

Institutional Affiliate of American Congress on Surveying and Mapping.

The California Surveyor

No. 74

The Voice of the Land Surveyors of California

Spring, 1984



Ralph Simoni (left), CLSA's Legislative Representative, presenting to Jim Dorsey, CLSA President (right) a Resolution declaring March 11-17, 1984 Land Surveyor's Week. (Center) Tom Gribbin, Conference Co-Chairman.

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The California Surveyor

is the quarterly publication of The California Land Surveyors Association 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 California Land Surveyors Association. *The California Surveyor* is an open forum for all surveyors, with an editorial policy predicated on the preamble to the constitution of the California Land Surveyors Association 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

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Sustaining Membership

Membership in the California Land Surveyors Association 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. Material should be sent to *The California Surveyor*.

Unless indicated, all articles in this publication are prepared by the editor.

EDITOR: J.E. Terry, L.S.I.T.
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DEADLINE DATES FOR THE CALIFORNIA SURVEYOR

Summer June 15, 1984

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

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President's Message

PRESIDENT'S MESSAGE

By the time you read this, National Surveyor's Week and our Joint Conference at Lake Tahoe will be over.

It is my sincerest hope that every California Surveyor will treat this, not as being over, but a beginning. A beginning that places Surveyors and the surveying profession in its rightful place of recognition; that the professional surveyor is just that. A professional on a par status with all other professionals that interface society. The only variable in these professions is the subject or discipline.

To stay professional is not good enough. Man's knowledge of science is ever-advancing, thus causing an ever-increasing need to stay current in only the technical aspects, but to stay current with the latest case law and legislative changes that affect land surveying.

We have put on a "New Image" to demonstrate to all that we are the true Professional Surveyor. To maintain the image we have to let go of old ways and old habits in order to maintain our "New Image" and follow new habits.

This is a responsibility of each and everyone of us. Private and public practice shall work parallel, supporting each other. One hand can not wash itself. The Land Surveyors Act shall be equally enforced. Where local communities do not preserve monuments in the maintenance and inspection process, they are just as negligent as the Surveyor who sets monuments, but fails to record his survey. Both postures are wrong. Neither side can point a finger 'till their own house is in order. Our "New Image" is tarnished as long as there is not uniform cooperation with the Land Surveyors Act.

It is therefore incumbent on each one of us to police ourselves. Government has built into its system the ability to be responsive to its own needs. The private practitioner, on the other hand, must seek supplemental support outside of his organization. In order to fill this gap, CLSA will after review by our Joint Professional Practices Committee, help resolve differences be-

tween private and public sector in a prudent, responsible, and professional manner.

For the "new image" to stay bright, you must use your association and encourage others to do the same. We can provide the quorum, but if it is not used, then that is keeping your association from full effectiveness, and without your help, forward process is impeded. What image shall we project? That my friends, now depends on you.

James R. Dorsey, L.S.
President, CLSA

WHAT SHOULD CLSA DO FOR YOU?

James R. Dorsey, LS

To all Surveyors in California: Are you happy with the California's status quo in California? Did you know that the California Land Surveyors Association is the only professional association in California devoted exclusively to the Land Surveyor, both public and private?

Have you let CLSA know what your concerns are? Have you gotten involved? Are you a member of CLSA? If not, and you don't like the way things are, who's fault is that?

CLSA is interested in the concerns of all Surveyors and urges every Surveyor who has not yet



JAMES R. DORSEY, current President of California Land Surveyors Association

joined CLSA to do so now. Send us your concerns, goals and desires. If you like, we will publish them in the California Surveyor.

Do you have a problem with a local governmental agency? Write CLSA. Our Joint Professional Practices Committee will review it. Offer assistance, where appropriate. If it is merited, CLSA may editorialize the issue.

Let us hear from you. Unheard dissatisfaction can never be transformed into favorable reaction. That responsibility is yours.

□

This letter was presented to Mike Splitstone, President of CCCE & LS, at the CLSA/NALS 1984 Joint Conference.

*Mr. Mike L. Splitstone, President California Council of Civil Engineers & Land Surveyors
400 Capitol Mall
Suite 232
Sacramento, California 95814*

Subject: Liaison Appointment

Dear Mike:

The success of liaison between associations is dependent on the ability to maintain uncensored communications.

With this letter, CLSA proudly names you and the Office of President of the California Council of Civil Engineers and Land Surveyors, liaison with the office of President of CLSA.

The purpose of such liaison is to extend the hand of ongoing, always available, regardless of any committee status, the avenue for open communication. That such liaison be ongoing and become incumbent with the office of President of our respective associations, for together, we are able to do more for the professionalism of those we represent, which in turn, benefits the public, the people we jointly serve.

*With the sincerest of regards,
James R. Dorsey, LS
President, CLSA*

New Product

NEW HANDHELD COMPUTER FROM HEWLETT-PACKARD PACKS COMPUTATIONAL POWER, EXPANDABILITY INTO POCKET SIZE

New from Hewlett-Packard Company is the HP-71B, a handheld computer for technical professionals that is optimized for numeric computation and calculation. The HP-71B features enhanced BASIC language and a calculation mode.

"The HP-71B is believed to have the most powerful 64-kilobyte ROM-based operating system available in a handheld computer," said Richard D. Baker, marketing manager of HP's Portable Computer Division. "It's designed for engineers, scientists and business people who need to perform complex computation."

Priced under \$550, the HP-71B combines BASIC language and a calculation mode to give users a computation tool that makes problem solving and number crunching easier and faster. To perform repetitive calculations, users either can write programs in BASIC language or take advantage of existing application packages. In addition, HP has designed a CALC mode that provides an easy method for performing one-time calculations.

The HP-71B's large continuous memory—a standard 17.5 kilobytes of RAM and 64 kilobytes of ROM—allows users to store more data, create larger software programs and store a large number of programs.

The Basic Package

The HP-71B offers users a wide variety of accessories, peripherals and customization options. Slots for an optional magnetic card reader and the Hewlett-Packard Interface Loop (HP-IL) are built into the HP-71B.

Four plug-in slots make the HP-71B expandable by 16 kilobytes of RAM (for a total of 33.5 kilobytes of RAM) or 256 kilobytes of ROM (for a total of 320 kilobytes of ROM), or some combination of both.

Weighting only 12 ounces, the HP-71B measures $3\frac{7}{8}'' \times 7\frac{1}{2}'' \times \frac{1}{2}''$, and is as portable as a notepad. It

has a block QWERTY keyboard, with typing aids for easier program entry.

A 10-digit number pad facilitates calculating. The keyboard is completely redefinable and overlays are available so that users can customize the machine for their specific needs.

The new handheld's 8x132-element, one-line dot matrix LCD display has a large font and features extensive status annunciators. Twenty-two characters of a 96-character line are displayed at one time. This handheld computer is powered by four disposable alkaline "AAA" batteries or by the optional A/C power supply.

The BASIC Language

BASIC provides even the casual programmer with the capability to write powerful computational programs. The HP-71B offers an expanded version of BASIC language that provides more than 240 instructions. It includes such enhancements as statistics, trigonometric functions and compliance with IEEE floating-point math standards.

BASIC language offers:

- complete control of display dots for creation of custom character sets and displays;
- maintenance of multiple programs in memory simultaneously;
- dynamically declared variables; and
- support of multi-line user-defined functions.

Additional words can be added to extend BASIC language. The HP-71B features built-in timers and will remember the real time and date even when turned off.

The CALC Mode

The CALC mode is a nonprogrammable calculation mode that lets the HP-71B function like an advanced calculator. CALC mode provides error-checking; step-by-step results can be tracked as the calculation progresses.

Variables assigned a value in the BASIC mode can share their value in the CALC mode and vice-versa. The CALC mode can perform such functions as the immediate execu-

tion of algebraic subexpressions they are entered, automatic parenthesis matching, math and user-defined function support.

Software

Application software programs available this spring will include math, finance, curve fitting, AC circuit analysis, surveying and text-editing programs, along with the Assembly/FORTH Development System. A solution book, Software Development Utilities, is also available.

In addition, HP has made available a users' library for the HP-71B. Programs submitted by users will be made available through the library and solutions books will be developed from popular programs and application areas.

The HP-71B—An Open Machine

HP is actively encouraging third-party vendors to develop software, hardware and interfaces for the HP-71B. To accomplish this, HP has "opened up" the machine by making available extensive documentation and offering a choice of development languages and media.

In addition to the owner's documentation, HP has made available three volumes of internal design specifications containing detailed information on the HP-71B's internal software and hardware. Users have a choice of three development languages—BASIC, HP-71B Assembly languages and Forth—and three media—ROMs, cassette tapes and magnetic cards.

Customization Options

The HP-71B is an expandable system. RAM, in increments of 4 kilobytes, can be plugged into any or all of the four front ports. All memory is preserved while the modules remain plugged into the machine.

Application ROM modules contain specific application programs for the user. ROM modules come in increments of 16 kilobytes with a maximum of 64 kilobytes possible in each of the four ports.

The HP-71B offers several customization options that allow users to personalize the computer to meet their needs. The keyboard can be re-

(Continued on page 7)

New from Topcon: The DM-S2 and DM-S3.

