

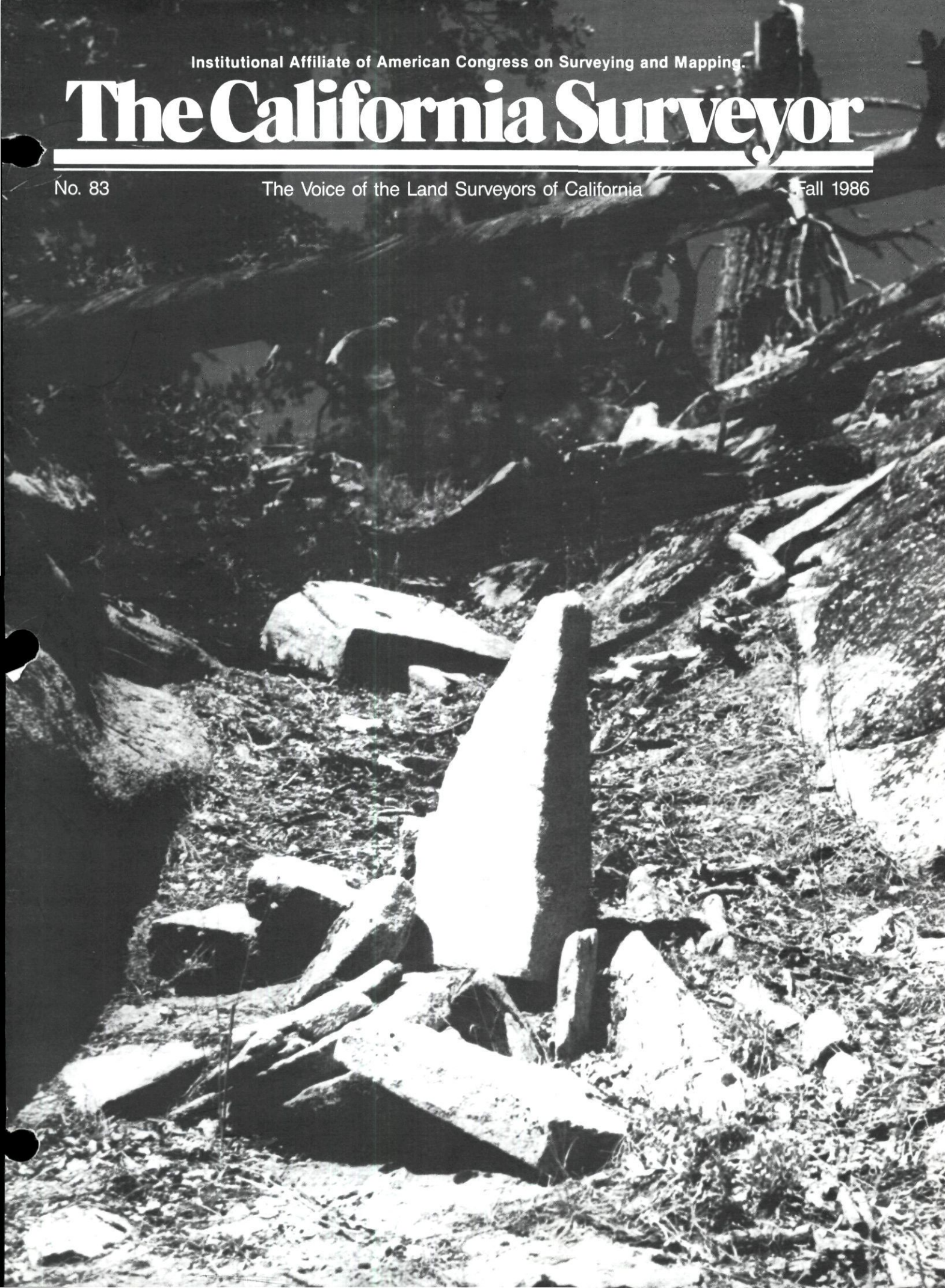
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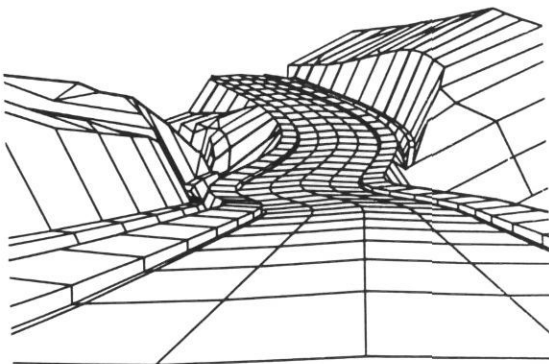
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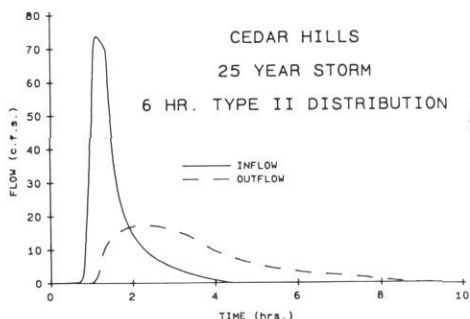
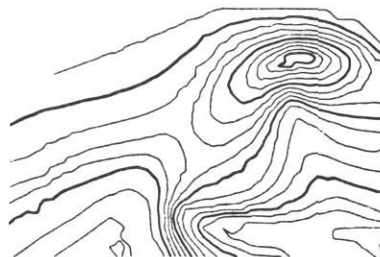
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The California Surveyor

is the quarterly publication of The California Land Surveyors Association, Inc. and is published as a service to the land surveying profession of California. It is mailed to all Licensed Land Surveyors and Land Surveyors-in-Training in the state of California as well as to all members of the California Land Surveyors Association, Inc. *The California Surveyor* is an open forum for all surveyors, with an editorial policy predicated on the preamble to the Articles of Incorporation of the California Land Surveyors Association, Inc. and its stated aims and objectives, which read:

"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 the Land Surveyors and their work."

Personnel

Owner: California Land Surveyors Association, Inc.
Central Office: P.O. Box 9098, Santa Rosa, CA 95405-9990
Editor: Ronald C. Greenwell, L.S.
Asst. Editor: Christopher L. White, L.S.

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Sustaining Membership

Membership in the California Land Surveyors Association, Inc. as a sustaining member is open to any individual, company or corporation who, by their interest in the land surveying profession, is desirous of supporting the purposes and objectives of this association. For information regarding sustaining membership, contact the Editor of *The California Surveyor*.

Editorial Material

All articles, reports, letters and contributions are accepted and will be considered for publication regardless of the author's affiliation with the California Land Surveyors Association, Inc. Contributions submitted on floppy diskette medium is encouraged. For compatibility, the following requirements should be met: 5 1/4-inch floppy diskette, PCDOS or MSDOS format, ASCII text files, and no formatting codes in the text. Material should be sent to *The California Surveyor*.

Editor:

Ronald C. Greenwell, L.S.
1023 San Carlos Drive, Antioch, CA 94509

Cover Photo

While a Surveying & Photogrammetry student at California State University, Fresno, James Morrell, L.S.I.T. had the opportunity to be involved in a cadastral survey while employed with Larry Johnson Land Surveying. This particular corner is the south east corner of section 34, township 24 south, range 34 east, Mount Diablo Base & Meridian.

Deadline Dates for *The California Surveyor*

Winter October 7, 1986
Spring January 7, 1987

Articles, Reports, Letters, etc., received after the above mentioned date will be considered for the next edition.

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Letters to the Editor

Dear Editor:

How exciting, someone has taken issue with my Cal Surveyor article on the "Multipurpose Disaster . . ." Well, I'd like to help keep the pot brewing by offering the following reply to his comments.

Multipurpose Cadastres or Land Information Systems

by Dr. James K. Crossfield

Congratulations to Richard J. Mitchell for keeping a vital issue before the Land Surveyors of the state of California. His article, "Organization-Wide Land Information System - The New Era," appearing in the previous issue of The California Surveyor, responded to an earlier article titled, "Multipurpose Disaster: The Result of Spatially Imprecise Land Records Information Systems."

Mr. Mitchell correctly stated that the Land Surveyor must become a part of the system team. But, should the Land Surveyor's role be limited to weighting system input data? The development of comprehensive land records information systems may have significant impact upon the way society views and uses the Land Surveyor. The Land Surveyor must be actively involved at all levels and at all times, with the planning, development and operation of any comprehensive land records information system. Recent history tells the Land Surveyor to never take anything for granted.

A multipurpose cadastre, containing a cadastral overlay based on reliable property boundary information, could be considered quite different from an organization-wide land information system that contains imprecise ground correlations. The main thrust of the "Multipurpose Disaster: . . ." article was to point out that neither Dane County, Wisconsin, nor Fresno County, California have reliable cadastral overlays that could be considered adequate for real property (land surveying) applications. There is a real possibility that these counties may never desire to upgrade their systems. But what costs might be incurred by these and other similar jurisdictions if a decision is later made to upgrade the accuracy of their system?

Many jurisdictions have opted not to risk such a situation by basing their improved land records systems upon

The development of comprehensive land records information systems may have significant impact upon the way society views and uses the Land Surveyor.

reliable ground survey and record information. All interested readers are urged to read about:

1.) The South Eastern Wisconsin Regional Planning Commission Surveying and Base Mapping Program. (Kurt Bauer, "Integrated Large-Scale Mapping and Control Survey Program Completed by Racine County Wisconsin," Surveying and Mapping, Dec. 1976.)

2.) The Jefferson County, Colorado Mapping Program. (Kevin M. Anderson, "Geodetic Surveying - The Foundation for a Multipurpose Cadastre," March 1985 ACSM meeting technical papers pp. 195-202, and Russell E. Oberg, "Data Entry and Processing Methods for Building a Geodetically Controlled Cadastral Map Database," March 1985 ACSM meeting technical papers pp. 213-219.)

3.) The Wyandotte County Kansas Base Mapping Program. (M.L. Rhodes, "Lands - A Multipurpose Land Information System," Proceedings from the Oct. 1984 F.I.G. Symposium on The Decision Maker and Land Information Systems, pp. 94-103.)

A brief overview of the above listed papers and the Dane and Fresno County situation, makes it clear that there are at least two schools of thought on how to effect an improvement in local land records information systems.

Which approach is correct? This will depend on the local situation, the participants in the local decision making process, and the local economics of land information. It is possible that we will not

know which approach is best for a given situation until several systems have become either a success or a failure. Should we sit idly by, waiting for disaster to strike? Society should rightly expect that the land surveying profession make a significant effort to answer several fundamental questions now. The answer to each of the following questions must be put into a local context before it can be considered adequate.

1.) Which approach is more economical in the long run?

2.) Which approach best serves all of society?

3.) If a spatially imprecise system is initially adapted, can it be easily (economically) upgraded later if desired?

4.) How will answers to questions 1-3 be found, and who will find them?

I strongly urge the president of CLSA to establish a land records information systems committee. This committee could monitor local, state and national level (public and private sectors included) land records information system activity and then inform CLSA about the impacts these systems have upon the surveying profession and the citizens of the state of California.

Sincerely Yours,
Dr. James K. Crossfield
Associate Professor CSU, Fresno □

L.S. Examination

Dear Editor:

We hear much concern expressed, especially over the past three years, over the "results or lack thereof" of the L.S. examination and possible negative effect of dwindling numbers of the profession. Coupled with this is the realization that professionalism should not be compromised. As a future Land Surveyor and one who approaches a major L.S. exam for the first time, I have made a series of informal interviews and polls in order to assemble some factual information.

Lack of education and lack of office experience have been attributed as the two main causes for the exam results. Let's examine this argument. As we know, most higher educational institutions had at one time offered at least one or two courses in plane surveying which, although only covering the fundamentals, were requirements in the

(continued on page 6)

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(continued from page 4)

civil engineering curriculums. Today these courses have been eliminated or made options.

New community colleges have come into the picture offering courses in plane surveying. The result may be more widespread land surveying education with some drop in quality. From the turn-outs at various seminars over the past three years it would appear many people are educating themselves at each available opportunity. The fact is, regardless of educational institutions available and their caliber, many educators will privately agree that a studious, diligent person, by availing himself of the proper materials, can thoroughly educate himself in any subject.

The other factor presented as a cause for the poor results, lack of office experience, is surely applicable to examinees who are employed by large civil engineering firms. Polling several firms of fifty or more employees reveals the fact that 95% of employment time is spent in construction staking of large subdivisions; is the remaining 5% of time spent in topographic and property line surveys. Due to the need for specialization today, these technicians unfortunately receive no in-house mapping or boundary analysis experience.

On the other hand are persons, such as myself, who wish to gain exposure to the entire process work for smaller firms. My situation is typical; I work 3 days per week in the field as party chief and 3 days in the office reducing and analyzing the survey data. This is not uncommon as there are many smaller firms here in San Diego alone with 4 to 10 employees on the payroll. In fact, based on my phone call poll this is the rule rather than the exception.

My concern is why many examinees who work for smaller firms and who are receiving this kind of experience are failing to pass the exam. Last summer in San Diego a class of 10 students met on Saturdays during the summer months in preparation for the exam. The class was taught by Land Surveyors from the local area. None of the students passed the exam.

I think we need to look at the exam as well as the applicants. I put the question directly to Harry Hilt, Director of the Board, last month. He stated, and I quote him, "the single overwhelming reason for the lower passing rate the past three years is due to the fact that

in previous years the exam was graded on a curve with 70% of examinees made to pass regardless of what they knew. This is no longer the case." He stated that different criteria is now being used to grade exams.

Contrary to the opinion of some, the applicants and examinees are no less qualified than their predecessors of twenty years ago when over 100 registrations were being issued each year with fewer numbers of applicants.

I write this letter to express my concern for the direction the profession is taking and also on behalf of future Land Surveyors. Sitting at meetings, it does become repetitive and offensive to hear the above arguments with a finger pointed indiscriminately in the direction of the applicant-examinee. The CLSA needs to be of service to all its members; instead it is running the risk of alienating a growing number of LSITs who already have no vote. Several Land Surveyors have advised me that, in an attempt to enhance the profession, a new tacit policy has evolved. The result of this policy would be the change in standards Harry Hilt referred to. In effect, the group of Land Surveyors in control of the examining process have judged past standards by which they were licensed to be unsatisfactory. Fine. Shift the goal posts. Just be up front about it.

What you have developing now is a growing number of persons applying for examination in other states for eventual practice there. A number of us who have never taken the California exam have the option in October of choosing between our state exam and various out-of-state exams for which we have also been accepted. These exams are directed toward making problems relate to current practical applications of surveying principles. The problems are not personalized or esoteric. A Psychometrician is empowered to ensure content validation. With regard to the California process, retaining a Psychometrician on staff does not by itself validate an examination if the Psychometrician has no real power to influence final decisions. Now, does exam validation come from pronouncements of volunteers who have sampled an exam? These people most likely do not represent a cross section of Professional Land Surveyors.

An educator recently stated that the exam in California now tests for excellence, not competence. The result is

elitism, not professionalism. One local chapter education chairman stresses education but makes the point that land surveying is not civil engineering and should not be made into something it is not.

Curt Brown reminds us that "the purpose of an examination is to do justice to both the examinee and the public."

Yours truly,
David Eisenberg

□

Surveying Accuracy

Dear Editor:

Contained in a recent publication of a national surveying magazine was a comment about BLM surveying accuracies being ridiculously low. In the past, other comments from surveyors have been heard by California BLM personnel regarding the same subject. These comments have indicated a need to clarify the limits of closure used by the California State Office of the BLM in order to prevent future misunderstandings.

The 1973 Manual of Surveying Instructions states the limit of closure for the public land surveys in section 3-124. This section expresses the minimum acceptable closure as the ratio 1:905, provided that the disclosure in neither the latitude nor the departure is less than 1:1280. Obviously, with the instruments and capabilities that we have today, this would be a very low standard. However, the last paragraph of the section states, "Stricter limits of closure will be specified in the Special Instructions for classes of surveys where higher precision is indicated by the values involved." Special Instructions provide the authorization and detailed specifications to the surveyor for each survey the Bureau makes. For a number of years now every set of Special Instructions issued by the California State Office has contained the statement, "The minimum error of closure will be one part in 5,000 (1:5000) throughout this survey." The 1:5000 figure is the *minimum* acceptable closure for rural areas but can be changed to a greater limit of closure for urban areas.

Thank you for this opportunity to comment.

