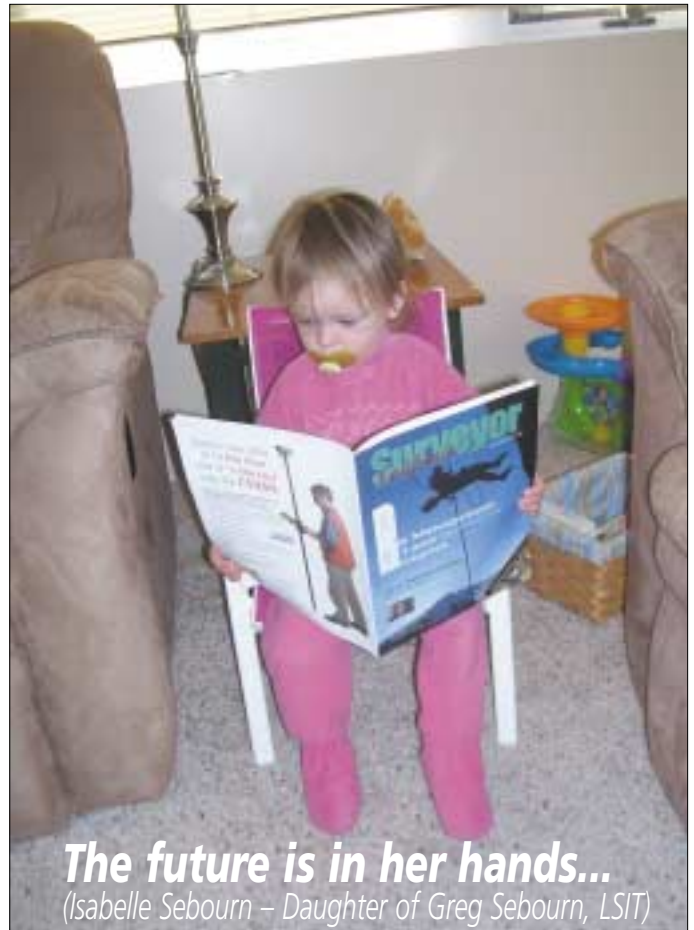
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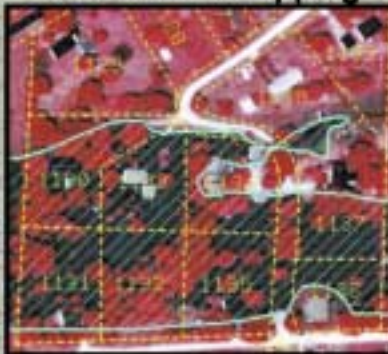
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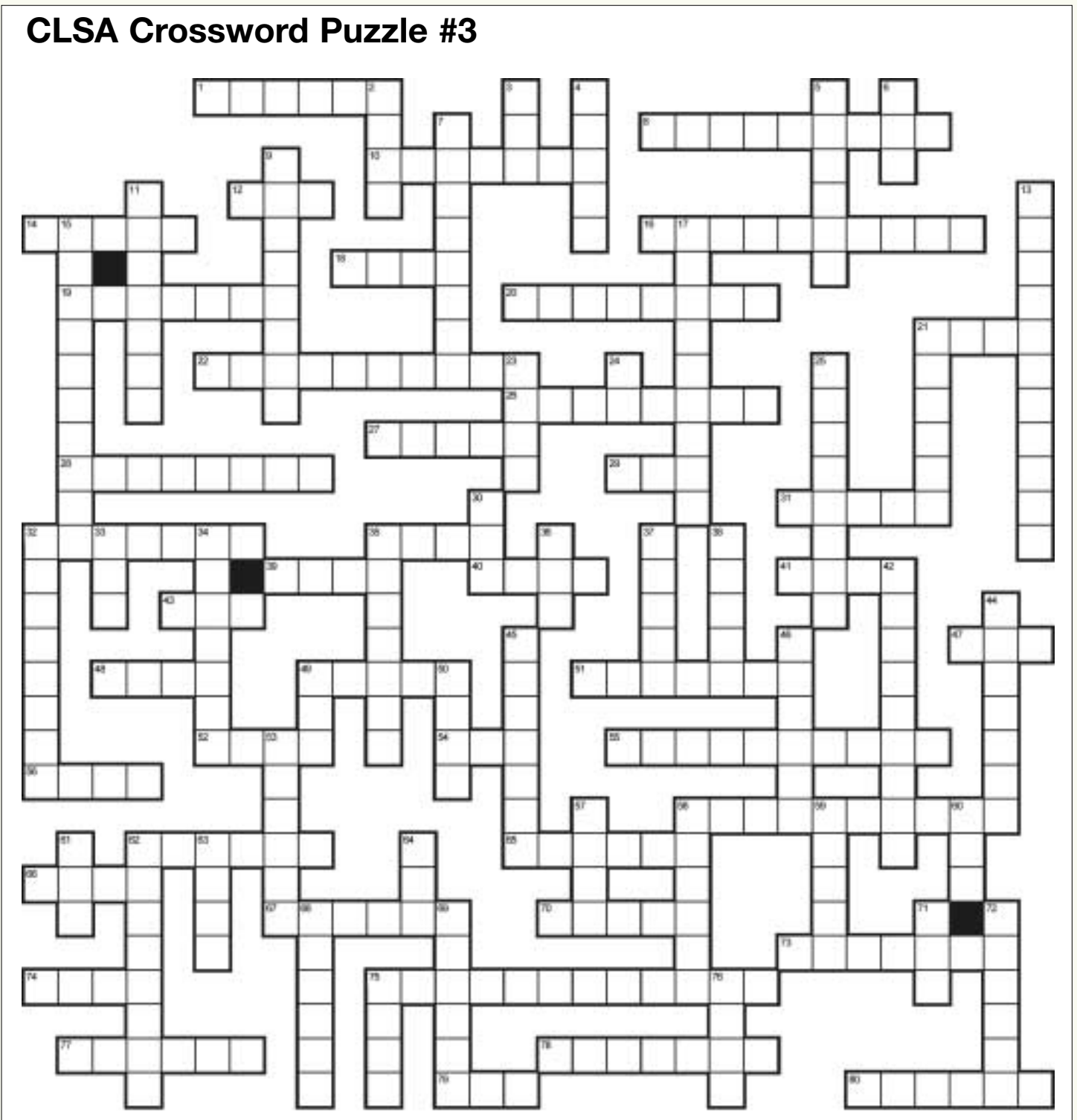
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Crossword Puzzle

