
HOOSIER SURVEYOR



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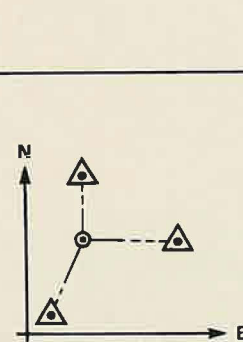
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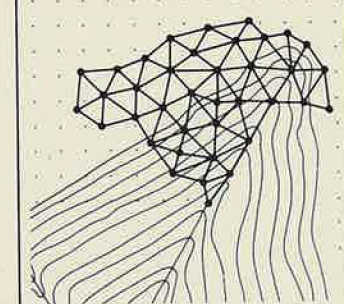
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EDITOR'S NOTE

Deadlines for copy for various planned issues of the HOOSIER SURVEYOR are as follows: Winter issue - December 31; Spring issue - March 31; Summer issue - June 30; Fall issue - September 30.

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ARE YOU AFRAID TO CHARGE WHAT YOU'RE WORTH?

by Daniel Beardslee, LS, Washington

By Daniel Beardslee who is a Land Surveyor in Washington state who lectures on business management for surveyors.

Let's confront this subject head on. To be successful, Land Surveyors must make a substantial income. To make a substantial income, they must charge a fee that is well above the cost of providing the service.

If they charge enough to make a substantial income, they will be respected in the community. They will be considered professionals - the much sought-after recognition we all talk about at society meetings. If they make a substantial income, and are thereby regarded as professionals, a different set of youngsters will consider entering the profession. Income opportunities will attract young, bright, motivated individuals who now enter professions that already offer substantial incomes and prestige - such as engineering, medicine and architecture.

The obvious conclusion, of course, is that we now charge too little for our services. If we did charge enough, more universities would offer surveying programs and more students would seek entry into the profession. If we did charge enough, we wouldn't have to worry about being regarded as professionals.

That happens to be the truth of the matter. The only thing on this earth that will result in surveyors being regarded with the prestige we crave is to raise the overall income level. No amount of paper writing, lobbying, tie wearing, talk giving, brochure and film producing, or anniversary celebrating will achieve the results we seek. Only an improvement in our income level will do it.

What do we do about this dim-witted situation we have allowed ourselves to fall into? It does not take a genius to see that the prevailing rates charged by surveyors promise no more than a lower middle class income to members of this profession. The bigger step is dealing with an old argument - how can we raise rates with the specter of competition being what it is?

I believe the answer only takes some rational thinking and, more profoundly, courage! The first logical step is to analyze the cost of doing business. I have been all over the country lecturing to Land Surveyors, and I find that they universally have little knowledge of the actual costs of conducting their businesses.

In every circumstance, when a cost analysis is constructed using rational input, the surveyors conclude that they couldn't possibly charge the kind of rate it would take to make a substantial income. They feel they would price themselves out of business. The implication is that the "competition," who would charge less, would have it all. Do you think that is really true? I certainly don't.

Like any other service, land surveying is a matter of value. Consider if you will the impact of changes in surveying technology in the past 15 years. Instead of three people yelling at each other while dragging around transits,

300-foot chains and five-place trig tables, we now work with auto-reducing total stations. We routinely use powerful hand-held electronic calculators and portable radios. The same work that once took three people can be accomplished by two people in a fraction of the time.

Who has benefited most from these improvements? Is the Land Surveyor better off? Or have things actually gotten worse?

Keep in mind that surveying a property boundary is the equivalent of providing boundary insurance. It is single premium, unlimited liability, unlimited term insurance that extends to third parties who you may not even know.

Real property has appreciated at a proportionately higher rate than other assets. It would seem that the value of determining the boundaries of that real property would appreciate accordingly. If we were still using the old technology, would boundary surveys cost more or less? It seems to me that surveying would cost about the same.

So why do we use new equipment? Do we make more or less money? Is the survey of property boundaries a higher or lower fraction of the total value of the real property?

It seems to me that if a boundary survey were typically worth four percent (just to adopt a figure to work with) of the value of the property, it still should be worth the same proportionate amount using new technology. Given that Land Surveyors typically charge by the hour for their services, does it make sense to do the job faster with more accuracy and with fewer people? If we can do the same job in half the time, should that increased efficiency be represented by higher profits and better salaries for Land Surveyors or should it be passed along to the land owners?

If the service is as valuable as it has always been, is it immoral to charge what it is worth in a higher priced economy?

I find no reason to spend \$50,000 on computers, total stations, plotters, software, radios and calculators so that I may work three times as fast, charge my client less, and have to scrape up three times as many jobs just to make the same, or relatively the same, revenue as I did with the old gear. On top of that I am still faced with the cost of acquiring all that new technology - not to mention the learning involved and the late-night hours spent fussing over software that doesn't work like it's suppose to.

Many surveyors do just that without reflecting it in their charges because of fear that the guy down the street will do it for less. What about that guy down the street, then? He has the same problems that you do. We all do more or less the same thing.

What do you think the guy down the street would do if he found out, for instance, that you have taken this matter to heart, and that you are charging \$700 for a

continued page 21

GOVERNOR'S REPORT

ACSM-ASPRS Spring Convention March 1990
by Gary R. Kent

The following meetings and sessions were attended: NSPS Board of Governors (member); Joint Convention Advisory Committee (member); Great Lakes Regional Council (alternate delegate); NSPS Women's Forum (member); ACSM ALTA Committee; ACSM Awards Meeting and Installation of Officers; Keynote Address and NSPS Board of Directors. I also attended several technical sessions and gave a one hour presentation entitled "Minimum Standards - The Indiana Experience". As usual, the large number of committee and board meetings created numerous scheduling conflicts which prevented me from attending all meetings I wished to attend.

The following report is a summary of many of the issues discussed over the course of the convention. Many of the issues brought up and voted on at the Board of Governors and/or at the NSPS Board were passed on to the ACSM Board. In many cases, the final results of the actions of the NSPS and ACSM Boards are not known at this time.

Board of Governors Attendance, Elections and Agenda

Forty-one Governors were in attendance at the Board of Governors meeting. This is the same number as attended the Baltimore meeting in the Spring of 1989.

Board of Governors Chair James Boyer of Tennessee and Secretary James Granger of Michigan were re-elected to their respective positions.

The Agenda for the Denver meeting included nine items of unfinished business and seventeen new business items.

ACSM/NSPS Election Results

Robert Foster won the ACSM election for Vice-President, Gunther Greulich is President-elect for 1990 and Patricia Caldwell Lindgren has assumed the presidency for 1990. Chuck Tapley of Iowa has assumed the presidency of NSPS. Maggie Weidener won the NSPS election for Vice-President and Nick Mazzachio is president-elect for 1990.

ACSM Membership/Staff

Member retention in 1989 was 83% compared with 74% for 1988) with retention of voting members being 91%.

The NSPS voting members retention was 92%. NSPS 1989 membership is down 100 from 1988 (current total 7746). Current ACSM membership is 10,215 (9535 this time last year). A marketing consultant believes ACSM can expand its membership by 5000 by 1994 and has proposed entering into an agreement with ACSM to attempt to accomplish this goal. Compensation would depend solely on the acquisition of new members as a result of the marketing campaign.

The Membership Development Committee has suggested that ACSM court the cadastral (tax) mappers of the United States. This group of about 10,000 persons has no national organization. The committee recommended formation of a cadastral mapping member organization of ACSM.

The Membership Development Committee also recommended that any person attaining technician certification should be eligible for ACSM membership (non-voting) for \$40.

ACSM Executive Director Richard Dorman, with the society since 1986, announced his resignation in December, effective after the Denver meeting.

ACSM/NSPS Finances

It is my understanding that the previous decision to spend a large amount of money for the construction of a large hot air balloon replica of the earth for the ACSM 50th Anniversary may be reversed. Considering that the ACSM has a deficit for about four years now - with the 1989 budget having been around \$100,000 in the red - this is probably a sound decision.

