HOOSIER SURVEYOR

Indiana Society of Professional Land Surveyors, Inc.

Affiliated with the American Congress on Surveying and Mapping and the National Society of Professional Surveyors

Astronomic Observations • By-Laws Changes
Spring Workshop Highlights • Purdue Recognition Dinner
New Land Surveyor and S.I.T. Registrants • Chapter Activities
Vincennes Scholarship • New 1982-83 Officers and Directors
County Surveyors Association • Indiana Coordinate System of 1983

VOLUME 9
NUMBER 2&3
SPRING-SUMMER
1982

1982 ACSM-ASP Fall Convention

Diplomat Hotel
Fort Lauderdale-Hollywood, Florida
September 19-23

Professionals Serving the Public

- Convention Director: E. R. Brownell
- Deputy Director: H. Cornell Clapp
- Exhibits: Bill Kuyper
- Programs: ASP — Joel Kobelin
  ACSM — Fred Cardwell

Technical Sessions
Exhibits
National Symposium: The Profession in Private Practice

1982 ACSM-ASP Fall Convention
3152 Coral Way
Miami, Florida 33145
(305) 446-3511

American Congress of Surveying and Mapping
American Society of Photogrammetry

HOOSIER SURVEYOR

VOLUME 9, NUMBERS 2&3, SPRING/SUMMER 1982

Committee Assignments (1982-1983)

STANDING COMMITTEES

Annual Meetings
Jud Rouch - Reporter
1983
Illinois Joint-Jud Rouch, Gary Kent; Co-Chairmen
1984
Ohio Joint-Roger Fine, Roger Woodfill; Co-Chairmen

Headquarters-ISPLS Executive Committee Function
John Whitlock, President
Jud Rouch, President-Elect
Al McConahay, Vice-President
Robert Bigelow, Secretary
Jacob Hall, Treasurer

By—Laws
James Dankert, Chairman
Robert Bigelow, Reporter
C.A. Budnick
Brian Dickerson

Government Affairs
Bradley Rayl, Chairman
Gary Kent, Reporter
Jacob Hall
Jack Irwin
C.A. Budnick
Luther Condre
Carl Anderson

Chapters
Ordell Gertsmeier, Chairman
Lee Bender, Reporter
Representatives from each chapter as selected by each chapter.
Northwest
St. Joseph Valley
Northeast
Central Indiana
Tippecanoe
Purdue Student
Vincennes Student

Library
Ken Curtis, Chairman
Pat Cunningham, Reporter
John McEntyre

Education
David Wahlstrom, Chairman
Jim Morley, Reporter
Jack Irwin
Art Haase
Steve Wood

Membership Development
Larry Manning, Chairman
William Andrews, Reporter
Larry Cramer
Joe Blevins

Ethics-Most Recent Five Past-Presidents
Dave Wolf, Chairman
C.A. Budnick
Orwic Johnson
Roger Woodfill
John Schneider

Nominations
Wesley L. Day, Chairman
Nelson Prall
Byron M. Brady

Finance
Jerry Carter, Chairman
Jacob Hall, Reporter
Jim Dalton

Publications
Dan Pusey, Chairman
Gary Kent, Reporter
Ken Curtis
Kent and Woodfill, Co-editors

Public Relations
Ronald Wharry, Chairman
Ray Tappen, Reporter
William Davis
David Smoll
James Kovas

Scholarship
Emil Beeg, Chairman
Jim Morley, Reporter
Donald Bengel
Lee Bender
Orwic Johnson
David Wahlstrom

Past-Presidents Council
Composed of all former, ISPLS presidents, this committee elects its Chairman annually.

Standards
Stanley, Shartle, Chairman
David Wolf, Reporter
John Madden
John Fisher
Michael Crawford
Terry Dickmeyer
Randolph Sexton
Burton Retz
Brenda Schlosser
John McNamara
Alan Stanley
Max Newkirk
Don Cochran
Michael Arena
Greg Eveslage
Rollyn Blankenbeker

SOCIETY LIAISON

A.C.S.M./N.S.P.S. Governor
James E. Dankert
Orwic A. Johnson - Alternate

State Board of Registration
John W. Whitlock

Indiana Historic Landmarks,Inc.
Nelson L. Prall
Walter Strahl
Phillip Thornburg
Garner D. Willey
Jerry L. Martin

Indiana Construction Industry Council
Julian "Jud" Rouch

County Surveyors Association of Indiana
Jack Irwin, Chairman
David Wolf, Reporter
Don Rock
Kent Ward

AD HOC COMMITTEES

Indiana Surveyor Exam
Wes Day, Chairman
John Schneider, Reporter
Jim Dankert

Organization of Political Action Committee
Roger Woodfill, Chairman
William S. Andrews, Reporter
Carl Anderson
Lee Jarvis

1985 ACSM-ASP Fall Meeting (Indianapolis)
Roger Woodfill, Chairman

COVER: After nearly twenty-eight years of editing the *SURVEYING AND MAPPING NEWSLETTER*, which subsequently became *THE HOOSIER SURVEYOR*, the editor Kenneth S. Curtis, has asked to be relieved of his duties so that he can devote more time and effort to other matters. The first issue was mailed in December 1954 and consisted of only two pages (one sheet). A copy of this first issue appears on pages 18 & 19 in this issue. In the nearly 70 issues of the newsletter since, the editor has attempted to keep the surveying and mapping profession in Indiana, mainly land surveyors, informed of activities, opportunities, accomplishments, and developments in the field in which he has devoted his career. He is particularly proud of his efforts in helping to provide an upgrading of the surveying profession through the availability of formal educational opportunities. He considers it a privilege to have been associated with the production of the *HOOSIER SURVEYOR*.

EDITOR'S NOTE: Deadlines for copy for various planned Issues of the *HOOSIER SURVEYOR* are as follows:

Winter Issue - January 31 Summer issue - July 31
Spring Issue - April 30 Fall issue - October 31
The *HOOSIER SURVEYOR* is composed and reproduced by Marbaugh Engineering Supply Co., Inc., Indianapolis, IN.

The *HOOSIER SURVEYOR* is published quarterly by the *INDIANA SOCIETY OF PROFESSIONAL LAND SURVEYORS*, to inform land surveyors and related professions, government officials, educational institutions, libraries, contractors, suppliers, and associated businesses and industries about land surveying affairs.

Editorial/Advertising offices: 8714 E. 21st Street, Indianapolis, IN 46219 (Telephone 317/899-3685). Advertising rates, closing dates, circulation data on request. Contributed articles, photographs subject to space limitations.

Kenneth S. Curtis, Editor
Gary Kent, Associate Editor

THE PRESIDENT'S PAGE

PRESIDENT'S MESSAGE
by John Whitlock

As we start a new fiscal year, our biggest challenge in these tough economic times is to get our society back on a balanced budget. With this goal in mind the board has been working on getting the expenses down to income level. After analyzing the questionnaires sent out by the past president's council, it is evident we want everything but want to pay less, realistically we have to live within our means.

At the July 10, 1982 board meeting, hosted by past president David Wolf and wife, we adopted the by-law changes listed in this issue. They were adopted by the board, subject to membership ratification.

It will take the board elections back to late fall with installation of the new board at the convention, providing the membership ratifies these changes at the annual meeting. I have asked that the procedure be implemented as soon as possible, February, 1983.

We have made friends in the Legislature this past session, and hope to keep these lines of communication open and working also. We hope to provide some interesting workshops.