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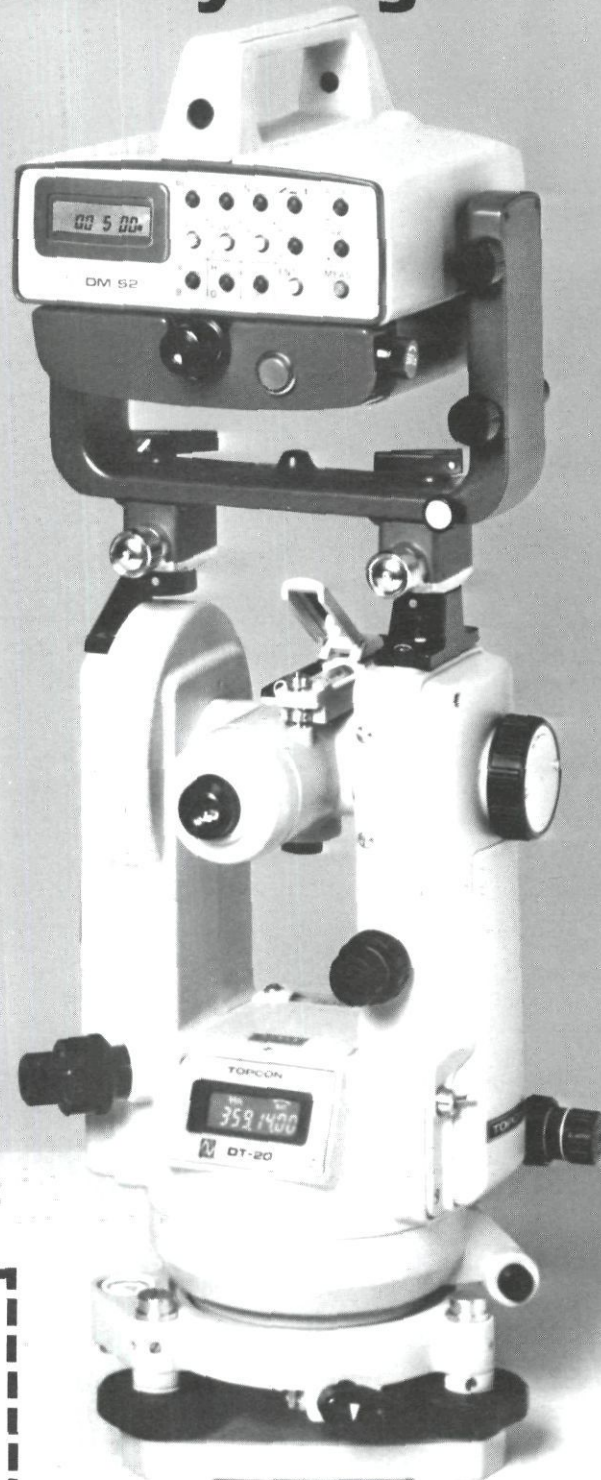
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Articles

SURVEYOR RIGHT-OF-WAY vs PRIVATE PROPERTY RIGHTS

by Dexter M. Brinker, PE-PLS
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ABSTRACT

A number of states either have, or are attempting to adopt, laws which grant to land surveyors the right to enter upon private lands in the performance of land surveys. While most legislation of this type provides that the surveyor shall be liable for any "damages" inflicted on such lands, the restrictions imposed on the surveyor are often so vague as to create a real cause for concern among land owners, especially in rural areas. This article discusses problems that should be addressed in a complete surveyor access law, and suggests how the need for this right can be reduced by the use of improved surveying techniques and records.

BACKGROUND

The Public Land Survey System has, for almost two hundred years, provided us with a remarkably efficient way of dividing and conveying land parcels in the Public Domain State. Among the strong points of this system are:

1. General uniformity (although the number of variations, especially during the formative years, might make one question this);
2. Provision for prior survey (that is, before conveyancing);
3. Monumentation of major control points;
4. Rules for subsequent surveys (normally subdivision of selections);
5. Public records of field work;
6. Rules for restoration of lost and obliterated control corners; and,
7. Theoretical prevention of gaps and overlaps. (The system, corners, and lines are often referred to as "aliquot". This term comes from the Latin and means to "divide without a remainder".)

However, the system was, and still is, not without its shortcomings. These include:

1. Lack of definite standards for positional tolerance and monumentation of aliquot corners set by "nonfederal" surveyors;

2. Failure to provide for owner access easements to parcels as created;

3. No provision for maintenance of monuments (although it was likely assumed that local government would take on this responsibility);

4. Apparent requirement that aliquot corners could only be established by running "straight" lines on the ground (that is, no provision for calculated positions); and
5. No specific reservation of the right of access for future surveyors to get to or occupy the federally set monuments or subsequent aliquot corners.

These lists of strong and weak points are not meant to be complete, but simply show that while we have a workable system, it still needs improvement. It is regrettable that over these nearly two hundred years, users of the system, namely surveyors, engineer, lawyers, abstracters, real estate salesmen, and government officials at all levels have, with very few exceptions, done little to improve it. Many of the problems which have been encountered in the use of the system have resulted from flagrant violations of the basic rules (and their intent) by the groups just mentioned. One of the most constructive improvements has been the establishment in many states of mandatory monument recordation programs. Although all of these are, from a practical point of view, at least seventy years late in getting started, they are now beginning to reverse the trend of lost and disputed monumentation. Other beneficial moves in some states include monumentation standards and compulsory public records of all land boundary surveys.

THE ACCESS PROBLEM

Because of the increasingly intense use of land, it is becoming more and more difficult for land surveyors to find, use, and preserve aliquot corners including the original control monuments. To deal with this situation some states have enacted legislation granting surveyors access across private lands for the purpose of conducting surveys. In some cases the right is restricted to state employees,

public utilities, or mining activities while in other areas the right is extended to private land surveyors.

In many states land surveyors believe they have an implied right of access to any federally set corner, but would like to make this "right" more specific through legislation. But what happens if a private party owns all the land around a control corner or that corner ends up in the middle of a platted subdivision? Can such an owner remove the corner or deny access to it? Does the corner cease to exist when the land is platted? Can a surveyor enter such lands seeking a "position" rather than a "monument." These and other questions need to be answered, preferably through concise, uniform legislation.

THE PRACTICAL SOLUTION

I have heard a few cases in which surveyors were denied the right to enter private land to search for or use a monument, but most of them seem to have resulted from poor professional practice on the part of the surveyor. Nevertheless, such incidents tend to get surveyors interested in pushing for a "surveyor access law." In over twenty years of varied practice I have personally encountered a few "belligerent" land owners, but after spending ample time to explain the problem to them and encourage their input, have always gained the access I needed and often some historical information I was glad to have!

The public relations role is of great importance to the conscientious land surveyor. It should seldom be turned over to an employee, and certainly never to an inexperienced or smart aleck subordinate. The land surveyor must always remember that while he generally works for and is paid by only one land owner, he is almost always dealing with the property rights of at least two parties. Not only must he be an expert in boundary law and procedure, but he must be able to explain these concepts diplomatically to laymen. Granted there will be a few cases involving access where the land owner will be unyielding or unreasonable, but even in these

Articles

cases his property rights must be defended and the theory of "due process" must be upheld.

SOLVING THE DIFFICULT CASES

Each state surveyor society should examine its existing state legislation, the current access problem in that state, and the potential for difficulties as land use intensifies. If a significant amount of trouble is anticipated, suitable legislation should be proposed. Such proposals should be well thought out and should have input from a wide variety of interested groups. A complete and workable access law should, in my opinion, address at least the following topics:

1. Specify what corners shall have survey easements and how large such easements shall be.
2. State the conditions under which the surveyor may use these easements. (Notification to land owner, method and route of access, and liability.)
3. Require surveyor to file a monument record whenever he performs a search, even if no monument is found.
4. Provide for state plane coordinates or suitable reference marks to preserve positions and eliminate need for future access.

HOW MUCH ACCESS IS NEEDED

In the Public Land Survey System the amount of access needed can be greatly reduced if the survey can be done largely on paper. For example the SW 1/16 corner of a regular "virgin" section may be set by surveying only four miles of line (the section perimeter), computing the desired location, and setting the monument in the field with a quarter mile tie and a quarter mile check. (All dimensions are, of course, nominal.) To set this same corner by surveying all the presumably "straight" aliquot line in the field would require perhaps seven miles of line and ten to fifteen miles of travel, depending on logistics and sight distances. The same method may be used with discretion in "non-virgin" (i.e. partially subdivided) sections to avoid obstacles and reduce access prob-

lems. In many cases this indirect method is not only much less expensive but is considerably more accurate than the "charge through the swamp" method. Colorado law specifically allows this method to corners as well as on all corners which are set. Naturally, the surveyor has the responsibility to search for and evaluate any interior corners or other land boundary evidence.

CONCLUSION

It is obvious that in order to perform a valid land survey a surveyor must have access to all necessary control monuments. This access can generally be obtained through diplomatic negotiations with land owners. To cover the few cases where diplomacy may fail, state laws should provide the necessary right-of-entry under carefully controlled conditions so as to protect the property rights of all parties. Private land surveyors, government agencies, and land developers should cooperate to preserve the location of control corners and existing aliquot corners, not only by improved monumentation, but by referencing such monuments to several durable and fully accessible reference monuments or to the state plane coordinate system. Future surveys which are dependent upon these corner locations may then be performed by using the reference monuments and suitable calculations, thus eliminating the need for physical access to the actual control monuments or aliquot corners.

Submitted by Fritz Ingram
Umpqua Chapter

Articles continued on page 26

PHOTOS WANTED

The California Surveyor is requesting cover photos from its readership. Photos should be 8"x10" glossy-for-repro. Information regarding the subject of the photo plus the photographer/contributor should be sent to the Editor along with the photo and a letter giving The California Surveyor permission to publish the material.

NEW PRODUCT (Cont. from page 4)

defined, and a mylar overlay covers all secondary key nomenclature and provides a clean appearance to the keyboard.

Programmable key definition, key files, language extension files, window command, autostart and other programming aids make it easy to incorporate customization into the software written for the HP-71B. Users have the ability to extend BASIC language with additional keywords, override BASIC with Assembly/Forth, or override the entire operating system.

And, for high-volume users, the Custom Products Program for the HP-71B can provide users with custom ROMs (16k, 32k, 48k and 64k), and custom magnetic cards to meet specific application needs.

Accessories and Peripherals

The optional mechanical card reader fits into a slot on the right corner of the machine and can be installed by the user. This dedicated card reader uses 10-inch magnetic cards. With a capacity of 1.3 kilobytes per card, this low-priced magnetic storage can be used both for prewritten applications and user storage media.

