

HOOSIER SURVEYOR



QUARTERLY PUBLICATION OF THE
INDIANA SOCIETY OF
PROFESSIONAL LAND SURVEYORS, INC.

VOLUME 19
NUMBER 4
SPRING 1993



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THE PROFESSIONAL DISCIPLINARY PROCESS



A Demonstration and Panel Discussion involving a disciplinary hearing was presented by the Indiana Board of Registration for Land Surveyors, along with Ann Long, former Deputy Attorney General; John Schneider, P.E., P.L.S., and Gary Kent, P.L.S., at I.S.P.L.S. Spring Convention (J.S.G.A.)

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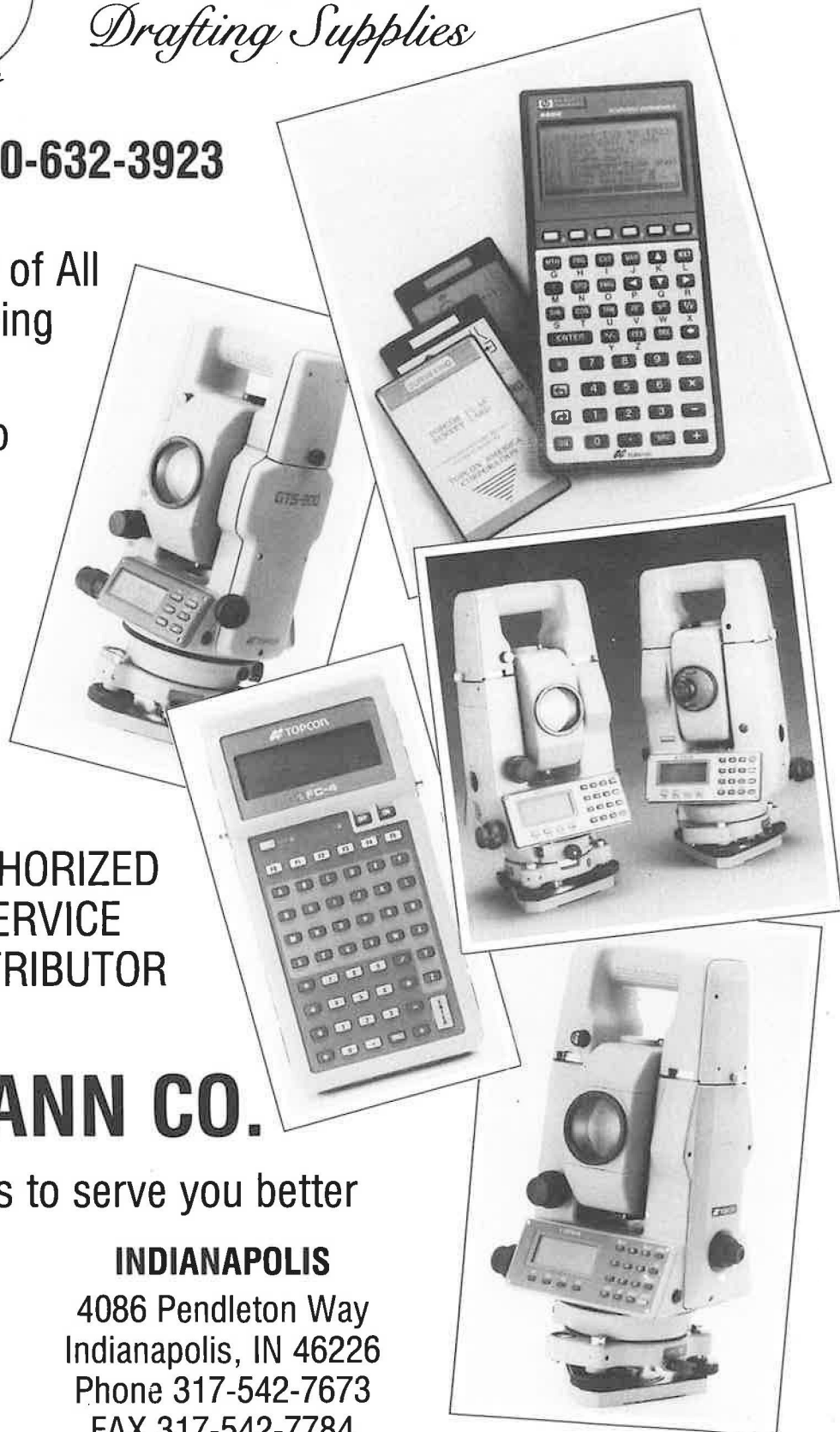
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Articles and columns appearing in this publication do not necessarily reflect the opinions of ISPLS or the Hoosier Surveyor staff, but are published as a service to its members, the general public and for the betterment of the surveying profession. No responsibility is assumed for errors, misquotes or deletions as to its contents.

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PRESIDENT'S THOUGHTS

by Douglas Herendeen, New Palestine, IN

The convention is over and everyone who worked on it is back at work doing their normal routines. I would like to take this time to reflect on my own thoughts of the convention for this was a convention of many firsts.

First, I would like to thank everyone who worked on this convention. The programs that were offered and exhibitors that attended were a good variety. This indicated the many hours spent putting this convention together and the many people donating long hours to accomplish this one of a kind event.

Second, I heard many comments from various people about doing this again. That decision will be made in the future by that current Board of Directors and you the general members. To remind everyone, this convention was generated by an idea from the Joint Society Governmental Affairs Committee. We are a member of this committee along with CEI, ISPE, IEEE, ASCE, and a couple of other groups who will be members. The convention committee asked our members in 1991 at the Vincennes Convention if they thought it would be a good idea to participate in this convention and the majority of you said yes. It was with this commitment that we proceeded with the convention and gave it our full support. As you know when ideas are born, the desire to do good can cloud the final picture and the enthusiasm that was originally conceived may lose its momentum. That may have been the case with some of the engineering groups that participated.

Third, we do have a profit to show for our efforts. The contacts we have made in the engineering field are priceless and hopefully will be of benefit to us in the future.

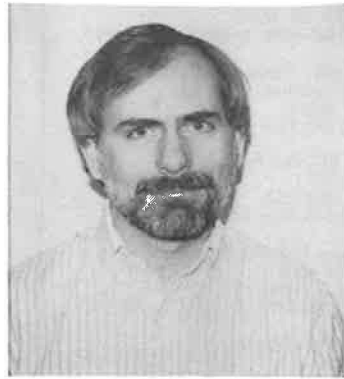
In general I believed it was a good convention and certainly time for engineers and land surveyors to work together instead of against each other for a common cause. I hope to see everybody in Louisville, Kentucky for our next convention with KAPS, January 26, 27 and 28, 1994.

I am in the process of establishing committees to work on the various projects ISPLS has in progress. If you have a desire to work on a committee and I have not contacted you please call Dianne at the Central Office.

Our bill in the legislature has finally gone through both houses and is ready for the Governor to sign. This year the engineers also submitted a bill which was greatly confused with our bill. After explaining to our sponsors the difference between the bills, our bill proceeded down its bumpy road for approval. See Gary Kent's report in this issue on the 1993 Government Affairs report for additional reading material on the 1993 legislation.

Again, I wish to thank all the people involved with putting on the convention for a successful convention.

You Can Always Find Happiness
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A TIME FOR CHANGE

by John V. Schneider, PE-PLS
Ethics Advisor

Since the 1993 convention, I have this reoccurring thought that it is time for land surveyors, engineers, architects and others from various technical professions to get involved in the state and national political scenes; especially as legislators. It scares me when I think about our future and the future of our offspring being in the hands of so many attorneys.

I don't intend this to be an attorney bashing article. Many of my good friends are lawyers and I have a daughter in law school at present. Generally I find attorneys intelligent, well read, well socially graceful, good golfers but also illogical and too often self-serving.

At the legislative breakfast that served as a kick off to this years convention, one of the legislators put forth a simple and logical approach to tort reform. He explained that our system encourages lawsuits, not because it provides for justice or making the aggrieved party whole, but because it provides for windfall profits to plaintiffs and their legal representatives through punitive damages. This legislator went on to suggest that it is illogical to award punitive damages to a plaintiff. Punitive damages are a punishment or penalty assessed by society as a deterrent to repeating the act. Society is assessing the penalty and logically society should receive the payment for the damages, not the plaintiff and not the attorney.

It seemed so logical. Make everyone whole! Let justice be served! When do we start? His answer as you might expect; it won't happen as long as attorneys control the legislature.

It seems to me that enough is enough. We just can't continue to stand on the sideline and watch the world go by. As technical professionals, we can bring logic, balance and objectivity to a scene that is now skewed away from the same.

We need You! You are out there and the time is right. You are educated, intelligent, objective and above all logical. Off the top of my head I can think of a half dozen good candidates for political office including one recently retired P.E., L.S. Allow your fellow professionals an opportunity to support one of our own and give all of society hope for a healthier future.

L.S. BOARD OF REGISTRATION HAPPENINGS

The Indiana State Board of Registration for Land Surveyors, a subset of the Indiana Professional Licensing Agency, meets in Indianapolis one-day each month (usually the second Friday) in order to conduct the on-going business of the Board. When administrative law judge hearings or disciplinary hearings are scheduled, they are usually held on the preceding Thursday. Board meetings are held in a conference room in the Conference Center in the new Indiana Government Center South. Just within the last month the Professional Licensing Agency has finally moved into new office space in this same new building. All telephone numbers have remained the same except the address is now:

Indiana Government Center South
302 W. Washington St., Room E034
Indianapolis, IN 46204

The Licensing Agency secretary assigned to the Land Surveyor Board is Julie L. Werner (who replaced long-time board secretary, Tracy J. Hicks, in February). James Schmidt is the deputy attorney general assigned to Professional Licensing Agency and regularly attends L.S. Board meetings. The six members of the State Registration Board are charged with the duty and responsibility of regulating the practice of land surveying in the state of Indiana as prescribed by state statute and the rules formulated by the Board to carry out this assignment. The Board continually is involved with receiving applications to sit for examinations, preparing/reviewing the various parts of the examination, deliberating on petitions for review, considering possible rule changes, conducting disciplinary hearings - just to mention a few of its activities.

With regard to disciplinary hearings, the Board has been rather inactive for several months although there are a number of active cases which the attorney general's office indicates are about ready to be heard. The delay has come about because the newly-elected State Attorney General, Pamela Carter, dismissed many former deputies, one of which was Ann Long, a deputy attorney general, who so ably handled several disciplinary cases before the Board during 1992. The new Deputy Attorney General for the Consumer Protection division is Greg Thomas. D.P.G. Dave McGruder will probably handle cases before the L.S. Board in the future. These individuals needed some time to become acquainted with the form of land surveyor complaints and deliberations.