John Whitlock
ISPLS President

ISPLS CHAPTER ACTIVITIES

Northwest Indiana Chapter (Porter-Lake-LaPorte-Newton-Jasper-and Starke Counties).
The 1982 officers of the chapter are:

President:	Robert Bigelow
President—Elect:	Donald Bengel
Secretary/Treasurer:	Edward Huston
Directors:	David Pilz, Donald Shapiro, James Gorski

Meetings are generally held monthly except during the summer and are usually held at Another Roadside Attraction which is about halfway between Merrillville and Valparaiso on U.S. highway 30. Examples of programs have included the following: In September, the program dealt with the surveyor's role in the development of condominiums. In October, ISPLS presdient, David Wolf, spoke on society activities and the role of the state registration board. In November, Bob Richardson, South Bend, a member of the state registration board reviewed the rules and procedures of the board. In December, Roger Woodfill, state ISPLS executive secretary, discussed proposed changes in the Indiana State Plane Coordinate Act due to the new 1983 Datum Adjustment. In January, Bob Bigelow and Bill Andrews, both members of the state ISPLS board, discussed new proposed state ISPLS by-laws. In February, Mark Lazart, of A.G. Edwards In Merrillville, talked on Individual Retirement Accounts. In March, Mike Marlow, of the Elgin, Joliet, and Eastern Railroad, spoke on railroad surveying. At the April meeting the Chapter voted to contribute $250 to the State's scholarship fund. At the May meeting the Chapter started work on surveying standards. At the June meeting, Bill Andrews, who is Vice-President of Cole Associates, talked on Optical Tooling in Machinery Setting. Since the return address on the newsletter *FIELD NOTES* is David Pilz, it is assumed he Is the faithful editor.

Northeast Indiana Chapter (centered at Fort Wayne).
The 1982 officers include:

President:	Tim Owens
Vice-President:	Mark Gensic
Secretary/Treasurer:	Kerry Dickmeyer

According to new Chapter by-laws, each officer advances upward to the presidency and a new secretary is elected. An annual meeting is held each year with a minimum of three additional meetings in SPRING, SUMMER, and FALL. In February, Tom Landis of EPCO Insurance & Financial Services, Fort Wayne, talked on hints and advice on taxes. A golf outing and meeting was scheduled for August 24 at the Pine Valley Country Club.

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Tecumseh Chapter (centered at Lafayette).
The 1982 officers of the reorganized chapter are:

President:	Dan Pusey
Vice-President:	Robert Martin
Secretary/Treasurer:	Pat Cunningham

Meetings will be held bi-monthly and usually at The Oaks Restaurant on U.S. 52 West. Most of the meetings have centered on the upcoming joint Bi-State Convention to be held at Champaign, Illinois, in cooperation with the Illinois Registered Land Surveyors Association, next February 1983. the Tecumseh Chapter will provide the bulk of the ISPLS support through joint committees with the East Central Chapter of IRLSA. Joint committees have held meetings in Crawfordsville and Covington.

Central Indiana Chapter (centered at Indianapolis).
The 1982 officers of the chapter are:

President:	Jerry Carter
Vice-President:	Frank Hahn
Secretary:	Gary Kent
Treasurer:	Jake Hall
Directors:	Jim Campbell, Jim Dalton, Jim Dankert

The Central Indiana Chapter of ISPLS has met six times so far this year (no meetings in June or August). Speakers and programs that were presented included:

The Michigan Society's promotional slide program
Richard Beaman on Error Elimination
Kenton Ward on Corner Perpetuation
Jim Donahue on Land Resource Records Management
Roger Woodfill on ACSM activities and Surveying Education
Chuck Budnick on European engineering projects (in the Netherlands, Germany and Yugoslavia).

Attendance has averaged 20 persons with a high of 35 at the April meeting featuring Jim Donahue.

CIC this year has 36 dues paying full members and an additional 15 juniors, associates and students.

The September meeting will be at the Indianapolis Power & Light Company on West Morris Street in Indianapolis on Wednesday, September 22nd at 7:00 p.m. Stan Sharlle, former Hendricks County Surveyor, will be presenting his excellent program on the specifics of corner recovery.

Election of officers will be held at the annual business meeting in November. The nominating committee consists of Jim Dankert, Jim Dalton, and Jim Campbell.

A Dinner-Social meeting with spouses in planned in December. Lee Jarvis is in charge of the details.

Incoming ISPLS president, John Whitlock, left, presents outgoing president, David Wolf, a past-president's plaque at last January's Annual Convention.

The Tecumseh Chapter meeting topics have centered on the committee support for the February 1983 Joint Indiana Illinois Convention at Champaign, Illinois.

N.C.E.E. SURVEYORS EXAMINATION WORKSHOP HELD

The National Society of Professional Surveyors and the National Council of Engineering Examiners in co-operation with the Indiana Society of Professional Land Surveyors, Inc. held a unique workshop in Indianapolis, Indiana, Saturday, January 30, 1982, after the ISPLS Annual Meeting adjourned. Thirty paticipants registered and attended.

Created out of special need from each of the three sponsoring societies, this workshop thoroughly reviewed and evaluated the N.C.E.E. surveyors licensing examination. Explanations of question relationship to the practice of surveying were verified and argued. Statistical verification for each question was presented. Relationship between formal education and performance was analyzed. Handouts included explanations of the Professional Requirements (P.R.'s) and Professional Activities (P.A.'s).

In the afternoon question writing techniques were taught, and goals of the examination questions demonstrated. Participants were trained as question writers for future contribution to the exam. Honorarium will be paid for question ideas that make it to the N.C.E.E. question bank. Handouts here included question writing procedures and typical questions.

The National Council of Engineering Examiners absorbed much of this workshop expense in order to get "grassroots" participation and input. The National Society of Professional Surveyors is underwriting some costs to encourage development of the surveying practitioner—licensing board interaction. The Indiana Society of Professional Land Surveyors supplied the facilities, and encouraged attendance.

Ferrell J. Prosser, right, of South Carolina and chairman of the N.C.E.E. Land Sureying Committee was the instructor for the Exam Workshop. Roger Woodfill served as local coordinator.

Over thirty Land Surveyors participated in the one-day workshop held at the Atkinson Hotel in Indianapolis on Saturday, January 30, 1982.

ISPLS BOARD AND EXAM COMMITTEE MEET

On Saturday, February 13, 1982 the L.S. Exam Committee (John Schneider, chairman; James Dankert; and Wes Day) met with the ISPLS Board of Directors at West Lafayette for a work session designed to write some test questions that could be used on the Indiana Land Surveyors Examination and augment the pool of questions already available. As a result, several questions developed were used on the Spring examination. There is a continuing need for submission of suitable questions reviewed and screened for possible future use. Questions (with answers) should be submitted to current committee chairman, Wes Day, 144 Whiteland Road, Whiteland, IN 46184.

Members, present, found that it was not easy to write questions that could stand the close scrutiny of others. Here, Day defends his question to Wolf, Rouch, and Budnick.

Small groups of four or five members gave each participant direct input in question formation. Here, Kent makes a point with Schneider, Bigelow, and Andrews.

The purpose of the L.S. Exam Committee is to monitor the State board Examination process and furnish additional fresh questions to the "question bank". Here, Dankert explains his ideas to Hall, Whitlock, and Madden.

SUGGESTED BY-LAWS CHANGES

Indiana Society of Professional Land Surveyors, Inc.

Notice About By-Laws Changes

The Board of Directors at their July 10, 1982 meeting approved some amendments to the by-laws. According to the provisions of the existing by-laws approved in March 1981 (printed in *HOOSIER SURVEYOR*, Vol. 8, No. 2, Spring 1981, p. 8-12) items relating to number, qualifications, classifications, terms of office, powers, etc. of the board of directors must be submitted to the next meeting of the members of the corporation for ratification. Therefore, items 12, 13, and 14 will go to the membership for ratification.

1) Article III - Section 5 and Section 6
Change the word "Association" to "Corporation"

2) Article III - Section 6, Treasurer
Add "He shall provide the financial information to the Secretary for inclusion in the report on the Business of this Corporation to the Annual Meeting. He shall provide for an annual audit".

3) Article III - Section 7, President-Elect
Revise the first sentence to read "...President and shall appoint his committees and designate the chairman for the coming year, and shall present them at the Annual Meeting."

4) Article IX - Section 2 - Change Article 4 to Article II (in the last sentence)

5) Article IX - Section 2 - Renumber to Section 3
Insert new Section 2 Amendments Generally. "These By-Laws, or any part thereof, may be altered or repealed, or new By-Laws may be adopted in lieu thereof, at any Annual Meeting by the affirmative vote of two-thirds of the eligible voting members present at said Annual Meeting. Written notice of any intended alteration, repeal, or new By-Laws shall be given to the Membership at least thirty (30) days prior to the Annual Meeting at which such change is proposed to be considered."