1989 expenses exceeded income by \$365,000. Most of this was not budgeted. Program services costs were up \$559,000 in 1989 as compared to 1988. Support services costs were down \$55,000. Total program and support expenses for 1989 were \$2,593,000.

NSPS itself has been in the black for several years and started 1990 with about \$120,000 "in the bank."

FTC Investigation of the ACSM Code of Ethics

The ACSM is being investigated by the Federal Trade Commission for five

words in its Code of Ethics which call for members to not "compete unfairly". The FTC could hand down substantial penalties should it determine that the Code of Ethics wording constitutes unfair restraint of trade or price fixing.

ACSM Government Affairs

Among the many successful activities in government affairs this past year was the clarification of the Brooks Act which resulted in a letter going out to all US Forest Service procurement officers directing them to come in line with the intent of the Act based on recent GAO rulings.

The US Congress is toying with the idea of a sales tax on professional services in Washington, D.C. as have several states (Washington, Connecticut and Texas). Government Affairs is working to prevent this.

ACSM/NSPS Restructure

A divisive movement to force the restructure of ACSM in order to provide autonomy for the three Member Organizations was apparently averted when the Board of Governors tabled a motion which would have - in my opinion - spelled the end of ACSM as we know it. Several committees are currently taking a more measured approach by carefully studying the issues. The Great Lakes Council delegates voted unanimously to oppose the motion should it have come to a vote.

ACSM-NSPS Survey Technician Certification Program

The Certified Survey Technician Board has certified 228 persons as having passed the Level I exam. Eighty-two have passed the Level II exam. The first Level III exam will be given in April and work is continuing on the Level IV exam.

NSPS Articles of Affiliation

The Board of Governors voted to review the text of the articles of affiliation and to recommend any changes in those articles in Anaheim in November. Also, the vote included a recommendation to the NSPS Board that the various states should reaffirm those articles each year.

NSPS Special Fund

The New York Society of Professional Land Surveyors asked the NSPS Board of Directors to appoint a committee to review the NYSPLS application for financial assistance from the "Affiliate Assistance Fund". NYSPLS is fighting a New York State

determination that feasibility and design surveys fall under the prevailing wage law and that survey technicians fall under the categories of mechanics and laborers. A committee will be established to review the request and make a recommendation to the NSPS Executive Committee which will make the final decision on disbursements.

NCEES - Miscellaneous Items

The NSPS Viable Alternatives Task Force is studying the issue of the NCEES definition of engineering surveys. This issue first arose in Alaska in the fall of 1986.

The National Council of Examiners for Engineering and Surveying has prepared a guide for writing Land Surveying Examination questions (copy available through ISPLS Headquarters). This program is touted as being a potential source of revenues for state societies and their chapters.

Some registrants may receive the new task analysis questionnaire and are asked to answer it carefully. Aspects of the future status of the surveying profession literally hinge on the results of the analysis.

ACSM Conventions

The 1990 Fall Convention will be held in conjunction with GIS/LIS '90 in November 1990 in Anaheim, California. The 1991 Annual ACSM-ASPRS Meeting will be held in Baltimore in March.

At this time it appears that there will be an Annual (Spring) Meeting of the ACSM and ASPRS sometime in late February or early March of 1992 - probably held somewhere in the western United States. The two societies have previously agreed to support and promote the August 1992 ISPRS International Convention in Washington. There will also be a Fall meeting, presumably in conjunction with the GIS/LIS meeting in November (location yet to be determined).

The Spring 1993 Annual meeting will be held in New Orleans. The Kentucky Association of Professional Surveyors has invited the ACSM and ASPRS to hold the Spring 1994 meeting in Louisville. No decision has been made in that regard.

The Joint Convention Advisory Committee will be reviewing all future convention budgets for recommendation to the ACSM and ASPRS Boards. The preliminary budget for the 1991 Annual

meeting (Baltimore) shows expenses of \$385,000 against a projected income of \$861,000.

ACSM and ASPRS have contracted with the firm Fait Accompli (owned by a former employee) to plan the conventions. The firm's fees come out of the hotel negotiations, so there are no out-of-pocket expenses to the societies. The firm's employees are intimately familiar with the ACSM/ASPRS convention requirements, so it is anticipated that the relationship will be very beneficial to the societies.

At the Great Lakes Regional Council meeting, it was suggested that perhaps every other year, the Council could hold a regional conference - possibly in conjunction with one of the states' conventions. The GLRC chair will appoint a committee to look into this subject.

It was also suggested that the society presidents of the Great Lakes Council should be invited to each of the respective states' conventions. Letters of invitation should clearly spell out any gratuities.

Minnesota is the only Great Lakes Council State which rejected its assigned convention date (due to facilities scheduling problems).

Civil GPS Service

The federal government has created an agency within the U.S. Department of Transportation to promote the civilian use of GPS. The agency will provide 24 hour telephone information on satellite status and almanacs through an information center. The 24 hour number is 703/866-3826.

ACSM 50th Anniversary

The celebration is scheduled to include a re-enactment of the placing of the origin stone for the surveys of the District of Columbia. As mentioned above, previous plans revolving around the balloon may be in trouble.

ACSM Awards Ceremony

I was asked to attend the Awards Ceremony in order to accept the awarding of an ACSM Honorary Membership to Dr. John G. McEntyre, retired Purdue Professor on his behalf. Representatives of ACSM and NSPS will be at the Purdue Annual Seniors Recognition Banquet to present the award to John.

ACSM/NSPS PAC

The PAC account balance is

currently \$3647.00 which is considered substantially less than it should be for this point in time.

The Cleveland PAC breakfast and Comedy Club evening together brought in \$2840.

Contributions in 1989 were made to: Senator Dixon (D-IL), Senator Adams (D-WA), Senator Gore (D-TN), Senator Stevens (R-AK), Rep. Schuette (R-MI), Rep. Packard (R-CA), Rep. Skaggs (D-CO), Rep. Stallings (D-ID), Rep. Oakar (D-OH), Rep. Johnson (R-CN) and Rep. Parker (D-TX). The largest contribution (to Gore and Stevens) were \$1000 each. Others were \$500 or \$250.

Great Lakes Council Attendance

The states of Indiana, Illinois, Ohio, Michigan, Wisconsin, Minnesota, Iowa and North Dakota were represented by delegates at the Sunday afternoon meeting. A number of guests were also present.

Higher Education - Great Lakes Council

The Houghton, Michigan 4 year program graduated 9 students this past year and has about 42 in the program. Ferris State graduated 18 and has 60 students in the program. Houghton has in-state tuition plans with Minnesota and Wisconsin. Minnesota has had a four year degree requirement for about 5 years, but has no in-state program. Since previous SIT's were exempted from the degree requirement there has been no radical shortfall of qualified applicants, but projections show a rapid fall-off within two years.

GIS Standards

The Board of Governors voted to ask the NSPS to have ACSM set a high priority on developing standards for GIS/LIS control.

Boy Scout Surveying Merit Badge

Several NSPS Members, with the backing of NSPS, provided enthusiastic support to the Boy Scouts of America at the 1989 Jamboree. The NSPS is working with BSA to study the Boy Scout Surveying Merit Badge booklet and make recommendations for revisions.

US - Canadian Fair Trade Issues

The Board of Governors voted to form a liaison with the Canadian surveying societies to explore the issues related to the fair trade agreement as they may affect surveying and mapping.

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Forum for State Society Executives: Society Financial Management

The Forum for State Executives session revolved around financial and risk management. The risk management portion of the program was all I attended due to scheduling conflicts.

Among the recommendations for risk management were:

-Use extreme care in assigning tasks relative to convention management. Do not allow the appearance that volunteers may be acting on behalf of the society.

-Serve only "soft" alcohol (beer and wine) or none at all at society functions.

-If premiums are low, purchase directors and officers liability insurance even if state law appears to cover non-profit organizations from liability.