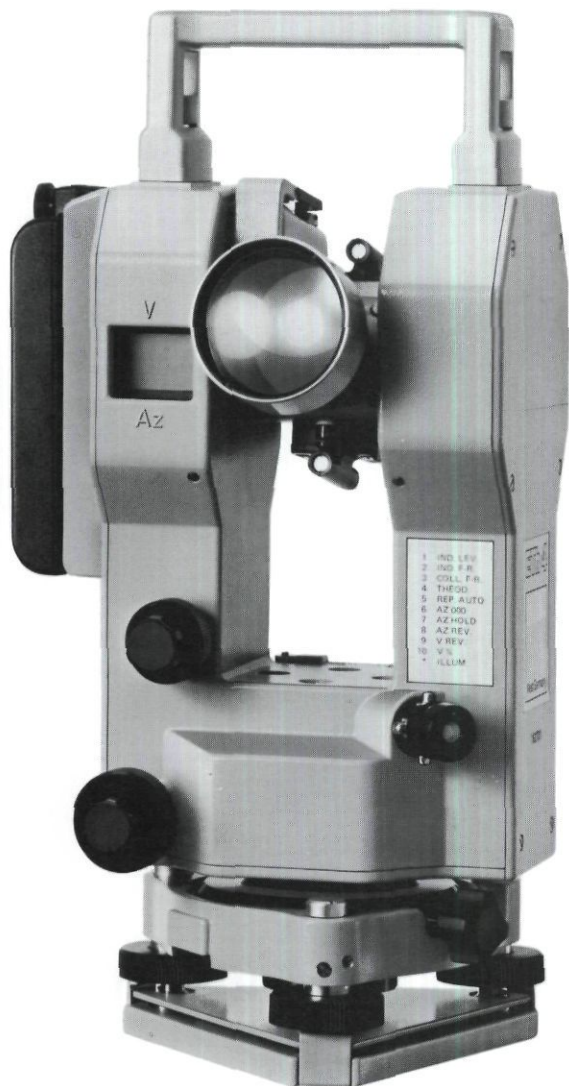
Sincerely,
Clifford A. Robinson
Chief, Branch of Cadastral Survey

□

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A Memorial to Jim Adams



Resolution 86-08

WHEREAS, James E. Adams, L.S. 3756, who passed away unexpectedly on July 5, 1986, was the first Executive Secretary of the California Land Surveyor's Association; and,

WHEREAS, James E. Adams, L.S., served the association faithfully and honorably as Secretary-Treasurer, Vice-President, Executive Secretary and President; and

WHEREAS, James E. Adams, L.S., upon completion of his term as President continued to serve the association as a chairman of various committees; and,

WHEREAS, James E. Adams, L.S., was deeply concerned about the state of Land Surveying Education in California; NOW, THEREFORE, BE IT

RESOLVED, that the California Land Surveyors Association, in acknowledgement of the debt the land surveying profession owes to James E. Adams, L.S., does hereby create the *James E. Adams Memorial Scholarship Fund* to help support students in the study of land surveying; and, BE IT FURTHER

RESOLVED, that the Executive Director of the Association is hereby authorized to disburse an annual scholarship from such fund with the advice of the surveying faculty of the California State University-Fresno, and BE IT FURTHER

RESOLVED, that the Board of Directors of the California Land Surveyors Association expresses its condolences and deep sorrow to the family of James E. Adams, L.S., on their loss; and, BE IT FURTHER

RESOLVED, that the Executive Director is hereby directed to present the family of James E. Adams, L.S., a copy of this Resolution, suitably framed, as an expression of appreciation for the life of James E. Adams, L.S.

ADOPTED this 26th day of July, 1986, in Los Angeles, California.

S. A. Jensen

Susan A. Jensen, L.S.
Secretary



The following letter is shared with the permission of Michael R. McGee, C.L.S.A. Past President.

Dear Mrs. Adams:

Jim knew how I felt about him; I always made that clear. This letter is for you, so you can know that Jim made a difference to me and a lot of other people. I didn't know Jim as well as some but I was aware, since my earlier years of involvement with the Association, he commanded the respect of our peers,

a fact which I did not fully understand nor appreciate until later. My first instinctive feeling about Jim was he was someone to be held in high esteem and he never failed that first impression.

It was in the Spring of 1984, when I was serving as Vice President of the Association, when Jim first approached me in Tahoe. Jim seemed to sense my disposition regarding the office of presidency. I came into my position as Vice President almost by fate with no intention of running for President. In that conversation, critical to my future, Jim not only convinced me I had something of value to contribute to the Association but he instilled in me the belief and trust in myself that I could do the job. I am always amazed at the effect, on my life, of subtle occurrences and this was certainly one of them. I am sure if it weren't for the support and confidence of Jim Adams and others like him, I would not have pursued the position of President. I would not have had the opportunity to meet so many good people, come in contact with new ideas, to grow, learn, and create new perspectives in my life personally as well as professionally.

The support and advice I received from Jim, during my year as President, was never for any selfish or greedy reason. He always had the best interest of the Association sincerely at heart. Thank goodness I communicated my feelings when he was present to receive them. I write this not so much because Jim is no longer with us but more because as we continue on, it is important for us to value those with whom we have shared life's experience.

Sincerely,
Michael R. McGee
Past President, C.L.S.A.

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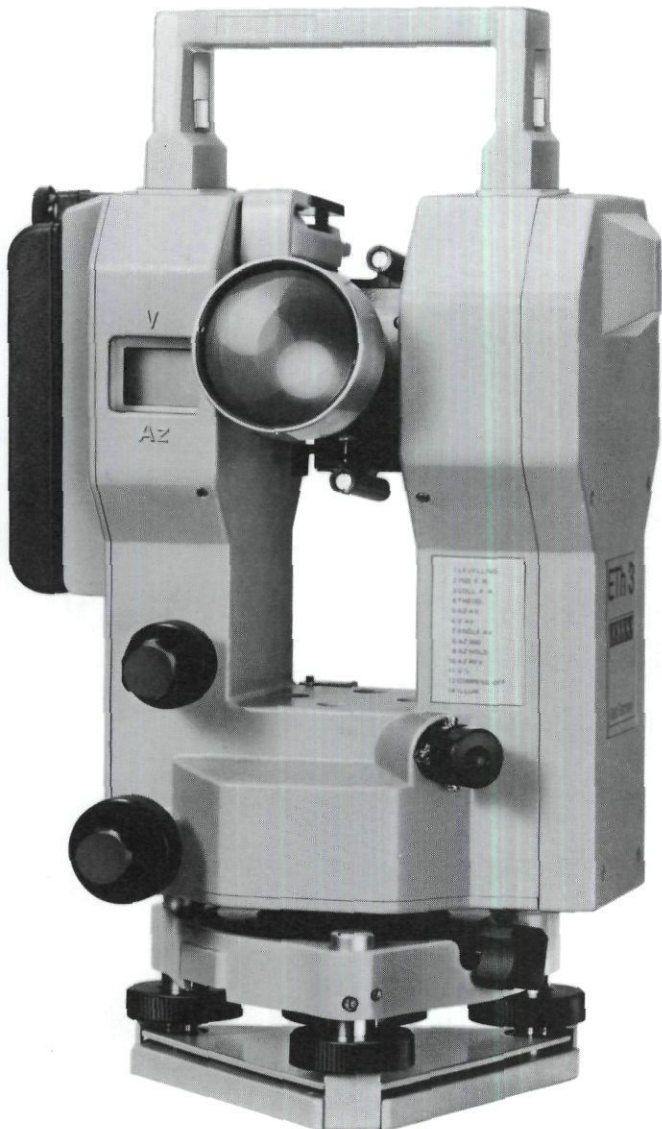
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1987 N.S.P.S. Awards Nominations

It's the time of year to start thinking about the 1987 National Society of Professional Surveyors (NSPS) annual awards program. At the ACSM/ASPRS Spring Meeting in Baltimore, Maryland, March 29-April 3, 1987, NSPS will be presenting four awards recognizing excellence in the surveying profession. The awards that NSPS sponsor, their guidelines, and the appropriate chairman to contact follow.

Surveying Excellence Award

Presented to a person who has performed outstanding service to the surveying profession, the winner of the award receives an engraved plaque and \$500 honorarium contributed by P.O.B. Publishing Company, Wayne, Michigan. It is not necessary that the nominee be a surveyor or member of NSPS or ACSM, but the candidate must be nominated for the award by an ACSM Affiliate, Section, or two NSPS members-at-large.

If the candidate is nominated by an ACSM Section or Affiliate, the nomination must be signed by two officers of the organization. If nominated by two NSPS members-at-large, the nomination must be signed by the sponsors and accompanied by four letters of recommendation.

Each nomination must include a narrative stating the reasons why the sponsors feel the nominee is deserving of the award, specific accomplishments the nominee has made toward the profession, and biographical data that can be used during the award presentation in case the candidate is selected as the recipient. Candidates from the previous year who did not receive the award may be renominated by a letter from the original sponsors. Any additional information or plaudits may be included in this letter, which should be signed by two members of the nominating organization or the two original nominating

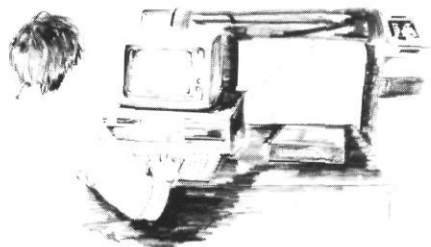
NSPS members.

On request, a copy of a presentation made on behalf of a previous award recipient will be furnished as an aid to persons or organizations who want to nominate a candidate.

A panel of judges, selected from various parts of the U.S., will evaluate the candidates on the following factors:

- Service to the profession
- Service outside the profession
- Types of survey activities
- Publications
- Legislative effort
- Improvements in, or refinement of, surveying equipment and techniques
- Recognition as a professional leader
- Membership and activities in survey and related professional organizations
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The Man of the Highway Survey

by Leonard L. Wilcox
submitted by Ken Omsberg P.E., L.S.

With field glass and transit and
compass and rod,
With level and plumb-bob and chain;
With technical phrases,
And grit that amazes,
With hustle and muscle and brain;
You will find him a-plugging for all he
is worth,

A-cutting and slashing his way;
Anywhere 'neath the sun,
Where there's roads to be run –
This man of the highway survey.

His course leads through desert and
jungle and swamp,
O'er mountain and river and vale;
From Havana to Nome,
And from China to Rome,
You'll find him to work on the trail:
And he cares not a rap
What the hardships may be,
How rocky or thorny the way;
With his transit and bob,
He is right on the job -
This man of the highway survey!

He is laying out tangents and curves
and grades,
And marking each move with a stake,
And he's snaking his chain,
Over mountain and plain,
Through bramble and brier and break;
Oh, his fights are not won
With a saber and gun;
He follows no flag to the fray;
But he merits much praise,
For the part that he plays,
This man of the highway survey!
L.L.W. 1921

Leonard L. (Lew) Wilcox (1900-1983)

Lew Wilcox was born near Plymouth, England. He came to America as an infant, and grew up in Butte, Montana, and Salt Lake City, Utah, where his father was a mining engineer. He was a veteran of WW I, and served in the U.S. Army in France. After discharge from the Army, Lew entered the University of California at Berkeley to study civil engineering. His summer job with the California Highway Department apparently paid too much money since he decided to stay on rather than go back to complete his degree. He worked for the Highway Dept. for several years, mostly in Humboldt County, CA. Lew was a surveyor with the City of Eureka Engineering Department for about 15 years. During WW II he worked as a surveyor for Chicago Bridge & Iron at their Eureka dry dock fabrication facility. After the war, he joined PG&E where he worked as a surveyor in the Land Department for 20 years until his retirement in 1965. □

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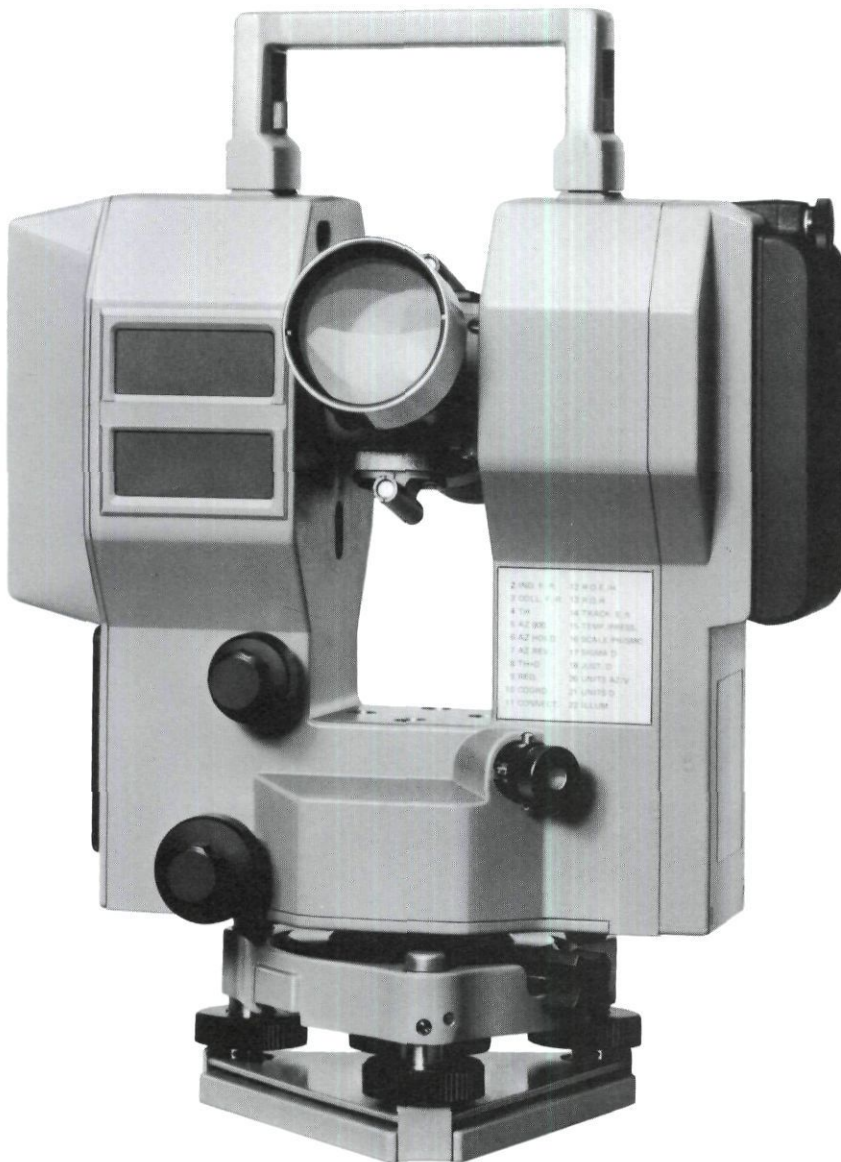
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C.L.S.A./B.L.M. Workshop A Very Successful Endeavor

by Paul A. Cuomo, LS

I conceived the idea of a workshop featuring BLM surveyors presenting actual cases that they had worked on while attending the BLM portion of the Surveying and Photogrammetry Conference at Cal State Fresno in January of this year. At that conference Bob Zickwolf acted as moderator while Skip Robinson rendered the decisions made by the BLM as to the acceptance or rejection of corners in conflict with record, occupation, or other corners. The evidence was presented by the surveyor who worked on the case and the audience was actually given a chance to "vote" on the outcome.



Pat Carroll

I've attended many workshops and seminars in my 28-year surveying career, some good, some bad. This one was great. I've read the Manual of Instructions, the Restoration pamphlet, Brown and Clark; I've taught boundary control and L.S. Review classes dealing with the subject of Public Lands Surveys. This was different. It was real. Not out of a book, not theoretical, and it was controversial as not everyone



Moderator Robert Zickwolf



Clifford 'Skip' Robinson

agreed with the solutions presented. The speakers acknowledged that the BLM was not always 100% correct.

Well, I put the idea of presenting this type of event in my memory bank and attended the rest of the conference.

A few weeks later I received a call from, who else, but the same Skip Robinson of the BLM. He was program chairman for the 1986 CLSA Conference. Being an egomaniac I accepted his request. I mentioned my idea for a CLSA workshop to Skip at the same time and we agreed to discuss it further at the conference. Meanwhile he had spoken to his staff about the idea and they were very enthusiastic about doing it. The arrangements had been made.



Jerry Wahl

They would prepare a program and present it the same way as they had done at Fresno.

The workshop, entitled "Acceptance and Rejection of Previously Established Corners" was presented on May 10th in Concord and again on June 7th in Santa Ana. Bob Zickwolf, Regional Land Surveyor, Pacific Southwest Region, U.S. Forest Service was the

moderator. The speakers were Pat Carroll, Ken Sullivan, Jerry Wahl, Jim McCavitt and Steve Parrish, all surveyors for the BLM. Skip Robinson, Chief of the Cadastral Survey Branch of the BLM gave the decisions of the cases and lead the discussion period afterward.



Jim McCavitt

The discussions were lively to say the least. Particularly after Ken Sullivan's presentation regarding establishing 1/2 and 1 mile posts on a Rancho line. These corners were supposedly established in 1902 on a line between two rancho corners, 139 chains apart, which were established in 1868. A 1983 retracement survey by the BLM showed that they were off line as much as 0.145 chain or 9.57 feet. The decision was made to accept the 1902 posts as points on the Rancho line. The BLM felt that these corners had been accepted for over 70 years, even though they were not in the proper position. Most of the audience disagreed and felt they should be shown off line.

Three of the topics presented were not case related. These were Jerry Wahl's talk on "PLSS Datum," "The

(continued on page 16)



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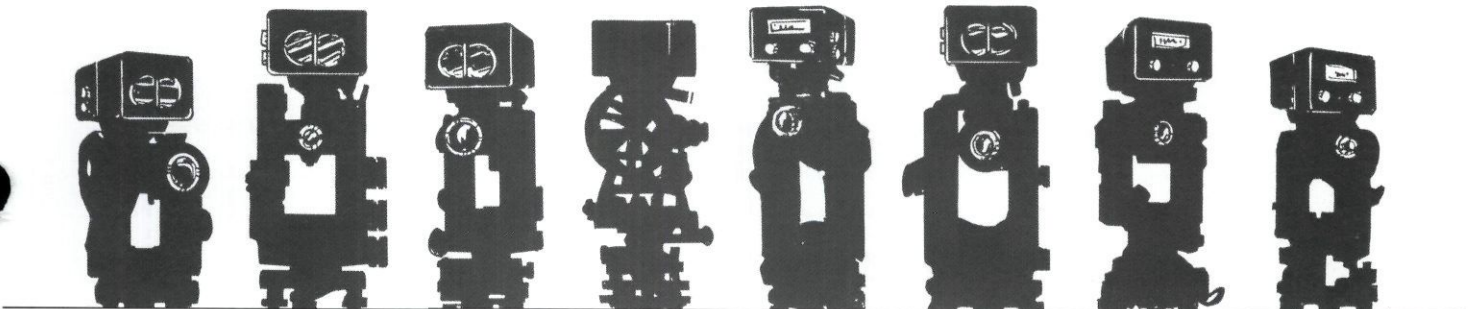
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C.L.S.A./B.L.M. Workshop

(continued from page 14)

Importance of Records, Research and Analysis" by Steve Parrish, and "Determination of Distance by the Use of Area" by Ken Sullivan. Jerry and Ken's talks were highly informative and useful while Steve's was very interesting and entertaining, containing some very down-to-earth, practical advice. Steve also presented a case in the morning session. The issue was about two sets of corners approximately two chains apart.