6) Article III - Section 1 - Election:
Reword the first sentence to read "The newly elected Board of Directors shall hold an organizational meeting each year prior to the Annual Meeting to elect from the newly elected Board of Directors, a Vice-President, Secretary and Treasurer.

7) Article III - Section 8 - Nominations
Delete the entire existing paragraph and insert the following:
"The President shall appoint a Nominating Committee to be composed of three members, each of whom declares he does not seek a directorship for the elective year in question. The Nominating Committee shall nominate one or more Members for the office of President-Elect. Said slate shall be presented to the Board of Directors by August 21st of each year. Any Member of the Corporation in good standing may be nominated as a candidate for President-Elect by petition, signed by at least 25 voting Members in good standing and received by the Secretary no later than the last working day in August. The Board of Directors shall accept nominees for the Office of President-Elect at the first meeting in September.

The Nominating Committee shall also nominate one or more Members for each of the three remaining Directorship positions. Said slate shall be reported to the Board of Directors by November 21st of each year. Any member of the corporation in good standing may be nominated as a candidate for Director by petition, signed by at least 25 voting members in good standing and received by the Secretary, no later than the last working day in November. The Board of Directors shall accept nominees for the Directorship positions on the last working day in November.

8) Article III - Section 9 - Elections
Delete the entire paragraph and insert the following:
"Letter Ballots bearing the name of the nominees for President-Elect together with a return envelope shall be mailed by the Secretary to all voting Members by October 1. Only Ballots returned to the Secretary at the Corporation's Administrative Offices and postmarked prior to October 21st, shall be counted. Such date to be specified on the Ballot. The unopened Ballots shall be delivered to the Nominating Committee as appointed by the President. The nominating Committee shall count the votes cast for President-Elect and shall determine based on which nominee received the greatest number of votes cast, which of the nominees will fill the Office of President-Elect. The results of the tally shall be reported by letter to the Board of Directors and each nominee no later than November 7th.

Letter Ballots bearing the names of the nominees for the three remaining Directorship positions together with a return envelope shall be mailed by the Secretary to all voting Members by December 5th. Only Ballots returned to the Secretary at the Corporation's Administrative Offices and postmarked prior to December 31st, shall be counted. Such date shall be specified on the Ballot. The unopened Ballots shall be delivered to the Nominating Committee as appointed by the President. The Nominating Committee shall count the votes cast for Directors and shall determine based upon which nominees received the greatest number of votes cast, which of the nominees shall fill the vacant Directorship positions. The results of the tally shall be reported to the Board of Directors and each nominee no later than January 7th. The Board of Directors are authorized and empowered to make rules and regulations covering nominations and elections not inconsistent with these By-Laws.

9) Article IV - Section 5 - Vacancies
In the first sentence change the word "may" to "shall".

10) Article III - Officers be renumbered to Article IV.

11) Article IV - Board of Directors be renumbered to Article III.

12) Article III - Section 2 - Term of Office
Delete "....(July 1 to June 30)...."

13) Article III - Section 10, Assumption of Duties
Revise to read "The newly elected officers shall assume their duties at the conclusion of the next Annual Meeting following the elections.

14) Article IV - Section 2, Number and Term of Office
Add "The newly elected Board of Directors shall assume its duties at the conclusion of the next Annual Meeting following the election.

NEWSLETTER EDITOR?

Any ISPLS member who would consider the job of editing the *HOOSIER SURVEYOR* should contact the ISPLS president, John Whitlock, for further information.

INDIANA SOCIETY OF PROFESSIONAL LAND SURVEYORS, INC.

BUDGET — JUNE 30, 1982

July 1, 1981 to June 30, 1982

EXPENSES		BUDGET	MONTH	CALENDAR	BALANCE IN BUDGET
S-10	Office Rent	$ 5,070.00	$ 422.50	$ 5,070.00	$ -0-
S-15	Office Utilities	1,000.00	56.76	821.33	178.67
S-20	Telephone	2,160.00	123.00	2,421.39	(261.39)
S-30	Office Supplies	1,000.00	5.30	803.70	196.30
S-35	Copy Expenses	1,000.00	42.69	599.90	400.10
S-40	Postage	1,200.00	127.17	1,299.71	(99.71)
S-50	Part-time Secretarial	500.00		40.00	460.00
S-60	Sales Tax	160.00		53.32	106.68
S-70	Equipment Repair & Maint.	750.00		209.00	541.00
S-80	Accounting Service	750.00		850.00	(100.00)
S-85	Attorney Fees	350.00		507.00	(157.00)
S-90	Insurance	350.00	58.71	551.26	(201.26)
	TOTAL	$14,290.00	$ 777.42	$13,226.61	$ 1,063.39
G-10	Hoosier Surveyor	4,000.00		3,721.40	278.60
G-11	Newsletter (+Postage)	500.00	36.85	572.24	(72.24)
G-20	Misc. Print (Roster update & Misc. Man.)	500.00	11.80	132.54	367.46
G-30	President Contingency	500.00		250.00	250.00
G-50	A.C.S.M. Delegate & Alternate	1,200.00		556.00	644.00
G-65	1985 ACSM Conv. Advance	250.00		(500.00)	750.00
G-70	Lobbying	1,500.00		365.25	1,134.75
G-71	Public Relations	1,000.00		132.00	868.00
G-110	Annual Conference (82)	17,500.00		17,685.53	(185.53)
G-111	Workshops	6,000.00		5,556.71	443.29
G-112	Manuals	1,000.00			1,000.00
	TOTAL	$33,950.00	$ 48.65	$28,471.67	$ 5,478.33
C-10	Misc. Expense	750.00		259.85	490.15
C-60	Awards	450.00		185.60	264.40
C-80	Committee Expenses	500.00		60.00	440.00
C-81	Membership Development	1,000.00	29.95	237.76	762.24
C-82	Bd. of Directors Expense	500.00		308.58	191.42
C-84	Newsletter Editor	1,200.00		500.00	700.00
	TOTAL	$ 4,400.00	$ 29.95	$ 1,551.79	$ 2,848.21
F-10	Scholarship Fund	2,200.00		1,180.00	1,020.00
F-20	Accumulative Fund "A"	100.00		100.00	-0-
F-30	Library Fund - Maint.	50.00			50.00
F-31	Library Fund - Capitol	500.00		555.50	(55.50)
F-40	Building Fund	100.00		(100.00)	200.00
F-50	Equipment Fund	350.00			350.00
	TOTAL	$ 3,300.00	$	$ 1,735.50	$ 1,564.50
P-10	Payroll	10,500.00	403.20	7,156.80	3,343.20
P-20	F.I.C.A.	650.00	26.80	476.18	173.82
P-30	Unemployment Compensation	300.00	35.38	173.04	126.96
P-40	Workmen's Compensations	100.00		67.00	33.00
	TOTAL	$11,550.00	$ 465.38	$ 7,873.02	$ 3,676.98
	TOTAL EXPENSES	$47,690.00	$ 1,321.40	$52,858.59	$14,631.41
	TOTAL INCOME	$71,150.00	$ 2,495.71	$47,127.53	$24,022.47
	Excess of Income over Expenses	$ 3,660.00	$ 1,174.31+	$ 5,731.06-	$ 9,391.06-
S-95-Roger Woodfill Contract		8,500.00		7,712.78	787.22
				= 13,443.84-	= 10,178.28-

INDIANA SOCIETY OF PROFESSIONAL LAND SURVEYORS, INC.