-Sign any contracts as an individual "on behalf of the" society.

-Keep clear concise minutes, but record only decisions, not discussion. Avoid "stupid" written correspondence which may open the society to liability. Review society records and destroy potentially damaging pieces of correspondence or records prior to a day in the future when they may be subpoenaed.

-Directors and officers should satisfy their obligations to the organization.

ISPLS MEMBER HONORED

James B. Eads, Chapter of ISPE, held its annual Engineers Week Dinner at the Otter Creek Club House in Columbus on Thursday, February 22.

Dr. Paul Bippen, Director of IUPUI of Columbus, and Harold Sneed, immediate past state president of the Indiana Society of Professional Engineers were guests. Bippen was recognized for his assistance in the recently held Math Counts and ITEC contests in which over 350 students participated.

Gerald F. Hendricks, P.E., past chapter president and past president of SIECO, Inc., was honored as Engineer of the Year.

A special award for outstanding service to the community and the Eads Chapter was presented to E.R. Gray III, Professional Land Surveyor. Since E.R. was laid up with the flu, the award was accepted by Kathy Gray.

The Music Men Choral group from Columbus North High School provided entertainment.

Forty-eight members and guests attended the dinner.

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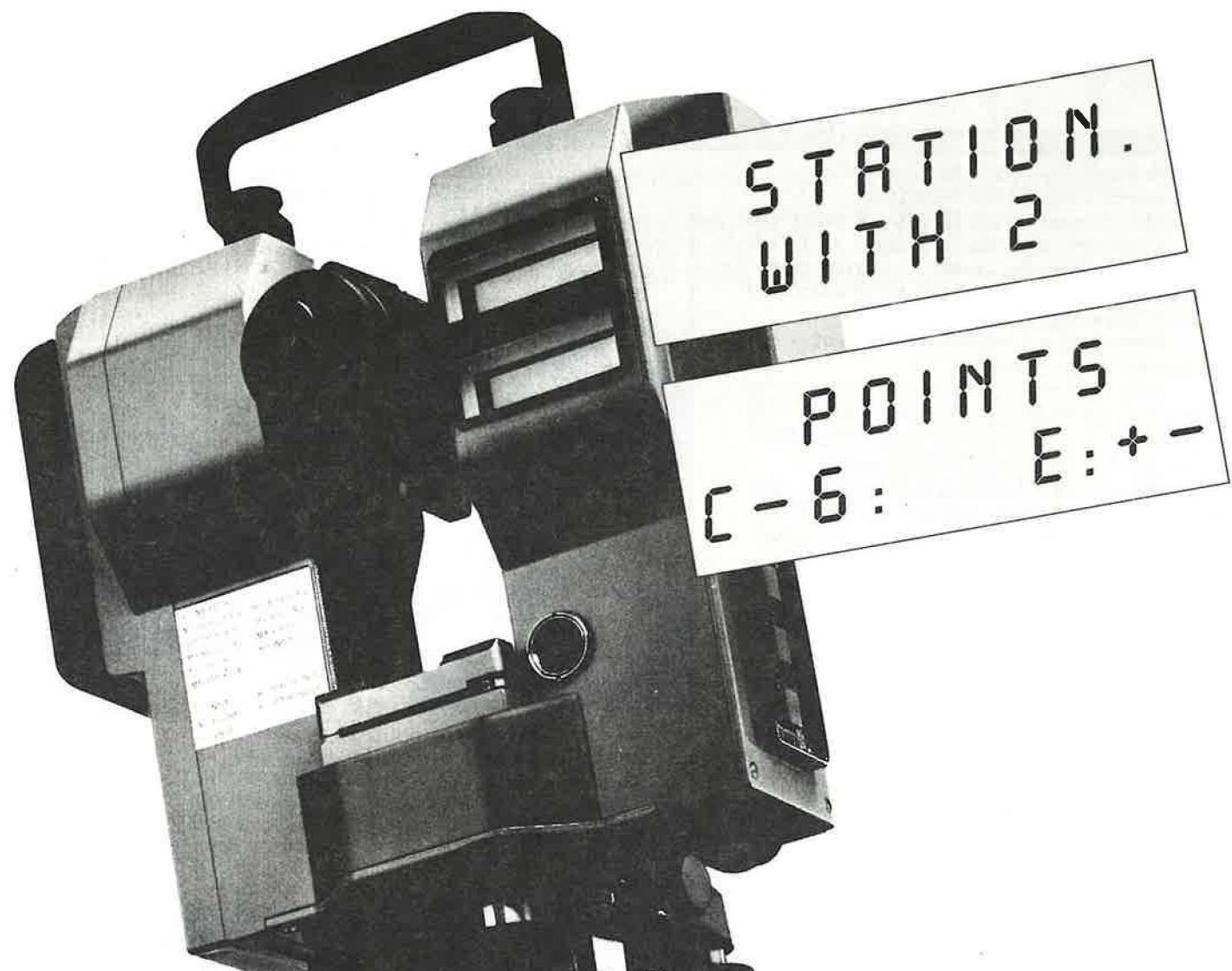
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Orwic Johnson of the Eads Chapter presents Award to E.R. Gray's wife Kathy in his absence.



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John R. McNamara, PE-LS
St. Joseph County Surveyor



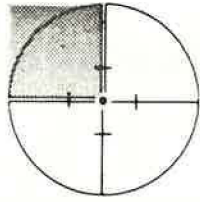
John V. Schneider, PE-LS
former ISPLS President

* * * * *

VINCENNES UNIVERSITY

Vincennes University received the 1989 Postsecondary Program Award for Excellence from the Indiana Commission on Vocational and Technical Education. Pictured are, left to right, Governor Evan Bayh, Art Haase, Department Chairman Surveying Vincennes University and William Christopher, Commissioner Indiana Commission on Vocational & Technical Education.

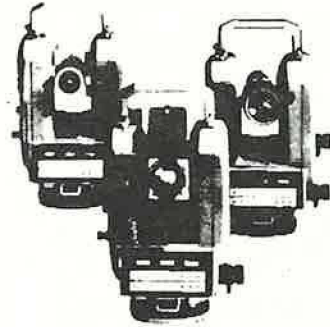




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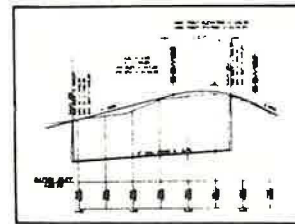
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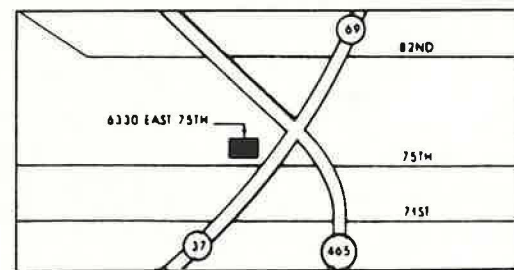
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THE Washington REPORT

ACSM / ASPRS GOVERNMENT AFFAIRS

March/April 1990
Issue #90-1

The Washington Report is a new ACSM/ASPRS bi-monthly government affairs newsletter designed to keep you informed of ACSM/ASPRS government affairs initiatives, actions and policies, and to keep you abreast of key congressional, governmental and regulatory actions that affect the professions.

ON CAPITOL HILL . . .

ACSM/ASPRS Advocates Brooks Act Coverage for Federal Grants

Encouraged by the recent success of the Brooks Act clarification (which includes surveying and mapping services), the professional societies are working through the Committee on Federal Procurement of Architectural/Engineering Services (COFPAES) to extend Brooks Act coverage to federal grant monies. Brooks Act coverage applies currently to federal surveying/mapping/architectural/engineering contracts for the Executive Agencies and to certain grant monies, such as the Federal-aid Highway Grants and Federal Airport Improvement Grants. COFPAES is seeking an amendment for Brooks Act coverage of federal grant monies on major procurement reform legislation slated for congressional action this year.