A plug-in slot in the rear of the machine is reserved for the Hewlett-Packard Interface Loop (HP-IL), which allows the HP-71B to interface with a wide variety of peripherals and instruments. Built-in advanced I/O functions in the HP-IL enhance the HP-71B as a tool for instrument control. The information transfer rate of the HP-IL module is 5,000 bytes/second.

Both a strip printer (24 characters) and a full-page printer can be interfaced with the HP-71B through the HP-IL module. Other peripherals available for the HP-71B include a plotter, video interface, digital-tape memory, scientific instruments and bar-code reader.

The use of other HP interfaces, such as HP-IB (Hewlett-Packard Interface Bus, an enhanced version of IEEE-488 standard interface), the RS-232C and the General Purpose I/O (GPIO) can further expand the peripherals available for the HP-71B.

The HP-71B is available from HP authorized dealers and from HP. For the location of the nearest authorized dealer, interested parties may call, toll free, 800-FOR-HPPC.

Student Notes

THE MODERN SURVEYOR EXPANDING HORIZONS

An overview of the 23rd Annual California State University, Fresno Surveying and Photogrammetry Conference, Jan. 20, 21, 1984.

The student chapter of CLSA at California State University, Fresno is pleased to report that this years annual conference was not only a great success, but can boast of a higher attendance than in previous years.

This conference is an annual event on the university campus, traditionally planned and carried out by the faculty and students working towards their B.S. in Surveying and Photogrammetry. The conference serves to benefit both the professional and student, bringing to them a variety of topics that enhance their performance and expand their horizons. A day and a half of lecturers intermixed with a variety of exhibitors proved to those attending to be worth the trip to this state's central valley.

The speakers and their topics were presented as follows:

"Negotiation as a Way of Life"
Russell C. Fey, Professor of Urban and Regional Planning, CSUF

"Surveying in a City Environment"
Paul Enneking, LS, Director of Surveys, Psomas and Associates, Santa Monica

"Surveying for High-Rise Structures"
Perri Cosseboom, LS, Director of Surveys, Creegan and D'Angelo, San Jose

"Computer Graphics in Southern California Edison Company"
Kenneth Griffing, Manager, Automated Mapping Project, Southern California Edison Company, Long Beach

"The Intergraph Data Processing System"
Joseph Michaels, Intergraph Corporation, Irvine

"The Surveyor as Archaeologist"
William Sallee, LS and Archaeologist, Pacific Grove

"Surveying Law and Surveying Legislation"
Robert Hoerger, LS and Attorney at Law, Berkeley

"What Does NCIC Offer?"
William Johnson, Chief, National Cartographic Information Center-

Western USGS

"Mapping Capabilities of an Analytical Stereoplotter" Gerald Dildine, Photogrammetric Engineer, Rat-tray and Associates, Santa Ana
"Mineral Surveys and the Land Surveyor" David Graebner, U.S. Mineral Surveyor, Grass Valley
"Contracts and the Professional Surveyor" Stuart Home, Attorney at Law, Staniford Harris Loomis & Home, Fresno

Money collected during the conference, for example registration fees and exhibitors donations, were put in a fund designated for scholarships and these awards were given to outstanding students during the awards banquet held on Friday night. The recipients of this years scholarships were as follows:

Neil Nelson Memorial Award—
Mitch Duryea

Teledyne Geotronics Photogrammetry Award—Steve Swiatek

CLSA Ed Griffin Awards—Gary Lewis, Dale Ayers, Karen Koklich

The latter half of the second day was reserved for Hewlett-Packard workshops, again a regular item for this conference. Three levels of instruction were taught and those attending were pleased with the material presented. A special thanks to Joe Bell, Russ Garner and Dale Ayers for their instruction of these classes.

The students would like to sincerely thank the speakers who contributed their time and expertise which made this year's conference one of quality and success. Also the recipients of the scholarships wish to thank the CLSA professional organization and others who generously donated to help promote higher education and professionalism. See you next year.

EMPLOYMENT

Support the Surveying Program at CSU-Fresno

California State University at Fresno has many students available for summer and permanent positions. These students will have a four year Engineering degree in Land Surveying and Photogrammetry.

For resumes, and information contact: CLSA Central Office, P.O. Box 9098, Santa Rosa, CA 95405—Telephone (707) 578-6016.



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model 140 Total station (3 mile range)	95.00	66.00	44.00
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124 data collector	28.00	16.80	11.20
Hewlett-Packard 3808A EDM (6 mile range to 9 prisms)	50.00	30.00	20.00
Cubic DM-20 electrotapes, 2 units (30 mile range)	40.00	24.00	16.00

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Kern 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-1A one second theodolite	30.00	18.00	12.00
TM-6 six second theodolite	25.00	15.00	10.00
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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

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Lietz BT-20 or Nikon TT-800 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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Zeiss Ni-2 engineers 32X, 2nd order automatic level	12.00	7.20	4.80
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 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
David White 8114 construction 12" dumpy level	3.00	1.80	1.20

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Raytheon DE-719B recording fathometer	25.00	15.00	10.00
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CONSTRUCTION LASERS

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News Briefs

CLSA NEW OFFICE SITE

California Land Surveyors Association has relocated to a new office site. Our new street address is 795 Farmers Lane, Suite 20, Santa Rosa, CA 95405. The new telephone number is 707-578-6016. Mailing address is still P.O. Box 9098, Santa Rosa, CA 95405-9990. Please make note of these changes.

INTERNATIONAL CONGRESS OF SURVEYORS TO HOLD LAND INFORMATION SYMPOSIUM IN EDMONTON

The International Congress of Surveyors (FIG) is sponsoring an international symposium on Land Information Systems at the Edmonton Convention Centre on October 15 to 19, 1984. The symposium entitled "The Decision Maker and Land Information Systems" will feature speakers on cadastral and land information systems from around the world.

Expected to attract up to 600 participants, the conference will be hosted by the Canadian Institute of Surveying as the Canadian member of FIG and sponsored by Commission 3 of FIG together with the Government of Canada and the Government of Alberta.

The concept of inter-related computerized land information systems has become an absolute necessity in a society which thrives on masses of information. The 80's are the era for the development of high speed systems for the analysis and processing of land related data in the same fashion that financial systems were revolutionized in the sixties. Land information however, is derived from multi different sources and hence it is imperative that government and industry work together to coordinate and develop systems that will be compatible with each other. The symposium will therefore be aimed at the decision maker in order to obtain his assistance in the development of this important new decision making tool in an attempt to accelerate and optimize the compatibility of totally integrated systems and subsystems.

The 1984 CONSULTING ENGINEERING-DESIGN SALARY SURVEY provides competitive salary and bonus information on 46 professional and technical positions in 11 disciplines. Salary and bonus data are reported for each position by the type of engineering performed, revenue size, geographic location, contract type and more. In addition an analysis of average salary ranges, actual 1983 salary increases, and anticipated 1984 salary increases is reported. PAS, Inc. (Personnel Administration Services, Inc.), 3001 Plymouth Road/Suite 205, Ann Arbor, Michigan 48105, (313) 665-2063.

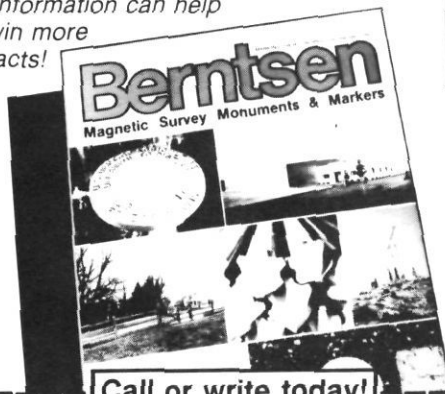
NGS Software Available

The National Geodetic Survey has several programs available which run on the Hewlett Packard 97 and 41 CV Programmable Calculators. The cost is \$10 for each program, which includes magnetic cards, documentation and processing.

For information contact Ms. Peggy Harper (301) 443-8623 or

(Continued on page 30)

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Legislative Information

The California Land Surveyors Association is pleased to announce the association between Winner & Wagner Associates and our professional organization. This advocacy firm will be representing CLSA's interests in Sacramento before the California State Legislature as well as other government agencies. Here is a closer look at Winner & Wagner and our two legislative representatives, Ralph Simoni and Dennis Flatt.

WINNER/WAGNER & ASSOCIATES, INC.

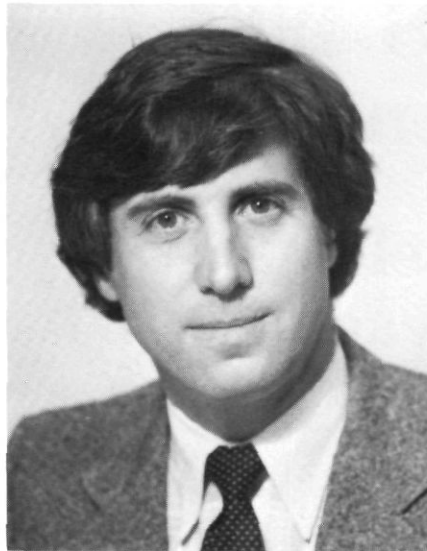
Winner/Wagner & Associates, Inc. is a legislative advocacy, political consulting, and public communications firm with offices in Sacramento, Los Angeles and New York City. The Sacramento office provides legislative advocacy services in California and occasionally in Washington, D.C.

In addition to support staff, the Sacramento office has a staff of five lobbyists. The experience of Winner/Wagner lobbyists is extensive, and includes many years in the executive, as well as legislative branches of California government.

With a sizeable staff of advocates, Winner/Wagner is able to offer clients a unique arrangement. One lobbyist serves as the lead advocate on each account, and a second is assigned as back-up to assist when special circumstances require extra support. Both undertake the educational process necessary to become intimately familiar with the client's concerns, the nature of the profession, and issues affecting the client. The lead advocate is, in effect, the lobbyist for the client and serves in that capacity on a daily basis. The back-up assists when necessary, and both are able to use to advantage the political contacts of other Winner/Wagner colleagues when those contacts would be helpful.