BUDGET — JUNE 30, 1982

July 1, 1981 to June 30, 1982

INCOME		BUDGET	MONTH	CALENDAR	BALANCE IN BUDGET
I-10	Regular Members	$21,000.00	$ 1,350.00	82-83 $12,015.00	$ 8,985.00
I-11	Associate Members	1,000.00	90.00	82-83 410.00	590.00
I-12	Junior Members	5,000.00	450.00	82-83 3,035.00	1,965.00
I-13	Student Members	400.00	25.00	82-83 435.00	(35.00)
I-14	Firm Members	5,000.00		3,160.00	1,840.00
I-15	Sustaining Members	2,250.00		900.00	1,350.00
I-20	Hoosier Surveyor	1,500.00	310.00	1,720.00	(220.00)
I-30	Annual Conference (82)	20,000.00	3.50	15,247.50	4,752.50
I-31	Manuals	3,000.00	126.00	1,773.95	1,226.05
I-33	Workshops	9,000.00		6,915.00	2,085.00
I-40	Interest	3,000.00	141.21	1,516.08	1,483.92
	TOTAL	$71,150.00	$ 2,495.71	$47,127.53	$24,022.47

Utilities Coordinating Association

List of Contact Personnel

American Cablevision Company 3030 Roosevelt Avenue Indianapolis IN 46218	Tony Marino Construction Coordinator 632-6111
Citizens Gas & Coke Utility 2020 N. Meridian Street Indianapolis IN 46202	Charles E. Wormann Manager - Engineering Services 927-4403 James Peck 927-4402
Indiana Bell Telephone Company 220 N. Meridian Street - Room No. 875 Indianapolis IN 46204	Cory Strawser Engineering - BIC 265-6118
Indianapolis Cablevision Co., Ltd. 6880 Hawthorne Park Drive Indianapolis IN 46220	Glenn Swisher 353-2225
Indianapolis Power & Light Company P. O. Box 1595B Indianapolis IN 46206	Russell B. Chorpenning Architect & Engineering Coordinator 261-8296
Indianapolis Water Company P. O. Box 1220 Indianapolis IN 46206	Robert E. Trivers Senior Design Engineer 263-6444

June 8, 1982
1413b

INDIANAPOLIS WATER COMPANY

1220 Waterway Boulevard
Post Office Box 1220 Indianapolis, Indiana 46206

JUN 9 1982

June 8, 1982

Subject: Utilities Coordinating Association

Gentlemen:

Early in 1982 the four utilities and two cable television companies located in Indianapolis formed the Utilities Coordinating Association. One of the objectives of the group is to establish guidelines and coordinate the liaison between utilities, consulting engineers, and developers to improve design and construction of all utilities in new residential, commercial, and industrial developments in the Greater Indianapolis area.

The purpose of this letter is to invite your support in helping to achieve the above objective. This support can best be accomplished by the developer's consulting engineer inviting all utilities involved in a project to a predesign meeting to discuss the proposed location of utilities such as storm and sanitary sewers, water, gas, electric, telephone, and cable television. Input at this predesign meeting can be of mutual benefit in helping to minimize design and construction costs of utility installations.

Attached is a list of contact personnel at each utility. We urge you to send a letter of invitation to the contact person at the involved utilities noting the time and place of your predesign meetings.

As we become aware of projects involving utilities other than the attached we will add them to our association activities.

We will continue to communicate with you periodically and welcome any comments or suggestions you may have.

Sincerely,

Robert E. Trivers

Robert E. Trivers, P.E.
Chairman, Utilities Coordinating Association
of Greater Indianapolis
317-263-6444

bj
Encl.

REPORT ON LAND INFORMATION SYSTEMS I WORKSHOP

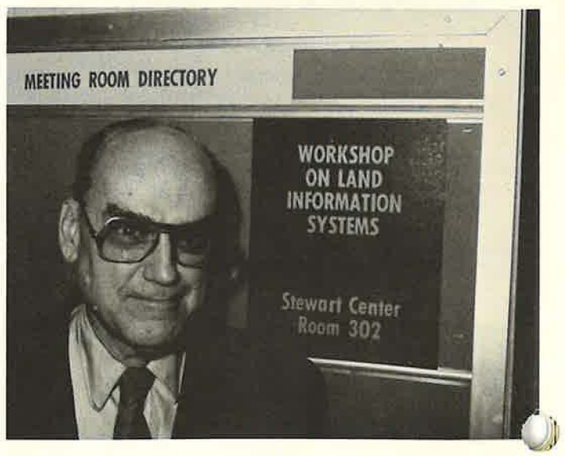
May 7-8, 1982, Purdue University/ISPLS/ACSM
West Lafayette, Indiana

Thirty-three individuals attended this highly successful workshop on Land Information Systems I which was conducted by two dedicated and enthusiastic instructors, Professors John D. McLaughlin (University of New Brunswick) and Earl F. Epstein (University of Maine at Orono). Several local or regional speakers supplemented the program relating their experiences. These included Jim Donahue, Geneva, IL on the DuPage County Remonumentation and Integrated Computer Mapping Program, Roger Fine and Steven Wood of Mid-States Engineering of Indianapolis on a computer graphic system applied to the mapping of the Indianapolis International Airport, and Leonard Stevens, Tippecanoe County Data Processing Manager, on computerization of county data. The geographic distribution of attendees was Indiana 25, Michigan 2, Illinois 1, Ohio 1, Kentucky 1, Florida 2, and Canada 1. Occupations listed by attendees included surveying 27, engineering 6, teachers 5, remote sensing 2, abstracting, cartography, data systems, drafting, drainage, forestry, photogrammetry, and title insurance. The workshop was an effective tool to advance and promote the interest of the surveying community in Land Information Systems. Prof. John McEntyre was local coordinator.

The concluding open questioning and discussion on "Where Do We Go From Here?" encouraged the land surveyors to participate as a leader in Land Information Systems.

The instructors, John McLaughlin, on left, and Earl Epstein, provided an excellent introduction to the concepts, systems, institutions, and terminology associated with the evolving science of land information management.

Roger Fine, at left, and Steve Wood of Mid-States Engineering, Indianapolis, provided some local input concerning the application of computer graphics to mapping.



The dedicated efforts of Prof. John McEntyre, Purdue University, as the local coordinator and program chairman were much appreciated.

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1-219-533-5525

SECRETARY TREASURER
John McNamara
St. Joseph County Surveyor
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South Bend, Indiana 46601
1-219-284-9631

COUNTY SURVEYOR'S ASSOCIATION OF INDIANA

Thirty-eight Indiana county surveyors are dues-paying members of the County Surveyors Association of Indiana. Two meetings plus a summer picnic are usually scheduled each year. At the Spring Meeting, held in conjunction with the Purdue Road School, March 9-11, 1982, in West Lafayette, Tom Schellenberger, Hamilton County District Conservationist talked on "The Soil Conservation Service and The County Surveyor". Besides the business meeting, the group met with the County Commissioners on "Drainage". Profs. Ken Curtis and John McEntyre were presented with honorary memberships in AICS.

1981/1982 officers of Association of Indiana County Surveyors pose at 1982 Purdue Road School are, left to right, John McNamara, Secretary-Treasurer; Kenton Ward, President; Rollyn Blankenbeker, 2nd Vice-President; and Donald Rock, 1st Vice-President.

Among those attending the 1982 summer picnic held Sunday, August 1, 1982 in Forest Park, Noblesville, were Jim Milligan, White County (Monticello); John Manship, Madison County (Anderson); Mike Ford, Adams County (Decatur); Darwin Vanderwall, Newton County (Kentland); Al Huntsman, Hendricks County (Danville); Kent Ward, Hamilton County (Noblesville); and Ken Curtis, Purdue University.

Thirty-five attended the event hosted by AICS president, Kent Ward, who also supervised the grill work and beverage distribution.

The other regular meeting each year is held in conjunction with the Association of Indiana Counties held in early December each year in Indianapolis. The AICS is involved with legislative efforts in behalf of county surveyors which are most generally involved with land survey record keeping and supervision of ditch and drain repairs. "Guidelines for County Surveyors" is available from secretary McNamara.

NEW INDIANA COORDINATE SYSTEM OF 1983

Second Regular Session 102nd General Assembly

PRINTING CODE—The parts in this style type are additions to the text of the existing section of the law. The parts in ~~this style type~~ are deletions from the text of the existing section of the law. The absence of either of the above type styles in an amendatory SECTION indicates that an entirely new section or chapter is to be added to the existing law.

SENATE ENROLLED ACT No. 351

AN ACT to amend IC 32-1-1 concerning the state plane coordinate system.