Paul Cuomo presents a plaque to Ken Sullivan

One was reputed to be an adjudicated corner, the other a found original. No decision has been made on this case.

The remaining topics were cases presented by Jim McCavitt, Ken Sullivan and Pat Carroll. Pat's case involved the protest procedure by which a party to the decision has a right to protest and also a right of appeal. It also showed the importance of using high quality evidence. Ken Sullivan's case, "The Rolling



Seminar participants L. to R.
Tony Cuomo, Dave Unger, Mike Leat, L.S.

¼ Corner" showed how a monument was replaced in its purported original position by the land owner after it had rolled down a slope. The position was accepted by the BLM over the proportioned location even though the owner stated in letters that he felt it should be a lost corner. Jim McCavitt's presentation pointed out very clearly that even though a monument is shown on a record of survey it should not be blindly accepted as the true corner. By virtue of this happening, the position of a section corner has been determined to be in the middle of a rather expensive house near Squaw Valley.

It was generally felt by the participants at the seminar that the material was very interesting and useful and was presented by the speakers very well. All in all there were 277 attendees at both workshops and most felt it was excellent.

At the end of the Santa Ana session

plaques were presented to the speakers by CLSA thanking them for their hard work and a job well done. Skip, Bob, Jim, Jerry, Pat, Ken and Steve put a lot of effort into the preparation of this event and it paid off.

A large portion of the profits from this workshop will be used by CLSA strictly for educational assistance throughout the state.

As a side note, a dinner party was held Friday, June 6th, at Kurt Hoehn and Anna Beal's house to welcome the speakers and their wives. The party was attended by the Board of Directors of the Orange County Chapter of CLSA.

On behalf of CLSA I wish to thank the registration committee, Mary Young, Julia Glueckauf, Staci Lyman and Doug Burt, for all their help towards making this event a large success and many thanks to Cheryle Belli and Dorothy Calegari for the support from CLSA Central Office. □



Concord Luncheon

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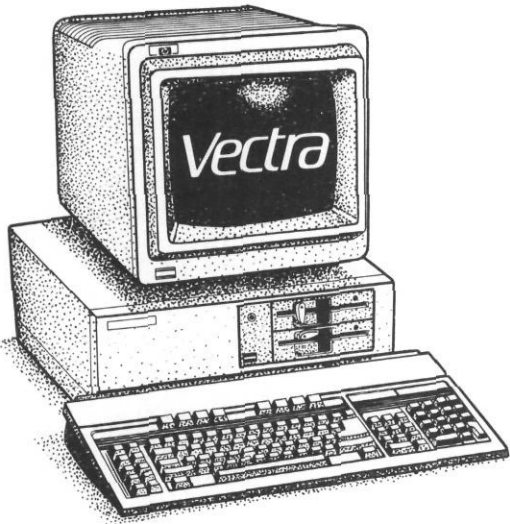
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Board of Directors Meeting Minutes

submitted by Susan A. Jensen, LS
Secretary CLSA

The second quarter meeting of the Board of Directors of the California Land Surveyors Association was held at the Amfac Hotel, Burlingame, California on April 26, 1986.

The meeting was called to order by President Richard Siegmund at 9:30 A.M.

The minutes of the January 26, 1986 Board of Directors meeting were approved as mailed.

UNFINISHED BUSINESS:

The officers gave their respective reports to the Board. Treasurer Paul Cuomo presented the proposed 1986 Budget of \$87,900.00. Hal Davis moved to approve the Budget as presented, seconded by Bruce Hall and passed unanimously.

Administrative Division:

The Board discussed Association goals for 1986. Ron Greenwell moved to adopt the existing 1, 5, and 10 year goals as approved at the January, 1985 Board of Directors meeting as interim goals for 1986 and to direct the Administrative Matters Committee to report on their status and recommend revised goals at the July Board meeting. The motion was seconded by Lee Hennes and passed unanimously.

A proposed amendment to Section 4:03-Voting of the Association Bylaws as shown in the addendum to the April 26 agenda was presented by Bylaw Committee Chairman, Neal Campbell. Bruce Hall moved to recommend approval and placement of the proposed change on the next state ballot, second by Claude Tomlinson. Some representatives felt additional direction from chapter members was necessary. Howard Dye moved to table the motion until the July Board Meeting, second by Hal Davis. The motion to table passed.

Conference Division:

A recommendation to hold the 1987 annual conference at the MGM Grand Hotel in Las Vegas, Nevada, on March 5-7, was made by President Siegmund. Gary Shelton moved to direct the Conference Committee to proceed with the arrangements as recommended and authorize the signing of the necessary contracts, second by Joe Bell. The motion passed on a voice vote with Hal Davis requesting that the record reflect his abstention.

Howard Dye moved to direct the Conference Committee to pursue a joint 1987 conference with the Nevada Association of Land Surveyors and to negotiate the distribution of potential profits which would include a \$500 guarantee for each association with the remainder of profits being shared on an attendance basis. The motion was seconded by Bruce Hall and passed unanimously.

Hal Davis moved that the President appoint a Conference Site Selection Committee consisting of two members with the Executive Director as an ex-officio member, to determine the sites for the annual conference a minimum of three years in advance, with the conference for every other year to be held in the Lake Tahoe region. The motion was seconded by Paul Lamoreaux and passed unanimously.

Education Division:

Paul Cuomo, Education Committee Chairman presented a report on committee activities and planned workshops. He requested approval of Resolution 86-05 which designated a minimum 60% of net income received from workshops and seminars be set aside for future educational programs. Dave DeGroot moved to approve the resolution, second by Lee Hennes. Hal Davis moved to amend Resolution 86-05 to delete reference to bank, second by Paul Lamoreaux. The motion to amend was passed unanimously. The resolution as amended was then voted on and passed unanimously.

Legislative Division:

Hal Davis moved that the Legislative Committee be authorized and directed to actively oppose any and all attempts to appropriate the monies held in the 'Survey Monument Preservation Funds' authorized by Section 27586 of the Government Code for any purpose other than for the restoration of major historical land division lines. The motion was seconded by Paul Lamoreaux and passed unanimously.

Joe Bell moved that C.L.S.A. actively oppose AB 3073 which would amend the Land Surveyors Act. Second by Bruce Hall. The motion was defeated on a voice vote. The secretary wishes to have the record reflect her aye vote on this motion.

Michael McGee moved that the Legislative Committee be directed to prepare a general policy statement

reflecting C.L.S.A.'s position to be brought back to the Board at their next meeting. The motion was seconded by Gary Shelton and passed unanimously.

The Board discussed a letter received from the Golden Gate Chapter of Associated Builders and Contractors, Inc. which requested our input in developing a position paper from the construction industry to address the insurance crisis. Lee Hennes moved to support the position on industry insurance as stated in the letter included with the agenda, second by Hal Davis. The motion was defeated.

Michael Pallamary moved to respond to the Golden Gate Chapter request and offer to participate in an industry meeting to discuss the issue, second by Joe Betit. The motion was passed unanimously.

President Siegmund reported on the Alvar Yelvington Lawsuit against C.L.S.A. Hal Davis moved that the President be authorized to negotiate a settlement out of court, provided the settlement not exceed \$1,200. Second by Paul Lamoreaux and passed with one abstention.

Membership Services Division:

Hal Davis moved to authorize the purchase of an additional monitor and keyboard for the present Central Office computer, second by Don Watson. The motion was passed unanimously.

Professional Matters Division:

Gene Rutledge moved that C.L.S.A. recommend at least two individuals to fill the two State Board of Registration Land Surveyor Technical Advisory Committee vacancies which will occur in June, 1986, second by Michael McGee. The motion was passed unanimously.

Michael Pallamary moved to direct the President to appoint a committee to screen and prepare a list of potential candidates for the position of L.S. member of the State Board of Registration, second by Hal Davis. The motion was passed unanimously.

Chapter reports were given, including the presentation to the Board by the Orange County Chapter of a check for \$215. This check represents 10% of the proceeds from a local seminar.

NEW BUSINESS:

Hal Davis moved that the July Board of Directors meeting be held in the general area of the Los Angeles airport. The motion was seconded by Bruce

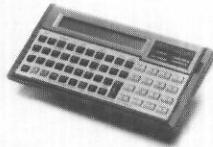
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- 4 A 10' offset isn't going to work here.
- 5 Hey, this as-built looks funny. Can we check it out without wasting valuable field time?
- 6 There are only two of us on the survey crew today and we need to set slope stakes.
- 7 Hey, we're doing such a good job out here, it's a shame the boss can't be here to appreciate us.
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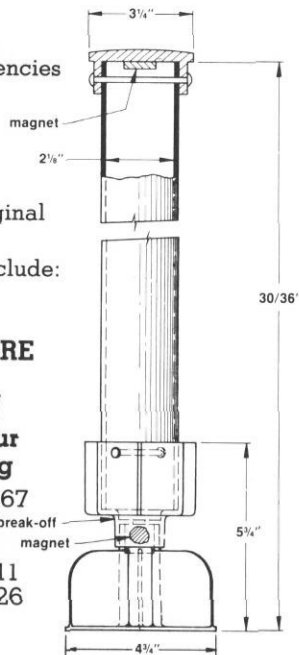
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When Things Go Wrong

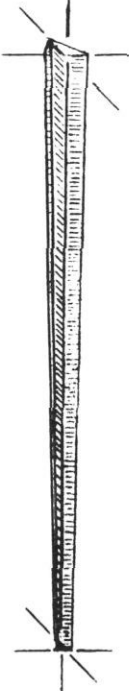
Assume, for a moment, someone were to suffer a serious injury on a project designed by one of your employees outside the office, and the allegation were made that the injury arose out of negligence in design. It is unlikely that your unfortunate employee would even be in a position to mount an effective defense, much less make good on the loss. Knowing this, the attorney for the injured party would waste little time before finding someone else to bring in to the suit. It would not be surprising for that someone else to turn out to be you.

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and demand countless documents in an exhaustive search for evidence which might somehow link your firm to the ill-fated project. They will attempt to determine whether your facilities, equipment, or supplies were used; whether calls about the work were taken at your office; whether files containing project information can be located on the premises; whether those files might not contain documents bearing your firm's name.

Should they succeed they will argue, if they can, that the injured party acted (and had a reasonable right to rely) on the belief that the project was backed by your extensive experience and flawless reputation. Should they fail, you will already have lost much of your valuable time, a healthy portion of your deductible, and all of your patience. In either case, they will then turn to your policy on moonlighting hoping to find in your silence on the question 'conclusive proof' of your ultimate responsibility for both the project and the loss.

(continued on page 25)



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SET-3 or SET-10 electronic total station	75.00	45.00	30.00
SDM3ER or FR semi-total station w/ vertical sensor	55.00	33.00	22.00
SDM3E or F semi-total station (one mile range)	45.00	27.00	18.00
Nikon DTM-1 electronic total station	85.00	51.00	34.00
NTD-4 semi-total station (6 second)	45.00	27.00	18.00
NTD-2 semi-total station (20 second)	40.00	24.00	16.00
Kern E2 / DM-503 total station	120.00	72.00	48.00
E1 / DM-503 total station	85.00	51.00	34.00
AGA Geodimeter 140 total station	120.00	72.00	48.00

TOP MOUNT E.D.M.

Lietz RED-2L E.D.M. w/slope reduction (4 mile range)	30.00	18.00	12.00
RED-2 or RED-2A E.D.M. w/slope reduction	25.00	15.00	10.00
Nikon ND-21 E.D.M. w/slope reduction (1 mile range)	25.00	15.00	10.00
Kern DM-503 distance meter w/5 km. range	35.00	21.00	14.00
AGA Geodimeter 120, 122 or 220 distance meter w/vertical sensor	50.00	30.00	20.00

LONG RANGE E.D.M.

Hewlett-Packard 3808A E.D.M. (6 mile range)	50.00	30.00	20.00
Tellumat CMW-20 microwave system (16 mile range)	100.00	60.00	40.00

DATA RECORDERS

Lietz SDR-2 (32K)	25.00	15.00	10.00
Nikon DR-1 (32K)	20.00	12.00	8.00
Kern Alphacord-64 (64K)	30.00	18.00	12.00
AGA Geodat 124	25.00	15.00	10.00

GYRO

Lietz GP-1 / TM1A north seeking gyroscopic "one sec. theodolite"	125.00	85.00	55.00
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THEODOLITES

Kern E-1 two second electronic theodolite	55.00	33.00	22.00
E-2 one second electronic theodolite	85.00	51.00	34.00
DKM-2AT one second theodolite	35.00	21.00	14.00
K1-MT six second theodolite	25.00	15.00	10.00
K1-ST thirty second theodolite	25.00	15.00	10.00
Lietz TM-6 six second theodolite	25.00	15.00	10.00
TM-10E ten second theodolite	22.00	13.20	8.80
TM-20H or TM-20C twenty second theodolite	20.00	12.00	8.00
TS-6 or T-60D one minute theodolite	20.00	12.00	8.00
Nikon NT-4D six second theodolite	25.00	15.00	10.00
NT-2D twenty second theodolite	20.00	12.00	8.00
NT-2S one minute theodolite	20.00	12.00	8.00

TRANSITS

Lietz DT20E twenty second electronic transit	20.00	12.00	8.00
BT-20 twenty second transit	10.00	6.00	4.00
Nikon TT-400 one minute utility transit	7.00	4.20	2.80
BD-7F five minute utility transit	6.00	3.60	2.40
David White 8300 construction level-transit	5.00	3.00	2.00

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Nikon AS or Lietz B-1 (32X), 2nd order automatic level	10.00	6.00	4.00
Nikon AE-5 or Lietz B-2A (30X), engineers automatic level	7.00	4.20	2.80
Nikon AP-5 or Lietz C-3A (26X) automatic level	6.00	3.60	2.40
Nikon AZ-1 or AZ-1S (22X) construction automatic level	5.00	3.00	2.00
Kern GKOAC (21X) level w/ 150B tripod	7.00	4.20	2.80
David White 8114 construction 12" dumpy level	3.00	1.80	1.20

FATHOMETER

Raytheon DE-719B recording fathometer	(NO LONGER AVAILABLE)	25.00	15.00	10.00
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CONSTRUCTION LASERS

Spectra-Physics EL-1 electronic level	17.00	10.20	6.80
942 laser level, vertical/horizontal	40.00	24.00	16.00
611 align. laser w/20 sec. transit	15.00	9.00	6.00
LT-3 alignment laser	20.00	12.00	8.00

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Hewlett-Packard computers — HP-85B, HP-86B, HP-87XM	Call for individual equipment
Disc drives, Printers, and Plotters.	and systems rates.
Lewis and Lewis Surveying software	

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Schonstedt Mac-51B magnetic and pipeline locator	10.00	6.00	4.00
Fisher TW-5 pipeline locator	5.00	3.00	2.00
American Paulin M-2 surveying altimeter	8.00	4.80	3.20
Kern tripod #173W with centering leg	2.00	1.20	.80
Kar-Hart #1200 super tripod (5/8 x 11)	2.00	1.20	.80
Wide frame tripod (wood or alum) 5/8 x 11 or 3 1/2 x 8	1.00	.60	.40
Tribrach with or without optical plummet	2.00	1.20	.80
Tribrach adaptor w/ rotatable center	.50	.30	.20
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E.D.M. battery chargers	1.00	.60	.40
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300 Ft. Chain	2.00	1.20	.80
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4 Ft. range pole sections	.50	.30	.20
Retro-Ray single prism assembly (round)	1.00	.60	.40
triple prism assembly (round)	2.50	1.50	1.00
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AGA single prism in tilting holder and target	3.00	1.80	1.20
triple prism in tilting holder and target	5.00	3.00	2.00
prism in can only	1.00	.60	.40
stake out prism with sight rod	1.50	.90	.60
stake out prism	1.00	.60	.40
Kern single prism w/ tribrach adaptor	5.00	3.00	2.00
Level Eye EL-1 Electronic level detector	5.00	3.00	2.00
Traverse set	15.00	9.00	6.00

\$10.00 MINIMUM RENTAL CHARGE

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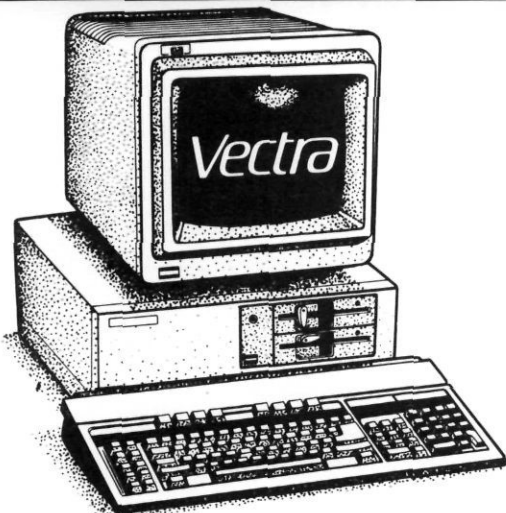
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(continued from page 20)

Through the Looking Glass

Under what far-fetched and bizarre theory could an attorney possibly demonstrate that you were somehow responsible for work over which you had absolutely no control? The argument, buttressed by evidence gathered during the discovery process, might go something like this:

1.) but for your tolerance (indeed, tacit approval) of moonlighting, you would not be in a position to hire your employees at the salaries you pay, and you would not have access to the added experience they bring to their work;

2.) as a result, you not only derive a significant economic benefit from the practice, but in fact, you are its principal beneficiary;

3.) therefore, it is reasonable to conclude that it is you who should bear principal responsibility for the consequences.