At the recent Joint Society Government Affairs Convention held in Indianapolis, the L.S. Board presented a half-day session involving a demonstration and panel discussion on "The Professional Disciplinary Process". Pat Cunningham of the State Board, and board liaison to the A.G., organized the well-attended program. Others taking an active part, besides the Board, were Ann Long, former deputy attorney general; John Schneider, P.E.,

P.L.S., and Gary Kent, P.L.S.

John McNamara, Indiana State Board President, attended the NCEES State Board President/Chairman Assembly held in Fort Worth, Texas, on February 5-6, 1993.

The May presentation of certificates for professional engineers and land surveyors is scheduled for Friday, May 21, 1993 in the Auditorium of Indiana Government Center South.

1993 GOVERNMENT AFFAIRS REPORT

by Gary Kent, PLS,
Chair Government Affairs Committee

The effort to make major revisions to the Registration Act during the 1993 legislative session provided for quite a bit of entertainment if nothing else.

The original multi-page bill was radically amended in House committee. In fact, the only portion of the original bill that came out of the House in the amended bill was enabling legislation for continuing education. The remainder of the amended bill contained a provision that allowed attorneys to practice surveying.

Based on guidance from the ISPLS membership and on information available from the statehouse, we asked our Senate sponsor to recommend an amendment in Senate committee that would limit attorneys to the preparation of descriptions and the calculation of areas. The bill was so amended and subsequently passed the Senate several weeks ago.

Since the House and Senate versions of the bill differed, either the House had to reconsider the Senate version or the bill had to go to a conference committee to hammer out a compromise. As it turned out, the House decided to pass the Senate version and the bill has now been sent to the Governor for his consideration.

The session this year also contained many surprises that caused many hours to be spent on issues unrelated to the Registration Act bill. In the end, however, if the Governor sees fit to sign the bill, we will have accomplished the second of our two primary goals of the past ten years - the first being a separate Registration Board, and the second being enabling legislation for continuing education.

NEWS FLASH

The Governor signed House Bill 1664 on April 30, 1993. This Bill is now law and goes into effect on July 1, 1993.

BOARD OF DIRECTORS MEETINGS

Summary by Dianne Bennett

The Board of Directors of the Indiana Society of Professional Land Surveyors held meetings on February 13th, 1993 and March 17th, 1993. Among items addressed were the following:

February 13th:

Ron Hansell, ISPLS attorney, brought the board up to date on the current lawsuit. A motion was made and passed to defend vigorously the action commenced against ISPLS, Inc., its officers, directors, and agents for action taken in carrying out ISPLS, Inc., policy and actions.

A motion was made and approved to ask the By-Laws Committee to look into the officer and member requirements of local chapters.

The Vincennes University Scholarship fund quarterly report was presented and reviewed.

Doug Herendeen reported on the 1993 convention and David Blankenkemper reported on the 1994 joint convention with Kentucky.

There was discussion on the procedures for filing complaints with the Attorney General's office. A motion was made and passed that the ISPLS Board of Directors would approve complaint recommendations by the Ethics Committee. Complaints will be signed by the president of the board and sent to the Attorney General's office and also send it to the By-Laws Committee for a permanent recommendation.

Wes Day gave an update on pending legislation, i.e., House Bill 1664, 1560 and Senate Bill 365. A motion was made and passed to increase the Governmental Affairs budget for this year.

Membership applications presented to the board and approved were: Eric Williams (Student), John Brinkworth, Jr. (Associate), William Finke (Associate), David Savage (Member).

There was discussion on statistics as fulfillment for the math requirement by the registration board. It was stated that the board will not accept statistics to fulfill the math requirement to set for the surveyor's exam.

The County Surveyor's association meeting was March 2-4th at the time of the Purdue Road School.

After discussion there was a motion made and passed to send a letter to the membership regarding the by-law change of Article IV, Section 10, "Assumption of Duties" to be presented at the general membership meeting at the convention in March. Proposed amendment is as follows:

"In years when the annual convention is not held in the month of January, the newly elected board of directors and its' officers shall take office on the first official meeting in January".

March 17, 1993

The board was brought up to date by ISPLS attorney, Ron Hansell, on the lawsuit filed against ISPLS.

David Blankenkemper reported that the Chapters Committee

is encouraging areas with no chapters to form one.

Doug Herendeen reported on the 93 Convention and David Blankenkemper reported on the 94 ISPLS/KAPS convention. A 94 convention flier, tentative schedule and budget was presented to the board. It was noted that in order to comply with Kentucky's required continuing education requirements, the final program will need to be presented four months in advance to allow for Kentucky to approve it for continuing education.

Bob Bigelow reported on the 1995 Convention which will be held in Merrillville at the Radisson Hotel on January 18-20, 1995.

Dianne Bennett reported on the profit made at the Winter workshop at New Albany. The Initial Point chapter was presented a check for their share of the profit for planning and hosting the workshop.

A report from Governmental Affairs was presented by Gary Kent. A long discussion followed on the status of the ISPLS bill-House Bill 1664. Pat Cunningham, Gary Kent, Wes Day (members of the committee) and Tom Dinwiddie (ISPLS lobbyist) have been working hard in the legislature. It appears that only a portion of the bill, that is still in tact, is continuing education. A motion was made and passed for the legislative committee to proceed on their present course.

The following new members were approved by the board: Donald West (Junior), Stephen Meyer (Associate), Kevin Chaff (Associate), Kenneth Bush (Junior), and William Dougherty (Member).

There was discussion regarding other publications and items which ISPLS could provide for sale as a moneymaker.

The Purdue University John McEntyre Endowment quarterly fund report was presented and reviewed.

It was announced that the Purdue Surveying Student Banquet was to be April 3rd at 7:00 P.M.

Wes Day, reporting for the Standards Committee, stated that the definition of Route Surveying will have to be revised. It will also be necessary to educate the users of the route surveys.

Rich Hudson reported that the Professional Development Committee was working on preparing the application form for continuing education.

Jake Hall reported that the Joint Society Government Affairs Education Committee was looking into lack of teaching by professors at Purdue University. Professors spend more time looking for research grants than teaching.

Tom Boofter reported for the Indiana Historical Landmarks and stated that work is proceeding on traversing the "bearing tree" in order to finalize the access easement.

E.R. Gray, NSPS Governor and Great Lakes Coordinating Council reported on the ACSM Convention held in New Orleans, Louisiana.

Jerry Carter gave an update on the QBS program.

ARKANSAS SURVEYING CHAPTER SETTLES, PLEADS GUILTY TO PRICE FIXING

Charges against five Northwest Arkansas land surveyors for fixing the price of lot and block surveys were dropped three days into the trial after the Northwest Chapter of the Arkansas Society of Professional Surveyors pleaded guilty to the price fixing charge. The settlement, which includes a \$60,000 fine against the chapter, was formally accepted Feb. 28 by the federal government.

Last fall the U.S. Department of Justice indicted the chapter and five individual members: F. Lewis Steenken II, a registered land surveyor and Fayetteville attorney; Thomas W. Copelin, owner of Copelin Land Surveying; Jack E. Stiffler, president of Ozark Mountain Surveying and Engineering Inc.; Frank W. Blew, owner of Blew and Associates; and Donald R. Phillips, owner of Phillips Land Surveying, Inc.

The indictment charged that beginning as early as September 1990 and continuing until at least January 1992, the five surveyors and the association conspired with others to raise, fix, and maintain minimum prices of lot and block surveys in Benton, Washington, Madison, Carroll, Doone, Newton, Crawford, Franklin, Johnson and Pope counties in violation of Section 1 of the Sherman act.

In agreeing to the settlement, the Northwest Chapter admitted that the organization fixed on a minimum price to be charged for lot and block surveys; agreed to raise and maintain the price of lot and block surveys to a minimum of \$300; raised and maintained the minimum price at a minimum of \$300; and received compensation for the surveys based on the agreed upon minimum price of \$300.

Charges stemmed from an informal December 1990 meeting of area surveyors. According to a former officer of the Northwest Chapter who asked not to be identified, the meeting was called by Steenken, who invited registered land surveyors of Northwest Arkansas who owned their own businesses and who performed mortgage surveys. According to several sources, Steenken began the meeting by noting that it was not a Chapter-sponsored gathering.

There are various versions detailing the exact events of the evening, but everyone agrees that the subject of fees was discussed. Several witnesses for the prosecution testified that they understood a minimum price of \$300 was being set for lot and block surveys. Other surveyors who were present at the meeting testified during the trial that when the \$300 price was discussed, they didn't take it to mean they had to charge \$300 if they didn't want to.

The newest bone of contention has to do with the settlement itself. Phillip L. Chaney, president of Northwest Chapter, said of the outcome, "I'm not happy at all...It was [the defendants'] private business and their activities that got them in trouble in the first place and then it was the Chapter that had to act as the scapegoat to save them."

In order, to arrive at the settlement agreement, Chapter members voted on whether to plead guilty in exchange for having charges dropped against the individual surveyors. Chaney said he was one of "two or three" dissenting votes. "One of the driving forces [for agreeing to the guilty plea] was that some people felt that, if those individuals were found guilty, the Justice Department would be back for more indictments later on."

He is bitter about what he senses as strong public opinion against surveyors because of the guilty plea. "As far as public opinion, the

surveying community is seen as a bunch of crooks," he said.

In a written statement to *Civil Engineering News*, American Congress on Surveying and Mapping President Robert W. Foster stated: "The Arkansas case demonstrates the sensitivity of professional association leadership responsibilities. It is clear that we cannot discuss fees in any context...the marketplace will determine how our fees are to be reckoned and our antitrust statutes rule us out of the process of collectively establishing what the tariff should be. I empathize with the Arkansas surveyors in their attempt to set a base fee for a specific type of survey, but the lesson must be clear to all leaders in the profession: the subject of fees is off limits."

According to Chaney, although the federal case against the Chapter and the five surveyors is closed, the state board of registration may yet launch their own investigation into the affair

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COMPLETED CAREER

CURTIS M. BROWN, 84

Boundary Consultant, Author, Teacher

Curtis M. Brown, L.S., of San Diego, California died March 4, 1993 at the age of 84. In 1932 he graduated with honors in engineering from the University of California at Berkeley. He began his career as a land surveyor in the post-World War II subdivision boom in southern California and became a principal in the surveying firm of Daniels, Brown and Hall. His many contributions to the profession involved dozens of articles and four books including *Boundary Control and Legal Principles* and *Evidence and Procedures for Boundary Location*.

He was past president of the American Congress on Surveying and Mapping and was a fellow of the American Society of Civil Engineers. He also served as a consultant and witness in several landmark boundary suits for the state of California. He is survived by his wife, Thelma, of 56 years and three sons, five grandchildren, and three great-grandchildren.