Congress Moves on Measure to Study National Park System Boundaries

Legislation introduced last Fall by Rep. Bruce Vento (D-MN) will be the subject of subcommittee hearings in Congress this March. The legislation (H.R. 3383) requires a three-year study that would contain recommendations regarding boundary adjustments and other methods available to protect park resources. The study would direct the National Park Service to undertake a comprehensive review of current boundaries of the National Park System. This measure is expected to move through Congress this year.

Senate/White House Pact Smooths Way for Clean-Air Act

The U.S. Senate will resume consideration of the compromise clean-air agreement the week of March 20th. The alliance forged between the Senate and the White House bodes well for passage of clean-air legislation in this Congress. Although the Senate and White House tout the compromise measure as an aggressive improvement over current law, some environmentalists still find the measure too lax. The House clean-air legislation is still within the committees.

ACSM/ASPRS is concerned with the EPA sanctions being imposed on a number of cities that fail to comply with ozone and carbon monoxide standards set by the Act. Sanctions include cut-off of highway and wastewater treatment construction funds.

MORE

ON THE POLICY FRONT . . .

Landsat 7 – National Space Council to Resolve Policy Question in Late Spring

The National Space Council is expected to focus its attention on the policy questions surrounding the future of Landsat 7. The Council will decide where to place responsibility for the Landsat program, thus defining the direction of the program for the foreseeable future. Since policy questions remain unresolved, there is no funding for the design and construction of Landsat 7 in the fiscal year 1991 budget. The Space Council report is expected late this spring.

IN THE REGULATORY ARENA . . .

FHWA Proposes Rule on Brooks Act Coverage

In a Federal Register notice published this month, the Federal Highway Administration (FHWA) outlined a proposed rule revising its regulation on the procedures to be followed when using federal-aid highway funds (under the grant-in-aid process) for the procurement of engineering/surveying/mapping and other design-related services. The proposed rule does a good job of implementing the Brooks Act provisions in the Surface Transportation and Uniform Relocation Assistance Act of 1987. These provisions require that states award federal-aid highway engineering/surveying/mapping and other design-related contracts in accordance with the Brooks Act or use equivalent state qualifications-based procedures unless they have established, or choose to establish, a formal procurement procedure by state statute. ACSM/ASPRS will provide official comments to FHWA supporting this proposed rule with minor revisions.

Final Rule on Brooks Act Clarification Still Pending

To date, the final rule on the Brooks Act Clarification is still in process. The rule has taken much longer than anticipated and it appears that publication in the Federal Register is at least two months away. The good news is that with few exceptions, it appears that federal agencies are using Brooks Act procedures for their surveying and mapping contracts as intended by the statutory change.

UPCOMING MEETINGS OF INTEREST . . .

18th Annual COFPAES Conference – April 2-3, 1990:

"How to Deal with a Regional Office" is the topic of the Annual COFPAES Conference to be held this year at the Hyatt Regency Hotel, Dallas/Fort Worth Airport, Texas. The meeting focus is on regional offices of federal agencies. If you are interested in federal contract work in the Southwest, take advantage of this opportunity to meet with agency representatives and to explore contracting opportunities for surveying, mapping, architectural and engineering services. For further information, contact Nancy Parke at 301/493-0200.

Forum on Orthophotography – May 15, 1990:

A one-day forum to expand understanding and use of orthophoto products among user and potential-user communities is planned for May 15, 1990, at the Goddard Space Flight Center in Greenbelt, Maryland. Jointly sponsored by the U.S. Soil Conservation Service (SCS), the U.S. Geological Survey, the National Governor's Association, and the National Association of Counties, the forum is organized into three major sessions focusing on technical aspects, user applications and management issues. The sessions will include information concerning an SCS proposal for a national cooperative program for the production of 1:12,000 scale orthophoto quadrangle maps. For more information, contact Bruce McKenzie at the U.S. Geological Survey, 703/648-5740.

BOY SCOUTS GET A HELPING HAND

An Outstanding Public Relations Project
by Vic McCauley, LS, Elizabeth, Indiana

THE TRACKERS

The two young men stopped on the slope of the ravine, they could almost feel the trackers infrared laser warm their faces in the cold March morning air. They scurried on.

Both Todd Honchell and Stan Richie had shared the responsibility of carrying the prism. The prism looked like a complex mirror, but each one knew it's importance. The Master had been overly cautious in his instructions on handling the prism, but the young men were proud to have been chosen to carry the prism into the Council Ring.

The trackers were very methodical and determined, every time Todd and Stan stopped to rest or catch their bearings, the laser was there penetrating the dense pristine forest, almost guiding them in straight lines across the terrain.

Todd and Stan were getting tired, climbing up and down the steep hillsides. As they made their way toward a small clearing, half sliding, half falling down deeper into the ravine, carefully holding the prism to protect it. Near the bottom on the steepest slope, they spotted the trackers, the young men froze, they were close enough to hear the trackers talking. It sounded like English of sorts, possibly in code: "Q=CIA, HEC-1, SCS METHOD, RATIONAL FORMULA". As Todd and Stan looked closer they could see the laser aimed directly at them, one of the trackers said "steady, we almost got it, OK, come ahead".

Science fiction, no! Just a couple of dedicated and generous Professional Surveyors spending a quiet Saturday morning helping the Boy Scouts of America. The scene is south central Indiana, in the Hoosier National Forest at the Maumee Scout Camp in north-western Jackson County. The plan is to expand the Scouts existing Council Ring to accommodate 250 scouts. The Council Ring is severed by a steep banked ravine that drains about six of the camps 605 acres. The site, with the scattered hardwood trees and gentle downslopes above the ravine makes a natural outdoor auditorium. With a little imagination,

some storm water drainage design and cooperative weather, the Council Ring will be ready this spring.

Roger Woodfill of Lawrenceburg, Indiana, President of Indiana Society of Professional Land Surveyors; Vic McCauley of Elizabeth, Indiana, ISPLS Public Relations Committee; and Raymond Granger of New Albany, Indiana, ISPLS Junior Member, provided the expertise and H.E. Rudy Consulting Engineers donated the equipment, computers and plotters. The Scouts provided the need and rodmen necessary to cross-section and map the area.

The surveyors were equipped with a Wild Total Station Package and MC-11 data collector. The Swiss-made electronic survey instrument, reads horizontal and zenith angles and measures distances using a modulated infrared signal and a precision ground retro prism to reflect the beam back to the total station.; The data collector is a portable PC computer that tips the scales at a little over two pounds and is about half the size of a box of girl scout cookies. The raw field data was downloaded from the data collector into a PC computer and the map was computed and contoured using Map-Tech and DCA software. The finished product was a 1"=10' scale map with 1' contour interval. The map covers about three quarters of an acre.

According to Dave Collier, Camp Ranger, the camp host over 1200 Scouts each season, which runs from late May to late August. The camp has facilities to support 225 Scouts, but during the peak summer months as many as 500 Scouts may visit for a planned weekend. With over 600 acres and a 56 acre lake, the camp can handle the additional Scouts.

Construction on the Council Ring is scheduled to begin in early April with completion in early May, weather permitting, according to Dave Hizer, Scout Master from Aurora, Indiana who is coordinating the effort.

ACSM Publications

For Surveying and Mapping Professionals

NEW! *The Liability Environment*

by Robert W. Foster, P.E., P.L.S.

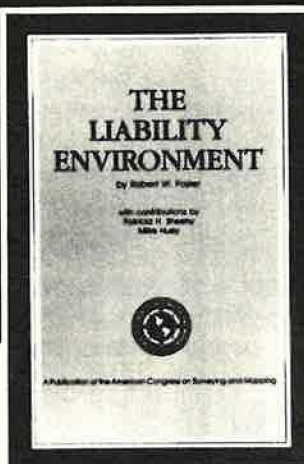
Liability has become an increasingly crucial issue for surveying professionals. This informative and timely compendium contains twenty-eight previously published articles and columns by Robert Foster, noted surveyor, engineer, and author. In addition, Foster has included two contributions by other authors on copyright and liability insurance.