RALPH F. SIMONI

Following graduation from law school and admission to the California State Bar in 1972, Ralph Simoni began a career in governmental relations and legislative advocacy as



Ralph F. Simoni

Assistant Director of Governmental Affairs for the Office of the Chancellor of the California State University and Colleges. In 1974, he accepted the position of Vice President/Legislative Counsel for the California Land Title Association.

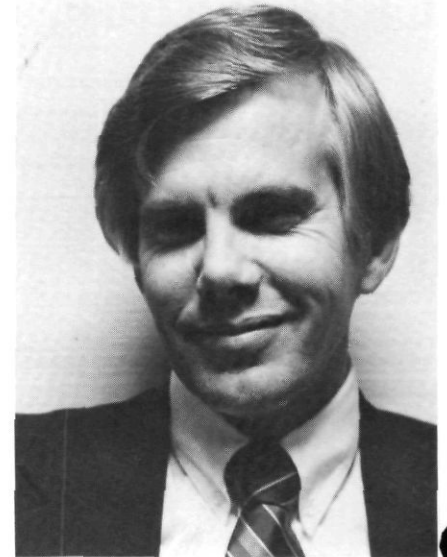
In January of 1980, Mr. Simoni joined Winner/Wagner & Associates, Inc., with primary responsibility for consulting and legislative advocacy for the State Bar of California. He is now responsible for representing a variety of clients which include the California Council, American Institute of Architects and California Escrow Association.

DENNIS O. FLATT

Prior to joining Winner/Wagner & Associates, Inc. in December 1982, Mr. Flatt held several positions with the legislative and executive branches of state government. Beginning in 1963, he accepted a position with the Department of Finance and held increasingly responsible positions in that agency. In 1970, he was appointed Assistant Secretary of the Health and Welfare Agency in the Reagan Administration.

Mr. Flatt also served as Chief Deputy Director of the Department of Social Services and as Program Budget Manager in the Department of Finance from 1975-1978. He then joined the Legislative

Branch as Chief Consultant to the Senate Health and Welfare Committee, a post that he held for two years. In 1980, Mr. Flatt was appointed Chief of Staff to Senate Majority Leader John Garamendi. In this position he was principal advisor to Senate Democrats on policy matters, particularly health and finance issues.



Dennis O. Flatt

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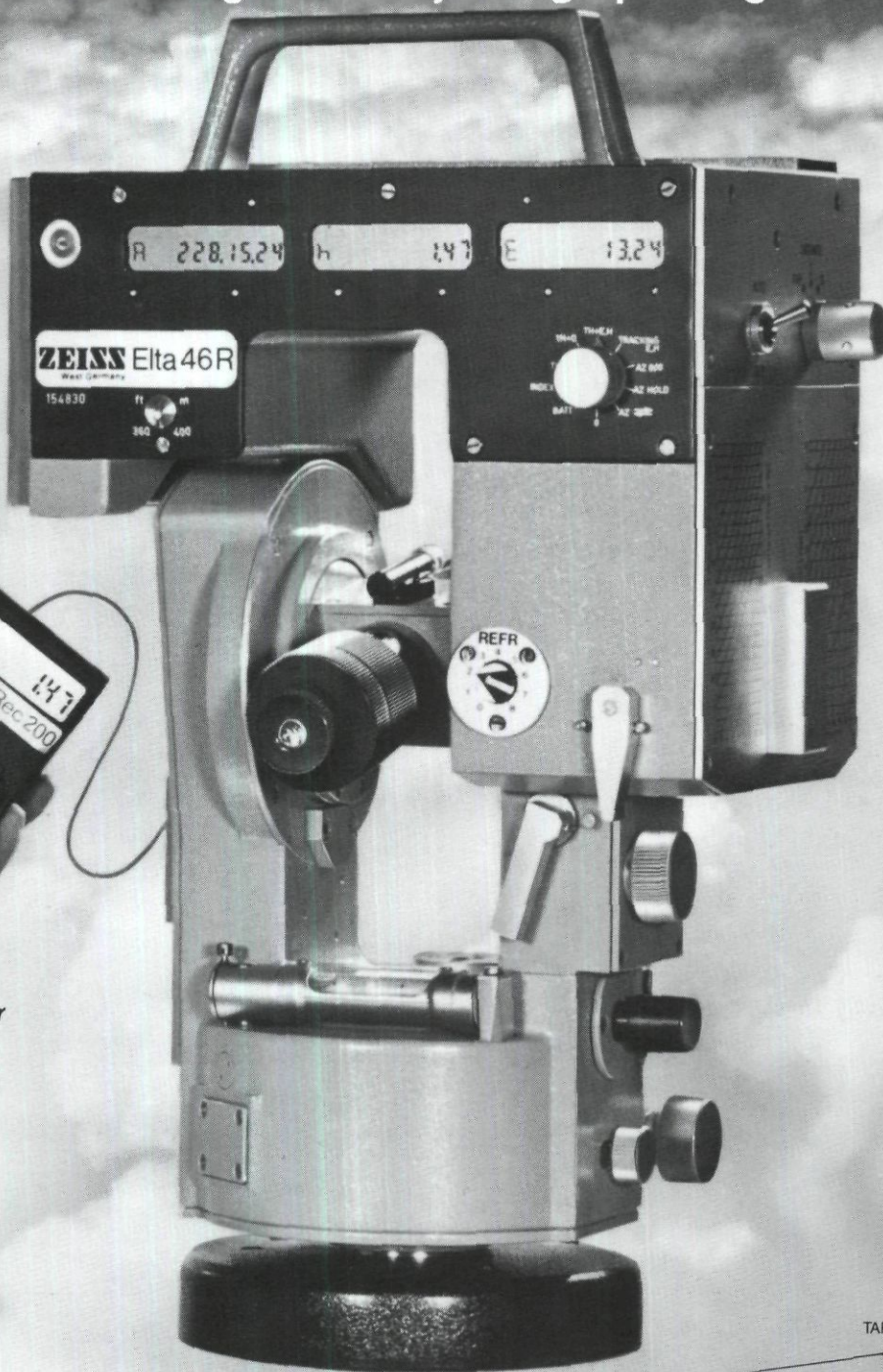
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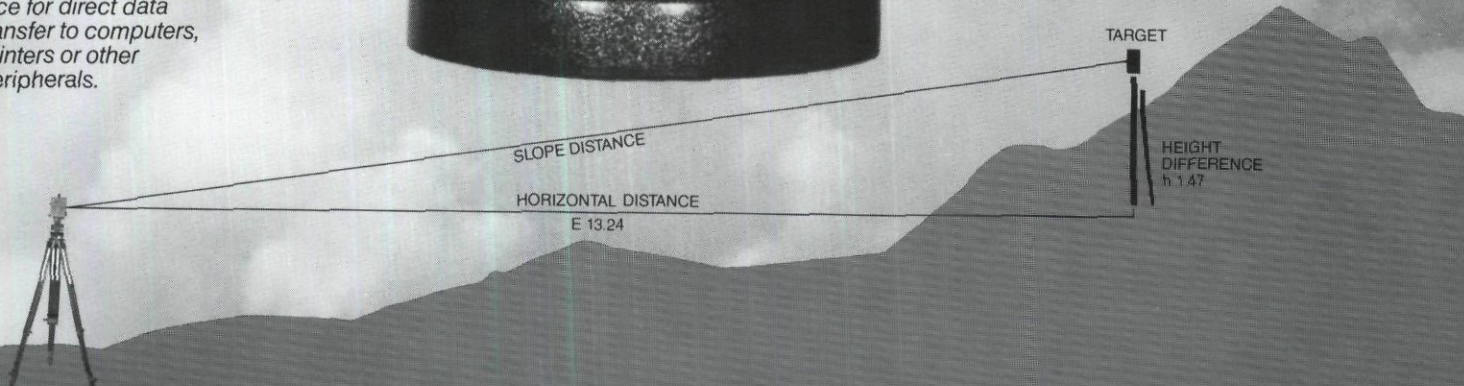
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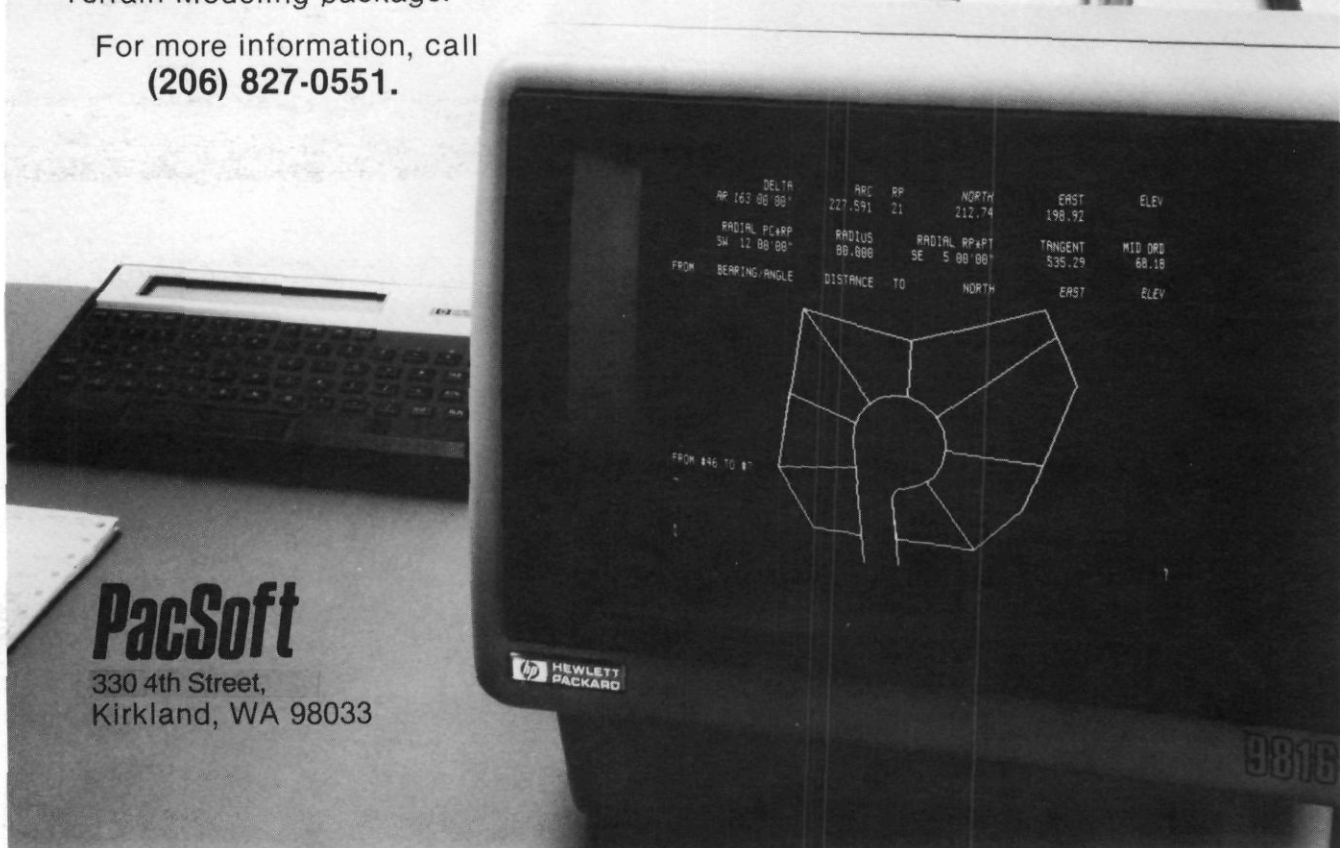
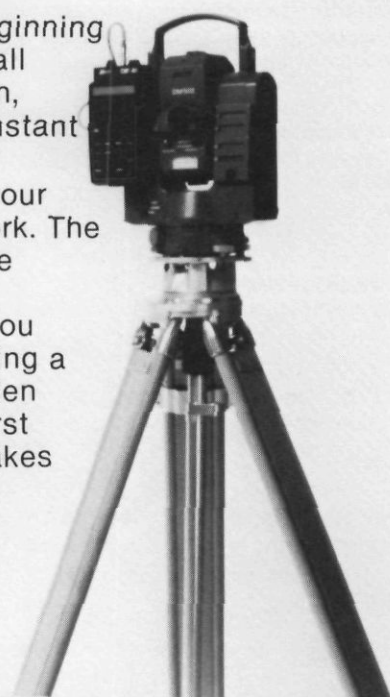
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Surveyors Historical Society