As specious as this reasoning may sound, remember that judgment is likely to be rendered by a jury consisting of good citizens with little or no understanding of what it is that you do or what your real obligations to the injured party might be. Nor will they particularly care. Their primary concern, born of vicarious

anxieties created by the plaintiff's attorney ("It could be you sitting in that wheelchair"), will be focused on finding some way to compensate the injured party for the loss. If the injury is serious enough, neither the jury nor the court is likely to be circumspect about the extent to which they have to go to find the resources they need.

"A Stitch in Time . . ."

What can you do to avoid being drawn into a nightmare like this? It would not be a bad idea to take an unequivocal stand against the practice of moonlighting. If you find it difficult to draft an appropriate policy statement without coming across as unduly harsh, you might want to consider something along the following lines:

"Our professional liability insurance counsel has advised us that there are serious risks associated with the practice of moonlighting. These risks not only affect the firm as a whole, but employees who engage in outside professional work, as well. The consequences of a loss arising from such work can be serious for both. No small part of the risk, from the employee's point of view, is the personal liability assumed in undertaking outside work. This exposure is not covered by the pro-

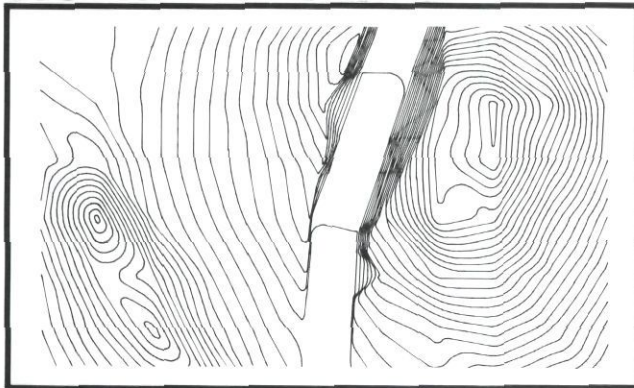
fessional liability insurance we carry.

"It is our goal to deliver to our clients the highest quality service possible within the constraints of time and budget. In pursuit of this goal, we make every effort to maintain salaries at levels which are not only competitive, but appropriate to the full-time commitment expected of each member of the staff. The taking on of outside professional work, in our view, is not compatible with that commitment. [We] find no alternative but to prohibit the practice of moonlighting as a matter of policy. Of necessity, this restriction extends to any use of office time, facilities, equipment, or supplies in support of outside professional work."

Although the intent is to be both realistic and positive, such a policy statement can still produce a certain amount of tension - particularly if the reasons for it are not clear to all concerned. Thus, you might want to introduce the policy with a memorandum forwarding a copy of this [article]. That way, your staff will at least have access to the same information that caused you to act in the first place. Even though they will respond to it from a perspective very different from your own, it may help them reach a better understanding of your point of view.

Reprinted from *Side Shots*, May 1986 □

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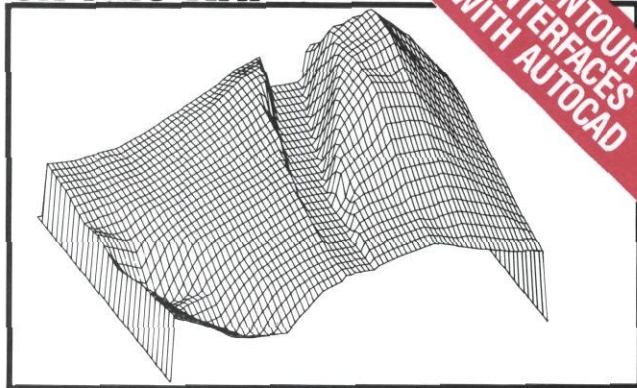
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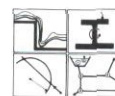
Of course, data can still be entered from the keyboard, the *only* option many other programs give you. CONTOUR can also produce the standard CONTOUR map in AutoCAD format.

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Field Notes

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Senate Passed Tax Bill Protects Professional Firms' Cash Accounting

The Senate on June 24 voted 97-3 to approve the Tax Reform bill (H.R. 3838) that preserves current law allowing most professional firms, such as those in surveying and mapping, to use the cash method of accounting. The Senate committee action is similar to that taken late last year by the House. The major tax reduction, reform and simplification bill now goes to a House-Senate conference committee.

ACSM-ASPRS Seeks Labor Department Definition of Surveyors as Professionals in Federal Regulations

ACSM-ASPRS has asked the Labor Department to revise proposed regulations to define surveyors as "professionals," rather than "technicians." In a June 26 comment, the societies said "there is clear precedence in the Department of Labor, other Federal agencies, Federal law, court and administrative rulings, and state law, that clearly defines surveyors as professionals." The letter commented on proposed regulations implementing the Veterans' Compensation, Education and Employment Act Amendments (Public Law 97-306), which require Federal contractors to submit reports on employees "who are veterans of the Vietnam era or special disabled veterans" in different "job categories" and the proposed regulations include an illustrative list of occupations in the "professional" and "technician" categories. ACSM-ASPRS submitted documentation showing that including surveyors as technicians rather than professionals is inconsistent with Federal and State law, regulation and policy.

ACSM's Bill Wallace Testifies for COFPAES Before House Panel

William G. "Bill" Wallace, Jr., Chairman of the Committee on Federal Procurement of Architecture/Engineering Services (COFPAES), told the House Small Business Committee that a current Federal regulation which might permit competition by just two firms on architecture, engineering and surveying contracts is "anticompetitive." In his June 18 testimony, Wallace said the "Rule of

Two results in the set aside of virtually all A/E (and surveying) contracts" and indicated support for a change in the regulation so that "some contracts (are) open to competition among all interested firms." Wallace said "open competition for Federal contracts will not adversely affect small firms," noting that under the current Department of Defense \$85,000 threshold on set asides, small firms "are able to hold their own in open competition" as evidenced by data which shows "the number of contracts received by small business firms and the value of those contracts are nearly the same under open competition as compared to the period when total set aside was required under the Rule of Two." Wallace, a Florida surveyor, is a member of the ACSM Assistant Executive Director for Public Affairs John M. Palatiello, who serves as COFPAES Secretary, and COFPAES Counsel Philip A. Hutchinson, Jr.

Cadastre or "Intelligent Infrastructure" Market Put at \$90 Billion

While the Federal government gets its act together, the first ever in-depth report on the cadastre market estimates that utilities and local government will spend up to \$90 billion between now and the year 2000 to automate their mapping and facilities records system. The 1986 *Intelligent Infrastructure Market Report*, written by ACSM and ASPRS member Jerry Robinson says the cadastre or, as he calls it "intelligent infrastructure," is a "huge emerging market (that) dwarfs even the interstate highway program" and calls it "the biggest thing ever in U.S. surveying, mapping and civil engineering."

Senate Passes Water Projects Bill; Increased Contracting Withdrawn

The Senate on March 25 passed an omnibus water resources projects authorization bill. The legislation provides for more than 100 new Corps of Engineers project starts. During consideration by the Senate, an amendment to require the Corps to contract with the private sector no less than 40 percent of design services (architecture, engineering, surveying and mapping), an increase of some 9 percent over its cur-

rent level. The amendment, offered by Sen. Chic Hecht (R-NV) was withdrawn amid assurances the matter will be resolved in a House-Senate conference. The House bill has a 30 percent contracting out provision, as well as a permanent Brooks Act provision for surveying and mapping services.

Landsat Data User Notes Available from EOSAT

The Earth Observation Satellite Company (EOSAT), the private firm which is now the commercial operator of LANDSAT, has announced it will continue to provide the remote sensing community with the information that had previously been provided through NOAA's Landsat Data User Notes. EOSAT's Landsat Data User Notes, a quarterly newsletter for the remote sensing community, can be obtained free of charge by contacting the Editor, EOSAT Landsat Data User Notes, 4300 Forbes Boulevard, Lanham, Maryland 20706. Telephone (301) 552-0500.

Small Business Size Standard for A/E/S Firms Lowered to \$2.5 M

The Small Business Administration (SBA) announced on June 9 that it will lower the 'size standard' or definition of small business for architecture, engineering and surveying firms to \$2.5 million in gross annual receipts as a three year average. The new rule takes effect August 8. The size standard determines those firms eligible to compete for government contracts set aside exclusively for small business, as well as those eligible for SBA loans and other assistance. ACSM, by prior action of the Board, and its colleagues on the Committee on Federal Procurement of Architecture/Engineering Services (COFPAES), had petitioned SBA for a reduction to \$1 million (from the current \$7.5 million for engineering and \$3.5 million for surveying and architecture) arguing that a standard set so high as to include virtually every firm in the Nation failed to benefit the truly small. Even under the \$2.5 million size standard, 95 percent of engineering firms, 97 percent in architecture and 99 percent of surveying establishments will still be classified as small business.

(continued on page 28)

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		2-14	15-60	61 +
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	3810A 1 mile/10 sec.	50	33	25
	3810B 5 mile/10 sec.	50	33	25
	3851A collector	20	13	10
Lietz	SDM3FR 1 mile/10 sec	53	35	27
	SDR2 collector	20	13	10
	SDM3F 1 mile/3 sec	45	30	22
	Total Stations	*	call	*
Topcon	ET1 1 mile/1 sec	75	50	38
	FC1 collector	20	13	10
	GTS3 1 mile/5 sec	53	35	27
	GTS2 1 mile/6 sec	45	30	22

DISTANCE METERS

HP	3808A 6 mile/1 ppm	\$45	\$30	\$23
	3805A 1 mile/5 ppm	35	23	18
	3800A 2 mile/5 ppm	25	17	13
Lietz	RED2L 3 mile/5 ppm	35	24	18
Topcon	DMS3 2 mile/5 ppm	35	24	18

THEODOLITES & LEVELS

Lietz	TM1A 1 second	\$30	\$20	\$15
	TM6 6 second	20	14	11
	DT20E 10 sec/elect.	15	10	8
	B1 level 32X	11	8	6
	B2C level 32X	11	7	5
Topcon	DT20 20 sec/elect.	15	10	8
	TL10DE 10 sec.	20	14	11
	ATF1 level 32X	11	8	6
	ATF3 level 30X	11	7	5
Ziess	Ni-2 level 32X	11	8	6

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3820A edm	\$1440
3810B edm	785
3810A edm	878
3808A edm	562
3805A edm	524

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3820A EDM	\$515	\$240
3810A/B EDM	455	240
3808A EDM	360	95
3805A EDM	300	95

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	REG.	SALE
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11411D triple prism	480	400
SECO 510 prism pole	160	125
TOPCON wood tripod	210	*
LIETZ wood tripod	199	160
TOPCON 25' SK rod	140	*
LIETZ tripod	199	160
KOH-I-NOOR plotter supplies	call	

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Transportation Department Seeks New Limits on Foreign Aircraft

The U.S. Department of Transportation (DOT) has issued a new regulation which would restrict the ability of foreign photogrammetric firms to do business in the United States. The new DOT rules, which became effective April 2, change the legal definition of "foreign civil aircraft" to mean "(a) an aircraft of foreign registry that is not part of the armed forces of a foreign nation, or (b) a U.S. registered aircraft owned, controlled or operated by persons who are not citizens or permanent residents of the United States." Such foreign aircraft will be permitted to operate for commercial purposes within the United States only if reciprocity exists with the country of which the owners or operators are nationals. ASPRS had earlier commented on the proposal saying it supported an "open skies" policy or equal treatment if the former were not possible.

OMB Proposes "Rule of Two" Revision, Equity is Set Asides Sought

The Office of Management and Budget on May 22 proposed a major revision to a controversial Federal regulation commonly known as the "Rule of Two." The current rule requires Federal contracting officers to restrict for exclusive small business competition total classes of contracts if he expects that "at least two small business concerns" might compete "at reasonable prices." The proposed OMB regulation would permit set asides if there will be competition by a "sufficient number" of small businesses at the "lowest reasonable cost." Public comments on the proposed rule change are being accepted until July 21. COFPAES has endorsed the OMB proposal and testified in support of the change at a June 18 Congressional hearing. (See story below.) For further information, contact the ACSM-ASPRS government affairs office.

Forest Service Survey a "Boondoggle"???

No issue provokes more controversy, antagonism and complaints lodged with the ACSM-ASPRS government affairs office than the surveying and mapping procurement practices of the U.S. Forest Service. Perhaps the message is finally getting through to the agency, maybe they recognize they have a problem. Consider the April 11, 1986 *Commerce Business Daily* announcement printed below.

"USDA Forest Service, Pacific

Northwest Region, 319 SW Pine St. POB 3623, Portland OR 97208 1 3 R-Boondoggle Cadastral Survey, Fremont National Forest, Lake and Klamath Counties OR. So R6-86-80N. RFP will be issued 1 May 86 and received until 30 May 86. 503/221-3581. Work consists of corner search, control survey, corner monumentation, marking and posting, records and reports, and maintenance of existing corners. Work to be completed within 300 cal days from the receipt of the Notice to Proceed. See Note 13.(094)"

ACSM-ASPRS is continuing to work with members of Congress to prevent future *Boondoggles* by attempting to get the Forest Service to use the Brooks Act process for its surveying and mapping contracts.

President Reagan Signs Budget Bill; Cadastre Lead Agency Designation Now Complete

President Reagan on April 7 signed a Budget reconciliation bill (P.L. 99-272) and in so doing completed action designating the Office of Charting and Geodetic Services (C&GS), acting through the Federal Geodetic Control Committee (FGCC), as the lead Federal agency in the development of a multipurpose cadastre. The reconciliation bill includes program authorizations for C&GS' parent agency, the National Oceanic and Atmospheric Administration (NOAA) and the report of House-Senate conferees who drafted the bill (H. Rept. 99-453), reflects the NOAA authorization, S. 990, which passed the Senate in 1985. The Senate report on S. 990, (S. Rept. 99-72) includes the following language:

"NOAA's Office of Charting and Geodetic Services performs important functions relating to land information systems. In order to improve cost effectiveness, efficiency, and productivity of the Nation's land record system, the Committee notes that the Office of Charting and Geodetic Services, acting through the Federal Geodetic Control Committee (FGCC), will be providing leadership and enlisting the support and cooperation of other Federal agencies, state and local government, and any public or private organizations, in the development of a multipurpose land information system. Such a system will include: a reference frame consisting of a geodetic network; a series of current large-scale maps; a cadastral overlay

delineating all cadastral parcels; a unique identifying number assigned to each parcel issued as a common index of all land records in information systems; and a series of land data files each including a parcel identifier for purposes of information retrieval and linking with information in other data files."

The aforementioned description of a land information system comes from the 1980 report of the National Academy of Sciences entitled the "Need for a Multipurpose Cadastre." This action means Congress and the President have recognized the need to coordinate Federal surveying, mapping and other land related data bases, and the need for one agency to take the lead in such efforts, as suggested by the National Academy and endorsed by ACSM and ASPRS as part of a 1985 cadastre task force report.

House Panel Approves Brooks Act for State DOT Contracts for A/E/S/M

The House Public Works and Transportation Committee has approved an amendment requiring state departments of transportation and other agencies to use the Federal "Brooks Act" or an equivalent state process in its selection of firms for architecture, engineering, surveying and mapping services on projects using Federal funds. The landmark amendment, offered by Rep. Tom Petri (R-WI), was added to a highway-transit bill (H.R. 3129) by a voice vote on June 25. The amendment had been defeated a week earlier in the Surface Transportation Subcommittee, but hard work by ACSM-ASPRS, the American Consulting Engineers Council and the Design Professionals Coalition and numerous telephone calls from individual members at the grass roots level resulted in final approval. Those joining Rep. Petri in speaking for the amendment and working behind the scenes to assure its passage were Reps. Doug Applegate (D-OH), Bill Clinger (R-PA), Bob Edgar (D-PA), John Paul Hammerschmidt (R-AR), Jim Moody (D-WI), James Oberstar (D-MN), Ron Packard (R-CA), Nick Joe Rahall (D-WV), John Rowland (R-CT), Clay Shaw (R-FL), Arlan Stangeland (R-MN), and Robert Young (D-MO). ACSM-ASPRS members in these Representatives' states are urged to send them letters of thanks for their help on the amendment. The bill now goes to the full House for approval, while a companion bill awaits action by a Senate committee. □

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Balanced Continuing Education For Surveyors

by Dr. R.B. Buckner

BIOGRAPHICAL SKETCH

Dr. Ben Buckner is Professor in the School of Applied Science and Technology at East Tennessee State University. He has taught surveying at five universities during the last eighteen years. Before doing graduate study in civil engineering, he was employed in the practice of surveying and civil engineering in Champaign-Urbana, Illinois. He is a licensed surveyor, engineer, and community planner. He holds B.S. and M.S. degrees in civil engineering, M.S. in urban and regional planning, and Ph.D. in civil and environmental engineering. Dr. Buckner has taught dozens of seminars to practicing surveyors in over sixteen states, mostly on the subjects of "Surveying Measurement Analysis" and "Astronomic and Grid Azimuth." He has published two books entitled *Surveying Measurements and Their Analysis* and *Astronomic and Grid Azimuth*, published by Landmark Enterprises. He has also made several out-

of-print surveying books available through CARBEN Surveying Reprints and Landmarks. Ben currently offers his seminars through the state associations, ACSM, and Landmark Education Group.

ABSTRACT

Continuing education for surveyors, whether voluntary or mandatory should be structured such that surveyors follow a meaningful program or curriculum of courses toward broad-based education in the several facets of land surveying. The structured program could closely parallel that which is taught in four-year surveying degree programs, to include both the content of such programs and also the requirement that the student emerge with a well-balanced education in surveying and mapping. A minimum number of C.E.U.'s should be required, with minimums in each of several categories of surveying and mapping science and related practice. After many years of a well organized and structured continuing education program, survey-

ors should not only "keep up" with recent development but also achieve the equivalent of a college degree in surveying and mapping, all to their benefit and that of the public they serve. If requirements for continuing education are to become common, it is hoped that they will be meaningful. This discussion is intended to be a guide in that regard.