Brown taught some at Purdue University and San Diego State University, as well as local community colleges. As far as Purdue is concerned, he was a visiting professor of land surveying during the Spring Semester 1964. He taught the land surveying course to civil engineering students on campus and two evening extension courses - one in Indianapolis to 75 land surveyors, abstractors, and title insurance people and another in Lafayette to 25 practitioners. Both were very successful. During the summer of 1965, he was again on campus to teach a property surveying course to 24 college teachers of surveying and mapping who were attending the 1965 Summer Institute in Geometrics supported by N.S.F. At the same time, he traveled to Fort Wayne to conduct six weekly evening sessions for 37 northeast Indiana practitioners. Obviously many Indiana surveyors were exposed to one of the outstanding authorities on land surveying in the United States. It was your editor's privilege to have made the arrangements for his Purdue visits when I was head of Purdue's surveying and mapping area. We all will miss him!

J.S.G.A. CONVENTION
 March 17 - 19, 1993, Indianapolis, Indiana



**INDIANA COUNTY SURVEYORS
 ASSOCIATION NEWS**

President's Award to James Milligan, White County

An Indiana County Surveyors Association (CSA) meeting was held in West Lafayette in connection with the 79th Annual Purdue Road School, March 3, 1993. The MSE Corporation of Indianapolis hosted the morning breakfast followed by a program presented by the Louisville district of the Corps of Engineers (Doug Shelton and Don Purvis) on their regulatory program involving wetlands, drains, clean waters act, etc. The afternoon session, attended by over fifty county surveyors and deputies, was highlighted by a presentation by Kenton Ward on the functioning of the Hamilton County Surveyors office.

A business meeting followed in which the following officers were elected for two-year terms (1993-94):

- President: Jeff Souder, Washington County Surveyor
- Vice-President (North): Greg Deeds, Miami County Surveyor
- Vice-President (Central): David Smoll, Hancock County Surveyor
- Vice-President (South): Ken Brosmer, Dubois County Surveyor
- Secretary-Treasurer: Kent Ward, Hamilton County Surveyor



New County Surveyor Association officers (1993-94) are, left to right, Jeff Souder, David Smoll, Ken Brosmer, Kent Ward, and Greg Deeds.

During a business meeting, where several committees made reports, the outgoing President, E.R. Gray, Bartholomew County Surveyor, presented this year's President's Award to James L. Milligan, White County Surveyor, for work done on their section corner program, but more particularly on their recent GPS/GIS involvement. The following is a summary of work accomplished and/or progressing in White County.

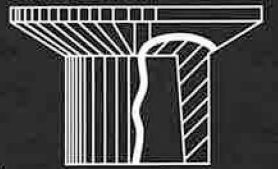
The first contract for the section corner program was signed on November 1, 1978. The scope of the work included:

1. locating or re-establishing all sections corner in the congressional township

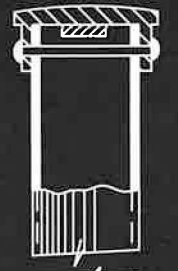
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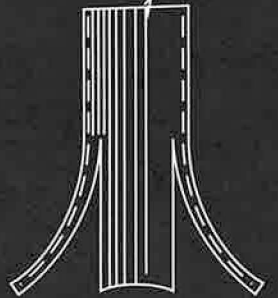
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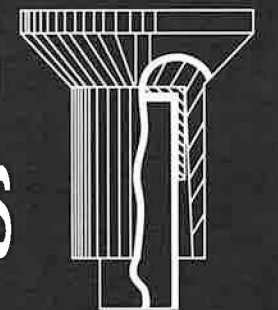


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THE NEW ALTA/ACSM STANDARDS

By Robert W. Foster, ACSM Immediate Past President

The March/April 1993 issue of ACSM Bulletin contained the complete *Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys*, as revised in 1992 and adopted by both the American Land Title Association and ACSM. These standards were originally published in 1962, revised in 1986 and 1988, and were revised once more last year in response to surveyors' concerns.

Table 2 of the 1988 version has been a major source of concern for surveyors. The table, which tabulates precision and accuracy standards for survey control, has been criticized primarily in connection with the precision requirements. For example, Table 2 specified that for a Class B survey the minimum distance to be measured with an electronic distance measuring device was 54 meters, and 14 meters with calibrated steel tape, to obtain a closure accuracy of 1:10,000. Many called for removal of Table 2 or a major revision because the requirements were restrictive and often unattainable due to local conditions.

The ACSM/ALTA joint committee, headed by Mary Feindt, discussed Table 2 at length. ALTA members objected to disposing of precision and accuracy standards; they argued that the variable levels of quality of the work produced by surveyors across the country demanded such a standard. ALTA agreed, however, to remove Table 2 from the body of the standards as long as it was attached as an appendix to the document. This will allow the precision and accuracy standards to be revised in response to technological advances, without having to return repeatedly to the ACSM and ALTA boards for approval. NSPS is currently reviewing the precision and accuracy standards and is expected to present a revised standard by the fall 1993 meeting. (In fact, NSPS and ACSM should publish a general accuracy/precision standard for boundary or cadastral surveys as a national standard separate from the ALTA/ACSM document.)

The following statement has been added to the discussion on accuracy standards: "The surveyor shall employ, in his or her judgment, proper field procedures, instrumentation, and adequate survey personnel in order to achieve accuracies comparable to those adopted by ACSM for a designated class of survey." This statement allows surveyors to apply professional technical judgments without having to adhere to rigid precision requirements.

In the 1992 version, classification of surveys is by land use alone, without the designations A, B, C, or D. What used to be a Class A survey is now simply an Urban survey. What were Class B, C, and D surveys are now Suburban, Rural, and Mountain and Marshland surveys, respectively. This change is in response to the inclination of many clients to insist on a Class A survey no matter the location or value of the property.

The new version of the standards requires that the client "provide a written authorization to proceed with the survey from the person responsible for paying for the survey." This apparent redundancy was deliberate, reinforcing the need to identify the actual client. A request for an ALTA/ACSM survey often comes from an attorney for a bank or an agent for the purchaser of the property rather than from the party for whom the surveyor is actually working; disputes between surveyors and their clients have been the all-too-frequent result. The standards also require, by implication, a written contract between the

surveyor and client - a practice still not followed by many surveyors, regrettably.

A major revision will be found in the wording of the certification. The 1992 version is set forth in two clauses. The first refers to the body of the standards and the optional items to be shown on the finished plan. The second clause refers to the accuracy standards, "in effect on the date of this certification," recognizing that from time to time the accuracy standards will be revised. There has been much consternation in the profession in recent years over whether this certification might be construed as an express warranty, thereby voiding professional liability insurance coverage for surveyors whose policies include exclusions for express warranties and guarantees. Feindt and her committee consulted with a representative of the professional liability insurance industry, the Victor O. Schinnerer Co. A vice president at Schinnerer assured the committee that the company does not believe that the certification "in any way represents an express warranty or guarantee. It is simply an agreement between the parties that the map or plat and the survey were made in accordance with the *Minimum Standards* established by ALTA/ACSM."

The new version of the standards speaks to several other items. For instance, it asks for evidence of possession throughout the site, and requires that improvements within five feet (1988 version called for improvements within two feet) of the site's boundary lines be shown. The intent of the standards as to location of cemeteries and burial grounds has been clarified, and the surveyor is asked to report any apparent changes in a water boundary.

Table 3 of the 1988 version was called "Additional Survey Requirements," which led some to conclude that these requirements were mandatory in spite of the accompany notes that made clear the optional nature of the tabulation. In the 1992 version, the table is called Table A, "Optional Survey Responsibilities and Specifications," and the explanatory note has been moved to the top of the page for emphasis. Several items in the table have been clarified or expanded. Proper notation as to Federal Flood Insurance Rate Maps is called for, and the datum of elevations for contours is now required. The request for "square footage of all buildings" has been rewritten entirely to specify what information is being requested, and the optional request for "observable evidence of cemeteries" has been removed, since it is a mandatory requirement in the body of the standards.

Surveyors will find the 1992 ALTA/ACSM standards to be a big improvement over previous versions; once again Feindt and her committee have performed a splendid service for both organizations. But the standards should be read carefully and understood completely. The charge that these standards increase the surveyor's liability may be true for those who certify to compliance without total familiarity with the document.

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Minimum Standard Detail Requirements and Classifications

for

ALTA/ACSM LAND TITLE SURVEYS

as adopted by

American Land Title Association

and

American Congress on Surveying & Mapping

1992



It is recognized that members of the American Land Title Association (ALTA) have specific needs, peculiar to title insurance matters, which require particular information for acceptance by title insurance companies when said companies are asked to insure title to land without exceptions as to the many matters which might be discoverable from survey and inspection and not be evidenced by the public records. In the general interest of the public, the surveying profession, title insurers and abstracters, ALTA and the American Congress on Surveying and Mapping (ACSM) jointly promulgate and set forth such details and criteria for standards. It is understood that local variations may require local adjustments to suit local situations, and often must be applied. It is recognized that title insurance companies are entitled to rely on the survey furnished to them being of the appropriate professional quality, both as to completeness and as to accuracy. It is equally recognized that for the performance of a survey, the surveyor will be provided with appropriate data which can be relied upon in the preparation of the survey.

For a survey of real property and the plat or map of the survey to be acceptable to a title insurance company for purposes of insuring title to said real property free and clear of survey matters (except those matters disclosed by the survey and indicated on the plat or map), certain specific and pertinent information shall be presented for the distinct and clear understanding between the client (insured), the title insurance company (insurer), and the surveyor (the person professionally responsible for the survey). These requirements are:

1. The client shall request the survey or arrange for the survey to be requested and shall provide a written authorization to proceed with the survey from the person responsible for paying for the survey. The request shall specify that an Urban, Suburban, Rural or Mountain and Marshland "ALTA/ACSM LAND TITLE SURVEY" is required, meeting the then-current accuracy standards jointly adopted by ALTA and ACSM. The request shall also designate which of the optional items listed in Table A are to be incorporated. The request shall set forth the record description of the property. The record description of the property, any record easements benefitting the property, the record easements or servitudes and covenants affecting the property ("Record Documents"), the names and

deed data of all adjacent owners, as available, and any other documents containing desired appropriate information affecting the property being surveyed and to which the survey shall make reference shall be provided to the surveyor for notation on the plat or map of survey.