The Surveyors Historical Society has been expanding its membership. We have 192 members in 32 states, Canada and Belgium. The membership, as of February 14, 1984, represents four associations: Arizona Professional Land Surveyors, History Associates, Inc., IRLSA-Little Egyptian Chapter, and NHSPS-Central Jersey Chapter. Also included are seven commercial suppliers: Bay Engineering Systems, Inc., Benchmark Instruments, Engineering Service and Supply Co., Industrial Tool and Equipment Co., Inc., Survey Equipment Co., Seco Surveying Equipment Co., and Surveyors Service Co.

Our membership covers a wide range of people in private practice, public agencies, university students, retired persons, and persons interested in preserving Survey History. We recently completed our charter membership list. Cecil Hanson, now retired senior active member, has been a collector and displayer of survey artifacts for several years, is our first member.

Gity Miller from the younger generation, a public employee in the surveying field became our 100th charter member last month. As this shows, both men and women of varied ages are interested in preserving the history and artifacts of the surveying and mapping profession.

The following persons had joined but moved without sending a forwarding address: Frank T. Carey, R.H. Garner, Dennis J. Gelvin, Edward Geringer, Ronald H. Greve, Ralph W. Guilda III, Philip Killoran, Michael Quartaroli, Lorraine Settington, and Speight and Assoc. If the above ten are still interested in membership, they should contact the Secretary.

At the last meeting on October 14, 1983, the newly elected directors for 1983-85 were installed. The directors have divided up the duties as follows:

David Goodman-Chairman
Maurice Lafferty-Vice Chairman
Myron Lewis-Secretary
Michael Welch-Treasurer

Donald Bender-Membership Chairman
Cecil Hanson-Exhibits & Artifacts Chairman
Francois Uzes-Historian

If you are interested in membership, the cost to an individual is \$20. Yearly dues, July 1 to June 30, are also \$20. The directors are elected in the fall of each odd year.

A list has been compiled of information on the location of survey records for retired and deceased surveyors. To date, the growing list contains 341 names, that covers surveys from 1832 to the present. A questionnaire on the subject has been mailed out periodically in survey publications. If you want a copy, contact the Secretary.

The Society has continued to collect a varied supply of artifacts from inexpensive slide rules to expensive field equipment. We were able to purchase a survey plat signed by President Thomas Jefferson and a 19th Century Burt Solar Compass for the collection. Most of the artifacts have been donated.

(Continued on page 30)

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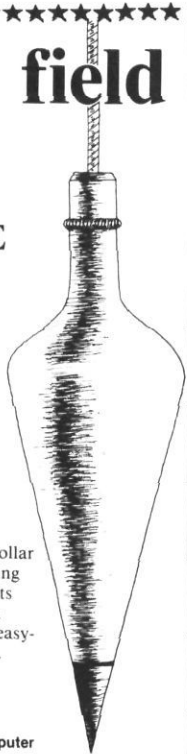
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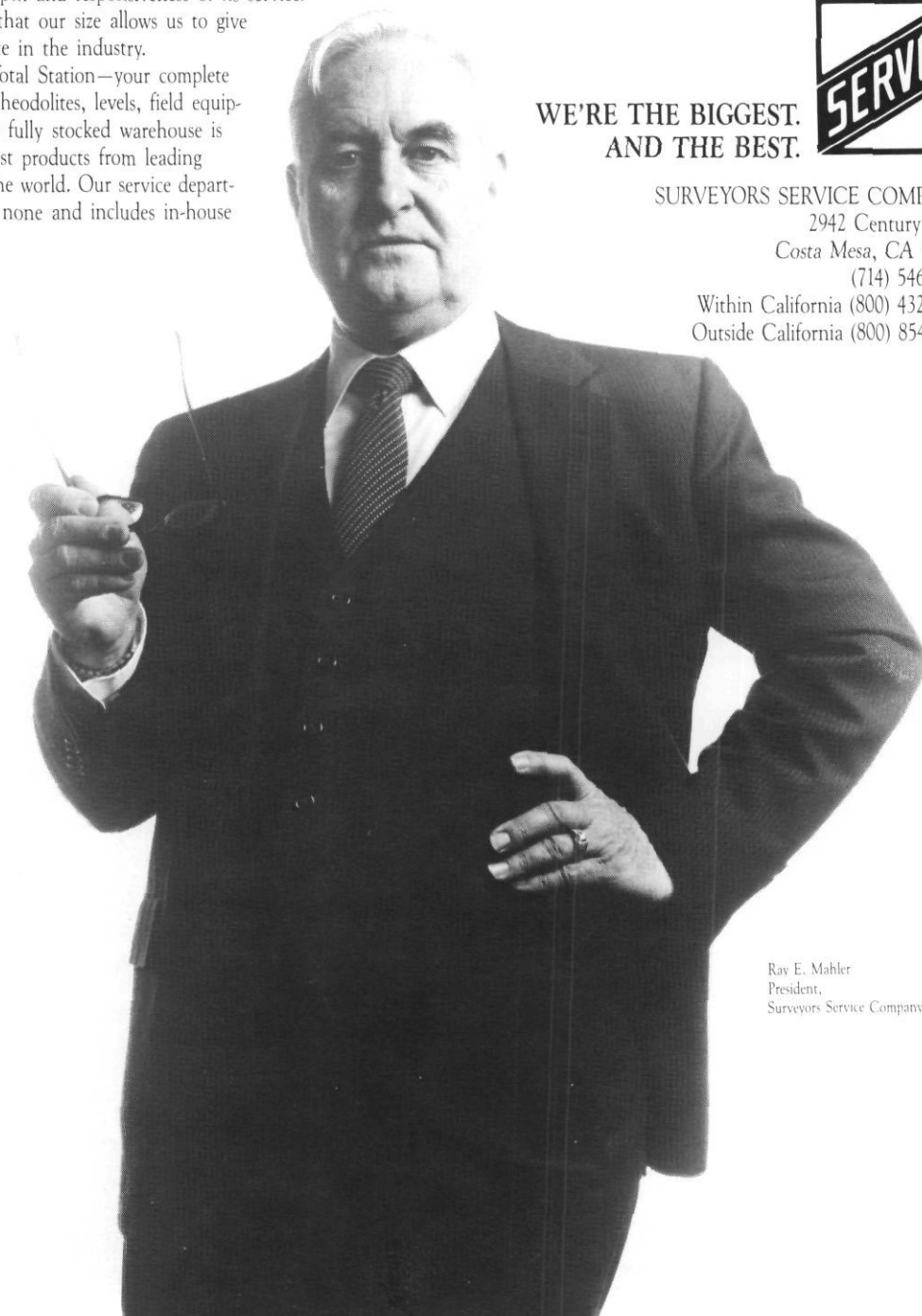
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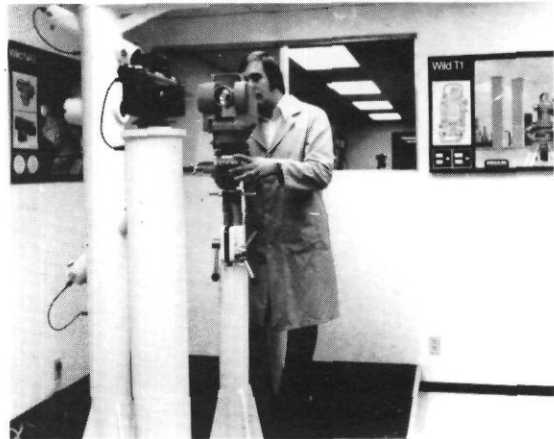
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Computer News

THE INTRODUCTION OF THE HP 71B

by Joe Bell

Hewlett-Packard very quietly announced the most important news for surveyors in over three years. The HP 71B was introduced at the Winter Consumer Electronics Show where over 100,000 manufacturers, retailers, distributors, exhibitors and press started 1984 in arid Las Vegas, Nevada. This trade show, which is not open to the public, spralled over the Las Vegas Convention center, the Hilton Convention Center, the Riviera Hotel and the Sahara Hotel. Walking 11 hours a day for four days, I could not visit every booth.