INTRODUCTION

The Benefits of Continuing Education

Surveyors are beginning to realize that mandatory continuing education and professional development is in their best interest as well as that of the public. If such requirements were in force, the education acquired by many would benefit everybody. A better educated cadre of practitioners would give better overall service and individual surveyors would be able to broaden their practices. Those licensed surveyors who did not wish to participate in the required learning process would eventually, by their own choice, relinquish their license. The net effect would be that only those who truly wanted to be surveyors would remain, and these people would all be better qualified. Cases dealing with incompetence, and complaints to registration boards should theoretically decrease as practitioners become better qualified and the least qualified ceased to practice at all. That elusive thing known as the "image of the surveyor" should improve considerably if meaningful continuing education of surveyors becomes widespread. Mandatory continuing education has the potential to do in the short term what the four-year requirement can do in the long run.

Surveyors who normally attend seminars voluntarily, yet resist doing so as a requirement, fail to understand that mandatory continuing education may not affect their own routine and goals significantly but that they and the public would all benefit as the incompetent practitioners who did not wish to improve would soon be out of business and no longer be licensed. Legislators and others who feel that such requirements are a "self-serving" movement among surveyors fail to comprehend that improved and broadened education helps to better serve the public. Everybody should try to understand the

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long range benefits of continuing education requirements. Incompetence adversely affects the surveyor's image and creates added costs and problems for the public.

What Is Continuing Education?

There are several forms of continuing education. Many would say that living is an education in itself, and if one is practicing surveying, his education continues by the very nature of involvement. Certainly there is no substitute for experience and it teaches well. However, we all know that we do not always learn much from some experiences and that eventually the learning of new or fresh approaches tapers if we continue to do the same or very similar kinds of projects. If new experiences come along, a person will learn something new depending on extent of involvement, attempt to resolve points of confusion, etc. Our ability to analyze problems, or even "see" the problem depends considerably on background. In surveying, we use mathematical, scientific, legal, and even social sciences to solve problems. Often, this is done almost intuitively, yet we are actually applying background learning as affected by personal habits and outside pressures. After a

period of time, we each become fairly "set in our ways" and tend to approach and solve problems in much the same way each time. In order to maximize the possibility that a problem is solved "correctly" (whatever that is), it would seem that appropriate education, as well as experience would be desirable. The very structure, content, and rigor of the background education affects one's practice from the point in time in which the education is received, whether it is a learning process coming from a meaningful work experience, a book, a cassette tape, a thoughtful employer or co-worker, the judge, discussions with others, a college course, seminar, or similar structured learning experience.

For the sake of the rest of the discussion, we must assume that there is value in attending structured courses or seminars, and that these experiences do stimulate, accelerate, and enhance what anyone can learn from job experiences, employers, co-workers, books, tapes, or convention. For purposes herein, "continuing education" means any structured learning experience where there is a competent instructor involved, with opportunity for verbal or written personal communication between student and instructor. This is

not the same as what some have termed "professional development" which is generally considered to be actual practice, attendance of technical meeting, association memberships, technical committee work, and other service activity.

The concept of continuing education for surveyors is not well defined or standardized, especially as to scope or content. There seems to be general agreement that seminars, workshops, short courses, and other non-credit experiences form the basis for awarding most C.E.U.'s (continuing education units). "Points" for professional development are sometimes awarded for attending surveyors' conventions and for membership in professional societies. Although there are some national standards on the definition and meaning of a C.E.U. to be awarded for seminars and workshops, the total such units to be considered "minimum" (annually, etc.) has not been standardized, nor has course content, depth, variations of topics, or expectations of the participants been considered very highly in what constitutes meaningful continuing education. At present, C.E.U.'s are awarded one each for every ten hours

(continued on page 32)



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Continuing Education

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of instruction by a qualified instructor, by an agency that keeps permanent records of the C.E.U.'s. Essentially that is the extent of the present meaning of continuing education in measurable units. This is primarily a problem of administration and does not address the actual educational aspect of the C.E.U. Using the C.E.U. as defined above, this writer will develop a model of continuing education for licensed land surveyors, meant to be meaningful and helpful toward keeping surveyors abreast of developing surveying technologies and related professional subjects, all designed to maximize benefits to surveyors and those who are affected by surveyors' services. The following is intended as a starting point and basis for discussion and is not meant to be complete, except in philosophy.

Meaningful Continuing Education Reflection of Modern Technologies

If continuing education is to keep surveyors abreast of current developments, it must contain a certain amount of explanation of the modern techniques of measurement, analysis and adjustment of measurements, data processing, data presentation, and costs and quality considerations related to these technologies. Continuing education would not fulfill its purpose if surveyors did not learn as much as possible about modern, emerging technologies!

The Basics

Coupled with the need to learn about the new technologies is the ever present need to continue to review the basics, hopefully from fresh viewpoints and with modern applications. With little college background as a rule, there are many basic mathematical, scientific, and legal aspects which many surveyors have never actually learned. For many, this basic education is really more than review. For example, most who have learned differential calculus and basic statistics realize that proper analysis of measurement data cannot be done without such background. Even for those who had the college education, such basic review nearly always teaches, reinforces, refreshes, and removes some misconceptions. This area of continuing education is very broad and includes computational and measuring skills, as well as the theories and sciences. It also includes legal principles, but these will be discussed separately.

Advanced Theories

The advanced concepts need to be presented if surveying practice is to broaden and advance. Such topics as analytical photogrammetry or the theory behind electronic distance measurement might be presented. This is a step or two above the basics and is not merely explanation of new technologies and how to apply them. This category of continuing education would lead the participant to new frontiers of knowledge and understanding beyond the minimum expected. "Theory" here is meant to mean social and professional as well as technological. In this sense, concepts of the surveyors' role and our relationship to the land and society could be included here.

Areas of Specialization

Specialty conferences or workshops focus on something other than the routine, generally being directed toward some area of practice in which not all surveyors are routinely involved. Mining surveying, hydrographic surveying, land information systems, photogrammetric mapping, construction staking, and other topics are covered in these conferences or workshops. The idea is to focus not on broad basics or new technologies, but on a special topic.

Surveying and Mapping Science

It is given different names, but the sciences of geodesy, cartography, photogrammetry, and measurement as a special science of its own form much of the framework of surveying practice and a basis for meaningful communication between those in science and those in practice. Along with advanced concepts, the basic surveying mapping sciences need to be studied by surveying practitioners so as to better understand all earth related measurements and their uses.

Related Sciences and Practices

Another important area of continuing education for surveyors which fits into none of the above very closely is a study of the many sciences and practices which either support surveying, are used in some way by the surveyor (other than basic mathematics and science), or involve practices so closely associated with surveying that it behooves the surveyor to understand them. Dendrology, soil science, astronomy, hydraulics, hydrology, real estate concepts, geology, computer science and programming, natural resources, land and business economics, and many engineering design and planning con-

cepts fit this category.

The Real World of Business

A few surveying practitioners (the business owners) are usually quite interested, as expected, in operating a surveying business. The many concerns about taxes, personnel management, marketing of services, collecting bills, and general management principles help to keep a business operating with positive cash flow. Although almost totally unrelated to surveying as an art and science, this area of education is important to business owners. If there is any one area in this list, however, that could be entirely voluntary and not credited toward accumulation of required C.E.U.'s it would be this area since it relates very little to actual practice and application of surveying principles which affect the public welfare.

Legal Aspects of Surveying

This important area of land surveying is perhaps the most overworked body of knowledge in continuing education for surveyors. There is a disproportionately large number of opportunities to attend workshops on adverse possession and unwritten transfer of land, writing survey descriptions, and boundary location principles. There are too many seminars in this area that one is forced to ask why, when so many other areas of surveying theory and practice are equally misunderstood and should be popular.

A surveyor will attend one workshop on hydrographic surveying, never to return, but will attend seminars on writing survey descriptions every year. It is possible that some surveyors feel so comfortable reviewing familiar concepts that they delude themselves into thinking that the time and money is worth the rerun. As mentioned earlier, periodic review of all the basics, including legal aspects, is important, but the very proliferation, attendance, and repetitiveness of these seminars might indicate that there is more than a desire for review and education involved, and these annual "booster shots" of proration and "thence to a point" satisfy insecurities and emotional needs more than real educational needs. The rest of this discussion on continuing education will attempt to bring the surveyor out of this narrow attitude, give the legal aspects the emphasis they deserve, but put this subject into proper perspective.

A Reflection of Modern College Curricula

We must realize that there are actual-

ly two categories of continuing education for surveyors. This must be acknowledged in order to add meaning to the total effort to improve the continuing education opportunities and prepare guidelines for mandatory requirements. If we compare the surveyor who has never had a college course of any type with the four-year surveying degree graduate having 50 semester hours of surveying, then the distinction is realized. This writer feels that both groups, and others who fit somewhere between these, all need meaningful continuing education opportunities and structured requirements. If we take care of the needs for the first group, the needs of the college graduate will be less of a problem to fulfill. If it is true that a college education teaches a person how to recognize what he does not know and how to learn, then this individual needs little guidance and not as strict an outline of required topics. To add the "meaning" which this writer has mentioned several times, it is felt that this can be gained by structuring continuing education for practicing surveyors such that it is a reflection of what is taught in the best, most contemporary college programs in surveying and mapping. If practitioners over a suitable period of time, would complete courses or seminars covering the variety of subjects

taught in college, then their continuing education would have a direction and a goal. This would prevent unnecessary hours spent on repetitive, narrow subjects and on topics of marginal value or depth. In other words, something we might call "curriculum" or total program of study is proposed, rather than the current conglomeration of topics having no structure as a total program. This curriculum should follow similar content and quality of college instruction (assuming that we can agree as to what constitutes the model college program).

A Model Continuing Education Program

Content

Most engineering or science-based programs in surveying contain a variety of background courses, major requirements, electives, and support courses. Probably the best guide available is the ABET requirements for surveying under the Engineering-Related Accreditation Commission (RAC). Adding the writer's own emphasis and interpretations and the benefit of his experience as an educator and practitioner, as well as his own view that land surveying is much broader than as practiced or viewed by most licensed surveyors, the following content outline is suggested. Details of *(continued on page 34)*

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Continuing Education

(continued from page 33)

course titles and descriptions are not included as this would detract from the emphasis being presented here. Some details have already been partly developed in the previous section.

TABLE I

A. Background and Development Courses

- 1.) Mathematics (trigonometry, calculus, statistics, matrices, other)
- 2.) Basic sciences (physical sciences)
- 3.) Social science and humanities
- 4.) English and technical writing
- 5.) Graphics, computer science, engineering and numerical analysis

B. Surveying Theory

- 1.) Basic Theory
 - a.) Field procedures and surveying instrumentation
 - b.) Surveying mathematics and computation
 - c.) Measurement analysis and data adjustment
- 2.) Surveying and Mapping Science
 - a.) Geodesy, photogrammetry, cartography
 - b.) Automated positioning and mapping systems
 - c.) Computer graphics and data manipulation and presentation

C. Surveying Specialties and Practices

- 1.) Property surveying and land subdivision
- 2.) Construction (Engineering) surveying
- 3.) Topographic or cartographic surveying and mapping
- 4.) Geodetic and hydrographic surveying
- 5.) Mining surveying and mapping
- 6.) Other areas of surveying and mapping practice

D. Surveying Professionalism

- 1.) The law of real property and land boundaries
- 2.) Ethical considerations
- 3.) History of surveying and mapping
- 4.) Knowing the land
 - a.) Land recording and registration
 - b.) The land title industry
 - c.) Land economics
 - d.) Land tenure concepts
 - e.) History of land ownership
 - f.) Cadastral concepts

g.) Land and geographic information systems

h.) Land data management

E. Related Sciences and Practices

- 1.) Law, city planning, landscape architecture, engineering
- 2.) Real estate brokerage and land development
- 3.) Natural resources, soil science, conservation
- 4.) Astronomy, geology, dendrology
- 5.) Functions of governmental offices (recorder, plan commission tax assessor, transportation departments, public works, etc.)
- 6.) Business management

Structuring the Education

The college graduate would undoubtedly proceed in continuing education with an emphasis different than that of the non-college graduate. The continuing education of the college graduate would include fewer topics in Categories A and B, whereas the non-college graduate would be required to include C.E.U.'s from those two categories. Other than this difference, the concept envisioned here would require all surveyors to accumulate C.E.U.'s in all five categories. In other words, complete freedom in that C.E.U.'s or P.D.U.'s are gained would not be acceptable. The surveyor would need to satisfy specific C.E.U. requirements in the several categories over a period of time. The counterpart to this idea is what exists in college programs where students are required to take some courses, others are electives but within certain groups or categories, and it all follows a program plan to develop the student into a surveyor with a broad professional and technical background. Students are not given complete freedom to take only what they feel they want in college. If this were the case, many would never gain a meaningful education in a major area, and some would take only the easiest courses or even the same courses again! If this latter approach is not permissible in formal college education, it should not be acceptable in continuing education requirements either. The licensed surveyor ought to be required to demonstrate progressive and varied continuing education. Repeat of the same courses or topics should not receive credit, at least within three-year re-licensing periods, and possibly not until other categories of C.E.U.'s are satisfied in any case.

The idea here is to try, over a relatively long period of time, to give non-college (as well as some college) graduates an education as close as possible

to what is received by the most recent graduates of RAC accredited programs, and also to try to broaden the background of all surveyors in the sense of "keeping up" with recent developments.

Minimum Requirements

If re-licensing is required, say every three years based on C.E.U.'s or possibly a combination of C.E.U.'s and P.D.U.'s, a minimum number of accumulated units in each category needs to be set. This discussion deals only with the C.E.U.'s. The P.D.U.'s are another matter. This writer feels that they should, however, be kept separate. Units of the one type should not be substituted for the other type.

Also, for purposes of discussion, credit courses are to be included with non-credit courses to earn C.E.U.'s. But, P.D.U.'s will not earn C.E.U.'s.

It is suggested that over a three year period, surveyors be required to accumulate 10 C.E.U.'s, with a minimum of 1.5 C.E.U.'s in each of the five categories (A through E in Table I). The C.E.U.'s in categories A and B would be optional for a graduate of an RAC accredited program. The requirement for C.E.U.'s in Category B would be enforced for graduates of programs having less than 30 semester hours of surveying courses.

Under this proposal, college credit courses would receive C.E.U.'s at a rate of 1.5 times the number of quarter credit hours for the course, or 2.0 times the semester credit hours. A 3-quarter hour course successfully completed ('C' grade or higher) would thus receive 4.5 C.E.U.'s. A 3-semester hour course would receive 6.0 C.E.U.'s.

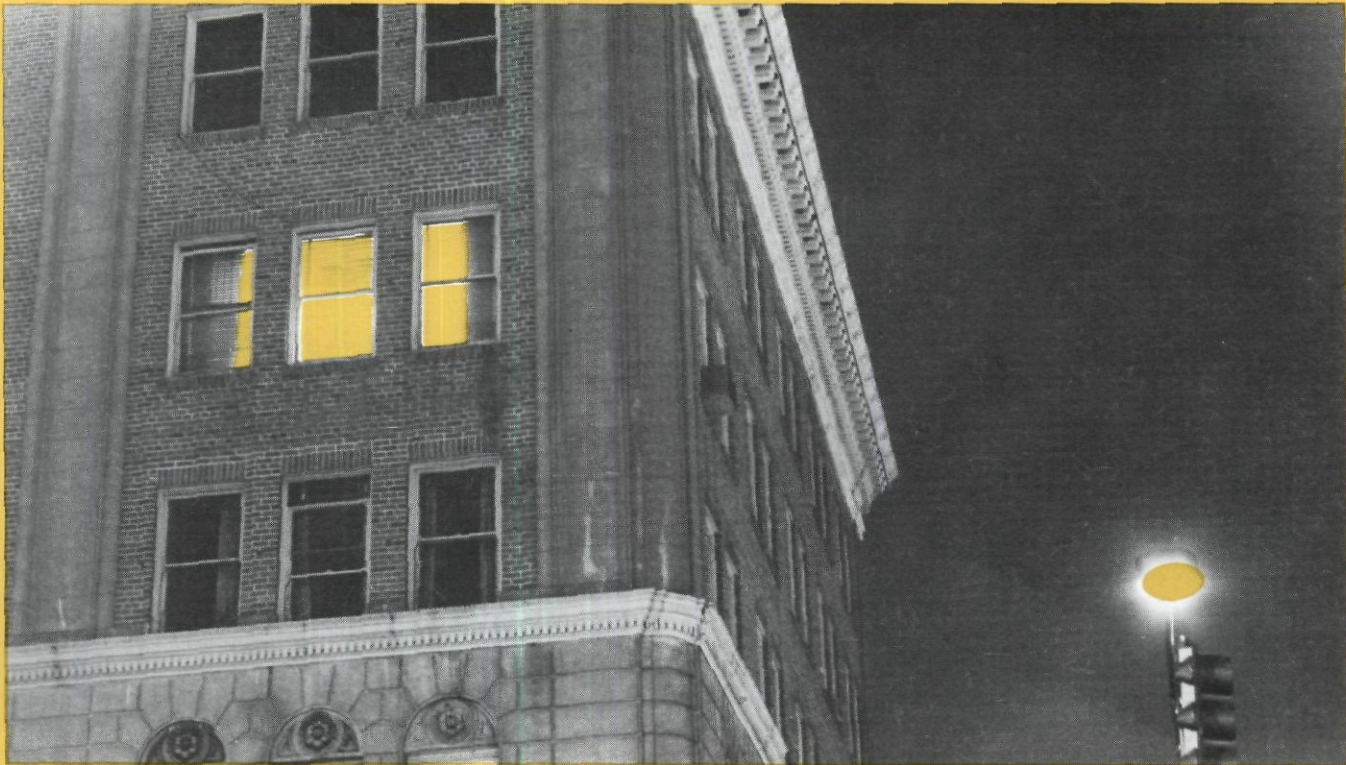
Teaching of seminars or credit courses would receive C.E.U.'s for the instructor, in the category in which the course fits, up to a minimum of 5.0 C.E.U.'s for teaching.