2. The plat or map of such survey shall bear the name, address, telephone number, and signature of the professional land surveyor who made the survey, his or her official seal and registration number, the date the survey was completed and the dates of all revisions, and the caption "ALTA/ACSM Land Title Survey" with the certification set forth in paragraph 8.
3. An "ALTA/ACSM LAND TITLE SURVEY" shall be an Urban, Suburban, Rural or Mountain and Marshland Survey in accordance with the then-current "Classification and Specifications for Cadastral Surveys" ("Accuracy Standards") as adopted, from time to time, by the American Congress on Surveying and Mapping and the American Land Title Association and incorporated herein by reference.
4. On the plat or map of an "ALTA/ACSM LAND TITLE SURVEY," the survey boundary shall be drawn to a convenient scale, with that scale clearly indicated. A graphic scale, shown in feet or meters or both, shall be included. A north arrow shall be shown and when practicable, the plat or map of survey shall be oriented so that north is at the top of the drawing. Symbols or abbreviations used shall be identified on the face of the plat or map by use of a legend or other means. If necessary for clarity, supplementary or exaggerated diagrams shall be presented accurately on the plat or map. The plat or map shall be a minimum size of 8 1/2 by 11 inches.
5. The survey shall be performed on the ground and the plat or map of an "ALTA/ACSM LAND TITLE SURVEY" shall contain, in addition to the required items already specified above, the following applicable information:
 - (a) All data necessary to indicate the mathematical dimensions and relationships of the boundary represented, with angles given directly or by bearings, and with the length and radius of each curve, together with elements necessary to mathematically define each curve. The point of beginning of the surveyor's description shall be shown as well as the remote

point of beginning if different. A bearing base shall refer to some well-fixed bearing line, so that the bearings may be easily re-established. All bearings around the boundary shall read in a clockwise direction wherever possible. The North arrow shall be referenced to its bearing base and should that bearing base differ from record title, that difference shall be noted.

- (b) When record bearings or angles or distances differ from measured bearings, angles or distances, both the record and measured bearings, angles, and distances shall be clearly indicated. If the record description fails to form a mathematically closed figure, the surveyor shall so indicate.
- (c) Measured and record distances from corners of parcels surveyed to the nearest right-of-way lines of streets in urban or suburban areas, together with recovered lot corners and evidence of lot corners, shall be noted. The distances to the nearest intersecting street shall be indicated and verified. Names and widths of streets and highways abutting the property surveyed and widths of rights of way shall be given. Any use contrary to the above shall be noted. Observable evidence of access (or lack thereof) to such abutting streets or highways shall be indicated. Observable evidence of private roads shall be so indicated. Streets abutting the premises, which have been described in Record Documents, but not physically opened, shall be shown and so noted.
- (d) The identifying titles of all recorded plats, filed maps, right of way maps, or similar documents which the survey represents, wholly or in part, shall be shown with their appropriate recording data, filing dates and map numbers, and the lot, block, and section numbers or letters of the surveyed premises. Names of adjoining owners as they appear of record and recorded lot or parcel numbers, recording information identifying the current description of record and similar information, where appropriate, shall be shown. The survey shall indicate platted setback or building restriction lines which have been recorded in subdivision plats or which appear in a Record Document which has been delivered to the surveyor. Parcel lines shall clearly indicate contiguity, gores, and overlaps. Where only a part of a recorded lot or parcel is included in the survey, the balance of the lot or parcel shall be indicated.
- (e) All evidence of monuments shall be shown and noted to indicate which were found and which were placed. All evidence of monuments found beyond the surveyed premises on which establishment of the corners of the surveyed premises are dependent, and their application related to the survey shall be indicated.
- (f) The character of any and all evidence of possession shall be stated and the location of such evidence carefully given in relation to both the measured boundary lines and those established by the record. An absence of notation on the survey shall be presumptive of no observable evidence of possession.
- (g) The location of all buildings upon the plot or parcel shall be shown and their locations defined by measurements perpendicular to the boundaries. If there are no buildings erected on the property being surveyed, the plat or map shall bear the statement, "No buildings." Proper street numbers shall be shown

where available.

- (h) All easements evidenced by a Record Document which have been delivered to the surveyor shall be shown, both those burdening and those benefitting the property surveyed, indicating recording information. If such an easement cannot be located, a note to this effect shall be included. Observable evidence of easements and/or servitudes of all kinds, such as those created by roads; rights-of-way; water courses; drains; telephone, telegraph, or electric lines; water, sewer, oil or gas pipelines on or across the surveyed property and on adjoining properties if they appear to affect the surveyed property, shall be located and noted. If the surveyor has knowledge of any such easements and/or servitudes, not observable at the time the present survey is made, such lack of observable evidence shall be noted. Surface indications, if any, of underground easements and/or servitudes shall also be shown.
 - (i) The character and location of all walls, buildings, fences, and other visible improvements within five feet of each side of the boundary lines shall be noted. Physical evidence of all encroaching structural appurtenances and projections, such as fire escapes, bay windows, windows and doors that open out, flue pipes, stoops, eaves, cornices, areaways, steps, trim, etc., by or on adjoining property or on abutting streets, on any easement or over setback lines shall be indicated with the extent of such encroachment or projection. If the client wishes to have additional information with regard to appurtenances such as whether or not such appurtenances are independent, division, or party walls and are plumb, the client will assume the responsibility of obtaining such permissions as are necessary for the surveyor to enter upon the properties to make such determinations.
 - (j) Driveways and alleys on or crossing the property must be shown. Where there is evidence of use by other than the occupants of the property, the surveyor must so indicate on the plat or map. Where driveways or alleys on adjoining properties encroach, in whole or in part, on the property being surveyed, the surveyor must so indicate on the plat or map with appropriate measurements.
 - (k) As accurately as the evidence permits, the location of cemeteries and burial grounds
 - (i) disclosed in the process of researching title to the premises or
 - (ii) observed in the process of performing the field work for the survey, shall be shown.
 - (l) Ponds, lakes, springs, or rivers bordering on or running through the premises being surveyed shall be shown.
6. As a minimum requirement, the surveyor shall furnish two sets of prints of the plat or map of survey to the title insurance company or the client. If the plat or map of survey consists of more than one sheet, the sheets shall be numbered, the total number of sheets indicated and match lines be shown on each sheet. The prints shall be on durable and dimensionally stable material of a quality standard acceptable to the title insurance company. At least two copies of the boundary description prepared from the survey shall be similarly furnished by the surveyor and shall be on the face of the plat or map of survey, if practicable, or otherwise attached to and incorporated in the plat or map. Reference to date of the

"ALTA/ACSM LAND TITLE SURVEY," surveyor's file number (if any), political subdivision, section, township and range, along with appropriate aliquot parts thereof, and similar information shown on the plat or map of survey shall be included with the boundary description.

- 7. Water boundaries necessarily are subject to change due to erosion or accretion by tidal action or the flow of rivers and streams. A realignment of water bodies may also occur due to many reasons such as deliberate cutting and filling of bordering lands or by avulsion. Recorded surveys of natural water boundaries are not relied upon by title insurers for location of title.

When a property to be surveyed for title insurance purposes contains a natural water boundary, the surveyor shall measure the location of the boundary according to appropriate surveying methods and note on the or map the date of the measurement and the caveat that the boundary is subject to change due to natural causes and that it may or may not represent the actual location of the limit of title. When the surveyor is aware of changes in such boundaries, the extent of those changes shall be identified.
- 8. When the surveyor has met all of the minimum standard detail requirements for an ALTA/ACSM Land Title Survey, the following certification shall be made on the plat:
To (name of client), (name of lender, if known), (name

of title insurance company, if known), (name of others as instructed by client):

This is to certify that this map or plat and the survey on which it is based were made (i) in accordance with "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," jointly established and adopted by ALTA and ACSM in 1992, and includes Items ___ of Table A thereof, and (ii) pursuant to the Accuracy Standards (as adopted by ALTA and ACSM and in effect on the date of this certification) of a(n) [insert "Urban," "Suburban," "Rural," or "Mountain/Marshland" here] _____ Survey.

Date: _____

(signed) _____ (seal)

Registration No.

Adopted by the American Land Title Association on October 17, 1992.

Adopted by the Board of Direction, American Congress on Surveying and Mapping on November 11, 1992.

American Land Title Association, 1828 L St., N.W., Suite 705, Washington, D.C. 20036.

American Congress on Surveying and Mapping, 5410 Grosvenor Lane, Bethesda, MD 20814.

TABLE A OPTIONAL SURVEY RESPONSIBILITIES AND SPECIFICATIONS

NOTE: The items of Table A must be negotiated between the surveyor and client. It may be necessary for the surveyor to qualify or expand upon the description of these items, e.g., in reference to Item 6, there may be a need for an interpretation of a restriction. The surveyor cannot make a certification on the basis of an interpretation.

If checked, the following optional items are to be included in the ALTA/ACSM LAND TITLE SURVEY:

- 1. Monuments placed (or a reference monument or witness to the corner) at all major corners of the boundary of the property, unless already marked or referenced by an existing monument or witness to the corner.
- 2. Vicinity map showing the property surveyed in reference to nearby highway(s) or major street intersection(s).
- 3. Flood zone designation (with proper annotation based on Federal Flood Insurance Rate Maps or the state or local equivalent, by scaled map location and graphic plotting only).
- 4. Land area as specified by the client.
- 5. Contours and the datum of the elevations.
- 6. Identify, and show if possible, setback, height and bulk restrictions of record or disclosed by applicable zoning or building codes (in addition to those recorded in subdivision maps). If none, so state.
- 7. (a) Exterior dimensions of all buildings at ground level
(b) Square footage of:
 - (1) exterior footprint of all buildings, or gross floor area of all buildings, at ground level
 - (2) other areas to be defined by the client

- (c) Height of all buildings above grade at a defined location.
- 8. Substantial, visible improvements (in addition to buildings) such as signs, parking areas or structures, swimming pools, etc.
- 9. Parking areas and, if striped, the striping and the type (e.g., handicapped, motorcycle, regular, etc.) and number of parking spaces.
- 10. Indication of access to a public way such as curb cuts, driveways marked.
- 11. Location of utilities serving or existing on the property as evidenced by on-site observation or as determined by records provided by client, utility companies and other appropriate sources (with reference as to the source of information) (for example):
 - (a) railroad tracks and sidings;
 - (b) manholes, catch basins, valve vaults or other surface indications of subterranean uses;
 - (c) wires and cables (including their function) crossing the surveyed premises, all poles on or within ten feet of the surveyed premises, and the dimensions of all crosswires or overhangs affecting the surveyed premises; and
 - (d) utility company installations on the surveyed premises.
- 12. Governmental Agency survey-related requirements as specified by the client.
- 13. Significant observations not otherwise disclosed.
- 14. _____

CLASSIFICATIONS OF ALTA-ACSM LAND TITLE SURVEYS

Introduction

The degree of precision and accuracy necessary for a particular cadastral survey should be based on the intended use of the land without regard to its present use, provided the surveyor has knowledge of the intended use. If the surveyor has no such knowledge, the degree of precision may be based on the present use of the land.

Four general survey classes are defined using various state regulations and accepted practices. These general classes are listed and defined below.

Survey Classes By Land Use

URBAN SURVEYS

Surveys of land lying within or adjoining a city or town. This would also include the surveys of commercial and industrial properties, condominiums, townhouses, apartments and other multi-unit developments, regardless of geographic location.

SUBURBAN SURVEYS

Surveys of land lying outside urban areas. This land is used almost exclusively for single family residential use or residential subdivisions.