I owe you all an apology. I said in my column in P.O.B. that in head-to-head competition in consumer electronics, IBM would bury Hewlett-Packard. I was wrong. I had forgotten one small little area where HP has already run everyone else out of the market, the so called "high end calculator" market. HP introduced the HP 71B. I believe this product will revolutionize the personal computer market. What is so special about the HP 71B?

1. HP 71B is personal
2. HP 71B is powerful
3. HP 71B is open

Now your computer which consists manily of heavy and bulky I/O devices like monitors, keyboards, disk drives, printers and plotters will remain in your office and when you go to the field, you will simply pull the "brains" out of the computer and put them in your pocket (the HP 71B).

"Personal" computer has been used by many people including IBM for something that would give you a hernia if you carried it from one desk to another. When I saw the HP 71B, I knew instantly what a "personal" computer is. A wrist watch is "personal." A calculator is "personal," but even my favorite lap computer, the Radio Shack TRS 80 Model 100 is not "personal" (I found that out when I carried the Model 100 around the show on the first day—I did not try it a second day). The HP 71B will be at your side or in your pocket all the time, instantly ready to do your bidding.

Okay. It is small enough to carry

around all the time. What else makes it so special. It addresses .5 megabytes. It is powerful. The original IBM 370 (main frame or "big" computer) only addressed 1 megabyte. That is a lot of data collection, personal business and whatever to have on your belt.

It is an "open" machine. HP will make a listing of the entire operating system available at a nominal price making it easier to use, easier to program, interface and customize for a particular use. The built in 64k operating system can be by-passed, so that if you wished you could use another operating system such as CP/M, MS-DOS or Unix.

The most popular personal computer has been introduced and no one knows it. Not even Hewlett-Packard. Over 0.75 million HP-41's have been sold. I predict that at least twice that many HP 71B's will be sold.

There are two compromises in the HP 71B. It uses a proprietary chip, and it has a one line display. There exists at present no complete chip set that will operate with the power requirements that the HP 71B was designed to meet (it runs a lot longer on 4 AAA batteries than the Model 100 on 4AA batteries). The magic 8x80 character display, while it could have been used, would have made the HP 71B too heavy and bulky and much too expensive. It is easy to use with a dumb terminal (has built in software so that it is easy to use as a "host" computer). The HP 150 was being used as a dumb terminal at the Hewlett-Packard Booth and later, we used the Radio Shack TRS 80 Model 100 as a dumb terminal up in Jim De Arras's hotel room. It was strange running FORTH on the Model 100 (actually, on the HP 71B using the Model 100 as a terminal).

A very powerful FORTH/ASSEMBLER ROM should be available by the time you read this. This will restore reverse Polish notation to the HP 71B which comes with an AOS (algebraic operating system). FORTH is like a very powerful HP-41 language.

The HP 71B will have two interfaces, HP-IL (which means RS232C, IEEE 488(HPIB) and GPIO) and INFRARED (which has not been announced and is based purely on my own speculation). The HP-41 as a loop controller (HP-IL)

runs the loop at 700 bits per second. The HP 71B will run the loop at 5000 bits per second. The INFRARED interface will work exactly like your TV remote control, but like the IBM PCjr will support 128 different characters and unlike the PCjr will be bidirectional. You can imagine what that will do for surveying instruments.

Two other fine modules will be of interest to the surveyor. The SURVEY module and the MATH module were translated for the HP 71B from the fine HP 75C ROM's of the same names. The SURVEY module means you can start right off with a program that stores two or three coordinates and operates from point numbers. The MATH module puts at your disposal, all those matrix operations in machine code so that complicated adjustments such as least squares by variation of coordinates can be programmed simply in a few lines of code.

Initial shipments started 1/30/84. The HP 71B may be ordered from PROTETEK (213) 827-7438 for \$397 plus \$3.00 for shipping and handling (California residents add 6% sales tax).

Only 4K memory modules have been announced (Dave White-(213) 351-5156 will do a four to one conversion—there are four parts so you can add 64K to the resident 16K for a total of 80K of user RAM immediately. Perhaps by the time you read this, the full 512K of RAM will be available for those who wish it.

The defacto FORTH standard book is STARTING FORTH by Brodie. I also like Hogan's DISCOVER FORTH (but then I like everything that Thom Hogan has written).

I will give a seminar on survey programming in FORTH on the HP 71B in or around September 1984, in San Bernardino through my local CLSA chapter and in January 1985, at Fresno State University. Fresno, California through perhaps the state CLSA.

There is nothing that cannot be done in the field now.

Joe Bell is a licensed land surveyor in the State of California and works for the City of San Bernardino. He is a voting member of CLSA, ACSM, ASCE, NSPE, AGU, IEEE and ACM (Association of Computing Machinery). He writes a regular column in P.O.B. called "Joe Bell on Personal Computing" and edits The Survey Calculations Journal.

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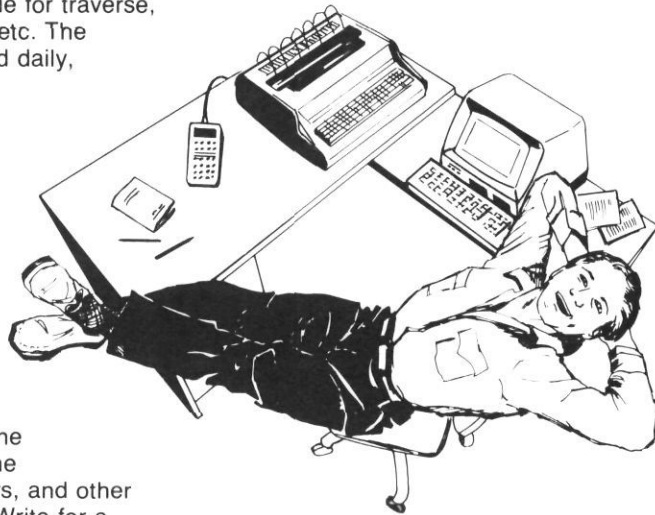
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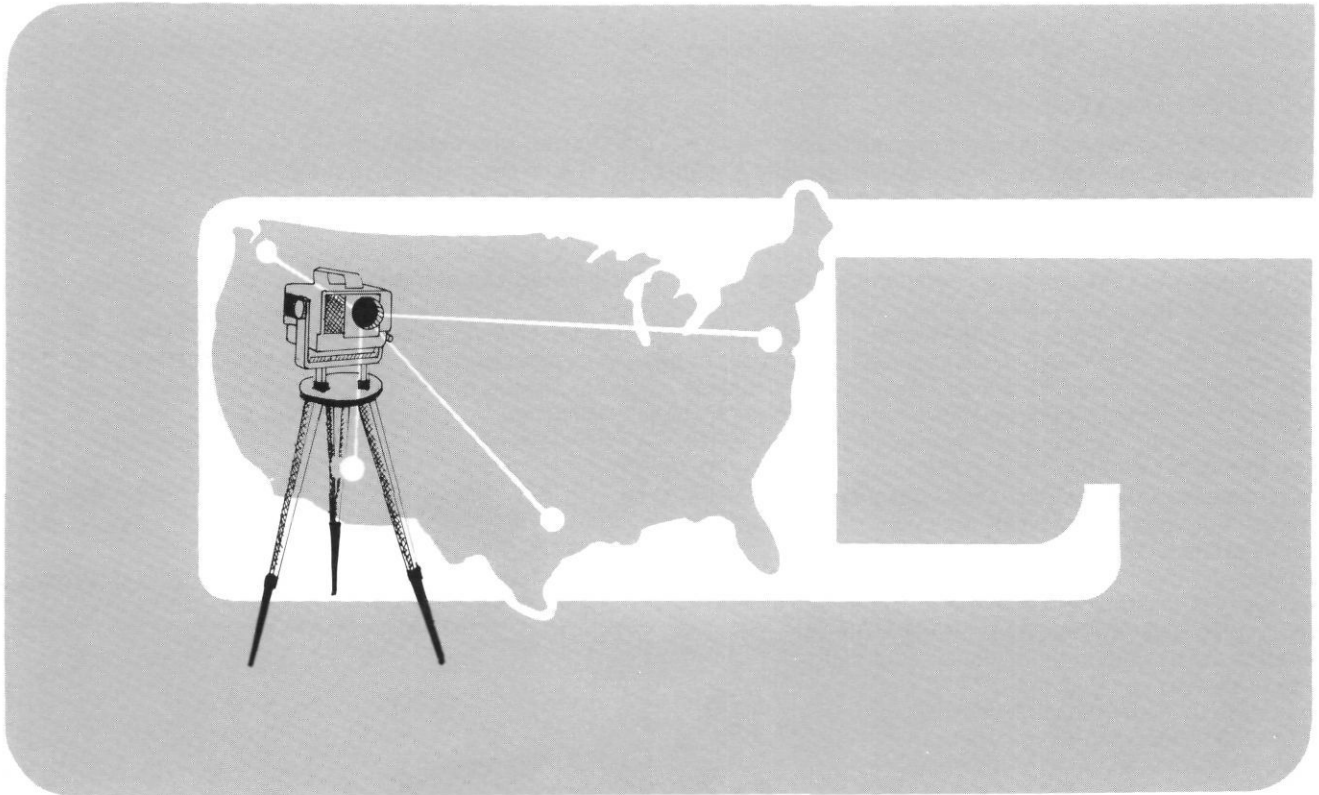
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Education Outlook

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Application forms for enrollment can be obtained from the Admissions/Records Office, Conlan Hall E107 City College of San Francisco, 50 Phelan Ave., S.F. 94112. Location/Transportation: Interstate 280 at Ocean Ave., freeway exit across from Balboa Park BART Station served by MUNI lines 10,12,15,26, 29,36,43,49, and K-Ingleside.