Discussion

It might be advisable to allow up to 2.0 C.E.U.'s to "carry over" into subsequent three-year periods, if the surveyor had an excess during the previous period. It might also be appropriate to reduce the requirements somewhat for surveyors past a certain age (say 50, 60, etc.) and to eliminate them altogether for surveyors who are fully retired or otherwise engaged in a type of work which does not require surveying-related judgments. Any licensed surveyor who has not reached age 65 would be required to accumulate C.E.U.'s, whether employed in surveying or not. Any surveyor who is actively practicing land survey-

(continued on page 36)

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Continuing Education

(continued from page 34)

ing (or surveying teaching) would be required to maintain competency through C.E.U.'s regardless of age.

Surveying teachers who are licensed surveyors, regardless of rank, education, position, or tenure would be required to accumulate C.E.U.'s as any other practitioner. The maximum allowance for teaching courses would 5.0 C.E.U.'s, leaving 5.0 to be satisfied under categories in which such an individual was not teaching, or by the individual's choice in the event he was teaching in all areas. Surveying faculty could, however, accumulate P.D.U.'s for teaching, research, and service, in the same manner that surveying practitioners would accumulate P.D.U.'s for surveying practice and activity in professional societies.

The logic in giving credit courses more weight for the same hours of instruction as non-credit courses is that requirements to pass exams and do assignments give a means to determine whether an acceptable amount was learned. Also, such courses are usually given in short lessons or lectures over a period of several weeks which also helps the student to study and learn the material between classes.

Correspondence courses, training programs conducted by industry or government for their own employees, military service or military courses related to surveying and mapping, and possibly other educational experiences might also need to be considered for C.E.U.'s.

Another issue that could be discussed is how to test one's actual learning in a continuing education experience. Some form of examination at the end of a seminar might be appropriate for example. The exam could be made optional and if passed, the participant could be assigned additional credits, perhaps 20% higher C.E.U.'s than would be awarded without the examination.

Using this balanced approach to continuing education for surveyors, the non-college graduate would earn the education approximating that of an RAC accredited surveying degree over a time period of approximately twenty years, depending on the actual courses and seminars taken to fulfill the C.E.U.'s. After a series of final exams, an "equivalent degree" diploma could be devised for this achievement, such a diploma being awarded by the recognized national professional organization administering

the overall program. Such an organization would also need to devise the guidelines and special requirements for such a degree.

Another issue that arises is seminar instructor qualifications and accreditation of individual courses. Whereas college professors usually are not appointed without qualifications to teach, practically anyone can offer seminars. Universities are accredited by state agencies and individual programs are accredited by appropriate groups. Although many in practice and academia alike may question the standards by which faculty are appointed or the necessity of accreditation, there is at least some standard used. Perhaps individual seminars may not need to be accredited or approved if the 'market place' is used to determine their acceptability and quality. An instructor who is poorly prepared or who cannot teach will not last very long on the seminar circuit as students become more sophisticated in their ability to discern the difference between a good and a bad educational experience. In any case, however, the matter of quality needs to be confronted and some minimum standards set concerning instructor preparation, presentation, use of handouts, professionalism displayed in the classroom, and overall grasp of the subject.

As a matter of reference, physicians in some states (Ohio, for example) must

complete 150 hours of continuing medical education over a three year period for re-licensing. This is the equivalent of 15 C.E.U.'s. The proposal herein is for 10 C.E.U.'s for surveyors, with reduction of this requirement if some courses are credit courses. Perhaps an additional 5 units of P.D.U.'s should be required for a combination of practice, convention attendance, association memberships, and service work. The amount of C.E.U.'s proposed herein is not unrealistic and many would admit it is probably low rather than high. Consideration should be given to raising it to 15 C.E.U.'s to match what is being done in the medical profession.

Summary and Conclusion

Continuing education is good in principle, in order that surveying practitioners and surveying teachers maintain competency in their work to assure their own security from lawsuits, protect the public from incompetency, and elevate and maintain a high image of surveying as a profession. The realities of life and human nature suggest that many things that are good for all do not come about unless we are forced to cooperate through laws and regulation. Most people would not drive their vehicles at sensible speeds at all times without enforced limits on speed. Many would blatantly ignore that which is sensible and right if individual selfishness and that

(continued on page 38)

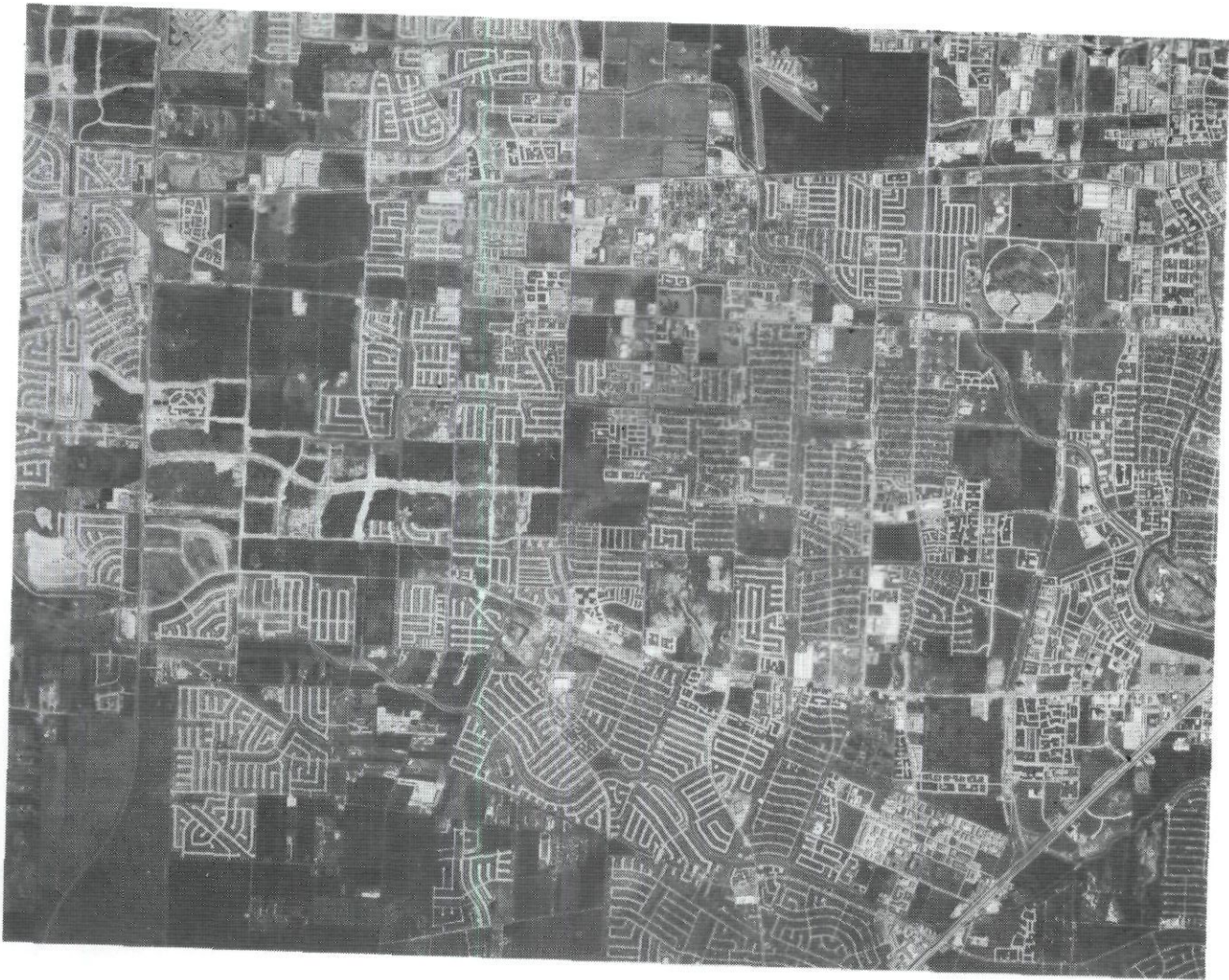
Examples - Three Year Period

Non-College Graduate Course

	Hours	C.E.U.'s	Category
1.) Boundary Location Seminar	15	1.5	C
2.) Fortran Programming 3 qtr. hrs. (Credit Course)		4.5	A
3.) EDM Calibration Seminar	8	0.8	B
4.) State Plane Coordinate	8	0.8	B
5.) Land Information Systems Seminar	15	1.5	D
6.) Seminar on Sewer Design	15	1.5	E
TOTAL		10.6	

RAC Program Graduate Course

	Hours	C.E.U.'s	Category
1.) Seminar on Writing Descriptions	15	1.5	C
2.) Real Estate Law Course	3 sem. hrs.	6.0	E
3.) Teaching Basic Computations Seminar	15	1.5	B
4.) Land Information Systems Seminar	15	1.5	D
TOTAL		10.5	



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Continuing Education

(continued from page 36)

which we call "individual preference" governed actions. All laws take away some power of individual freedom and choice. But, if we did not have laws, penalties, and requirements of many kinds, chaos would be the rule. Licensing laws are generally agreed to be good for the surveyor and the public. They came about because somebody felt that the practice of engineering and surveying was reaching a chaotic state. Now, licensing has matured to the point where four year RAC accredited surveying programs are desirable, along with continuing education for all. Unless these forms of education are made legal requirements, their effects will be minimal and insignificant toward maintaining a profession or avoiding further chaos. The volunteer approach is foolishness — idealistic in principle, but noneffective in reality, when the full process of individual, free decision-making is considered, along with the effect of this process on everybody.

Rather than create laws or rules that include only simple generalities about continuing education standards, it is suggested that standards be devised which require the surveyor to accumulate meaningful educational units, to

maintain a balanced "curriculum" or program of education within three-year periods of re-licensing. This balance can be achieved by requiring a minimum number of C.E.U.'s in various surveying and mapping and related categories, closely following college curricula in surveying as to content and depth.

It is recognized that the professional development unit (P.D.U.) for actual practice, association memberships, convention attendance, and service to surveying is also important and there should also be a minimum requirement on these units. But, the C.E.U. and the P.D.U. requirements should be kept separate since committee work, serving as an elected officer, and actual practice are not formal, structured learning experiences in the category of education.

At this time, when there is much discussion about formal and continuing education for surveyors, there is a need to devise a meaningful direction to this education. It is hoped that what has been presented herein will be a step toward that goal.

*This article was presented to
The California Surveyor
by Paul Lamoreaux, LS
NSPS Director Area 9*

Board of Directors

(continued from page 18)

Hall and passed unanimously.

Gene Rutledge requested Board members to submit exam questions for the 1986 L.S. examination.

Hal Davis moved to adopt Resolution 86-06 which authorizes signatures on the Association Money Market Fund. Second by Lee Hennes and passed unanimously.

Having finished all agenda business, Dave DeGroot moved to adjourn the meeting. Second by Michael Pallamary and passed unanimously. The second quarter Board of Directors meeting of C.L.S.A. was adjourned by President Siegmund at 4:00 P.M. □

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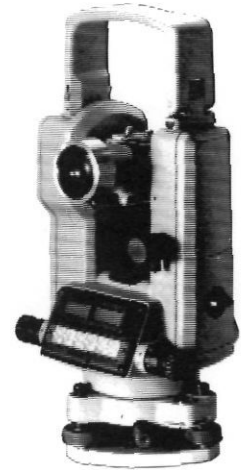


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Chapter Report

by Michael Pallamary, L.S.

On May 2, 1986, G. Harrison (Harry) Hilt, Executive Director of the State Board of Registration for Professional Engineers and Land Surveyors attended the monthly meeting of the San Diego Chapter of CLSA at the request of the Chapter. Mr. Hilt was available for the meeting in conjunction with a scheduled regular meeting of the State Board of Registration.

The San Diego Chapter had extended the invitation to Mr. Hilt as a result of concerns expressed by local members regarding the role and actions of the San Diego Chapter of the Joint Professional Practices Committee, a joint committee of CLSA and CCCELS. The San Diego chapter is one of the most progressive and successful of all the practices committees within the State, if not the Country. This accomplishment was not without its price.

According to Louis Hall, LS, County Surveyor of San Diego County, and a member of CLSA, prior to 1978 an average of 100 record of survey maps were regularly recorded each year.

Formation of the JPPC

In early 1978, a concern arose as a result of many subdivision maps being recorded showing, or being based upon, "non-record" monuments. In many instances the surveyor or engineer preparing the map was basing his/her survey procedure upon his own non-record points. As is obvious, it was difficult to properly interpret the survey procedure without prior history of the related survey activity. As a result of this problem, representatives of CLSA and CCCELS were concerned enough to form a committee devoted to investigating this problem and to work together to develop a viable solution and a standard of practice consistent with State Law. The end result was the formation of the JPPC (Joint Professional Practices Committee), composed of four members from each organization with funding coming from both organizations.

The initial efforts of this committee was to discuss the concept of education versus enforcement. As a volunteer committee, the JPPC had no authority whatsoever to enforce any practice standards or legal matters.

This incidentally was one of the major concerns of the local chapters and the committee. It was absolutely imperative that the Board, and now Mr. Hilt, be well aware of the fact that the JPPC's actions

were not to be construed, nor expected, to be an enforcement group or to act in any way as an enforcing agent. Local members were concerned that the Board of Registration may expect or rely upon the practices committee to enforce laws and regulations of the State. This is clearly a function of the Board of Registration. Due to the efforts of this committee, the members anticipate and expect support from the Board in the area of enforcement. This concern precipitated the request for Mr. Hilt to speak about Board enforcement policies.

Perhaps one of the most effective functions of the JPPC is to be able to exert friendly peer pressure on offending practitioners. To this end, the San Diego Chapters of both organizations did a splendid job. Generally a close-knit professional community, the local practitioners were able to discuss various approaches to the problem. Soon, through word of mouth alone, practitioners became more aware of their legal obligation to file and record surveys. This raised consciousness resulted in a marked increase in the number of records being filed, virtually overnight.

With the inception of the committee in July of 1979, plans were soon underway. In August of 1979, a package was sent out to all of the members of the San Diego County Land Surveying community. This package outlined the goals and concerns of the committee as well as informed recipients of the related aspects of the law.

An arbitrary cutoff date was estab-

lished on October 1, 1980, wherein any monuments set after that date would have to be shown on a corner record or record of survey map, in accordance with state law. Any prior offenses would not be considered, but current or present practice would have to be in accordance with state law.

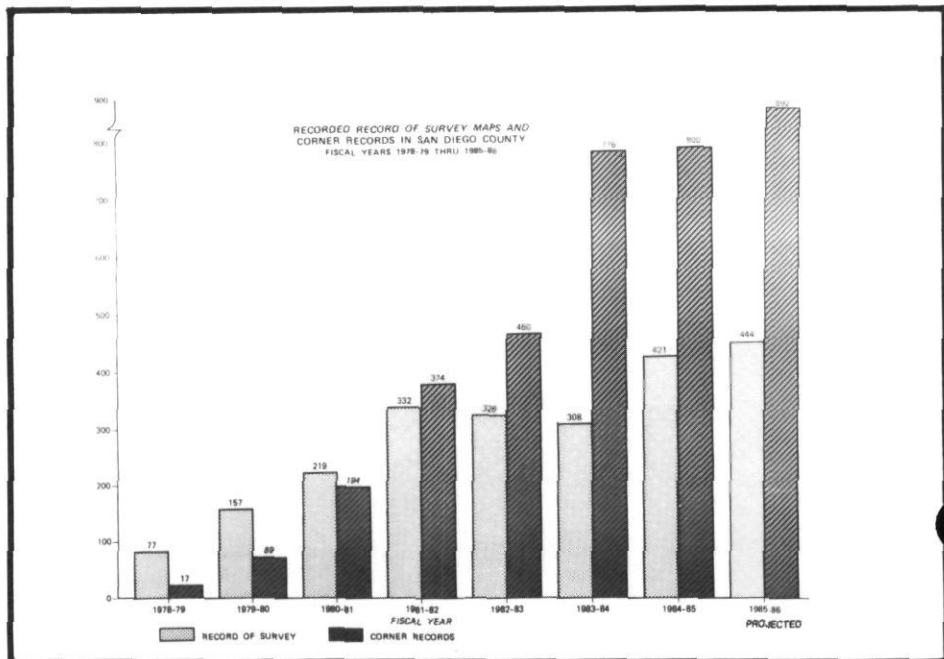
Lou Hall, in speaking at the meeting, noted that many of the members of the San Diego Chapter worked very, very hard on the committee. Their efforts were both rewarding and oftentimes criticized. Their persistence and diligence, though, inevitably prevailed.

Initially, the committee was sending out approximately 50 letters a month in response to potential complaints regarding "non-record" monuments. This pace continued for about three years, until this activity leveled off to about 10-15 notices a month.

In the current fiscal year 1986, the County is projecting a total of 444 record of survey maps being recorded and 892 corner records.

Lou noted how the cost of survey was diminishing as a result of access of records and the overall reestablishment of survey control monuments. These benefits to the consumer are clearly obvious.

Mr. Hall completed his presentation by asking that Mr. Hilt support the efforts of the JPPC and to review and act upon any of the complaints sent to him by the committee. Lou noted that if the Board does not support the efforts of the JPPC, their efforts will be the source of ridicule



by the professional community. Harry agreed with Lou's comments and he assured the group he would relate the efforts of the JPPC to the State Board and would not hesitate to support their much appreciated work and efforts.

On The L.S. Exam

Moving on to another topic of concern, was a discussion of one of the more serious problems facing the land surveying community today. That is what value the exam should play in determining one's qualifications as a Land Surveyor. Additionally, it is becoming increasingly important that a distinction be made between "professional time" and "responsible charge time." Harry noted that the TAC will be reviewing this matter to properly assess one's responsibility and experience to practice land surveying. He felt it important that a certain amount of time be devoted to boundary surveys and analysis. This is proving to be a serious deficiency in current applicants. He was also concerned with whether the chapter felt that a six-year or eight-year experience be necessary for sitting for the L.S. exam. The majority of the audience was in support of a six-year prerequisite, this being contrary to a formal state association position.