This new volume is an important asset for surveyors who prefer the field to the courtroom.

Topics include:

- Surveying Standards
- Copyright
- Negligence
- Third-Party Liability
- Claims Prevention
- Special Statutes
- Risk Management
- Peer Review
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- Employer Concerns
- Certification
- Risks of Proprietorship

"These articles are one surveyor's observations on liability conditions that threaten surveying practices with potential hazards, including financial loss."



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ACSM NEWS RELEASES

GIS/LIS '90 UNDERWAY FOR ANAHEIM

Anaheim, California, will host the GIS/LIS '90 conference and exposition scheduled for November 7-10. This important annual meeting is sponsored by the American Congress on Surveying and Mapping, American Society for Photogrammetry and Remote Sensing, Automated Mapping/Facilities Management International, Association of American Geographers, and Urban and Regional Information Systems Association.

Geographic information systems (GIS) and land information systems (LIS) have become increasingly important for surveying and mapping professionals. Attendance at GIS/LIS '89 topped 3,000 with 50 percent more exhibitors than in 1988. GIS/LIS '90 promises to break all records once again.

Reflecting the five organizing societies, attendees represent the broad spectrum of GIS and LIS use and development. Professions represented include surveying, cartography, geodesy, photogrammetry, remote sensing, computer software and hardware, consulting, forestry, and energy.

Utility professionals come from the electric, gas, water, wastewater, and telephone industries. Federal, state, and local government officials will explore new applications and learn about the latest developments in inter-governmental coordination and technical support activities.

Anaheim attractions include Disneyland, Knotts Berry Farm, and Hollywood, as well as Universal Studios. Southern California's sunny, sandy beaches, and golf and tennis are all nearby.

This year, for the first time, ACSM and ASPRS board and committee meetings, regularly held at a separate fall convention, will be held in conjunction with GIS/LIS '90.

A Call For Papers for GIS/LIS '90 and the concurrent ASPRS/ACSM 1990 Fall Convention has been issued. Submit proposals to GIS/LIS '90 or ASPRS/ACSM 1990 Fall Convention at Department 1990, 1718 M Street N.W., Washington, DC 20036-4503. Fax: 202/234-2744.

For more information, contact ACSM, Convention Services, 5410 Grosvenor Lane, Bethesda, MD 20814. Phone: 310/493-0200.

ACSM PUBLISHES LIABILITY BOOK FOR SURVEYORS

The Liability Environment, a new book from the American Congress on Surveying and Mapping (ACSM), offers vital information for surveyors as growth in land use makes legal and related risk-management issues of crucial importance to their profession.

The Liability Environment was written by Robert W. Foster, noted surveyor, engineer, and author. The book contains 28 previously published articles by Foster, as well as two contributions by other authors on copyright and liability insurance. In 93 pages, this compact compendium shows surveyors and small-business owners how to decrease their exposure to liability.

The book scans the day-to-day legal world of a surveyor through such topics as surveying standards, negligence, claims prevention, risk management, certification, special statutes, peer review, insurance, employer concerns, and the risks of proprietorship.

According to David J. Hatem, a Boston attorney who represents architects, engineers, and surveyors: "*The Liability Environment* addresses, in a direct and comprehensible manner, virtually all the legal/risk management areas of relevance to the surveying profession ... In my practice as counsel for many surveying firms, I have found all of these topics to be of great relevance and importance."

Robert W. Foster is executive vice president of Schofield Brothers in Framingham, Massachusetts. Foster, who has more than 30 years' experience in private-practice land surveying, is a Fellow of the National Society of Professional Surveyors and has served on ACSM Board of Direction and as ACSM Treasurer. He has received numerous professional awards and has published articles on public relations, ethics, the Global Positioning Systems, wetlands mapping, guidelines for the assignment of parcel index and locater numbers, and the modernization of land records. Foster's monthly articles on surveying appear in *Civil Engineering News*.

A SURVEYOR'S DILEMMA

Frugal Foresight, Rueful Hindsight

by Robert W. Foster, PE, PLS, Framingham, Massachusetts

"Many times in the life of the surveyor there is a desire to turn back the clock to the beginning of a project: 'If only I had known then what I know now'..."

Data collection surveying is an important activity for the surveyor practicing in an area undergoing growth. Where there is growth there is construction. Where there is construction there is a market for data collection surveying as designers look to the surveying profession for site plans showing natural and cultural features.

Data collection surveys may be performed with differing levels of precision and plotted at a variety of scales depending on the purpose of the site plan. The purpose may be evaluation of a site or it may be for preliminary design. The designer may want a site plan on which to base a design for planning and permitting purposes or for construction. Appropriate scale precision, and completeness of survey affect cost and time, therefore the purchaser of the survey is usually careful to limit an investment in surveying according to his commitment to the project. Does the client own the project or is he merely considering buying it for a proposed development scheme? Perhaps the client owns the site and is considering several different options for development. Entrepreneurs are reluctant to spend the dollars for a complete, comprehensive survey at design scale before they even own the land; all their actions are speculative at this point.

There is apt to be a problem for the surveyor who has performed a survey for site evaluation purposes when the client decides to go forward with the project. The survey may have been done at a small scale, with minimal density of ground shots, showing only certain features of the site. When the would-be developer has completed an evaluation of the site and decides to go ahead with preliminary planning, the design professional needs somewhat better data than is shown on the surveyor's small-scale plan. But there may still be no need for a full-blown design

scale topographical plan, so the plan is enlarged from 100 feet to the inch to 40 scale. A couple of sewer inverts are measured to be sure the site can be served by gravity, and a few more ground shots are taken in the area of a possible building location, after which preliminary planning is accomplished by the designer.

Six months later the entrepreneur, liking what he sees on the preliminary plan, commits to the final planning/permitting phase of the project. At this point the surveyor is asked to add more data to the plan to bring it up to design plan standards. The designer needs good data but has neither the time nor the budget to send the surveyor back to the beginning to perform a comprehensive survey to the precision and scale required for design and construction purposes. Why, the surveyor is asked, can't he just "fix it up" through photo enlargement, by adding still more ground shots, plotting the utilities, rights-of-way, ledge outcrop, all trees over six inch caliper, and so on? If the surveyor does this the plan will almost surely fail to meet appropriate accuracy standards for design and construction purposes. On the other hand the surveyor is hard pressed to explain why the earlier work must be scrapped. All the old metaphors about new wine in old wineskins, or the new patch pulling away from the worn sleeve sound to the client like a bid for new fees. Many times in the life of the surveyor there is a desire to turn back the clock to the beginning of a project: "If only I had known then what I know now, I would have set good ground control for a future topographical survey, and would have gone the extra half-mile to tie into a NGVD benchmark. I would have established permanent base lines. My early work should have been plotted and compiled at a large scale, then reduced photographically for the preliminary plan. If I had done all that I would be in a good

...continued page 19

WOMEN SURVEYORS EXPLORE NEW TERRITORY

Breaking Down Barriers To Women In Construction

by Tawn Parent, Indianapolis Business Journal

Staking a Claim:

When Jean Pecha and Michelle Zimmerman became disgruntled with their employer for failing to follow standards or allow them to work in the field, they decided to do more than groan about it. Last June they started what is probably the only woman-owned surveying firm in the state - TriStar Surveying.

Her former employer "was down on letting me work out in the field," said Pecha, a surveying technician. "When they were in a bind they would send me out, but not on a regular basis. This is my opportunity to do everything without anyone putting any restraints on me because of my sex."

Pecha started her career working in construction, but male co-workers with the same level of education and experience were given more responsibility, she said. So she switched to surveying, but found that even when she performed the work of a supervisor she was not given the title.