RURAL SURVEYS

Surveys of land such as farms and other undeveloped land outside the suburban areas which may have a potential for future development.

MOUNTAIN and MARSHLAND SURVEYS

Surveys of lands which normally lie in remote areas with difficult terrain and usually have limited potential for development.

Should these above cited specifications be in conflict with state laws, rules or regulations, the more stringent requirements must be followed.

The combined precision of a survey can be statistically assured by dictating a combination of survey closure and specified procedures for a particular survey class. ACSM and ALTA have adopted specific procedures for control surveys in order to assure the combined precision of a particular survey class. The statistical base for these specifications is on file at ACSM and available for inspection. The surveyor shall employ, in his or her judgement, proper field procedures, instrumentation and adequate survey personnel in order to achieve accuracies comparable to those adopted by ACSM for a designated class of survey.

AMERICAN CONGRESS ON SURVEYING and MAPPING

MINIMUM ANGLE, DISTANCE and CLOSURE REQUIREMENTS FOR CLASSES OF SURVEYS

SURVEY CLASS	DIR. READING OF INSTRUMENT (2)	INSTRUMENT READING ESTIMATED (3)	NUMBER OF OBSERVATIONS PER STATION (4)	SPREAD FROM MEAN OF D&R NOT TO EXCEED (5)	ANGLE CLOSURE WHERE N = NO. OF STATIONS NOT TO EXCEED	LINEAR CLOSURE (6)	DISTANCE MEASUREMENT (7)	MINIMUM LENGTH OF MEASUREMENTS (8), (9), (10)
URBAN	20" < 1' > 10"	5" < 0.1' > N.A.	2 D&R	5" < 0.1' > 5"	10" \sqrt{N}	1:15,000	EDM or Doubletape with steel tape	(8) 81m, (9) 153m (10) 20m
SUBURBAN	20" < 1' > 10"	10" < 0.1' > N.A.	2 D&R	10" < 0.2' > 10"	15" \sqrt{N}	1:10,000	EDM or steel tape	(8) 54m, (9) 102m (10) 14m
RURAL	20" < 1' > 10"	N.A.	1 D&R	20" < 0.3' > 20"	20" \sqrt{N}	1:7,500	EDM or steel tape	(8) 40m, (9) 76m (10) 10m
MOUNTAIN/MARSHLAND	1" < 1' > 1"	N.A.	1 D&R	30" < 0.5' > 30"	30" \sqrt{N}	1:5,000	EDM or steel tape	(8) 27m, (9) 51m (10) 7m

Note (1) All requirements of each class must be satisfied in order to qualify for that particular class of survey. The use of a more precise instrument does not change the other requirements, such as number of angles turned, etc.

Note (2) Instrument must have a direct reading of at least the amount specified (not an estimated reading), i.e.: 10" = Micrometer reading theodolite, <1' > = Scale reading theodolite, 10" = Electronic reading theodolite, 20" = Micrometer reading theodolite, or a vernier reading transit.

Note (3) Instrument must have the capability of allowing an estimated reading below the direct reading to the specified reading.

Note (4) D & R means the Direct and Reverse positions of the instrument telescope, i.e., Urban Surveys require that two angles in the direct and two angles in the reverse position be measured and meaned.

Note (5) Any angle measured that exceeds the specified amount from the mean must be rejected and the set of angles re-measured.

Note (6) Ratio of closure after angles are balanced and closure calculated.

Note (7) All distance measurements must be made with a properly calibrated EDM or Steel tape, applying atmospheric, temperature, sag, tension, slope, scale factor and sea level corrections as necessary.

Note (8) EDM having an error of 5mm, independent of distance measured (Manufacturer's specifications)

Note (9) EDM having an error of 10mm, independent of distance measured (Manufacturer's specifications)

Note (10) Calibrated steel tape.

ESTATE PLANNING FOR THE SURVEY PRACTITIONER

by Knud E. Hermansen, PLS, PE

Estate planning is a difficult undertaking for many people. First, it involves talking about your own death, a subject not easily approached while sober. Second, it generally involves complex decisions involving the disposition of treasured property and perhaps more importantly the guardian of children and loved ones. For these two reasons and others, many surveyor in preparing their will never consider provisions concerning their survey records. In some cases, these provisions are not necessary since survey records are owned by a corporation, governed by a partnership document, sold with the business, are too few to consider, or sold prior to the surveyor's death (e.g. at retirement). For those surveyors who have sizable records (or plan to) and are not covered by one of these situations, provisions in their will or a codicil providing for the disposition of their surveying records is recommended.

In preparing a clause or codicil dealing with the disposition of survey records, the surveyor should consider the following:

Sold for Value: Since the records may represent a sizable part of the net worth of the surveyor's business, it may be prudent for the surveyor to authorize the sale of the records with the proceeds going to designated heirs or the estate. The sale of the records according to an estate plan should consider three factors: who should sell them, how they are to be sold, and who should be allowed the opportunity to purchase them.

The sale of the records according to an estate plan should consider three factors: who should sell them, how they are to be sold, and who should be allowed the opportunity to purchase them.

The surveyor (testator) may specifically authorize the executor, a certain company, or a particular individual to take possession and sell them. In deciding how the records can be sold and who should be allowed to purchase them, the surveyor may choose one or several choices. For example, the surveyor may authorize the sale be made by sealed bid, public sale, or private sale.

Example: *I require that my executor sell all plats, reports, and surveying documents en mass by sealed bid to be opened at a time fixed certain. Notice of sale shall be given by letter to the State Society of Land Surveyors and all surveyors listed in the yellow pages that have a place of business within 150 miles of my last business location. Notice of sale shall be sent no later than one month prior to the date fixed for the bids to be opened. The executor shall accept the largest or highest bid.*

Gift: A second estate plan may be to give the records away. This plan would be popular if the records were useful to a relative or good friend. It may also be welcome if a gift were made to a historical society or public repository for use by others.

Example:

I give all my surveying plats, reports, and surveying documents to ___, currently residing at ___, so long as they are operating a professional consulting business at the time of my death. Otherwise, I require that my executor sell ...

Copies: Another alternative is to allow someone to copy the records. This is particularly useful if you would like two or more people to have access to your records.

Example:

___ days after my death, all my surveying plats, reports, and surveying documents are to be given to ___, currently residing at ___. Between the time of my death and ___ days after my death, ___, residing at ___, shall be allowed to copy all my records without expense or cost to my estate. Within this time, my executor shall make the records available to ___ at a time and place mutually convenient.

...consult with an attorney...

Cautions: Before running to the safe deposit box to get your will (which, by the way, is not the best place to keep it) several statements on caution are appropriate. First, do not make alterations or additions to your current will document. Any changes or additions to the will requires the will be executed again. Therefore, a properly executed new will or a codicil will be the best way to include changes or additions to your testamentary intent. Second, consult with an attorney. Will packages or using someone else's testamentary example (like those given) are not always adequate or proper for your own circumstances. Unfortunately, problems with testamentary transfers are not usually discovered until after the maker is dead and unable to mend the problem. Finally, don't wait to make the changes. Without doubt many of you need a will or a review of your current will. New children, grandchildren, deaths, or other matters should be reflected in your will. As the old saying goes: Hope for the best but prepare for the worst.

Knud Hermansen is a practicing land surveyor, civil engineer, and counselor at law. In addition, he teaches in the surveying engineering and civil engineering technology programs at the University of Maine.

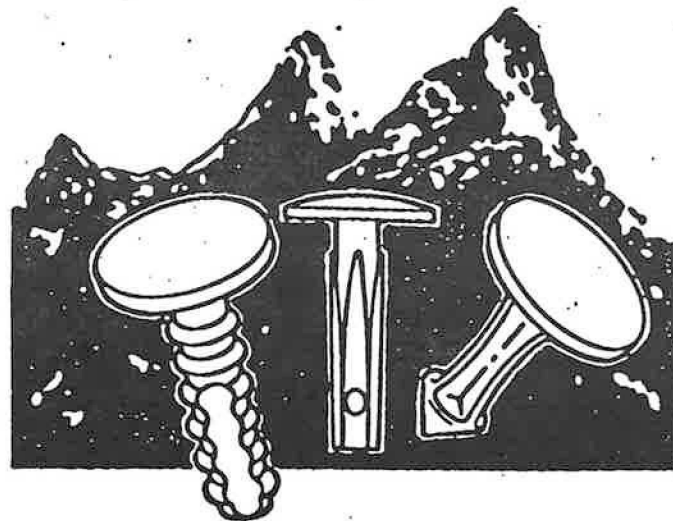
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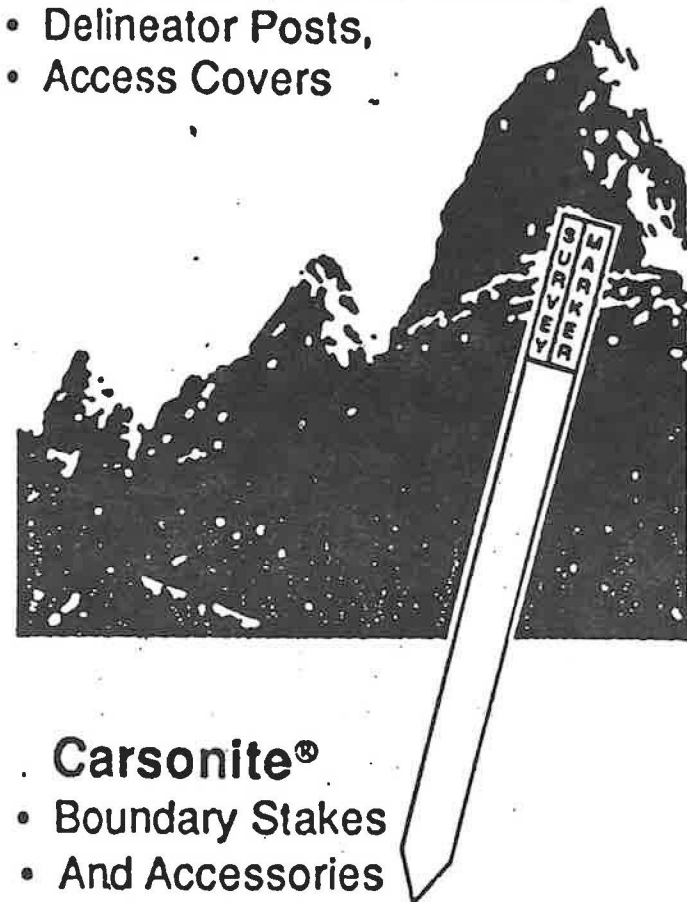
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TOTAL STATIONS: A LICENSE TO SURVEY.....

by Paul Church, Registrar, Ontario Land Surveyors

We've come a long way baby. I couldn't help but notice at this past Annual General Meeting, the proliferation of electronic equipment that I saw as I toured the exhibit areas. I was almost surprised to see metal "chains" in one exhibit. There were electronic drafting machines, electronic bar finders, electronic distance meters, electronic theodolites, electronic total stations and now electronic Geographic Positioning Systems.