By: Ian Wilson, PLS

CLSA Crossword Puzzle #3



Ian Wilson, PLS is the president of Ian Wilson Land Surveying, Inc., in Temecula, CA. His practice specializes exclusively in boundary and topo surveys. He has worked in both private and public sectors for small firms in California and Caltrans, respectively. As well as being a licensed land surveyor, he and his wife, Laura, are newly certified SCUBA divers. They are looking forward to "getting wet" on future trips along coastal California and around the world.

Across

1. PORTABLE POINT
8. WATER BARRIER
10. MISSING PIECE OF PICTURE
12. 2X2
14. 66 FEET
16. SCIENCE OF EARTHQUAKES
18. 6 INCHES
19. SHELTERED FRO MTHE WIND
20. COORDINATE FROM EAST-WEST LINE
21. REFERENCE STATEMENT IN A DEED
22. SCIENCE OF DETERMINING OCEAN DEPTHS
26. SILT DEPOSIT
27. DIFFERENCE BETWEEN COMPUTED AND ACTUAL VALUE
28. TYPE OF ERROR
29. CHAINING TOOL
31. PART OF AN INSUBSTANTIAL MONUMENT
32. EXCLUSIONARTY BUILDING ZONE
35. CAPITOL OF ITALIA
39. RIBBON OF STEEL
40. HORNED FARM ANIMAL
41. TIDE
43. SPACE NOT COVERED
47. ADJUST A LEVEL
48. JUDICIAL ORDER
49. DONE BY WORD OF MOUTH
51. GROUP OF PILES
52. TREE FOUNDATION
54. PEN TIP
55. BAROMETER
56. STACK OF ROCKS
58. MECHANICAL INTEGRATOR
62. BLANK SPACE
65. A GRADUATED ROD
66. UNIT OF SURVEY MEASUREMENT
67. AT RIGHT ANGLES
70. EDGE OF THE COAST
73. VERTICAL SECTION OF SURFACE
74. EMPTY
75. SENSITIVE TO ALL COLORS
77. SPACE NOT COVERED
78. QUADRANGLE OF APPROXIMATELY 1 MILE SQUARE
79. TIDE
80. ALLUVIAL DEPOSIT OF MINERAL