Instruction begins the week of August 14 and ends on December 21, 1984. For information, call 239-3308.

CALIFORNIA FOUNDATION FOR LAND SURVEYING EDUCATION

CAL POLY, POMONA COURSE ATTRACTS MORE THAN DOUBLE EXPECTED ENROLLMENT

The California Foundation for Land Surveying Education's course in Land Survey Descriptions has attracted more than 45 students at Cal Poly Pomona (California State Polytechnic University at Pomona).

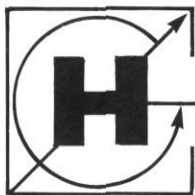
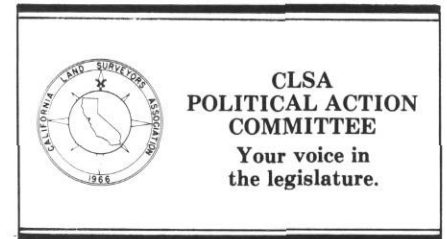
"We expected 20 students, but close to 50 enrolled in the course," said Kevin D. McHugh, president of the Foundation. "The enrollment in this course we developed with Cal Poly, Pomona shows that the demand for land surveying education is there," said McHugh, who is with the Jack G. Raub Company. "It is time for the universities, and the bodies which fund them, to take note," he said.

"The nonprofit foundation was formed to raise awareness of the need for adequate land surveying

education and to actually do something about it. This course at Cal Poly Pomona is the first step."

The group's overall goal is to support surveying education throughout California, with its first objective to establish a four-year degree program at a Southern California University. Currently there are less than 20 universities in the entire country with such programs.

For more information on the Foundation, contact Kevin McHugh at (714) 859-4948 or Jim Rems at (714) 476-7373. Correspondence and tax-deductible contributions can be mailed to California Foundation for Land Surveying Education, P.O. Box 4198, Irvine, CA 92716.



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Shore and Sea Boundaries (1962) Reprint 1975—Aaron L. Shalowitz, U.S. Department of Commerce Publication No. 10-1

Vol. II—The Interpretation and Use of U.S. Coast and Geodetic Survey Data \$11.95 ea.

Restoration of Lost or Obliterated Corners & Subdivision of Sections—a guide for surveyors—U.S. Department of Interior, Bureau of Land Management—1974 Edition \$.75 ea.

Metric Practice Guide for Surveying and Mapping—American Congress on Surveying and Mapping. This Metric Practice Guide has been prepared to aid those engaged in surveying and mapping in the use of the International System of Units (SI) in accordance with recommendations contained in the Metric Conversion Act of 1975, Public Law 94-168. \$1.50 ea.

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Articles (continued)

THE SURVEYING SCENE

Reprinted from *The Texas Surveyor*
July/Aug. '83

by Ken Gold

Some surveyors carry Errors and Omissions insurance. Some don't. Some surveyors think "E & O" insurance should be mandatory and others offer the retort that this kind of insurance attracts lawsuits.

Some surveyors would prefer to let the insurance underwriter pick up the tab for any oversight, blunder or goof without considering the eventual, if not the immediate, impact such action would have on future premiums.

Where group policies are involved, the group can suffer by inattention to such matters as trivial claims, and the consequence is an escalation from what we think of as high premiums to even higher ones, or to a point where the carrier may refuse to insure the group for any price. Any E & O insurance plan ought to have a high enough deductible to avoid or at least minimize trivial and petty claims yet protect us

from career associated financial catastrophes.

The best thing about surveyor's Errors and Omissions insurance is that the claims history in Texas is virtually non-existent. Several factors contribute to this apparently desirable condition. One is that only a few surveyors carry E & O insurance. The second, so far, is that those who do carry this insurance usually have a high enough deductible that discourages or avoids the abuse of nuisance or petty claims. Lastly, most surveyors simply correct their mistakes or pay cash for the damages whether they have E & O insurance or not. This has always been an effective and prompt way of doing business. It still is, if the surveyor can afford it.

It is common knowledge that an epidemic of "sue happy" philosophy has permeated the work environment of practically every occupation. So far we surveyors have not fared too badly in this atmosphere and that would appear to be a tribute to the quality of our performance.

Unfortunately, that is not really the case. Most clients who have reason to consider a lawsuit against surveyors have weighed the potential gain and decided that the award of a run-down truck and scratched up transit just wasn't worth the effort. Here is where the proponents of the idea that insurance attracts lawsuits make their most sense. If a surveyor doesn't have anything of real value, what does he really lose if he is sued? Maybe this philosophy was valid in years past, but does it apply today? With the arrival of new and better equipment on that market (digital theodolites, total stations, cheaper EDMs, computers, plotters and the like), numerous surveyors have recently increased their capitol investment many fold. Some of those previously irate clients who were reluctant to file suit are starting to find this out. Whether it's by word of mouth or by information furnished in the surveying profession's many publications, the surveyor's image is changing. This change is also noticeable in state and federal lobby-



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Articles (continued)

ing efforts, or by interfacing with other professionals and other societies.

Look at the ads in any of our surveying magazines. The equipment advertised is expensive. Simple logic says that a profession that supports manufacturing and sales of such expensive equipment must be doing rather well. Right or wrong, these signals are being sent and received. The surveyor who still believes he keeps a low profile may find himself in the same situation as a turtle crossing a freeway.

Many successful occupations, or even one with just the appearance of success, may well become a target for those caught in the "sue happy" epidemic. Could it be that we who focus cross hairs may have

cross hairs being focused on us?

If only the incompetent were sued, they would get their just deserts. Today, though, we are all targets. Being right, defending principles and expecting justice seldom has much to do with the eventual outcome of a trial.

Those caught up in the dramatic events involving a lawsuit are truly the best witnesses for good financial protection. In most instances, whether a defendant is judged innocent or guilty, the appellate court is always a distinct possibility, but the resultant bare knuckles financial chaos is a fact.

Whether a surveyor must turn his worth over to his own defense lawyer or to the plaintiff is virtually the same. When forced to endure an

expensive trial, being exonerated unfortunately has about the same meaning as being put out of business. A number of surveyors have taken some comfort in the fact that they have never been sued; it has never even been close. Yet all agree that practically every survey made has the potential of being misunderstood, misused or abused. With or without justification, a client who feels damaged, even by misusing a survey, can endanger a surveyor's career—and, similar to being struck by lightning, it only takes once.

Maybe E & O insurance is something we ought to think about. Twice.

□

Letters to the Editor

To the Editor:

In 1973 the Governor signed into law legislation requiring the filing of Corner Records under certain conditions.

I am writing this to illustrate how a good idea, originated and nurtured by men with the highest intentions and promulgated as a needed adjunct to existing survey records, has instead turned into an instrument for diluting the quality of these very records.

The original idea behind having Corner Records was to have surveyors report the current condition of BLM corners and have the County Surveyor's office as the repository of the reports. The thought being that over a period of years the condition of most of the BLM corners in a county would have been reported and a surveyor, by referring to the Corner Record book, would be forearmed with current knowledge before going into the field to search for a corner he wished to use.

CLSA was very active in formulating the proposed legislation (I do not know if they were the sponsor) and other organizations and individuals contributed to the final wording. The enacting legislation became law in 1973 and it directed the Board (Section 8773.1) to regulate the statute and prescribe the

form for submitting Corner Records.

During this process my office was asked by the Board for suggestions regarding the form. We had previously met with Ed Griffin regarding wording in the legislation, and because of this involvement I am certain of the original philosophy for having Corner Records; that being to have in one place, as nearly as possible, a current record of the condition of all public land corners in a county.

What a great idea, right? Where did it go wrong? The great idea went wrong in three principal areas.

1. Although all licensed land surveyors are tested on, and assumed to be knowledgeable of, the Manual of Instructions for the Survey of the Public Lands, the statute did not specifically state that a Corner Record could not be used to record restoration of a lost corner. This prohibition was stated in the Board Rules which were established as required by Section 8773.1, but the Rules do not have the same significance as the statutes. In fact, the Board's authority to place this prohibition on the Corner Record usage was successfully challenged in the courts. This led to the passage of a new law in 1981 that added the prohibition to the statutes. This now makes it clear that the permitted

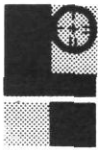
use of a Corner Record for setting or resetting Public Land corners refers only to obliterated corners which can only be set or reset from collateral evidence.

2. While 8773(a) made it mandatory to file a Corner Record for any Public Land Corner and accessory to such corner "which is found, set, reset or used as control on any survey," a permissive section was added. This Subsection, 8773(b), said that a surveyor "may file such a corner record as to any property corner, property controlling corner, reference monument, or accessory to a property corner."

This unfortunately has led some to believe that a corner record could be used to record the setting of original monuments for property corners. Of course it doesn't mean this when it is taken in context with the meaning of "setting" Public Land Corners, and this is borne out by Section 8765(d) which limits Corner Record usage to property corners "reset on any survey."

3. Where the idea has gone wrong is in the lack of enforcement of the law. The courts have found that where the legislature uses both the terms "shall" and "may" in the same statute, the former is reasonably construed to be mandatory and the latter to be permissive. There-

(Continued on page 28)



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LETTERS (Cont. from page 27)

fore, in this statute, it was permissive to "file such a corner record for any property corner, property controlling corner, reference monument, or accessory to a property corner," but it is mandatory to file a corner record for any Public Land corner "which is found, set, reset or used as control in any survey." The only statutory exceptions are if a corner is found as described in an existing corner record on file, or when the data that would otherwise be shown on a corner record is shown on a record of survey, parcel map, or subdivision map.