Investigation & Enforcement

Harry then proceeded to discuss the major issue at hand, that being enforcement or the lack thereof. He proceeded to inform the group that the state is divided up into four major areas and that San Diego and southerly was included along with the San Bernardino and Riverside areas.

When Mr. Hilt assumed office as Executive Director there were 515 outstanding cases (240 in the San Diego Area) dating back as much as five years. Today, there are 186 pending cases (60 in the San Diego area) on file. The reduction of cases occurred over a ten-month period minus the first three months orientation time. It is believed by Mr. Hilt that, for this area, the amount of outstanding cases should be about 20. He noted that of the 60 pending, 29 of these have come in over the past four to five months.

Harry proceeded to outline his program for reviewing and investigating the pending and incoming cases. He stated that the cases are not necessarily reviewed in the order in which they come in. The reason for this approach is so that the investigator can review both new and older cases concurrently, thus being as responsive as possible

to current matters while still chipping away at the outstanding cases. He felt to focus only on the older cases would soon create a condition wherein new cases would soon become old cases if they were not reviewed within a reasonable length of time. In this fashion, the older cases would hopefully be resolved and the investigators could devote their time to current issues and cases.

This is of extreme importance when one considers that the legislative process is oftentimes volatile and confusing. It would be difficult to impose a fine or penalty upon a practitioner based upon an outdated law or one that no longer applies to contemporary regulations or practices.

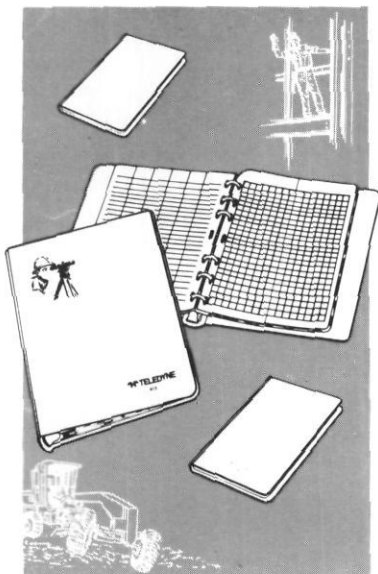
Harry related the problems he was having with the present staff of investigators, in that as government employees they are merely technicians. It is important that the investigators be professionals trained in proper investigative techniques. Mr. Hilt stated that he was able to convince the department to support him on this issue. By raising the pay scale of the position, the Board would be able to attract qualified individuals commensurate with the salary of the position.

(continued on page 42)

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Chapter Report

(continued from page 41)

Unfortunately, the bureaucratic process would not justify this proposal for a variety of reasons, including lack of staff, finances, etc.

As a result, Harry stated that he had to assume the role of an investigator, in addition to that of an administrator, when acting in the review process of exams and related matters. "Enforcement," Harry noted, "is a full time job in itself. . . ." and requires the services of a professional.

The only way he has been able to review and complete the investigative process has been by taking home an average of four cases per weekend and to work on them undisturbed. He stressed again that this position requires a full time professional.

The present staff of four investigators, he feels, are having some difficulties as a result of having a lack of peace officer status and possibly a problem with the occupation, as in its present position there is no room for advancement.

By attaining peace officer status, there are much greater incentives for the investigators. These include better retirement benefits and more pay for essentially the same tasks. As a peace officer, an individual has greater access to records, files, etc. It is a badge granting greater authority to the investigator. An investigator would also have the ability to issue citations to non-licensed individuals in much the same way a traffic officer writes a ticket for a speeding violation.

With all the limitations placed on the investigators, the only viable way to accomplish the objective of strengthening the position of the investigator was by placing them under the auspices of the Department of Investigation (DOI). That process is presently under way and should be in full effect in a short time.

Mr. Hilt noted that he had some reservations about the new program for fear of losing control over the investigators. The only way control could be regained would probably be through the legislative process. The Board was able to install a considerable amount of safeguards, though, to maintain as maximum amount of control as possible.

The four present investigators would be placed into a group of 38 existing investigators including " . . . several excellent supervisory 2nd level investigators, which I (Harry) think will improve it considerably."

There would be a natural tendency for one to strive to move up the ladder to assume a position of higher author-

ity within the system.

Harry stated that he has a memorandum of understanding with the DOI, wherein he maintains the final and ultimate authority in deciding whether a case was properly reviewed and investigated.

The major drawback to the new system is the fact that the peace officer's union would require that the officers carry a concealed weapon. This is somewhat disconcerting as the offenses the investigators will be reviewing are non-violent matters and do not justify the use or display of firearms.

Harry feels it will take about one year before he will be able to evaluate the effectiveness of the new program and at that time he would be pleased to make a report regarding same.

In more specific discussions regarding ongoing cases, Harry mentioned that as a result of recent legislation, they are investigating several municipal officials. As a result of the sensitive nature of these investigations, he was not able to elaborate any further on this matter, other than to assure the audience that there was other investigations being conducted. As a matter of fact, in two instances the cases were already referred to the attorney general's office for prosecution.

Several questions were raised regarding the responsibility of an individual to report improper or illegal practices to the Board. Harry noted that an individual is protected by law from any retaliatory actions or lawsuits filed by the complainee. Although a lawsuit can be filed by the party in which the complaint was filed against, he cannot prevail in court. Any correspondence relating to the matter is "privileged correspondence" and cannot be used as the basis for a defamation lawsuit or any related actions.

No Code of Ethics

Further discussions dealt with the fact that the State of California was one of the few states that does not have a code of ethics in its state law. This anomaly probably contributes to much of the problems involving "professionalism" in both the surveying and engineering community. This issue is of vital concern to the Land Surveyor. Mr. Hilt expressed his concern with the fact that without a code of ethics to guide the Land Surveyor or Engineer, there is no legal mechanism to prohibit an individual from conducting unethical acts deleterious to another professional. We should perhaps consider the implications of this problem further.

Harry went on to state that he felt one of the most important functions of the

California Land Surveyors Association is that, as a professional organization, CLSA maintains a high standard of practice and ethics, which can only be of benefit to the profession and the community. It is of great importance that if an individual is chastised for unethical practice, that his reprimand be at the hands of a professional association as opposed to that of an individual. This process would tend to establish credibility in the complaint or charges filed.

Further discussion evolved around the fact that disgruntled LS applicants are overtly critical of the role CLSA plays in the exam process. This is due to the fact that for the most part it is CLSA members who prepare the exams, and CLSA members who grade the exams. Harry defended the role of CLSA in the exam process, instead praising members for their efforts and hard work. He felt these criticisms were unwarranted and without substance. Unfortunately, too many applicants failing the exam feel as if CLSA is creating a "Good Ol' Boys" situation. The fact of the matter is that CLSA is represented by professionals in the land surveying community who are active and take great pride in their profession.

In any event, the exam is being criticized as well as scrutinized and Mr. Hilt noted, it must be fair and capable of being tested in the courts. Criterion must be established capable of truly testing an applicants knowledge and ability. The board is reviewing new policies and methods of preparing and grading exams. Without a doubt, the present exam process is of concern to the land surveying community and the Board of Registration.

Other questions were directed to Mr. Hilt, including what impact a complaint has upon an offending practitioner's business. This included a situation wherein a surveyor or engineer acts as a consultant to a City or a Municipality in the capacity of reviewing survey procedure or mapping procedures.

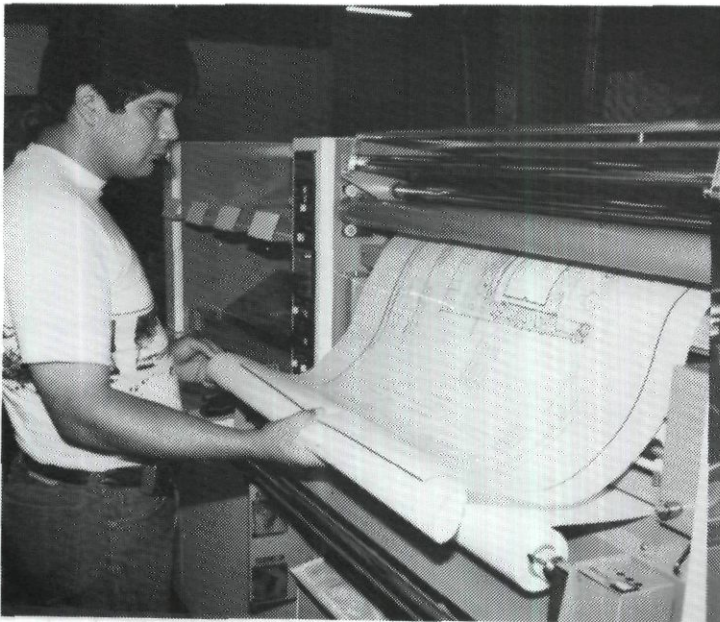
Harry proceeded to state that as one of the conditions of a complaint substantiated by a proper investigation, that the City or Municipality would be informed of the results of the complete investigation.

Another common complaint of surveyors statewide, is the lack of a current roster of licensed or registered land surveyors and engineers. One of the problems, Harry noted, is that the Board is burdened with out-dated or even antiquated equipment. This includes old reproduction equipment and manual typewriters. The Board is finally in the

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(continued from page 42)

process of upgrading their equipment and, with the acquisition of a new computer with word processing capabilities, updates, revisions, and mass publications of information will become a simple task. Harry predicted that by early December a current roster would be published and available as the information came "on-line."

With the goal to provide the professional community with current rules and laws, Harry informed the audience that a new "plain language" interpretation of the LS act will soon be published. This will undoubtedly answer many of the questions that arise in daily practice when one attempts to interpret the oftentimes complex language found in our constantly changing laws and regulations.

Recently, Harry noted, a "plain language" version was published for the engineers act as well as the Board rules and regulations.

Specific questions were then directed at Harry regarding the concern with the fact that several members of the San Diego Chapter were quite disturbed as they had been informed that numerous complaints which had been filed some time ago were being dropped as result of the inability of the Board to investigate a complaint, oftentimes several years old. This is of major concern to San Diego members as a result of their vociferous activity as

members of the JPPC. It is absolutely imperative that the State Board of Registration support any and all activities of a professional practices committee. This point cannot be overemphasized. To do otherwise would be a grave injustice.

Further questions by local members focused on when Harry expected complaints filed by San Diego practitioners would be resolved. Given his present workload, Harry projected the outstanding complaints would be resolved within 2 to 3 months or by late August.

He went on to note that of the complaints the State Board receives, about half are submitted by professional practices committees. Of the complaints filed, those that are submitted by Land Surveyors are prepared and presented much better than those by consumers.

In many cases, when a consumer files a complaint, he/she does it without the benefit of familiarity or knowledge of the area of practice or law they are concerned with. Many times, the complaint is the result of unhappiness or dissatisfaction with the conduct or expectations of the Land Surveyor. Unfortunately, these complaints are oftentimes without legal or technical substance.

This discourse, once again lead to a discussion on the experience and education qualifications of an applicant for licensure as a Land Surveyor. This issue was brought up several times throughout the evening. This was apparently the result of the present state of affairs rela-

tive to the exam process. Harry related a most fascinating fact to be considered by the audience. If one does not successfully pass the Land Surveyor exam on the first attempt, the odds are against them ever passing the exam. One must ponder the reasons and implications of this factual statistic. Repeaters account for less than ten percent of those passing. This is true for both Land Surveyors and Engineers.

The Enforcement Process

Perhaps the most important questions were raised at the conclusion of Mr. Hilt's presentation. These were naturally concerned with the enforcement process.

Harry stated that upon completion of the investigation of the existing backlog of complaints, he would embark on the concerted and ambitious campaign to assure timely responses to complaints. This would be implemented by a systematic three-step program.

Harry stated, "my goal is (that) within six months the complaint would be sent to the Attorney General's or closed from the time that we received it."

The process would involve notifying the complainant four times. The first notice would be a confirmation of receipt of the complaint. During this time, the State Board would examine the case to determine if there were any basis for the complaint and also if there were a need for any additional information or evidence.

Following this initial stage, the complainant would again be notified to be informed as to whether the complaint has any merit or if there were insufficient grounds for a complaint.

A third letter would then be sent assuming the complaint warranted an investigation, to the complainant. This letter would inform the complainant of the fact that the investigation was completed and the case was being forwarded to the State Attorney General's office for the preparation of the formal complaint and charges, or the investigation was unable to produce sufficient evidence to base a formal complaint on.

The final notification would inform the complainant of the decision of the Attorney General's Office, as well as the adjudication action and the subsequent action of the Board, including disciplinary actions.

Some of the stronger points of Harry's program were well-received by the audience. The first of these involved fraud. In a case like this, Harry stated that the practitioner's license would simply be revoked. "If it's for negligence or incompetence," Harry noted, "one of the

(continued on page 50)

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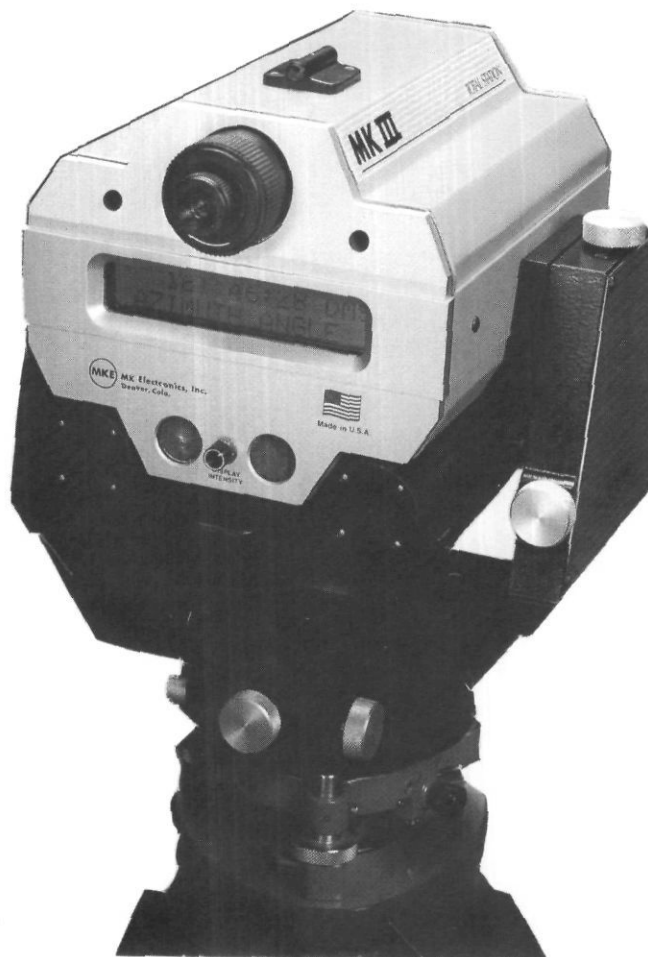
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Copyright Protection for Surveyors

Prepared by Mike Huey, Esq.
Akerman, Senterfeit, and Eidson
Attorneys at Law
Tallahassee, Florida

In October of 1976, President Ford signed into law the Federal Copyright Act of 1976, which can be found at Title 17, United States Code. The Copyright Act, which became effective Jan. 1, 1978, provides copyright protection to original works of authorship fixed in any tangible medium of expression from which they can be perceived, reproduced or otherwise communicated. Included among the several areas which are defined as works as authorship are pictorial, graphic and sculptural works. It is under this category that maps and surveys are protected by the Copyright Act.

Pictorial, graphic and sculptural works include two-dimensional and three-dimensional work of fine, graphic and applied art, photographs, prints and art reproductions, maps, globes, charts, technical drawings, diagrams and models. However, a document is only considered a pictorial, graphic, or sculptural work to the extent that it incorporates those features that can be separately identified from the utilitarian aspects of the article. For instance, while a survey might be protected by copyright, use of the survey for any purpose, such as locating a building on a site plan, would not be so protected. Thus, unless the copyright owner could show that the map or survey had been reproduced without his permission – or that one of the other privileges of the copyright owner had been violated – the owner of the copyright would have no remedy under the Federal Copyright Act.

Note also that the law does not provide protection for ideas, procedures, processes, systems, methods of operation, concepts or principles. A surveyor might find this final rule important in a situation involving the assimilation of certain facts about a piece of property which have been set down in the field book, but which have not been transferred to the survey drawing. Until those facts are fixed in some tangible, illustrated medium they are not proper subjects for copyright.

Scope and Duration of Copyright Protection

The Federal Copyright Act provides that the owner of the copyright is given certain exclusive rights in the copyright work. Anyone exercising any of these exclusive rights, with limited exceptions, has infringed on the owner's copyright. These exclusive rights include the right to: (1) reproduce the copyrighted work; (2) prepare derivative works based on the copyrighted work; (3) distribute copies to the public by sale, rental, lease of lending; and (4) display the copyrighted work publicly.

These exclusive rights are vested in the owner of the copyright upon the creation of the work, and rights endure for a term consisting of the life of the owner and 50 years after his death. In the case of jointly prepared works, the copyright endures for a term consisting of the life of the last surviving surveyor and 50 years after his death.

Elements Necessary For Copyright

There are three basic elements which are essential for a survey to be eligible for copyright. First, the work must be original. Although copyright protection of maps has been provided by statute in the United States since 1790, courts have traditionally been troubled as to whether collecting and setting forth facts constitutes the necessary originality for copyright. Generally, maps have been subject to the "direct observation rule" (i.e., whether the site was visited and directly observed).

In determining whether a particular map is a proper subject of copyright, courts have ruled that maps are protected by copyright only when the publisher of the map originally obtains some of the information "by the sweat of his own brow." This requirement should present no problem for most survey drawings since they are compiled from information originally gathered by the surveyor's field personnel.