Down

2. PERIODIC RISE AND FALL
3. MILITARY POST BOX
4. 39.37 INCHES
5. THREE LEGGED STAND
6. FLOOR COVERING
7. AGREEMENT OR PROMISE
9. DEGREE OF WETNESS
11. TYPE OF SURVEY
13. TRIALAND ERROR SET UP (TWO WORDS)
15. SUNLIGHT REFLECTOR
17. MATHEMATICAL EXPRESSIONS
21. PORTION OF BUILDING COMPLETELY UNDERGROUND
23. AS LONG AS THE KINGS ARM
24. 12TH LETTER OF THE GREEK ALPHABET
25. REVOLUTION COUNTER
30. CATENARY CORRECTION
32. SHAPE OF CLARKE'S 1866 MODEL
33. PART OF A SUBSTANTIAL MONUMENT
34. CLSA UNIT
35. BACK UP
36. REPRESENTATION ON A PLANE SURFACE
37. DIGITAL IMAGE PART
38. POLE
42. MECHANICAL STE COUNTER
44. AUXILLIARY SLIDING SCALE
45. SWIVELED MOUNTING
46. SHADOW CASTER
49. CENTERLINE POINT
50. 7.92 INCHES
53. CHOICE
57. ATTESTATION
58. FEDERAL DEED
59. NICKLE/STEEL SURVEYING ALLOY
60. TIDE
61. PART OF AN INSUBSTANTIAL MONUMENT
62. NORTH-SOUTH LINE
63. 40 SQ RODS
64. HOT DRINK
68. 45 DEGREES
69. SELF-READING ROD
71. NEEDLE
72. 2.42 MILES
75. PART OF AN SUBSTANTIAL MONUMENT
76. CLOTHES SMOOTHER


Key to CLSA puzzle #2

(Surveyor Issue # 149)

Crossword puzzle



If you have an idea for a puzzle theme or a clue you would like to include in an upcoming puzzle, email to crossword@californiasurveyors.org



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Throwing a Chain in the Style of Edward R. Murrow, Journalist, Timber Cruiser

We have all been guilty of telling the neophytes in our profession that they must study arcane knowledge because it builds character. Here is a good example of how an illustrious radio journalist tested the character of a young, aspiring commentator:

Egbert Roscoe Murrow was born in 1908, into a poor Quaker family, near Greensboro in the North Carolina Piedmont tobacco growing area. When he was 6, his family moved to Skagit County, Washington, where his father worked as a locomotive engineer for the Samish Bay Logging Co. Not until Egbert was 14 did he live in a house with indoor plumbing. When he went away to Washington State College in 1925, he worked as a timber cruiser in the summers for Bloedell-Donovan on the northwest corner of the Olympic Peninsula.

In 1941, when he was better known as Edward R. Murrow, he was hiring educated American students to be reporters for CBS in London. It was there he met Charles Cummings Collingwood. Collingwood had dropped out of Oxford and was then working for the United Press. He was a Rhodes scholar and had chosen not to return to the States. He was handsome, charming, amusing, and articulate. Murrow invited Collingwood to lunch at the Savoy. Noting the argyle socks that Collingwood wore, all the rage then at Oxford, he wondered if this was someone he wanted at CBS.

Ed told Charles Collingwood that he was looking for someone with reporting experience, but "who had not been contaminated by print." Collingwood's stock rose as the conversation progressed because had worked summers as a timber cruiser, of all things. He found the job through his father, a forester and disciple of the fabled conservationist, Gifford Pinchot.

Days later, Ed and Collingwood went to a training exercise at an RAF airfield, which was then under construction. Murrow spotted a surveyors chain lying on the ground. He picked it up, coiled it, and with a quick movement of the wrist, threw it expertly. He handed the chain to Collingwood without a word. Collingwood threw it just as well. Here was a Rhodes scholar, a credential Ed once coveted, who could discuss medieval law, speak beautifully, and throw a surveyor's chain. He was Murrow's kind of man. Charles Collingwood joined the CBS London staff.

From: "EDWARD R. MURROW", Joseph E. Persico, McGraw-Hill, NY, 1988

Chaining Equipment

Keep the tape straight when in use; any tape will break when kinked and subjected to a strong pull. Steel tapes rust readily and for this reason should be wiped dry after being used. Some tapes are wound on a reel, but usually the tape is done up in 5-ft. lengths into a figure 8 and then "thrown" into the

form of a circle, with a diameter of about 10 in., as follows: Stand beside the zero end of the tape in the left hand, and - allowing the tape to slide loosely through the right hand - extend the arms.

As the 5-ft. mark is reached, grasp with the right hand. Bring the hands together and lay the 5-ft. mark of the tape in the fingers of the left hand without permitting the tape to turn



Egbert Roscoe Murrow
1908-1965



Charles Collingwood, 1917-1985

over. Then grasp this loop with the left hand, and again extend the arms for another 5 ft. length; and so on.

When the last marked is reached, tie the loop tightly where the ends of the tape come together, by means of the rawhide thongs. Grasp the loop with the right hand, and at the opposite point with the left hand. Twist the loop in such a manner that it will be thrown into circular form, with a diameter half that of the loop.

To undo the tape, reverse the operation of throwing; untie the thongs; remove the first loop in such a way as to not twist tape; and walk in the direction of measurement, removing one loop at a time, and watching for kinks.