Even though the filing of some corner records is deemed to be mandatory, the Board took a look at the "real world" and stated in their transmittal of the model form to all "county officials with responsibilities for surveys.":

"It should be noted that there is no wholly effective way to force a surveyor to prepare and file a corner record. An atmosphere of cooperation is strongly advocated to provide a climate wherein the surveyor is willing to prepare and file the corner record, and wherein the receiving official will accept it willingly. The program will probably not be effective if the climate becomes adversarial or hostile, between the various involved parties."

It is difficult to visualize the Board investigating an LS who was reported for not filing a corner record for a Public Land corner he happened to find, let alone filing charges for his lack of doing so. Maybe if all surveyors really knew the purpose of the "Corner Record Law" their professionalism would move them to file the mandatory records. Probably an educational effort by the surveying organizations would help to spread the word. Since over a third of the counties had less than five corner records, filed in the last calendar year, and 13 had none, it is obvious the idea is not working.

Nor does the fact that over a hundred corner records have been filed in seven counties in the last two calendar years mean the idea is working in those counties. That the corner records were to be an adjunct to existing survey records but in some cases are actually diluting the quality of such records.

The Board sent a model Corner Record form to all counties in 1973 as directed in Section 8773.1. The reverse side of the form listed the Board's instructions for conformance with the statute. The heading on the instructions and two of the instructions are noteworthy.

The heading was: A CORNER RECORD IS TO BE USED TO PERPETUATE MONUMENTS ONLY.

Instruction 4 said: At the surveyor's option, "a Corner Record may be filed for any property corner, property controlling corner, reference monument, or accessory to a property corner, when none of the conditions requiring a record of survey is required as outlined in Section 8762."

Instruction 9 said: "Only one corner shall be included on each Corner Record. Accessories to a corner may be included on the Corner Record for the subject corner."

In the ensuing years since passage of the "Corner Record Law" there have not been any changes to the law that moved the Board to change these instructions. In other words, these are still the rules of the game.

Are the rules being followed? No!

Some counties are not only accepting but encouraging the use of a corner record to record the monumenting of previously unmonumented property corners. Some allow a Corner Record to show the setting of more than one corner.

What is wrong with using a Corner Record to record setting corners for an interior lot of a previously un-

(Continued on page 31)

Of Interest

ACSM FELLOWSHIP RECIPIENTS FOR 1984 ANNOUNCED

After two long days of reviewing applications, the American Congress on Surveying and Mapping Fellowship Awards Committee has announced the winners of the 1984 awards in geodesy, cartography, and surveying. This year's winners are:

George C. Dedes, Ohio State University, *AAGS Graduate Fellowship*. Mr. Dedes will be awarded \$2,000 for graduate study in geodesy.

Gustave W. Rylander, Michigan State University, *John W. Pumpelly Fellowship in Cartography*. Mr. Rylander will be awarded \$2,000 for graduate study in cartography.

Gerald W. Mahun, University of Wisconsin-Madison, *Keuffel & Esser Fellowship in Surveying and Cartography*. Mr. Mahun will be awarded \$2,500 for graduate study in land surveying.

Steven J. Swiatek, California State University, Fresno, *Schonstedt Scholarship in Surveying*. Mr. Swiatek will be awarded \$1,000 for undergraduate study in land surveying and photogrammetry.

Theodossios Engels, Ohio State University, *Wild Heerbrugg Geodetic Fellowship*. Mr. Engels will be awarded \$4,000 for graduate study in geodesy.

Fellowship Awards Committee Chairman Gary Young said, "We are very pleased to announce this year's award winners. Their potential is tremendous." He added, "There were also excellent candidates who did not win. I hope they reapply in the future." The awards were presented at the Annual Convention during the ACSM Awards and Annual Business Meeting on March 14 in Washington, DC.

SBA PUBLISHES NEW SMALL BUSINESS SIZE STANDARDS

New regulations defining the size of firms which qualify as a "Small Business" for federal contracts was published in the February 9 *Federal Register* by the Small Business Administration. The new standards, which have been under review since 1980, define small businesses by

average gross annual receipts for the previous three years, are set at \$7.5 million for Engineering Services and \$3.5 million for Architectural and Surveying firms. SBA noted that it received more public comments in this area than any other industry and it "is committed to examine the size standards in the near future."

"LAND BOUNDARY AGENT" SPECS FOR FEDERAL SURVEYORS PROTESTED

The Office of Personnel Management's proposed position classification descriptions, which contemplate changing the title of federal Land Surveyors to Land Boundary Agents, was protested by ACSM and ASP. In lengthy comments drafted by the Position Classification Committee, ACSM President Walter G. Robillard noted the society "strongly objects to the destruction" of the land surveying profession in the federal government. Letters of protest were submitted by federal agencies employing surveyors and technicians, numerous state affiliate surveying societies, and college and universities offering a 4-year degree in surveying or related curriculum. ASP President William G. Hemple also wrote OPM indicating that the 1982 standards for cartographers referred to surveying as "professional level" and that nothing has changed in the past two years to warrant a change in that determination. In a statement released to the press, ACSM President Robillard asked, "does OPM intend to go back and rewrite the history books so school children will be taught George Washington was not a Surveyor, but a 'Land Boundary Agent'?"

GRAVITY PREDICTIONS

The National Geodetic Survey is now offering predicted gravity values. There are approximately 1.6 million Bouguer anomaly point values for the United States stored in our gravity data base. A representative subset of Bouguer values was used to generate polynomial surfaces over 30'x30' areas, using a

least squares collocation statistical technique. Estimates of Bouguer gravity can be predicted or interpolated in areas of low coverage based upon these collocation surfaces. An estimated Bouguer anomaly value is then manipulated in manner which yields an estimate of observable gravity at a specified location. A standard error associated with this estimate is also calculated. The estimated gravity values are typically good to better than 5 milligals or 5×10^5 meters/second².

To process a request for predicted gravity values, the latitude, longitude, and elevation of each point must be provided. The fee is \$20 for the first point and \$5 for each additional point on the same order. NGS will accept requests for as many as 10 points by telephone. If more points are required, please write NGS. Orders exceeding \$65 require prepayment.

To order predicted gravity values, contact Mrs. Peggy Morrish, (301) 443-8623, or write: National Geodetic Information Center (N/CG174), National Oceanic and Atmospheric Administration, 6001 Executive Blvd., Rockville, Maryland 20852.

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NEWS BRIEFS (Cont. from page 12)

write: N.O.A.A., National Geodetic Information Center (N/CG174), Rockville, MD 20852.

And, if you just happen to have an IBM 360/195 version computer sitting on your back porch, programs are available for it too. The price, though, will be just a wee bit higher.

HISTORICAL SOCIETY

(Cont. from page 17)

Presently, we have had several offers to display our artifacts at different conventions and museums. Our largest display to date was in Old Sacramento, California from October 1982 until April 1983. This six-month display proved very well attended by the public.

For further information, contact the Secretary or other directors of the Surveyors Historical Society.

Myron A. Lewis, Secretary
31457 Hugh Way
Hayward, CA 94544
(415) 581-2345, Ext. 5287
9 a.m.-4 p.m. P.S.T.

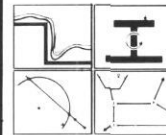
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Plotters which are currently supported included those by Hewlett Packard, Houston Instruments, Sweet-P, Amdec and Alpha-metrics. Manuals are available separately.

For more information on COGO-PC or any other CIVILSOFT products write or call
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monumented subdivision for which a recorded map is on file? Maybe nothing, but an Attorney General's Opinion in 1981 said, "although somewhat similar in nature, a corner record and a record of survey are not equivalent in scope or significance." The AG Opinion concluded that "the filing of a corner record pursuant to B&P Code Section 8773 does not eliminate the need to file a record of survey after the establishment of points or lines pursuant to Section 8762."

So, at the least the practice of filing corner records to record original monumenting of a corner is a dilution of the quality of survey records, and at the most is illegal.

In 1973 the Executive Secretary of the Board wrote, "if a monument is set and tagged and does not appear on any previous record, a map must be filed with the County Surveyor . . ."

Again, nothing has emerged from the Board to change this interpretation of statutes.

The past few years have produced legislation effecting the use of corner records.

In 1977, SB 379 was enacted and inserted language that changed 8773(b) to read that a corner record may be filed for any property corner that is "found, set, reset or used." Significantly, This was the wording at the time the aforementioned Attorney General's Opinion was requested by the Board.

Subsequently, in 1981, SB 16 was enacted to change the wording of

8773(b) back to the original. (Because of the insertion of a new subsection, it is not 8773(c).)

In 1983 the legislature passed AB 3638 which, if it had not been vetoed by the Governor, would have inserted wording in 8765 permitting original monuments to be set or (reset) and recorded by filing a corner record.

It may be significant that the Governor, in his veto message said, "This bill would eliminate an important safeguard relating to the filing of land surveys."

Currently the legislature has been presented SB 1837 for consideration. Among many proposed changes to the Land Surveyors Act regarding filing of Records of Survey is a change in 8765 to allow corner records to be filed for previously unmonumented corners.

Since you must be interested in corner records if you've read this far, the proposed new wording should be quoted in its entirety as you may want to advocate a yea or nay to the proposal.

8765 A record of survey is not required of any survey: (d) When the survey is a retracement of lines shown on a subdivision map or parcel map of record, or a record of survey, or a deed where no material discrepancies with such records are found and sufficient monumentation is found to establish the precise location of property corners thereon, provided that a corner record is filed for any property corners which are set or reset or found to be of a different character than indicated by prior records. For purposes of

this subdivision, a "material discrepancy" is a discrepancy in the position of points or lines.

Although this is meant to be clarifying legislation, the term "precise location" would seem to me to be open to wide interpretation. My dictionary defines precise as "minutely exact." Who was it that said surveying is not an exact science?

Well, there is the history of the corner record. What started out to be an adjunct to existing records is becoming the record. Although this was not the original intent, maybe it is not bad. On the other hand, maybe it is. Whatever your thoughts are on this proposed expanded use of corner records, let your societies and legislators know.

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