However, the following scenario will illustrate how a problem could arise: Suppose a piece of property was originally surveyed in 1969. In 1976 the surveyor was called to resurvey the property to verify that the original conditions had not changed. If, in fact, the original conditions were the same, and if a new drawing was prepared using the old drawing as a basis, the new drawing would not be a proper subject for copyright since it was not an "original" work, even though it was prepared by the

same surveyor.

Although the "direct observation rule" has been criticized by copyright experts and courts alike, it is still a viable doctrine. Thus, when making a survey drawing, make sure that the drawing is prepared through the use of field data collected expressly for the preparation of that drawing.

The second element necessary for work to be a proper subject of copyright is that the work must be fixed in some tangible medium of expression. From that moment on, copyright protection exists. Surveys, of course, are "fixed" when the tangible survey drawings are created.

The final element making a work eligible for copyright protection is the requirement that the work must be an expression and not merely an idea or a fact which is in the public domain.

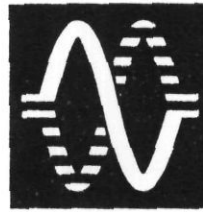
This concept of expression can be best illustrated by the following example: While the tangible document, the survey drawing, might be a proper subject for a copyright because it is an "expression" of certain surveyor-obtained facts, such as the topographical features of a particular tract of land, the facts themselves – the field data – are not proper subjects of copyright.

Ownership of Copyright

Copyright in maps and survey drawings is owned by the surveyor or surveyors who prepare the drawings. The copyright to drawings prepared by an employee of the surveyor is owned by the employer. The law is clear on this point. However, if the surveyor commissions an independent contractor to prepare a portion of a drawing or a drawing which will be incorporated into a larger work, the copyright of that portion of the work prepared by the independent contractor belongs to him rather than to the surveyor unless the parties expressly agree in a written instrument signed by them that the work is considered a "work made for hire" for copyright purposes.

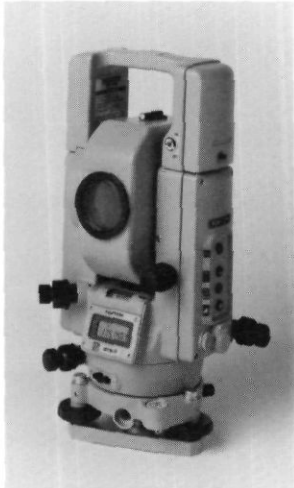
Moreover, the Copyright Act provides that ownership of copyright is distinct from ownership of the material object. Thus, when a client is given a survey drawing, if that drawing has been properly copyrighted, the survey retains ownership of the copyright. This is a departure from the prior copyright act

(continued on page 48)



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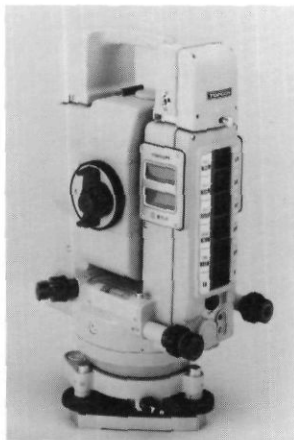


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Copyright

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and will apply only to drawings completed and copyrighted after Jan. 1, 1978. Even with this protection, it is advisable that the contract between the surveyor and his client clearly reflect the intention of the parties as to ownership of the drawings. The copyright owner may, of course, transfer the copyright in whole or in part. The conveyance may be by means of any written instrument signed by the owner of the copyright. Ownership of copyright may also pass by operation of law or may pass as personal property under one's will or by the applicable law when there is no will.

Notice of Copyright

Whenever plans are published by authority of the copyright owner, a notice of copyright must be placed on all publicly distributed copies from which the work can be visually perceived. Three essential elements must be incorporated into the form of notice:

- (1) The symbol ©, the word "Copyright" or the abbreviation "Copr."; and
- (2) The year of first publication of the survey drawing;
- (3) The name or recognized abbreviation of the surveyor.

The notice must be affixed to the copies in such a manner and location as to give reasonable notice of the claim of copyright to one reviewing the drawings. A proper notice of copyright might be as follows:

©1982 John Jones and Associates, Inc.

The omission of copyright notice as set forth above does not invalidate a copyright that a surveyor might have in his drawings if (1) the notice has been omitted for no more than a relatively small number of copies distributed to the public; or (2) registration for the work (as described below) has been made before publication or is made within five years after publication, and a reasonable effort is made to add notice to all copies distributed to the public after the omission has been discovered. Better practice dictates that the copyright notice be set forth on all surveys.

Copyright protection is not affected by the removal, destruction or obliteration of the notice from publicly distributed copies of a survey drawing.

Registration of Copyright

If you have complied with the notice provisions, you can register your copyright with the United States Copyright Office, Library of Congress, Washington,

D.C. 20559. Registration can be accomplished by filing Form VA (for visual arts) along with a \$10 fee and a deposit of two copies of the drawing or other item to be copyrighted. Forms can be obtained from the Information and Publications Section of the Copyright Office. Upon receipt of the registration materials and fee, the Register of Copyright will send the copyright owner a certificate of registration under the seal of the Copyright Office. If for some reason the drawings cannot be registered, the Register will notify the copyright owner in writing of the fact.

Although registration is not required for protection of your copyright, there are certain benefits to be obtained from registration. First, registration is an absolute prerequisite for bringing suit to enforce a copyright claim. Also, if registration is accomplished before or within five years after first publication of the drawing, it constitutes prima facie evidence of the validity of the copyright and facts stated in the certificate of registration. Registration after the expiration of the five-year period will merely place the burden of proof on the person seeking to claim a copyright protection in the judicial proceeding. A final, very important benefit of registration is that attorney's fees and statutory damages will be awarded for infringements which take place after the effective date of registration.

(1) Surveyor-Client Ownership and use of survey. The survey drawings, as instruments of service are and shall remain the property of the Surveyor. The Client shall be permitted to retain copies for information and reference in connection with the property indicated on the survey. The survey drawings shall not be used by the Client for any purpose other than that for which the drawings are prepared, except by agreement in writing and with appropriate compensation to the surveyor. The parties acknowledge that the Surveyor is the author of the survey drawings for copyright purposes. The Client shall not sell or otherwise distribute any copies, reproducible or non-reproducible, of the survey drawings without the Surveyor's written consent. To do so shall be considered a material breach of this contract.

(2) Surveyor-employee contracts: All work produced by the employee while he or she is employed by the employer and all present or future copyright privileges of such work shall be owned by the employer. The employee shall not sell, lend, or otherwise distribute copies, either reproducible or non-reproducible, of any survey prepared in the course of

his or her employment.

(3) Surveyor-consultant contracts: Any work produced by the consultant pursuant to his employment by the Surveyor shall be owned by the surveyor and shall be considered a "work made for hire" for copyright purposes. The consultant shall not sell or otherwise distribute any copy, reproducible or non-reproducible of any work prepared pursuant to this agreement.

In addition to the contractual causes set forth above, it would behoove the surveyor to add a clause to his title block in order to put the public on notice that the drawings shall not be used for purposes other than that for which they were explicitly prepared. The following language is suggested:

This drawing is the property of John Jones and Associates, Inc., and shall not be used for any purpose without the written consent of an authorized agent of John Jones and Associates, Inc. John Jones and Associates, Inc., accepts no responsibility for the use of this drawing for any purpose after six months from the date indicated above. All rights reserved. ©1982 John Jones and Associates, Inc.

Infringement of Copyright

The copyright owner is entitled to institute an action for infringement of copyright against anyone who exercises the exclusive privileges of the copyright owner as set forth above. The owner of the copyright is entitled to (1) an injunction to prevent further infringement, and (2) damages in the amount of the actual damages proven plus the infringer's profits or statutory damages in the amount of up to \$10,000 if the infringement is innocent or up to \$50,000 if the infringement is willful. An infringement action must be commenced within three years after the infringement claim accrued.

Special Considerations

Unpublished and unregistered works which were created before Jan. 1, 1978, can still be registered under the auspices of the Copyright Act of 1976. Duration of the surveyor's copyright in such works is slightly different than that expressed above, but in no case will the copyright expire before Dec. 31, 2002. Unregistered works which were created before 1978 but which have been generally published, i.e., distributed to the public at large have lost their copyright protection. New or updated copies of works properly noticed, registered and published before 1978 may bear copyright notice that was acceptable either under the old law or that which is

required by the new law.

Strong contract language in any contract will give the surveyor a remedy against the other contracting party be it the client, an employee or consultant. It is suggested that the following language be added to contracts which cover the indicated situation:

This drawing is the property of John Jones and Associates, Inc., and shall not be used for any purpose without the written consent of an authorized agent of John Jones and Associates, Inc. John Jones and Associates, Inc., accepts no responsibility for the use of this drawing for any purpose after six months from the date indicated above. All rights reserved. ©1982 John Jones and Associates, Inc.

Finally, it is well to note that there are other remedies for misappropriation or misuse of surveys. Court actions based upon unfair competition, breach of contract, and restitution are viable remedies through which a surveyor may recover damages.

Reprinted from the June, 1982 Journal of the Florida Society of Professional Land Surveyors □

Image . . .

by John Thalacker, PLS

Image is somewhat of a nebulous word, with overtones of fantasy, immodesty and perhaps even a bit of egotism. When qualified, it becomes a very complimentary, if not sought after, attribute; as the "father image," or the "image of integrity." Specifically, what about "professional image?" Visually, it may be a blazer or a 3-piece suit with Italian shoes, as opposed to a multiple-patched Filson vest, ragged jeans and muddy boots, which might project a desired "professional" image for evaluation of the observer. "Window dressing" does serve a useful purpose, particularly in regard to casual or first impressions. A much truer image is one which is projected and realized, rather than noticed, and results in a lasting impression. We all have witnessed the proverbial "fashion plate," who, when confronted with the question, "How are you?," was stumped for answer.

The projection of a professional image to those around you, particularly the public, is a matter of both individual and collective accomplishment. During the past several years there has

been a great deal of rhetoric regarding the professional image of surveyors and the positive impact, or lack of it, which it has upon the public, and how it reflects upon each of us. There are a number of things that have been suggested as a result of a non-resolute image, including, the respect of professionals in associated fields of endeavor, and the remuneration which surveyors receive for their services. Definite gains have been made in the development of a more positive professional image, but there still consistently appear situations which suggest cracks in the armor, which we are attempting to polish for that long sought after "shine."

There has been a great deal of discussion and divergence of opinion in regard to educational requirements for current and future practitioners. Quite obviously, you don't wear your "sheepskin cum laude," nor have continuing education hours tattooed on your forehead. There is absolutely no guarantee, with all the academic credentials in the world, that you or anyone else will be a better "surveyor." There is a relatively

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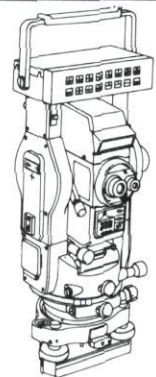
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Image . . .

(continued from page 49)

good possibility, however, that it will enable the projection of the more positive and knowledgeable image - as a business man, a land use consultant, or a development analyst. It certainly will not detract from communication skills. Why are there so few books on the aspects of furnishing professional surveying services and current day techniques? Why do editors of professional publications go begging for original, creative or informative articles? Why do seminar chairmen literally beat the brush to obtain speakers to expound and share their experience and knowledge with their peers?

Surveyors are not known to be overly bashful in expressing their opinions on nearly every facet of the elements of their profession. These above-mentioned conflicting situations give rise to some very serious questions. Is it that surveyors don't want to share their knowledge with others, or might they be unsure or afraid of criticism for stating their opinions in an open forum? Or might it be that they really don't feel

comfortable or fully competent of preparing professional and technical papers? Is it a matter of priorities - committing time and effort to something other than their profession, the profession which allows the individual the ability to be able to afford extracurricular activities? Is it a matter of won't - or can't? Is it a matter of not caring what the image among fellow professionals might be, let alone the image that might be projected to the public? Why is it, with other professions, that there is actually great competition among the practitioners to have their papers published, or be selected to present a topic at a professional gathering, and that it is viewed as an honor to be so recognized by their peers? Why is it, even with financial inducements, that only four individuals choose to participate in presenting "Corner Stories," a written and oral presentation of unique situations of retrace-ment and recovery of corners from among over 400 members of a professional society? Why is it, that each year less than 10 individuals have taken the opportunity to have their Record of Survey drawings critiqued by their peers,

and be acknowledged for their professional efforts and competency? Why is it, that year after year, less than half of the chapters of our state organization recognize one of their members, in acknowledgment of outstanding accomplishments and sincere dedication to the advancement of the profession of surveying, as a "Surveyor of the Year?"

I really believe that we are making some advances in the enhancement of our public image. I also believe that if there would be higher recognition and more effort on improving our internal image, how we look at ourselves and at each other, that it would greatly facilitate the image that we project to others.

"Image" is not a matter of egotism, but really, a matter of confidence and pride.

Reprinted from *The Evergreen Surveyor* □

Chapter Report

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requirements in there will be to go back for a suitable education, so that it won't happen again. So whatever it is, putting them through one semester, or two semesters of additional college, and so far for those we've tacked that on, we've been able to find a college that offers the proper type, as well as offering study courses put out by certain institutions.

By offering this alternative, the offender is afforded the opportunity to make amends. If he/she elects not to exercise this option his/her license will be revoked.

The benefits of this program are twofold. First, if the practitioner did not have the knowledge or education required to have made the necessary judgement in the first place, than by this formal education, the opportunity is afforded the individual.

The second, and obvious benefit, is that the offender will, in all likelihood, think twice before committing the same offense. Historically, and socially, this approach has proven invaluable as a reinforcement tool.

Overall, Mr. Hilt's lecture was very well received. Unhesitatingly, Harry adeptly fielded questions from the audience. His candor and sincerity were much appreciated, and are hopefully a harbinger of future Board policies. It is imperative that the new administration garner the support of the professional community. With Harry's efforts and goals, it is inevitable that confidence will be instilled in the State Board of Registration for Professional Engineers and Land Surveyors, a condition long desired by the professional Land Surveyors of California. □

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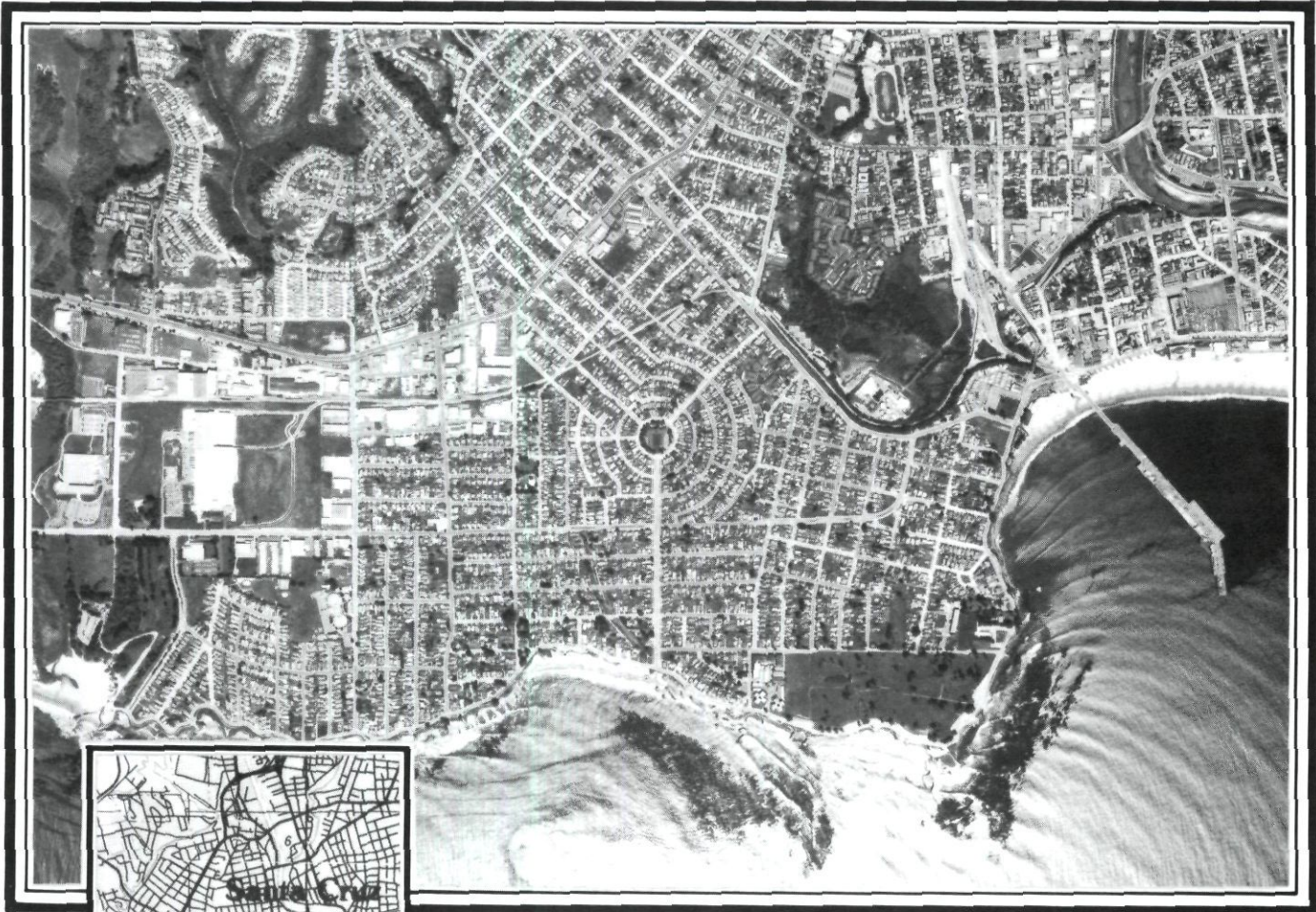
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