The ladies on our clerical staff were quite amazed at all the electronic paraphernalia that surveyors are using today. Nearly everywhere they looked, all they saw were total stations, computers and plotters.

What I wanted to discuss in this article was the total station and it's impact on the surveying industry. The total station, that marvelous marriage of mechanical electronic and optical technology, has simplified the measuring of angles and distance to two operations: point and push.

Gone are the upper and lower motions.

Gone are two sets of clamps and tangents screws.

Gone is the micrometer wheel.

Gone is the need to interpolate between lines etched on glass plates and viewed through an optical system.

Gone are the long delays while training someone to penetrate the maze of wheels and screws and telescopes.

Gone is the need for a calculator on the job site.

Gone is the need to double centre???

Gone is the need to keep field notes???

Surveying now is almost as easy as using a can of bug killer, just point the can, push the button and spray the countryside with angles and distances. With a long range pole and an ingenious chainman, nothing can escape being tied-in and permanently recorded in a data collector. Most total stations can simultaneously read the angle, the slope distance, then compute the horizontal distance, the vertical difference and the coordinates of the point being "sprayed".

It is now possible for a surveyor to use a virtually untrained Party Chief. With a simple rule of thumb "when in doubt tie it in", anyone can be sent into the field to digitize the neighborhood and bring the information back in a data collector. The calculator draftsman massages the information and produces a plan. Survey decisions are made in the main office by the calculator and the surveyor.

I realize that I have grossly over-simplified the procedures; I have done this intentionally to introduce a concern that I have about the way the total station had undermined property field procedure.

There is serious danger that can result from the thoughtless application of total station techniques to legal surveying. As was mentioned earlier, there is a strong temptation to send inexperienced party chiefs into the field since no decisions have to be made during the field work stage. During the present shortage of trained and experienced field personnel, this temptation is very strong.

But does the inexperienced party chief know what to look for? Could he recognize survey evidence that is not a survey bar? Will he know enough to tie in that lone fence post, that rusty iron pipe or that old angle iron? Will he be able to recognize that "something doesn't look right"? It is overlooked by the inexperienced party chief.

With total station techniques, there is no need for the party chief to walk around the property, therefore the chainman or rangepole person may be the only one to actually walk the property. This person is usually the least well trained and the least experienced on the field crew. A similar situation can arise where even an experienced party chief uses total station techniques and sends his "ranger" into the backyards and along the fences to tie-in survey evidence.

It is imperative that an experienced party chief walk the perimeters of the property being surveyed in order to assess what is valid survey evidence and what is not. The party chief should also explore the rear limits of adjacent properties in order to determine what should be tied-in and what should not be. This cannot be left up to the inexperienced and untrained "ranger".

When an untrained and inexperienced party chief is sent out to "coordinate the community", does he know what questions to ask the owners of the property and the neighbors with respect to fencing or other physical evidence found on the ground? Only trained and experienced people know what to ask and how to ask it, so as not to lead or mislead the person being questioned.

Another concern that arises with the application to total station techniques to legal survey is that it now seems possible to complete a survey more quickly. Less time is taken to make the measurements and therefore more is expected of the field crew. A result of this is that less time is given to the crews for research, exploration, and excavation. The crew doesn't have the time to dig at corners where they think there might be evidence. Not enough time is allowed the crew to ask questions of people or to take those extra measurements when something doesn't look right.

It is my concern that total station techniques will tend to reduce legal surveys to an assembly line operation which does not allow for those situations which are unique and which require extra work and research.

The total station has brought surveying into the 21st and even the 22nd century; introducing electronics into areas of surveying that are unprecedented. In many cases, this technology has vastly streamlined the procedure of recording field measurements, reducing them, massaging them and plotting them.

It must be remembered that there are some things that cannot be replaced by total station technology.

* The need to produce clear, concise and meaningful field notes has not been eliminated.

* The need to verify all measurements has not been eliminated.

...continued Page 16

TOTAL STATIONS

...continued from Page 15

- * The need to look for and at times dig for survey evidence has not been eliminated.
- * The need to walk the boundaries and assess the physical feature on the ground has not been eliminated.

Electronics has streamlined the measuring, the calculating and the drafting but it has not eliminated and cannot streamline these other elements of the survey.

The total station is opening up the way for people with relatively little training, little understanding of measurement theory and little knowledge about how the equipment operates to generate quick and apparently accurate coordinates. This mindless misuse of measuring equipment may give some people the impression they have a license to survey.

The total station is not a license to survey. A properly conducted survey requires trained and experienced people using their knowledge and skills to take the right measurements and know how to verify them, to accurately assess the evidence and to make correct decisions. The ability to measure is only a small part of being able to survey.

LOST SCHOENSTADT METAL DETECTOR

Last fall IDNR's survey crew lost their Schoenstadt Metal Detector, Model GA 32, serial #14778, in the vicinity of Hacker Creek Road in Morgan Monroe State Forest. The instrument still may be carrying the Department of Natural Resources tag number 34156. Recently the IDNR received a telephone call from Schoenstadt inquiring about this instrument. Apparently someone has called them about the resale value of this instrument. Schoenstadt traced the serial number to IDNR agency and reported the incident.

The Indiana Department of Natural Resources is asking for assistance in disseminating this information to surveyors, particularly in the southern part of the state. Someone is trying to sell this stolen instrument and IDNR would appreciate any information that might enable them to track down the metal detector.

All information can be directed to Wayne Sheets at (317) 232-0768 or in writing to the Division of Engineering, 402 West Washington Street, Room W-299, Indianapolis, IN 46204.

SURVEYING AUTOMATION '93 COMING TO ANAHEIM!

P.O.B. Publishing Company, publisher of P.O.B. Magazine will sponsor *Surveying Automation '93*, P.O.B.'s annual technology conference on June 8, 9, and 10, 1993 in Anaheim, California at the Anaheim Hilton, adjacent to the Anaheim Convention Center where A/E/C SYSTEMS '93 computer exhibition is being held.

Surveying Automation '93 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 Global Positioning Systems (GPS) technology. Day two will focus on Computer-Aided Design (CAD). The third day is devoted to Geographical Information systems (GIS).

COUNTY SURVEYORS

...continued from Page 7

2. remonument any corners not found
3. reference all corners
4. supply the County Surveyor with a book with plats of the section corners identifying the type of monument and the distances to and types of reference monuments
5. a plat showing State Plane bearings and distances between section corners
6. a plat with State Plane coordinates on each section corner

The county was completed in 1982. The project was funded entirely with revenue sharing funds. The field work was done with a one second theodolite and EDM. The County Highway back hoe did all digging in the county roads. The field work was adjusted through the computer at Purdue. An ongoing maintenance program exists to check the corners and references.

The county contracted a consulting engineering firm on January 20, 1992 to prepare and implement a Geographic Information System (GIS) specifically tailored to White County, Indiana. Current progress is as follows:

1. new controlled aerial photography of entire county complete
 2. photography controlled by 52 point GPS network of 1st order accuracy
 3. existing State Plane Coordinates adjusted to NAD 83 update
 4. digitizing of road and hydrology network complete
 5. digitizing of building footprints 10' x 10' or larger complete
 6. digitizing of existing plat maps - 60% complete
 7. digitizing of county soils maps underway
- parcel research from deeds of record on lakes area in order to set parcel boundaries - 80% complete



E.R. Gray, left, presents James Milligan, center, the President's Award as last year's award winner, Mike Spencer, Tippecanoe county Surveyor, looks on.

SURVEYOR'S HISTORICAL SOCIETY NEWS

by Roger Woodfill, PLS, S.H.S. Chapter President, Lawrenceburg, IN

I.S.H.S. HOLDS ANNUAL MEMBERSHIP MEETING

The Indiana Affiliate of the Surveyors Historical Society held its annual general membership meeting at the recent Joint Society Convention in Indianapolis. New board members elected were as follows: Rich Hudson from area code 219 and Ken Anderson from 812; Professor Kenneth Curtis was re-elected from area code 317 by one vote.

Donations were accepted in the ISHS booth for the Peggy Archer and the John McEntyre Scholarship funds. Wes Day was recipient of the print "Surveying Instruments of the 1950's" given away by the society.

The following two articles are reprints from SHS "Backsights". I have asked that they be reprinted here because of their suspected interest to ISPLS members.

THOREAU SURVEYING COLLECTION

During the mid-nineteenth century, the celebrated writer, poet, and philosopher Henry David Thoreau, also engaged in the practice of surveying. Most of his surviving instruments, notes, maps, etc., are in Massachusetts owned by either the Concord Free Public Library or the Concord Antiquarian Society. The larger number of items are with the Library, consisting of a large surveyors compass by C.G. King, Boston, wooden drafting triangles, metal protractor, and 154 plats of survey. The Antiquarian owns Thoreau's inkwell, surveyors chain, and 3 survey plats.

A "Catalog of Thoreau's Surveys in the Concord Free Public Library" was edited in 1976 by the Curator, Mrs. Marcia Moss, as Thoreau Society Booklet 28. It is now out of print.

SHS INITIATES ART COLLECTOR PROGRAM

The Surveyor Historical Society Board of Directors at their February 15th, New Orleans meeting voted to initiate a Photo Art Collector Program that will be run in conjunction with membership renewals. Limited edition, postcard size photo art will be prepared and sent along with the 1994 membership renewal notice that will be mailed in December. In other words, a person must be a 1993 member to receive the first edition. It is proposed that this membership benefit and incentive will be repeated each year with new limited edition photo art.

Coordinating the photo art project is Board Member Russell Kastelle. Kastelle has indicated the first edition is in the process of being produced and will be ready for the fall renewal notice mailings. Future editions may be selected by members submitting photos for consideration. Ancient surveying equipment has been selected for appearance on the first edition. At the present time, no rules for future subject matter have been developed.

HISTORIAN SEEKS MOTOR SPEEDWAY DATA

As a civil engineer and auto racing historian, Mr. Van Wallen of Milwaukee, Wisconsin, has spent much of the past five years pursuing a rather specialized interest, that of historic speedway design. The cornerstone of his hobby is collecting blueprints and other technical information for the old wooden race tracks that had the benefit of a formal engineering design.

He has contacted scores of people from the racing world, contractors, engineers and now surveyors in search of this type of data.

Although Van is interested in any oval track past or present, he is focusing on the bygone days of the board tracks. During the years between 1910-1929, a total of 24 board tracks, ranging between one-half mile and two miles in length sprang up all across the United States. A typical mile and a quarter track would require more than three million board feet of lumber.

The track driving surfaces were constructed of green 2" x 4" planks laid on edge and supported by 2" x 12" planks laid crosswise on 4-foot centers. The track rested on well trussed vertical timbers, the type of construction used in old roller coasters.