So, after 10 years, she is now her own boss, more or less. She, Zimmerman and another woman are equal partners in the company, which operates out of Pecha's east-side home. Clients usually fax in their orders, so there is "little need for a fancy office," Pecha said. The arrangement is working well for now, but eventually the company might move into a building to meet the needs of higher volume, she added.

Pecha said she still gets surprised reactions when she tells people what she does for a living.

"People say, 'You're doing a survey, like a census survey?' as if they expect me to ask them what kind of TV program they watch," Pecha said.

Surveyors' level of business tends to follow activity in the housing market. TriStar's work has remained steady through the usually slow winter months as clients have given the firm a bigger percentage of business, so the company is looking forward to a profitable spring, said Zimmerman, who handles sales. Many of Zimmerman's clients followed her when she launched TriStar, and that has helped the company build a firm base. TriStar

hopes to increase its staff to five by adding a field technician and an office staff member in the near future, she added.

The company could not release year-end sales figures because reports have not yet been completed, but Zimmerman commented, "We've been doing real well for being a brand new business in a very, very male-dominated industry. People want to make sure you're going to stick around. If Brenda did not have the credentials she has, it would have been more difficult for us."

Rounding out the trio is Brenda Owens, a registered land surveyor with a degree in land surveying engineering from Purdue University. Owens is the only woman member of the Indiana Society of Professional Land Surveyors, to which about 30 percent of the state's registered surveyors belong. To become registered by the state, candidates must meet a state-approved set of criteria, including passing a professional exam.

Gary Kent, former ISPLS President, said he knows of only one woman besides Owens in the profession in Indiana. Many members of the construction industry do not welcome women with open arms and sometimes ask them to bid on a project for the sake of appearance without really considering their proposal, he said. Nonetheless, he thinks the local community is fairly receptive and projects a bright future for Owens' enterprise.

"She's been around and people know her," Kent said. "She's got a pretty wide variety of experience. She has a degree from Purdue and worked for one of the larger companies-all that would work in her favor."

Owens has served as first deputy surveyor for DeKalb County and worked for MSE Corp., one of the state's largest engineering firms, for six years. She retains her job in the real estate department of Indianapolis Power & Light Co.

"I had pondered the [idea of starting a company] for several years, but I didn't feel I could do it on my own," Owens said. "When Jean and Michelle approached me about starting TriStar,

...continued page 19

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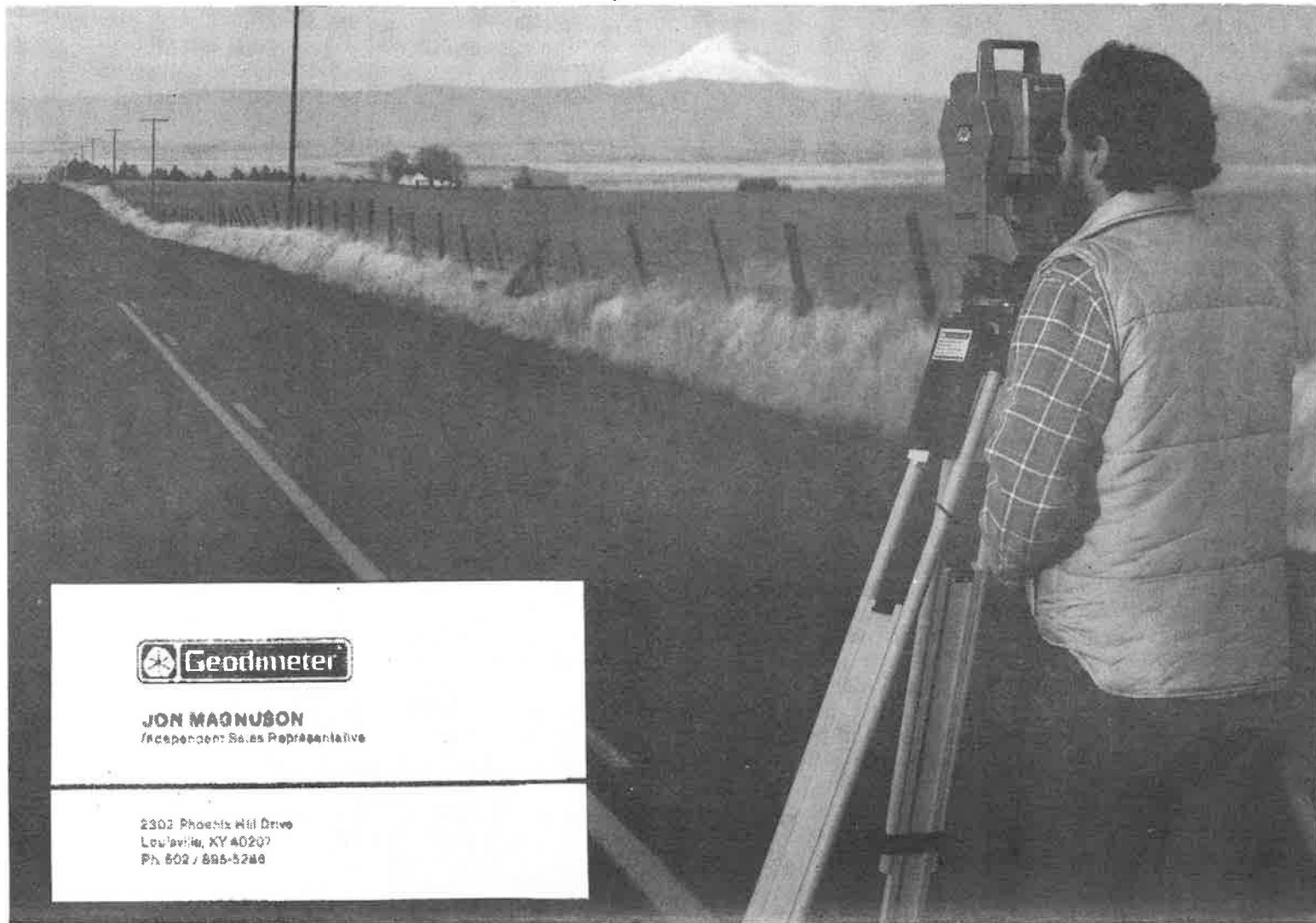
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Continued from page 17
WOMEN SURVEYORS

the time was right, the feeling was right, the people were right. So I did it."

TriStar performs surveyor location reports and staked surveys. The former include drawings showing exactly where a house sits on its property. Staked surveys are performed primarily for commercial projects, involve the use of surveying instruments and therefore are more exact and more expensive. Although the firm does some commercial work, residential business accounts for most of its volume.

"We're trying to formulate our strengths," Owens said. "We're only six months old. We're still trying to figure out where we want to go."

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* * * * *

New Service Available To Land Surveyors

To Facilitate registration by comity and reciprocity, NCEE has offered a central record keeping program to Engineers since the Council's beginning in 1920. Since 1983, this service has been utilized by unprecedented numbers and now is available to Land Surveyors.

By registering with NCEE's records program, the Land Surveyor can avoid all or most of the repetitious paperwork required when registering with another state's board. Once the professional has established his or her master file and the information is verified, the registrant can direct the NCEE to transmit the file to any state board in the country. This simplifies and expedites the registration process for both boards and professionals. Though still a pilot program, Land Surveyor NCEE records have been accepted by all boards to date. The fees are as follows:

1 year of practice - \$50. one time charge
2 years of practice - \$75. one time charge
3 or more years practice - \$95. one time charge

Transmittal: \$35. each

To take advantage of this service: Records Administrator, National Council of Engineering Examiners, P.O. Box 1686, Clemson, South Carolina 29633-1686, (803) 654-6824.

Continued from page 16
SURVEYOR'S DILEMMA

position now to provide final topographical plans to serve as a base for final design and construction." But the next time a designer calls the surveyor and says there is only enough money in the budget for a "rough topo plan for evaluation purposes" the process begins anew with predictable results for the one out of five projects that goes all the way to final design and construction.