Be it enacted by the General Assembly of the State of Indiana:

SECTION 1. IC 32-1-1-1 is amended to read as follows: Sec. 1. (a) The ~~system~~ **systems** of plane coordinates which ~~has~~ **have** been established by the **National Ocean Survey/ National Geodetic Survey (formerly the** United States Coast and Geodetic Survey) **or its successors** for defining and stating the positions or locations of points on the surface of the earth within the state of Indiana ~~is hereafter~~ **are** to be known and designated as the "Indiana Coordinate System~~."~~ **of 1927" and the "Indiana Coordinate System of 1983".**

(b) For the purpose of the use of ~~this sytem~~ **these systems** the state **of Indiana** is divided into an "East Zone" and a "West Zone".

(c) The area ~~now~~ included in the following counties shall constitute the East Zone: Adams, Allen, Bartholomew, Blackford, Brown, Cass, Clark, Dearborn, Decatur, DeKalb, Delaware, Elkhart, Fayette, Floyd, Franklin, Fulton, Grant, Hamilton, Hancock, Harrison, Henry, Howard, Huntington, Jackson, Jay, Jefferson, Jennings, Johnson, Kosciusko, LaGrange, Madison, Marion, Marshall, Miami, Noble, Ohio, Randolph, Ripley, Rush, St. Joseph, Scott, Shelby, Steuben, Switzerland, Tipton, Union, Wabash, Washington, Wayne, Wells and Whitley.

(d) The area ~~now~~ included in the following counties shall constitute the West Zone: Benton, Boone, Carroll, Clay, Clinton, Crawford, Daviess, Dubois, Fountain, Gibson, Greene, Hendricks, Jasper, Knox, Lake, LaPorte, Lawrence, Martin, Monroe, Montgomery, Morgan, Newton, Orange, Owen, Parke, Perry, Pike, Porter, Posey, Pulaski, Putnam, Spencer, Starke, Sullivan, Tippecanoe, Vanderburgh, Vermillion, Vigo, Warren, Warrick and White.

SECTION 2. IC 32-1-1-2 is amended to read as follows: Sec. 2. (a) As established for use in the East Zone, the Indiana Coordinate System **of 1927 or the Indiana Coordinate System of 1983** shall be named~~,~~; and in any land description in which it is used it shall be designated, the "Indiana Coordinate System~~,~~ **of 1927,** East Zone" **or "Indiana Coordinate System of 1983, East Zone".**

(b) As established for use in the West Zone, the Indiana Coordinate System **of 1927 or the Indiana Coordinate System of 1983** shall be named~~,~~; and in any land description in which it is used it shall be designated, the "Indiana Coordinate System **of 1927,** West Zone" **or "Indiana Coordinate System of 1983, West Zone".**

SECTION 3. IC 32-1-1-3 is amended to read as follows: Sec. 3. (a) The plane coordinates of a point on the earth's surface, ~~to be used in expressing the position or location of such point in the appropriate zone of this system, shall consist of two distances, expressed in feet and decimals of a foot~~ used to express the position or location of that point in the appropriate zone of this system, shall consist of two (2) distances expressed in U.S. Survey Feet (1 meter = 39.37/12 feet) and decimals of a foot when using the Indiana Coordinate System of 1927 and expressed in meters and decimals of a meter and United States Survey feet and decimals thereof when using the Indiana Coordinate System of 1983.

(b) One (1) of these distances, to be known as the "x-coordinate", shall give the position in an east-and-west direction; the other, to be known as the "y-coordinate", shall give the position in a north-and-south direction. These coordinates shall be made to depend upon and conform to ~~the coordinates, on the Indiana Coordinate System, of the triangulation and traverse stations of the United States coast and geodetic survey within the state of Indiana, as those coordinates have been determined by said survey~~ plane retangular coordinate values for the monumented points of the North American Horizontal Geodetic Control Network as published by the National Ocean Survey/National Geodetic Survey, or its successors, and whose plane coordinates have been computed on the systems defined in this chapter. Any such station may be used for establishing a survey connection to either Indiana Coordinate System.

SECTION 4. IC 32-1-1-5 is amended to read as follows: Sec. 5. (a) For the purposes of more precisely defining the Indiana Coordinate System **of 1927,** the following ~~definition~~ **definitions** by the ~~United States Coast and Geodetic Survey~~ is National Ocean Survey/National Geodetic Survey are adopted:

(1) The Indiana Coordinate System **of 1927,** East Zone, is a transverse Mercator projection of the Clarke spheroid of 1866, having a central meridian 85 degrees 40 minutes west of Greenwich, on which meridian the scale is set at one part in 30,000 too small. The origin of coordinates is at the intersection of the meridian 85 degrees 40 minutes west of Greenwich and the parallel 37 degrees 30 minutes north latitude. This origin is given the coordinates: x = 500,000 feet and y = 0 feet.

(2) The Indiana Coordinate System **of 1927,** West Zone, is a transverse Mercator projection of the Clarke spheroid of 1866, having a central meridian 87 degrees 05 minutes west of Greenwich, on which meridian the scale is set at one part in 30,000 too small. The origin of coordinates is at the intersection of the meridian 87 degrees 05 minutes west of Greenwich and the parallel 37 degrees 30 minutes north latitude. This origin is given the coordinates: x = 500,000 feet and y = 0 feet.

~~(b) The position of the Indiana Coordinate System shall be as marked on the ground by triangulation or traverse stations established in conformity with standards adopted by the United States coast and geodetic survey for first order and second order work, whose geodetic positions have been rigidly adjusted on the North American datum of 1927, and whose coordinates have been computed on the system herein defined. Any such station may be used for establishing a survey connection with the Indiana Coordinate System.~~

(b) For the purposes of precisely defining the Indiana Coordinate System of 1983, the following definition by the National Ocean Survey/National Geodetic Survey is adopted:

(1) The Indiana Coordinate System of 1983, East Zone, is a transverse Mercator projection of the North American Datum of 1983, having a central meridian 85 degrees 40 minutes west of Greenwich, on which meridian the scale is set at one part in 30,000 too small. The origin of coordinates is at the intersection of the meridian 85 degrees 40 minutes west of Greenwich and the parallel 37 degrees 30 minutes north latitude. This origin is given the coordinates: x = 100,000 meters and y = 250,000 meters.

(2) The Indiana Coordinate System of 1983, West Zone, is a transverse Mercator projection of the North American Datum of 1983, having a central meridian 87 degrees 05 minutes west of Greenwich, on which meridian the scale is set at one part in 30,000 too small. The origin of coordinates is at the intersection of the meridian 87 degrees 05 minutes west of Greenwich and the parallel 37 degrees 30 minutes north latitude. This origin is given the coordinates: x = 900,000 meters and y = 250,000 meters.

(c) For purposes of locating the position of the systems on the surface of the earth in Indiana, the following shall be used:

(1) The position of the Indiana Coordinate System of 1927 shall be as determined from horizontal geodetic control points established throughout Indiana in conformity with the standards of accuracy and specifications for first-order and second-order geodetic surveying as prepared and published by the Federal Geodetic Control Committee (FGCC) of the United States Department of Commerce, whose geodetic positions have been rigidly adjusted on the North American Datum of 1927, and whose coordinates have been computed on the Indiana Coordinate System of 1927. Standards and specifications of the FGCC (or its successors) in force on the date of that survey shall apply.

(2) The position of the Indiana Coordinate System 1983 shall be as determined from horizontal geodetic control points established throughout Indiana in conformity with the standards of accuracy and specifications for first-order and second-order geodetic surveying as prepared and published by the Federal Geodetic Control Committee (FGCC) of the United States Department of Commerce, whose geodetic positions have been rigidly adjusted on the North American Datum of 1983, and whose coordinates have been computed on the Indiana Coordinte System 1983. Standards and specifications of the FGCC (or its successors) in force on the date of that survey shall apply.