The tracks were true ovals with curved straight-of-ways joined by smaller radius turns. A carefully engineered configuration was essential for safety sake. Such a design made use of the Searles Spiral Easement Curve.

Life of the track surfaces was limited to about 5 or 6 years as climate conditions drained the vitality out of the 2" x 4" planks. Track operators were unable to use a preservative on the surface as it would create impossible driving conditions due to slipperiness. In a brief period of time the board tracks faded into oblivion.

Van says the incredibly high-banked curves permitted lap speeds that would approach some of today's standards. Most of the cars that competed on these tracks were open wheel cars powered by supercharged 122 and 91 cubic inch engines.

Seven of these unique tracks were constructed in California, while sixteen others were built in various other states across the nation. Four of the tracks built in California were designed by Art Pillsbury, a civil engineer, who was also the City Engineer for Beverly Hills, California in the early days.

Mr. Walling learned of the Surveyors Historical Society through an article in the *Professional Surveyor*. He is hopeful that some members of our Society might recall some type of data (field notes, plans or proposals) used in the construction of the old board tracks. Van would also like to obtain an early copy of "Field Engineering" by William H. Searles.

If any member has knowledge of such materials, particularly of Mr. Pillsbury's, please contact Van at 116 South 76th Street, Milwaukee, Wis., 53214. His phone is (414) 453-6701.

21st ANNUAL PURDUE STUDENT RECOGNITION DINNER (1993)

The 21st Annual Purdue Chapter Spring Recognition Dinner was held at the Morris Bryant Smorgasbord in West Lafayette, on Saturday, April 3, 1993. The photographs tell the story.



Mark A. Weston welcomed our evening speaker Kurt Maynard from John E. Chance and Associates, Lafayette, Louisiana. Kurt, a Purdue L.S. alumnus, talked about the Superconducting Super Collider project in Texas.



Dale Grimes presented the 1993 Central Indiana Chapter Scholarship to Stephen L. Marshall (Clarksville, IN)



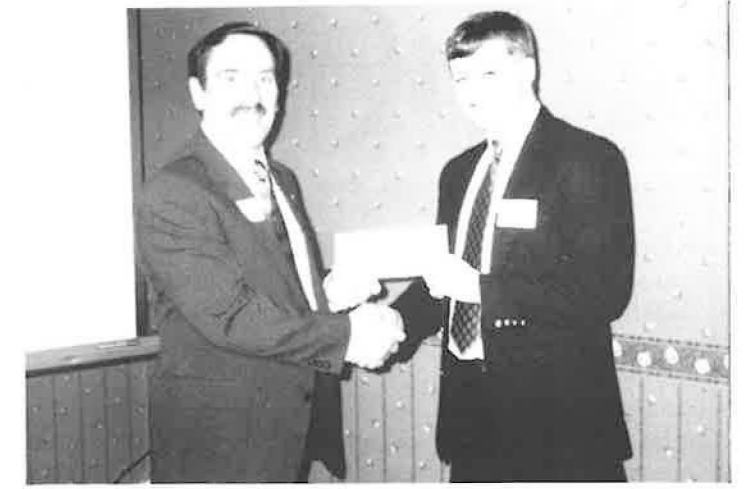
Dale Grimes presents the 1993 John McEntyre Scholarship to Bernard A. Guerretaz (West Lafayette, IN).



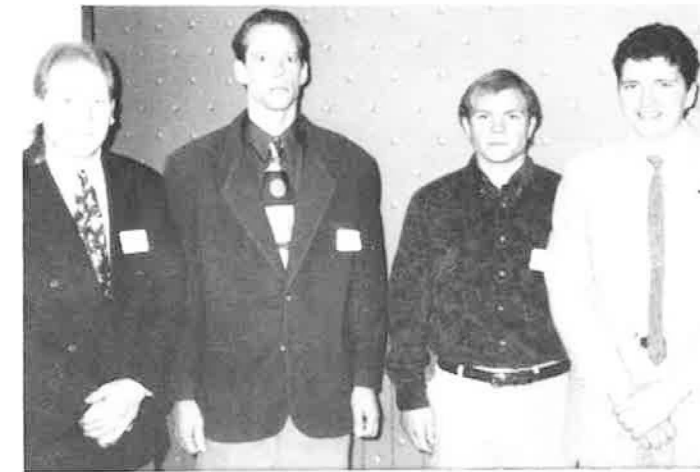
Karen D. Bell receives the 1993 Outstanding Senior Award from Professor Johnson.



Professor Johnson presents a faculty recognition award for outstanding service and contribution to the Purdue Surveying Program to Mark A. Weston.



Professor Johnson presents the Jud and Betty Rouch Scholarship to Christopher Burke (Elm Grove, WI).



Outgoing 1992-93 ACSM-ISPLS Student Chapter Officers are: (left to right) Shawn C. Pappenheim, Secretary; Douglas Graham, Treasurer; James R. Wheatley, Vice President; Mark A. Weston, President.



Incoming 1993-94 ACSM-ISPLS Student Chapter Officers are: (left to right) Bernard A. Guerretaz, President; Jami L. Gorski (Westville, IN), Vice President; Bradley P. Ott, (Franklin, IN) Secretary; Richard A. Jones, (Waynetown, IN); Treasurer not shown.

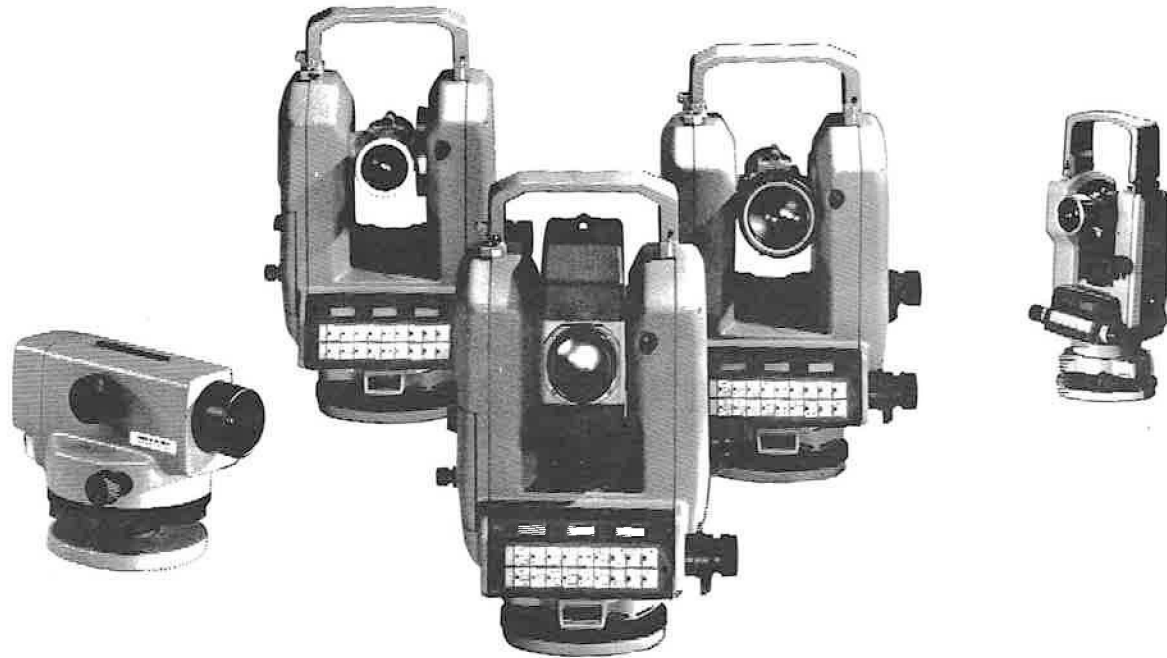


1993 Graduates of the Surveying Engineering Program are: (left to right, front row) Mark A. Weston, (Anderson, IN) BS-CE/LSE; James R. Wheatley, (Bedford, IN) BS-LSE, Douglas Graham, (Bloomington, IN) BS-CE/LSE (left to right, back row) James W. Sharpe, (Waterford, MI) BS-CE/LSE; Shawn C. Pappenheim, (Crown Point, IN) BS-LSE; Tex J. Brooks, (Fort Wayne, IN) BS-CE/LSE; Karen D. Bell, (Blacksburg, VA) BS-LSE; Carl F. Shangraw, MS, (Belmont, MI).



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NSPS GOVERNORS REPORT

by E.R. Gray III, P.L.S., Columbus, Indiana

ACSM/NSPS Fall Conference
February 1993
New Orleans, Louisiana.

The spring ACSM/NSPS Conference was held in N'AWLINS, Lous-e-ana. Here are a few tidbits about N'AWLINS you may find of interest: the city's economic lifeline, the Mississippi River, is 2,300 feet wide at the end of Canal Street. Depths range from 30 to 60 feet near the banks, and 100 to 240 feet at mid stream. Over 300 billion gallons of water pass Canal Street each day.

The dead are buried in "tombs", above ground structures similar to miniature houses. This practice is dictated by marshy soils.

Mardi Gras, "Fat Tuesday", has a \$350 million economic impact on the New Orleans metropolitan area.

Beads are one of the most popular items thrown by the parading "Krewes". Accent Annex, a bead retailer, sold the equivalent to 19,503 miles of beads, no wonder the city is below sea level.



Andrew Jackson's statue in front of St. Louis Cathedral.

NSPS/ACSM, and committee meetings attended by myself include: ACSM Great Lakes Regional Council, NSPS Board of Governors Meeting, NSPS Board of Directors Meeting, ACSM/NSPS Annual PAC Auction, NSPS BLM Forum, ACSM Board of Direction Meeting.

The following is a brief of some of the issues discussed and or acted on:

The Great Lakes Regional Council (GLRC) will be providing technical sessions at the ACSM/NSPS Conference in Minneapolis,

Minnesota in November. Presently we have nine presenters, including myself, whom have agreed to provide a 45 minute program each.

Pennsylvania is considering a request to join the Great Lakes Regional Council. Discussion centered around opening up the GLRC Membership to additional states. No action was taken.

Railroad abandonment in Illinois is still a hot topic which is gaining momentum nationwide. The problem: once railroads are abandoned the tracks and other pertinent monumentation is destroyed making it virtually impossible to re-establish the original railroad R/W lines for adjoining boundary purposes. The cure: a federal and or state requirement that the railroads provide monumentation and documentation of the original R/W location. Illinois sued, and won a court action requiring monumentation under their plat act. However, the latest word is that the railroads are attempting to get the Illinois Plat Act thrown out through legislative action. ACSM has been working on this problem also. Dave Sherrill, NSPS Governor from Illinois is pushing this issue, if you have ideas, comments or information on this issue please share them with me and I will forward them to Dave.