Who is in a position to prevent the dilemma? It is difficult to fault the client for wanting to save costs at the front end of a project that may go nowhere. On the other hand the surveyor has a reputation to protect and a liability exposure to limit when there is a request for services that will not measure up to acceptable standards. The design professional is squarely in the middle. It is usually the designer who decides what data is needed, and when. The designer should be informed from the beginning about the quality of the data exhibited on the surveyor's plans, and should take into account that preliminary survey work now may mean a resurvey of the site for design standard work later. The key is good communication and clear understanding between the designer and the surveyor.

Robert W. Foster, PE, PLS is Executive Vice President of Schofield Brothers, Inc. of Framingham, MA. Foster is also chairman of ACSM and ASPRS (American Society of Photogrammetry and Remote Sensing).

Permission to reprint this article was given by the author and CIVIL ENGINEERING NEWS where it was originally published in the December 1989 issue.

SHIELDING THE BROOKS LAW

Controversial Canon Has Finally Come of Age

by Robert W. Foster, PE, PLS, Framingham, Massachusetts

Laws, like people, experience a mature process that may go on for many years. The birth of a new law is apt to be followed by a process of growth that includes clarification, definition, and testing. In our system, the legislative body only attends at the birth. Our judicial and regulatory systems take over from there and perform the care and feeding that will determine what the law grows up to be.

The Brooks Law is a perfect example of the principle at least as it applies to surveying. Fathered in 1972 by Congressman Jack Brooks, of Texas the law provided for the qualifications-based selection of architects and engineers. Whether or not it was intended to include the procurement of surveying services was a matter of conjecture; different Federal agencies read the law differently and the surveying profession carried on a spirited dialogue with certain agencies over the definition of surveying and mapping.

In 1977 the Comptroller General held that where a survey is independent of an A-E project (a project involving construction) the survey may properly be procured by competitive selection. (Ninneman Engineering, GAO File B-184770).

The 100th Congress took a step toward clarification in 1988 with passage of the Business Opportunity Development Act (PL 100-656) and the Federal Procurement Policy Reauthorization (PL 100-679). These acts defined surveying and mapping as services requiring procurement by Brooks Law procedures.

The struggle was not ended by the 1988 acts of Congress, however. The regulatory response to the legislation is the responsibility of the Federal Acquisition Regulation Council (FAR Council). In March 1989, the FAR Council published "interim rules" in response to the legislation. Unfortunately these rules did not repeat the language of the legislation as faithfully as one would wish. There was concern that misinterpretations would continue.

In fact the General Accounting Office rendered an advisory opinion in July, at the request of the U.S. Forest

Service, narrowing the application of the Brooks Law rather than broadening the definition as intended by the 1988 legislation. In August the American Congress on Surveying and Mapping requested that the GAO reconsider its opinion, while urging the FAR Council to issue implementing regulations conforming to the clear language of the legislation.

While all of this was going on a firm in Washington and Montana, with the appropriately heroic name of White Shield, Inc., had protested the use of competitive procedures in the selection of cadastral survey services by the U.S. Forest Service. In a decision issued in September the GAO sustained White Shield's protest, agreeing with the argument that the 1988 legislation makes "clear that the definition of A-E services includes traditional surveying and mapping services, whether or not incidental to an A-E project..." (White Shield, Inc. GAO File B-235522). In other words, a cadastral survey (a survey whose purpose is property line determination and monumentation) contract must be negotiated on the qualifications-based selection process of the Brooks Law whether there is a construction project planned for the site or not.

In an October decision, GAO concluded similarly in another case protested by White Shield, this time over a request for proposal by the Forest Service for survey work at the Clearwater National Forest in Idaho (White Shield, Inc. GAO File B-235967).

In both White Shield cases a Forest Service contracting officer had concluded that "cadastral surveying does not fall within the meaning of A-E services" as defined by the Brooks Law. One of the most objectionable aspects of the March 1989 interim rules published by the FAR Council was the discretionary authority delegated to contracting officers to determine applicability of Brooks Act procedures to acquisition of surveying and mapping services.

Taking a different tack, another surveyor argued against use of Brooks procedures, protesting that the definition of architectural and engineering services

does not include cadastral surveying and therefore does not require use of the Brooks Act procedures. In an October ruling GAO cited its decision in the White Shield case, reiterating that "in light of the revised definition of architectural and engineering services contained in the 1988 amendments, surveying and mapping services traditionally performed by members of the architectural and engineering professions (and individuals in their employ) are clearly subject to the Brooks Act procedures" (Fodrea Land Surveys, GAO File B-236413).

The Brooks Law has been tested, protested, defined and redefined. The surveying profession awaits the FAR Council's final rulemaking confidently expecting that the intentions of the Congress will be reflected therein. Perhaps the Brooks Law has finally come of age in its application to surveying and mapping.

Robert W. Foster, PE, PLS is Executive Vice President of Schofield Brothers, Inc. of Framingham, MA. Foster is also chairman of the Joint Government Affairs Committee of ACSM and ASPRS (American Society of Photogrammetry and Remote Sensing).

Permission to reprint this article was given by the author and CIVIL ENGINEERING NEWS where it was originally published in January 1990 issue.

COMPLETED CAREER

Guy Pacey, Honorary Member, Dies

Funeral services were held on Monday, April 9, 1990, at Wesley Manor Chapel, Frankfort, IN for Guy H. Pacey, 92, an ISPLS honorary member. Mr. Pacey died, Saturday, April 7, in the Clinton County Hospital in Frankfort. He was buried in the Chalmers Cemetery.

Mr. Pacey, a 1923 graduate of Purdue University was a civil engineer and served as deputy Tippecanoe County Surveyor for many years. Born on March 20, 1898, in Buckley, IL, he lived in West Lafayette from 1919 until 1975 when he moved to Wesley Manor. He was a member of Trinity United Methodist Church in Lafayette and a veteran of World War I. There are no immediate survivors except two first cousins.

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* * * * *
Continued from page 2
CHARGE WHAT YOU'RE WORTH

lot survey instead of the prevailing rate of \$200? What's more, what will he think when he finds out you are getting it? Do you think he might be inclined to think about raising his rates a little? If he found out that you were charging four percent of the assessed value of the property (regardless of the hours involved), do you think he might want to have some of that action?

Does it make sense for only the client to benefit from your more efficient work, or should you? Would you feel better or worse about the profession if the average income were twice what it is today?

Work out the math sometime. Land Surveyors are good at arithmetic. What would happen if you were to double the price of surveying and lost half your work? Would you make more or less money? Think about it.

Professional Surveyor
May/June 1988

CHAPTER NEWS

THE COUNTY SURVEYORS CORNER

Central Indiana Chapter

The CIC met on April 18th. County Surveyor, Jack Irwin addressed the topic: "Available Information from the Marion County Surveyor's Office".

Members are reminded that the time has come once again to renew their support for the chapter by mailing their 1990 dues.

The next meeting of the CIC is scheduled for June 21st.

Initial Point Chapter

A meeting of the Initial Point Chapter was scheduled for March 27, 1990. Roger Duvall, Scott County Prosecutor, was to speak on "Liens - Reasons and Filing Procedures".

In an earlier meeting a committee was appointed to study the possibility of a joint ISPLS and Kentucky Association of Professional Land Surveyors meeting in 1994.

Northwest Chapter

Joanne Jones and Jack Yonkman, attorneys and managers for Chicago Title Insurance Company, were scheduled to speak at the April 12th meeting of the Northwest Chapter. Issues to be discussed included title and property matters that affect surveyors and title companies.

In the March 18th meeting, J.F. New spoke about environmental permitting, design, mitigation, and construction for wetlands. Also, reports were given concerning the procedure for recording surveys in Lake, Porter, and Starke Counties.

The next meeting is set for May 10th.

The County Surveyors Association met on March 6, 1990 at Purdue University during the Annual Road School. Items discussed the business meeting included such diverse topics as proposed legislation, status of precinct maps, the drainmaster computer system, Rule 13, and using dynamite for the removal beaver dams.