SECTION 5. IC 32-1-1-6 is amended to read as follows: Sec. 6. (a) No coordinates based on ~~the~~ **either** Indiana Coordinate System, purporting to define the position of a point on a land boundary, shall be presented to be recorded in any public land records or deed records unless ~~such point is within one-half (1/2) mile of a triangulation or traverse station established in conformity with the standards prescribed in section 5 of this act; provided that said one-half (1/2) mile limitation may be modified by state engineer of the Indiana department of conservation~~ **the recording document also contains a description of the nearest first-order or second-order horizontal geodetic control monument from which the coordinates being recorded were determined and the method of survey for the determination.**

(b) If the position of the described first-order or second-order geodetic control monument is not published by the National Geodetic Survey (or its successors), the recording document shall contain a certification signed by an Indiana registered land surveyor stating that the subject control monument and its coordinates have been established and determined in conformance with the specifications given in section 5 of this chapter.

(c) The publishing of the existing control stations, or the acceptance with intent to publish the newly established control stations, by the National Geodetic Survey constitutes evidence of adherence to the FGCC specifications. Horizontal geodetic control monuments shall be permanently monumented and control data sheets prepared and filed so that a densification of the control network is accomplished.

(d) The surveying techniques and positioning systems used to produce first-order or second-order geodetic precision shall be identified. Annotation must accompany state plane coordinate values when they are used to less than second-order precision.

SECTION 6. IC 32-1-1-7 is amended to read as follows: Sec. 7. **(a)** The use of the ~~term~~ **terms** "Indiana Coordinate System **of 1927" or "Indiana Coordinate System of 1983"** on any map, report of survey, or other document~~,~~ shall be limited to coordinates based on the Indiana Coordinate System as defined in this ~~act~~ **chapter.**

(b) Effective January 1, 1990, the Indiana Coordinate System of 1927 may not be used, and only the Indiana Coordinate System of 1983 shall be used.

NEW LAND SURVEYOR (LS) REGISTRANTS
(Since last published in Fall 1981)

S0439 Ronald L. Nolan
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S0440 James C. Smat
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Country Club Hills, IL 60477

S0441 Stephen E. Bourquein
226 Franklin Street
Pendleton, IN 46064

S0442 Hughart H. Brown
1518 Main Street, Apt. A
Lafayette, IN 47905

S0443 Michael G. Kingman
R. R. #6, Box 257
Rensselaer, IN 47978

S0444 Warren J. Sudhoff
R. R. #1
Redkey, IN 47373

S0445 Hollings T. Andrews
1615 East Seventh Street
Cookeville, TN 38501

S0446 John P. Clapp
C/O Holland Engineering Incorporated
418 East 8th Street
Holland, MI 49423

S0447 Rodger W. Durham
30-19 Hilltop Drive
West Lafayette, IN 47906

S0448 Dennis A. Kraus
R. R. #2, Box 356
Sunman, IN 47041

S0449 Donald G. Mason, Jr.
717 South Wayne Street
Angola, IN 46703

S0450 Stephen L. Murray
707 East 900 North
West Lafayette, IN 47906

S0451 Reginald G. Timberlake
RFD
Sulphur, IN 47174

S0452 Dale L. Grimes
101 School Street
Darlington, IN 47940

S0453 Kent D. Downey
8660 Fox Ridge Lane
Indianapolis, IN 46256

S0454 Stephen E. Colchin
Homestead 04
Decatur, IN 46733

S0455 Steven F. Tilton
249 Butler Court
Longmont, CO 80501

S0456 Michael J. Marlow
3520 43rd Place
Highland, IN 46322

S0457 John W. Bauer
R. R. #6, Box 71
New Castle, IN 47362

S0458 Larry R. Long
Larry R. Long and Associates
South 321 South High St.
Warsaw, IN 46580

S0459 Michael F. Feldbusch
7111 Woods Drive
Newburgh, IN 47630

S0460 Jerry L. Ott
230 Herriott Street
Franklin, IN 46131

S0461 Norman H. Hiselman
1358 North LaSalle Street
Indianapolis, IN 46201

S0462 Donald W. Borches
7836 North Chester
Indianapolis, IN 46240

S0463 Hylton E. Donaldson
300 South Marion Street
Gary, IN 46403

S0464 Gary K. DuBois
1032 East 5th St., Apt. 1
Connersville, IN 47331

S0465 Gregory B. Eveslage
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Oakland City, IN 47660

S0466 Larry A. Fisher
22519 Archibald Blair
Katy, Texas 77449

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New Palestine, IN 46163

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16311 Barna Drive
Granger, IN 46530

S0470 Dennis K. Singer
1900 Southwest D Street
Richmond, IN 47374

S0471 Jon C. Taylor
3267 Pickbury Drive
Cincinnati, OH 45211

S0472 Daniel R. Woo
United Surveying Incorporated
5332 North Temple Avenue
Indianapolis, IN 46220

S0473 Scott A. Zacharias
144 Kevin Court
Zionsville, IN 46077

NEW LAND SURVEYORS IN TRAINING (SIT)
(Since last published in Fall 1981)

S80041 Perry D. Cloyd
S80042 Michael F. Feldbusch
S80043 Kenneth R. Buzbee
S80044 Jay D. Canine
S80045 Jeffrey L. Fansler
S80046 Chester A. Parsons
S80047 Matthew E. Wannemuehler
S80048 William A. Oren
S80049 Wilbur E. Peak
S80050 Henry S. Platts, Jr.
S80051 Carl R. Stoakes

VINCENNES UNIVERSITY STUDENT RECEIVES ISPLS SCHOLARSHIP

Stuart W. May of Washington, IN (center) accepts a $500 scholarship from Orwic Johnson, Columbus, a past president of the Indiana Society of Professional land Surveyors (ISPLS) as associate professor of Surveying Technology Department Art Haase (left) looks on. The scholarship is presented annually by ISPLS to a Vincennes University surveying technology major showing academic excellence in the program.

May was one of many freshman and seniors at Vincennes University who received scholarships, awards and recognition for academic and service contributions during the annual Awards Convocation held May 1 prior to the 176th commencement ceremonies.

2205 Hwy. 57 South
Washington, IN 47501
June 29, 1982

Indiana Society of Professional
Land Surveyors, Inc.
8714 E. 21st Street
Indianapolis, IN 46219

Dear Sirs:

To the scholarship committee and the respective members of the Indiana Society of Professional Land Surveyors, I wish to extend my deepest gratitude for the scholarship award which I was presented at Vincennes University's Spring Awards Ceremony. I would especially like to thank Mr. Orwic Johnson for traveling to Vincennes University to make the presentation in person. While there were many awards presented at the ceremony, I felt honored to have a member of the Society there to make the presentation.

I must also offer my apology for the delay of this acknowledgement. Farming part-time, family obligations, and the start of summer school have kept me very busy. Please accept my sincere regrets as I certainly have not delayed because of ingratitude.

Receiving this award has meant a great deal to me not only as monetary assistance but as moral assistance as well. I feel that by choosing me as the recipient of this award you have rendered a vote of confidence in me and my ability to learn and use what I learn in a wise and productive manner. You have instilled in me a sense of pride and determination which is as important to the learning process as any monetary contribution.

I am now enrolled in summer school at Vincennes University taking a general physics class. I look forward to enrolling this fall at Vincennes University to continue my studies in the field of surveying, all of which has been made possible due to the consideration and generosity of the Indiana Society of Professional Land Surveyors. Thank you!

Sincerely,

Stuart W. May

1982 PURDUE SUMMER SURVEYING FIELD PROJECT HELD IN JOHNSON COUNTY

After holding the four-week summer surveying field project course at the Purdue University Forestry Center near Branchville in southern Indiana, the course was conducted this May/June at the Future Farmers of America (FFA) Leadership Training Center near Trafalgar in southern Johnson County. The Forestry Center was abandoned by Purdue and forestry camp was again conducted in northern Wisconsin (with no room for land surveying students). Rumor has it that the Branchville Camp will become a part of the Indiana Penal System. Nevertheless, the new location turned out to be more than adequate with exceptional cooperation from FFA. The staff consisted of Curtis, McEntyre, Durham, and Martin, equipment. Pictured in foreground are, left to right, McEntyre; Kevin Harrison, Sandford, FL; Jeff Souder, Pekin; Joseph Berger, Poughkeepsie, NY; Martin; second row, Durham; Andrew Gerdom, Fort Wayne; Ken Brosmer, Jasper; John DeMais, Richmond; Michael Davis, Fort Wayne; and Curtis.