Ohio is pursuing a uniform Federal Lending Policy to require "Mortgage Location Surveys", or a Boundary Survey according to their respective state laws, for any federally insured financial transaction. Motion of support by GLRC was approved.

Newly elected officers of the Great Lakes Regional Council are:

Chairman:	Dave Sherrill, Illinois
Chairman Elect:	E.R. Gray, III, Indiana
Secretary/Treasurer:	Larry Boyer, Iowa

The new "ALTA/ACSM Land Title Surveys" standards are now in print. Contact Pat Canfield (1-301-493-0200) at NSPS or myself if you need a copy. (reproduced in this issue)

The 1992-1993 Trig-Star year is underway. Over two hundred packets were sent this past year. The possibility to open Trig-Star up to a wider group was discussed. This may include making Trig-Star packets available to non ACSM/NSPS members with an additional charge.

Map/Plat contest to be held in 1994, details are still being worked out.

Jim Boyer, NSPS President, has been elected to the Tennessee House of Representatives.

The New Hampshire Land Surveyors Association has introduced "Right-of Entry" legislation to the New Hampshire legislature.

The North Carolina Society of Surveyors, Inc. has sent recommendations for mandatory continuing education to the NC Board of Registration for Land Surveyors and Engineers for a hearing at the Boards spring meeting.

A lawsuit filed against the Governor of Ohio for requiring bids for professional services is in the Ohio Supreme Court for appeal.

...continued page 22

...continued from Page 21

The lawsuit is a joint action by the Professional Surveyors, Engineers, Architects, and Landscape Architects.

Ed McKay, Geodesist with National Geodetic Surveys, reported that "Vertcon" software is available from the National Geographic Surveys information center for \$98.00. Vertcon computes the modeled difference in orthometric height between the North American Vertical Datum of 1988 (NAVD 88) and the National Geodetic Vertical Datum of 1929 (NGVD 29) for a given location specified by latitude and longitude. Orders can be placed by calling 1-301-443-8631.

Nancy Parke, ACSM Government Affairs Director, reported that they are working on issues of concern including: Railroad Abandonment, FEMA Mapping Accuracy, and NGS Programs.

The Florida Society of Professional Land Surveyors and numerous members have been served with an antitrust civil investigation demand by the Florida Attorney General's Office. This is an investigation into the matter of price fixing for land surveying services. As you may recall from a previous governors report, Arkansas is having similar problems.

The new Creed and Cannons are now available. One thousand copies have been printed on parchment and 10 copies have been plaque mounted. Worthy of any Professional Surveyors office, both formats are available by contacting Pat Canfield at NSPS.

Hone up your hiring practices. A surveying company was out \$55,000.00 in defense cost after failing to respond to all applications received after publicly advertising for new employees.

Safety practices in land surveying are being studied. Look for a report or handbook out sometime in the near future.

Liaisons to other societies, including IR/W Association, American Bar Association, Realtors, Architects, and other groups was discussed.

Discussion on G.P.S. continues as more states are adopting or looking into adopting G.P.S. under their respective state definition of surveying practices. This will require that G.P.S. services be conducted by, or under the direct supervision of, a Professional Land Surveyor.

A forum entitled "Future of the National Geodetic Survey User Services" was held, with Curt Sumner, chair, NSPS Board of Governors, serving as moderator. The paper, "The National Geodetic Reference System: an action plan for the 1990's" was made available to attendees. If you would like a copy of the report please contact me.

ACSM 1993 officers are: Richard E. Dahlberg, President; A. Nicholas Bodnar, President-Elect; and Richard E. Lomax, Vice President.

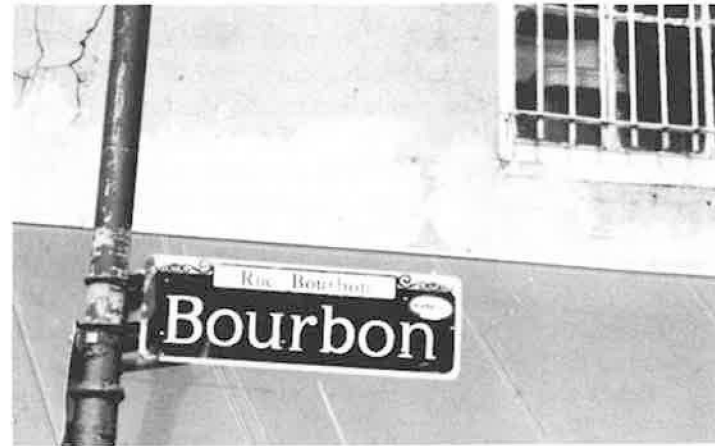
NSPS 1993 officers are: James F. Boyer, President; Gordon "Sam" Best, President-Elect; James H. Granger, Vice President; John L. Thalacker, Secretary-Treasurer.

The ACSM Board of Directors voted to present Kenneth S. Curtis, Professor Emeritus at Purdue University, an honorary membership in ACSM/NSPS. Congratulation Ken!

Individuals wishing to provide support to NSPS should be able to do so soon under the following supporter classifications: Contributor up to \$250.00; Supporter \$250.00, Benefactor \$500.00; Patron

\$1,000.00. Although recognized for their donations, individuals providing contributions would not be considered full ACSM/NS members.

A new member organization, Geographic and Land Information Society (GLIS), to ACSM was approved, details are still being formulated by ACSM.



Bourbon Street, New Orleans, Louisiana

The ACSM Board of Direction approved a new membership enticement to charge an "at cost" fee to new members. This action is to undergo further refinement before it goes into effect.

It's worth repeating: At the 1991 ACSM/NSPS Conference in Baltimore, the Bureau of Land Management made available Le Squares Adjustment Software to the NSPS Governors. If you are interested in a copy of this software, please contact me.

Thank you for the opportunity to serve as your NSPS Governor.

THIRD ANNUAL FOCUS "CAREER DISCOVERY 1993"

On Sunday, April 18th, members of the ISPLS Public Relations Committee sponsored a booth at the Third Annual FOCUS "Career Discovery" and Indiana National College Fair Day at the Indianapolis Convention Center.

Committee members David Best, PLS and Perry Cloyd, PLS and David Lauer, an employee of SIECO, answered queries of an estimated 40 high school students, their parents and guidance counselors about careers in land surveying. A question asked by many who stopped by the booth was "How much do surveyors make?" In addressing the question, Best, Cloyd and Lauer pointed out the revolutionary electronic advances made in the field of surveying in recent years. On display were an automatic level and a total station.

ISPLS will occupy a booth at the 1994 FOCUS event. The Public Relations Committee plans a continuous run of a video tape detailing a career in surveying. It will also generate an ISPLS brochure briefly explaining the career opportunities available in the field of surveying. Used for the first time at the 1993 event was a folding velcro display board. ... by David Best, PLS, Public Relations Chairman

V.U. SURVEYING PROGRAM RECEIVES DONATION

The Vincennes University Surveying Technology Department has received a grant of equipment valued at approximately \$60,000. Topcon America Corp., Paramus, N.J., donated the new equipment, which is scheduled to be replaced with new equipment annually for student use in the program.

"The donation is certainly appreciated," says Art Haase, chair of the Surveying Technology Department. "This new equipment will provide outstanding training opportunities for our students, allowing more individualized instruction utilizing some of the most sophisticated equipment in the industry today."

Haase says the equipment will be used in all kinds of conditions in a variety of field exercises. Topcon America Corp. will receive annual evaluations by VU students who have used the equipment.

Students enrolled in the Surveying program are assigned to a variety of field exercises requiring a minimum of 25 hours per week, in addition to their classroom work. Past projects have included surveying city parks, campus walkways, and a downtown sidewalk replacement project. The Indiana Society of Professional Land Surveyors serves as the advisory committee for the program.

Among the equipment donated to VU are a Topcon 302, GTS 4, ITS 1B with on-board data recorder, card reader, and software.

Currently 42 full-time students are majoring in Surveying Technology--which is a record high at VU. Haase says that demand for VU's graduates is strong with an average of two job offers for every graduate this year. This spring's graduates have all accepted job offers.

VU is a comprehensive, state-supported college located in southwestern Indiana. Founded in 1801, the college is the oldest in Indiana and one of the first two-year colleges in the nation. Over 7,300 students are enrolled at the Vincennes campus with an additional 2,600 enrolled at other extension sites including VU Jasper campus, Indianapolis International Airport, and Fort Benjamin Harrison, Indianapolis.



Participants in the recent donation of equipment by Topcon America Corp. to Vincennes University are, from left to right, Art Haase, chair of the VU Surveying Technology Department; Dr. Phillip M. Summers, president of VU; Joel M. Frost, branch manager (Indiana) for G. Lengemann Co., Indianapolis; and David Norris, regional sales manager for Mid-Atlantic States, Topcon America Corp., Paramus, N.J.

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CALENDAR

- May 22, 1993
ISPLS Board of Directors Meeting, Indianapolis
- June 8-10, 1993
Surveying Automation '93, Anaheim Hilton, Anaheim, California
- June 8-11, 1993
Annual Conference, Canadian Institute of Surveying and Mapping, Toronto, Canada
- July 10, 1993
ISPLS Board of Directors Meeting, Louisville, KY
- July 25-29, 1993
Urban and Regional Information Systems Association '93 Annual Conference, Atlanta, Georgia
- September 18, 1993
ISPLS Board of Directors Meeting
- October 1, 1993
ISPLS Fall Workshop, Turkey Run State Park, Marshall, IN, Topic to be announced
- October 9, 1993
ISPLS Board of Directors Meeting
- October 29 - November 6, 1993
GIS/LIS '93 Annual Conference and Exposition and ACSM/ASPRS Fall Convention, Minneapolis, Minnesota.
- November 13, 1993
ISPLS Board of Directors Meeting, Indianapolis
- January 26, 1994
ISPLS Board of Directors Meeting, Louisville, Kentucky
- January 26-28, 1994
ISPLS & KAPS Joint Society Convention, Galt House, Louisville, Kentucky
- April 23-28, 1994
ACSM/ASPRS Annual Convention, Reno, Nevada

CONTINUING PROFESSIONAL DEVELOPMENT COURSES APPROVED


- ISPLS Winter Workshop "Surveyor Reports and Legal Aspects", January 29, 1993, approved for five (5) hours (Kentucky)
- ISPLS Winter Workshop "Surveyor Reports and Legal Aspects", January 29, 1993 (Florida) *
- J.S.G.A. 1993 Convention (Kentucky) *
- ISPLS/KAPS 1994 Convention (Kentucky) *

* Application for PDH required credit has been applied for.

AUCTION NOTICE

Estate of the late John (Jack) J. Madden, L.S.-P.E., Saturday, June 5th, 10:00 A.M., Steuben County, Lakeside Park addition - west side of Big Turkey Lake, near Stroh, Indiana. For further information contact: Kathy Madden, 3900 S. 1200 E., LaGrange, Indiana 46761. Phone: 219-351-3362

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