E.R. Gray gave a brief history of his efforts in establishing control using GPS in Bartholomew County.

Geographical Information Systems were a prominent topic of discussion outside of the business meeting. A few important points made by various speakers were: the importance of accurate base maps and building a data base, the need for non-vendor GIS training before considering a vendor, and the advise to "shop for hardware not software".

* * * * *

POB SURVEYING AUTOMATION CONFERENCE

In Atlanta, Georgia on June 13-15, 1990, POB Publishing Company, publisher of POB Magazine, will sponsor Surveying Automation '90, POB's annual technology conference held concurrently with A/E/C SYSTEMS '90 computer exhibition.

Surveying Automation '90 is a three-day conference designed to provide surveyors and civil engineers with the up-to-date information they need to manage their firm's surveying automation effectively. The first day of the conference focuses on aspects of surveying automation in the field, including maximizing data collection, maintaining quality control, and using GPS.

On day two office surveying automation topics are discussed. Sessions examine a surveying software update, training strategies, and the selection of a software supplier.

The third day is devoted to GIS and includes sessions on building GIS databases, integrating GIS and CAD, and photogrammetric solutions for GIS.

The Conference will be held at the Georgia World Congress Center in Atlanta in conjunction with A/E/C/ SYSTEMS '90, June 12-15, where over 500 major computer and software companies specializing in design and construction products will display their equipment and software in over 1,400 booths.



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55 Monument Circle, Suite 1222
Indianapolis, IN 46204
(317) 687-8859



ISPLS APPLICATION FOR MEMBERSHIP

(Type or Print all information - check box for mailing address desired)

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Last First Middle

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Street and Number City State County Zip

BUSINESS ADDRESS _____ PHONE _____
Street and Number City State County Zip

PRESENT OCCUPATION _____
Firm Name Position

SCHOOL ATTENDING _____
School Name Grade

_____ Degree You Are Pursuing Expected Month/Year of Graduation

REGISTRATION STATUS _____
L.S., P.E. OR S.I.T. Number State

MEMBER OF AMERICAN CONGRESS ON SURVEYING AND MAPPING? Yes _____ No _____

MEMBER OF LOCAL CHAPTER OF I.S.P.L.S.? Yes _____ No _____ Chapter _____

STATE BRIEFLY REASONS FOR SEEKING MEMBERSHIP _____

TYPE OF MEMBERSHIP DESIRED	
<input type="checkbox"/> MEMBER.....	\$120.00
<input type="checkbox"/> JUNIOR.....	\$50.00
<input type="checkbox"/> ASSOCIATE.....	\$50.00
<input type="checkbox"/> STUDENT.....	\$10.00
<input type="checkbox"/> LIFE.....	NO CHARGE

ISPLS DUES ARE NOT DEDUCTIBLE AS A CHARITABLE CONTRIBUTION FOR FEDERAL TAX PURPOSES, BUT MAY BE DEDUCTIBLE AS A BUSINESS EXPENSE.

REFERENCES		
Name	Address	Phone
_____	_____	_____
_____	_____	_____

PLEASE FURNISH COMPLETE ADDRESSES, INCLUDING ZIP CODES

I hereby certify the above statements are true and correct and that I will abide by the Constitution and By-Laws of the Indiana Society of Professional Surveyors and will promote and uphold its principles and objectives.

Signature _____ Date _____

MEMBERSHIP CLASSIFICATIONS

- Member:** A Member of this Corporation shall be limited to Registered Land Surveyors in good standing with the Indiana State Board of Registration. A Member shall be eligible to vote, hold office and to participate fully in the affairs of the Corporation.
- or:** A Junior Membership will be granted to those non-registered individuals who are endeavoring to make Surveying their chosen career. A Junior Member is entitled to vote and participate fully in the affairs of the Corporation but shall not be permitted to hold office.
- Associate:** An Associate Membership will be granted to any who is associated or affiliated with the Land Surveying profession but is not otherwise pursuing registration. Any non-resident who is registered and in good standing as a Land Surveyor in their own State may also be an Associate Member. An Associate Member is not entitled to vote or hold office but will receive Society correspondence and be invited to participate in meetings.
- Student:** A Student Member shall have the same eligibility requirements as those of a Junior Member, except that this class of Membership shall apply for a period of four (4) years only. A Student Member is not entitled to vote or hold office but will receive Society correspondence and be invited to participate in meetings.
- Life:** Any person holding Member Status who has reached the age of 65 and has been a member of this Corporation for at least 20 years and has further been approved by the Board of Directors shall be eligible for Life Membership. Life Members shall not be subject to payment of dues, but shall enjoy all the rights and privileges of full Membership in this Corporation.

CALENDAR & ANNOUNCEMENTS

May 22, 1990
Initial Point Chapter
6:30 p.m. - Quality Inn
Jeffersonville, IN
Speaker: Mr. Frank Fowler
Corps of Engineers/Louisville District
"Live GPS Demonstration"

June 21, 1990
Central Indiana Chapter
6:00 p.m. - Woolpert Consultants
7140 Waldermar Dr., Indpls
"Ground Penetrating Radar"

June 24-29, 1990
XIIIth North American Surveying
Teachers Conference
Banff, Alberta, Canada

June 29-30, 1990
ISPLS Summer Seminar
"Route Surveys & Easements"
Instructors: Walter Robillard, Atlanta,
Georgia and David Gibson, Florida

July 14-17, 1990
National Association of County
Surveyors (NACS)
Dade County, Florida

July 31, 1990
Initial Point Chapter
Site & Topic to be announced

August 7-10, 1990
Surveyors Review Course
Instructors: Dick Elgin, David Knowles,
Joe Paiva, Norman Brown. \$425.00
Campus of Univ. of Missouri-Rolla
(UMR) Contact: Engineering Extension;
UMR; Rolla, MO 65401; 314-341-4132

August 12-16, 1990
Urban and Regional Information
Systems Association (URISA) Annual
Conference, Edmonton, Alberta, Canada

August 21, 1990
Central Indiana Chapter
Site & Topic to be announced

September 11, 1990
Initial Point Chapter-Dinner Meeting
Joint Chapter Meeting with Falls-of-the-
Ohio Chapter of KAPS
Speaker: Mr. Curt Bynum
Louisville/Jefferson County, KY
Metropolitan Sewer District
"GIS/LIS Presentation"
Contact Rollyn Blankenkemper for details

October 24, 1990
Central Indiana Chapter
Site & topic to be announced

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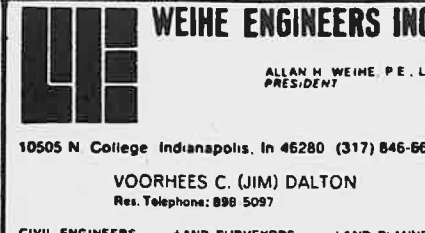
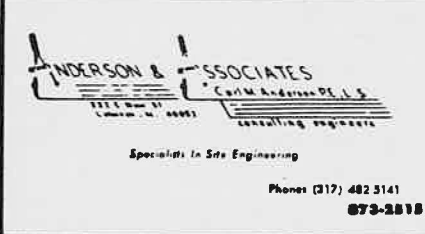


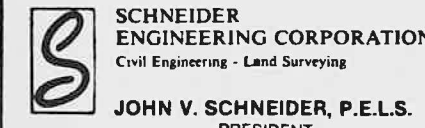



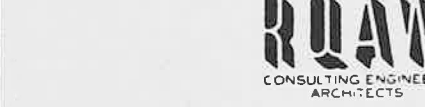

THANK YOU FOR YOUR CONTINUED SUPPORT!!

November 7-10, 1990
GIS/LIS '90 and ACSM/ASPRS Fall
Convention, Anaheim, California

December 13, 1990
Central Indiana Chapter
Election of Officers
Site to be announced

January 16-18, 1991
39th Annual Convention, Indiana
Society of Professional Land Surveyors,
Vincennes, Indiana

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