SUSTAINING MEMBERS

The following are sustaining members of the Indiana Society of Professional Land Surveyors. The Society appreciates their continued participation and encourages your support of these firms.

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Elkhart, IN 46514

ACCU-AIR
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P.O. Box 763
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Freeman Field
Seymour, IN 47274

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SURVEYS
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4509 Vine St.
Cincinnati, Ohio 45217

The following is a list of ISPLS member firms:

[illegible]on & Associates Inc. [illegible]. Monroe St. Williamsport, IN 47993 (Arthur A. Allen)	Distric 9 Land Survey Co. 202 West High St. Lawrenceburg, IN 47205 (Roger Woodfill)	John J. Madden & Assoc. Box 42 LaGrange, IN 46761
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Schneider Engr. Corp. 3675 N. Post Rd. Indianapolis, IN 46226 (Vincent J. Schneider)	Columbus Surveying & Engr., Co. P.O. Box 1171 Columbus, IN 47201 (Orwic A. Johnson)	E.J. Hutson & Assoc. 601 Chestnut Blvd. Chesterton, IN 46304 (Edward J. Hutson)
O'Brien Engineering 448 Meadow Lane Madison, IN 47250 (Eugene O'Brien)	Alan Stanley & Assoc. 15½ S. Indiana St. Greencastle, IN 46135 (Alan Stanley)	Paul I. Cripe, Inc. 7172 Graham Rd. Indianapolis, IN 46250 (James Dankert)
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H. Douglas Peirce, L.S. P.O. Box 127 523 N. Michigan St. Plymouth, IN 46563	Dickerson Aerial Surveys 107 N. Tenth St. Lafayette, IN 47901 (Brian M. Dickerson)	David K. Wolf Assoc., Inc. 4423 C.R.5 Garrett, IN 46738
[illegible]ngel Enginnering & Svyr. [illegible]3 Division Road Valparaiso, IN 46383	Arthur F. Haufler, Inc. 47 S. Pennsylvania St. Indianapolis, IN 46204	Mid-States Engr. Co., Inc. 107 N. Pennsylvania, #703 Indianapolis, IN 46204
Reid, Quebe, Allison, Wilcox Assoc., Inc. 3901 Industrial Blvd. Indianapolis, IN 46254	Jud Rouch Surveying Consulting 4309 McClellan Lane W. Lafayette, IN 47906	United Consulting Engineers, Inc. 5332 N. Temple Ave. Indianapolis, IN 46220

Highlights of 10th Annual Recognition Dinner of Purdue Student Chapter A.C.S.M. - I.S.P.L.S.

April 1982

Eighty-two students, faculty, alumni, family, and friends attended the dinner held at the Sheraton Inn on April 3, 1982. The guest speaker for the evening was Ira Alexander, Los Angeles, CA, the national president of ACSM. Brian Wood, chairman of the Purdue Student Chapter, presided. Fifteen past graduates of Purdue's land surveying program were in attendance, including Bill Barker from Florida.

William Oren, right, of Kokomo, IN received the Faculty Award from Prof. Curtis as the Outstanding 1982 Graduating Senior among the fifteen land surveying graduates during 1982.

Jud Rouch, center, ISPLS Vice-President, awarded the ISPLS $1500 Scholarship Award for juniors to Ken Brosmer, left, Jasper, IN ($700) and Jeff Souder, Pekin, IN ($800).

Gary Kent, right, representing the Central Indiana Chapter, ISPLS, presented Ken Brosmer, Jasper, IN with the $300 CIC ISPLS Scholarship Award.

May and August 1982 graduates are, seated left to right, Henry Platts, LaGrange; Brian Wood, Zionsville; Timothy O'Neal, Anderson; Joseph Berger, Poughkeepsie, NY; standing, Carl Stoakes, Michigan City; Wilbur Peak, New Albany; Paul Colchin, Clinton; William Oren, Kokomo.

Several other seniors will be graduating in December 1982. Attending the dinner were, seated left to right, Kevin Barkfull, Fairmont; Jeff Souder, Pekin; Andrew Gerdom, Fort Wayne; standing, John DeMais, Richmond; Scott Douglass, Kewanna; and John Kurtz, Columbus. Michael Davis, Fort Wayne, was absent.

More Highlights of 10th Annual Recognition Dinner

Pictured with Prof. McEntyre are two other outstanding seniors who received ACSM Membership Awards. They are Brian Wood, left, Zionsville, and Jeff Souder, Pekin.

1981-82 school year officers of Purdue Student Chapter, ACSM-ISPLS, admiring their new banner are: seated left to right, Ken Brosmer, director; Andrew Gerdom, director; William Oren, secretary; standing, Wilbur Peak, vice-chairman; and Brian Wood, chairman.

Wilbur Peak, left, May 1982 BSLS graduate, admires, with Ira Alexander, ACSM president, his picture on the cover of the April-May 1982 issue of P.O.B. magazine which has a circulation of 55,000.

1982-83 school year officers of Purdue Student Chapter, ACSM-ISPLS, are, seated left to right, Kevin Harrison, Sanford, FL, vice-chairman; Ken Brosmer, Jasper, chairman; standing, Jeff Souder, Pekin, secretary; and Dennis Gobble, Lafayette, treasurer.

In 1982 there were two graduates of the land surveying program whose older brothers had previously received their BSLS degrees. Pictured are Brian Wood, left, LS'82, and Steven Wood, LS'74, Indianapolis, The other brother team, not pictured, is Paul Colchin, LS'82, and Stephen Colchin, LS'75, Decatur.

Students presented some special awards to Professors Curtis and McEntyre which they can use in the field at the Summer Surveying Field Project course.

Lambda Sigma

Founded April 28, 1978. Purdue University, West Lafayette, Indiana

LAMBDA SIGMA INITIATION

In December 1981 four new undergraduate land surveying students and one graduate student were initiated into the Purdue University land surveying honorary, Lambda Sigma, which was founded in April 1978 on the Purdue campus in West Lafayette. The honorary is open to distinguished land surveying students in the top quarter of the junior class and the top third of the senior class. Recently, membership has been offered, retroactively, to qualified graduates of previous years. Prof. Kenneth Curtis serves as faculty advisor.

New initiates in December 1981 included, seated left to right, Larry Gillen, Kenneth Brosmer, Jeffrey Souder; standing, John DeMais, and Stephen Herczeg.

Group picture of new initiates and actives at initiation exercises and dinner included the 1981-82 officers, seated left to right, Brian Wood, secretary; William Schmidt, president; Will Oren, vice-president; Paul Colchin, treasurer; standing, Brosmer, Herczeg, Souder, Gillen, Carl Stoakes, and DeMais.

Pictured at the Spring Recognition Dinner are the faculty of the Surveying/Mapping/Geodesy/Photogrammetry Area of Purdue's School of Civil Engineering. Left to right, Edward Mikhail (photogrammetry/adjustment calculations), John McEntyre (land surveying), Lassi Kivioja (geodesy/astronomy), and Kenneth Curtis (surveying/mapping).

Larry Holderly, left, teaches surveying to foresters and landscape architects from his position in Agricultural Engineering. Hughart Brown, from Jamaica, taught route and construction surveying while finishing a Master's degree..Rodger Durham, from North Carolina, helps out wherever he is needed as he finishes a PhD degree in Land Surveying.

QUESTION: WHY DOESN'T CURTIS GET INTO MORE PICTURES?

ANSWER: Usually he's the one behind the camera!
We've taken care of it in this issue!

THE HISTORY OF THE LIETZ COMPANY

Lietz's four-story factory in San Francisco was destroyed in the April 18, 1906 earthquake.

OVERLAND PARK, KANSAS (March 2, 1982)

The Lietz Company will be one hundred years old on March 17, 1982. The company's evolution through the years to become one of the most respected names in the surveying industry stands as a chronicle of surveying history in the United States and represents a century of service to the profession.