From: "SURVEYING-THEORY AND PRACTICE"-3rd edition, Davis-Foote, McGraw-Hill, 1940 ❖

Charles L. Hornbeck, P.E., P.L.S., retired, worked for both Clair A. Hill & Associates and Caltrans. In between he was an engineering and surveying instructor at Shasta College.

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What does this mean?

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2. *Control the risk.* O.K. Sign the contract and accept the risk but work carefully. The Client has a good reputation.
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4. *Transfer some of the risk to your insurance carrier.* Your professional liability is covered but not the Client's liability.

Will your Professional Liability insurance cover this?

Your liability for your negligent act, error or omission that results in monetary damages will be covered but the professional liability policy excludes "liability of others assumed by you under any contract or agreement, unless such liability for "Damages" arises from your negligent act, error or omission in the rendering of or failure to render "Professional Services" or the negligent act, error or omission of your sub consultants."

So much to worry about

In addition to all the other things you have to worry about in your contracts such as scope of services, time requirements, compensation, dispute resolution, electronic transfer of information, insurance requirements, and certification, you have to sort through this indemnification stuff. You have to be a fearsome multi-tasker and juggle the demands of the law, your insurance and your business.

No one ever said it was going to be easy but you have to do it and do it right to protect yourself and your business.

There is some legal protection afforded by AB 753 effective 1/1/07 that exempts land surveyors from the broad client indemnity requirements of California Civil Code Section 2782.8 when working for a public agency such as a city, county or school district. Commercial projects are unaffected.

Read and reason carefully. Know what you're getting into and what you have to do. You may have to accept an onerous agreement because you want and need the contract.
























A Better, Safer Provision

Here's an indemnity clause you could and should offer your client as an alternate that would require each party to accept and be responsible for its own negligence:

Client and [You the Land Surveyor] each agree to indemnify and hold the other harmless, and their respective officers, employees, agents and representatives, from and against liability for all claims, losses, damages and expenses, including reasonable attorneys' fees, to the extent such claims, losses, damages, or expenses are caused by the indemnifying party's negligent acts, errors or omissions. In the event claims, losses, damages or expenses are caused by the joint or concurrent negligence of the Client and You, the Land Surveyor, they shall be borne by each party in proportion to its negligence.❖



Sustaining Members

<p>Steve Dillon</p> <p>ARROWHEAD MAPPING CO. 431 Mac Kay Drive San Bernardino, CA 92408</p> <p>Phone: 909-889-2420 Fax: 909-889-2664</p> 	 <p>Dmi DIGITAL MAPPING, INC. Complete GIS Photogrammetric Services</p> <p>Genova (AI) Alipazziciglu, CEO Chief Photogrammetrist</p> <p>e-mail: info@dmi-map.com • URL: http://www.usmap.com 21062 Brookhurst St., Suite 301 • Huntington Beach, CA 92646 Tel: (714) 968-5459 • Fax: (714) 968-2429</p>	<p>HANS I. HASELBACH (L.S.)</p>  <p>HASELBACH SURVEYING INSTRUMENTS</p> <p>SURVEYING & GPS SYSTEMS INSTRUMENT SERVICE & REPAIR</p>  <p>(800) 460-8181 (505) 348-7247 1447 Redline Road Burlingame, CA 94010</p>
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The goal of the California Land Surveyors Association is to promote and enhance the profession of surveying, to promote the common good and welfare of its members, to promote and maintain the highest possible standards of professional ethics and practice, and to elevate the public's understanding of our profession. CLSA represents all Land Surveyors, whether they are employees or proprietors, whether in the public or private sector.

Representation

LOCAL: Your local chapter represents you in local issues. Through your chapter representative to the State Board of Directors, the individual member can direct the course CLSA will take. **STATE:** The Surveyor is represented at the state level through an active legislative program, legislative advocate, and liaison with the State Board of Registration. **REGIONAL:** CLSA is an active member of the Western Federation of Professional Surveyors. This Federation is composed of associations throughout the western United States and addresses regional issues. **NATIONAL:** Through institutional affiliation with the National Society of Professional Surveyors and the American Congress on Surveying and Mapping, CLSA is represented at the national level.

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CLSA presents annual conferences which provide technical and business programs, as well as exhibits of the latest in surveying and computing technology. Seminars and workshops are presented to assist in continuing education. CLSA publishes the California Surveyor magazine and the CLSA NEWS to keep the membership abreast of changing legislation, legal opinions, and other items which affect our profession.

Business and Professional Services

CLSA provides a fully staffed central office which is available to answer questions or to provide up-to-date referrals concerning legislation, educational opportunities, job opportunities, or other issues concerning our membership. Professional liability insurance programs are available to members.

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