It all began with Adolph Lietz, a skilled surveying instrument maker from Germany. He emigrated to San Francisco in 1879, worked in several instrument shops, then in 1882 opened his own business manufacturing surveying instruments. Thanks to Adolph's perserverance and dedication, his business thrived and surveying instruments were developed and sold at a steady rate. During World Wars I and II, the Lietz Company stepped up production of surveying instruments and equipment as well as nautical instruments and supplies for shipbuilders across the country. His two sons, Adolph Jr. and Otto carried on the tradition of excellent craftsmanship and service.

The Lietz Company became known for their wide range of quality products; not only did they supply surveying, engineering and nautical instruments, they also sold drafting and drawing materials, drafting room furniture and artists' tables. Lietz associates toured Europe and Japan during the 1950s and 1960s, establishing new relationships with many sources. In 1960, Sokkisha Company Ltd. of Japan signed an agreement granting the Lietz Company distribution rights for surveying instruments in the United States. Once again, Lietz was growing and preparing to better serve the surveying industry. Recognizing the potential of the company and in keeping with its own reputation of quality and service, the Frank Paxton Company of Kansas City purchased Lietz in 1965.

On June 1, 1970, Lietz became the exclusive U.S. distributor of high-quality Sokkisha surveying instruments. Sokkisha, specializing in the manufacture of surveying instruments since 1920, proved to be an innovative company well-attuned to Lietz's ideas. Sokkisha perfected the magnetic damping compensator and began offering it in Lietz instruments in 1973. The B-1 automatic level was introduced in 1973; it featured their patented compensator. The instrument was a concept of a Lietz associate and was produced by Sokkisha. Lietz's first one-second theodolite, the TM-1A, was introduced in 1974 and featured a magnetic damping compensator. The B-4 automatic level made its debut in 1975.

1978 was a year of many product innovations for Lietz, including the TM-6 theodolite and the first Lietz/Sokkisha EDM. The TM-6 was the first six-second digital reading theodolite to display horizontal angle readings that are the mean of the graduations on opposite sides of the circle, thus eliminating any eccentricity error. These new instruments were well-received throughout the industry.

In March, 1980, the B-2C precision automatic level made its appearance. May, 1981, saw the introduction of the TM-10E digital theodolite and in its centennial year of 1982, Lietz will continue their tradition of innovation with the debut of new instrumentation designed with the surveyor in mind.

While Lietz's strength lies in its position as a leader through innovation, its underlying foundation has always been, and continues to be, the talents and capabilities of its personnel. In January, 1978, George E. Huber was named President of the Lietz Company and the headquarters moved to Overland Park, Kansas, selected for its central location. Steve Carpenter was named Operations Manager in charge of coordinating and supervising all facets of physical distribution from the Overland Park, Kansas and Carson, California facilties. Denise Buenning, who joined Lietz in 1980, supervises all advertising and promotion functions. Robert H. Martin, a Registered Land Surveyor and a former Lietz Regional Sales Manager, assumed the Product Manager position in April, 1981. The latest addition, William D. Steinbrecher, came to Lietz as National Sales Manager in September of last year, bringing his product knowledge and sales experience to provide direction for Lietz's future growth. These and the people who comprise the rest of the Lietz team — inside sales personnel, service and repair technicians, warehouse and shipping employees and many others — have helped to make Lietz what it is today.

New and improved instruments, dedication to giving its customers the best service and products and management committment to the Lietz way of doing business ensure that in the next 100 years Lietz will be growing — and going — strong.

The Lietz Co., present location, Overland Park, KS.

SURVEYING AND MAPPING
NEWSLETTER

Vol. I | December 1954 | No. 1

This issue sponsored by Indiana Society of Professional Land Surveyors
and Division of Adult Education, Purdue University
This issue edited by Ken S. Curtis, School of Civil Engineering

Announcing THIRD ANNUAL INDIANA LAND SURVEYORS' CONFERENCE January 21-22, 1955

The third annual Indiana Land Surveyors' Conference will be held on Friday and Saturday, January 21-22, 1955, on the Purdue University campus sponsored by the School of Civil Engineering and Division of Adult Education in cooperation with the Indiana Society of Professional Land Surveyors.

PROGRAM - The program planning committee met on December 3 and completed preliminary plans for the approaching conference. The following are a list of speakers (and topics) whom we have contacted and hope will accept a part in the program.

F. H. A. METHODS AND PROCEDURES IN SUBDIVISION PLANNING
Edward Flickinger, Land Planning Consultant, F. H. A., Chicago

SURVEYOR'S LIABILITY
W. J. Robbins, Robbins Insurance Company, Chicago

AERIAL SURVEYS AS A HELP IN LAND SURVEYS
W. Sidney Park, Park Aerial Surveys, Louisville

DETERMINATION OF TRUE MERIDIAN
Prof. L. H. Kemmer, Civil Engineering Dept., Purdue University

Other topics include a panel discussion on "Computing Charges For Land Surveys", and reports on the "Land Surveyor's Examination", and "Legislation Affecting the Land Surveyor".

EXHIBITS - Again this year surveying equipment companies are being invited to set up exhibits of their instruments at the conference. A scheduled conflict in dates last year with a national meeting cut down on the number of exhibitors; however, this year the conflict has been avoided. This will be a good chance to look over the equipment.

ENTERTAINMENT -

Friday night - A student playshop comedy production entitled "Mrs. McThing" (by Mary Chase). Music Hall. Admission $1.20

Saturday night - Basketball game: Ohio State vs. Purdue. Admission $2.00

No formal ladies program is anticipated; however, they are welcome to visit the campus and attend the luncheon and entertainment.

ANNUAL BUSINESS MEETING - At last years' meeting, the Constitution of the Indiana Society of Professional Land Surveyors was formally approved and the following officers were elected for the year:

President - Samuel E. Brownsten, Crown Point
Vice-President - Merle W. Nicewander, Hammond
Secretary-Treasurer - Charles S. Condra, New Albany
* Executive Secretary (appointed) - Wilbur E. Camp, Lafayette

Directors - Three years - 1954-55-56
Arthur D. Kidder, Terre Haute
George E. Lommel, West Lafayette
Two years - 1954-55
William J. Boatright, Greencastle
Adolph K. Hofer, Fort Wayne
One year - 1954
James W. Ehringer, Jeffersonville
Robert E. Bush, Booneville

* Kenneth S. Curtis, Lafayette, has tentatively succeeded Camp as Exec. Sec. due to the fact that Camp has accepted a position as engineer on american air base construction in Spain.

Secretary Condra reports that there is now a total membership of one hundred - broken down as follows: Members

Professional Engineers	58
Professional Land Surveyors	16
Juniors or Associates	
Non-registered members	26

This indicates quite an accomplishment for the first year of its existence. Also during the year a very active Calumet Region Chapter was organized.

President Brownsten has appointed two important committees, Legislative and Examinations, which have been active during this past year. They will report their activities at the January meeting. Examinations Committee: Kidder (chairman) Condra, Fisher, McClellan, Moore, and Northland. Legislative Committee: Camp (chairman), Alexander, Bush, Captain, Condra, Curtis, Fabian, Hofer, and Long.

REPORT FROM EXAMINATIONS COMMITTEE - The assignment of the Committee on Examinations was undertaken through correspondence and some consultations that could be arranged. The immediate effort has been the preparation of sample questions on surveying rules and procedure, and examples of practical problems, for the confidential consideration of the Board of Registration. Some progress has been made, with further effort intended as can be with regard to its usefulness to the Board.

Much thought is required in the preparation of suitable questions, for which the committee needs the assistance of the membership of the Society. Up to the present there is an absence of acceptable questions in four fields, - city surveys, mine surveys, surveys by the method of plane coordinates, and on legal procedure as set up in the statutes of Indiana.

Controversial questions are to be avoided. If such questions come to the attention of the committee, and if these seem to be suitable for general discussion, it is proposed to bring out the nature of the differences as well as can be, for more extended consideration in open conference meeting at Purdue University.

From Arthur D. Kidder, Chairman

Remember! THIRD ANNUAL INDIANA LAND SURVEYORS' CONFERENCE January 21-22, 1955

MARK THESE DATES ON YOUR CALENDAR!

MERRY CHRISTMAS!

THE IMPORTANCE OF BELONGING TO YOUR STATE ASSOCIATION

Robert W. Foster, President
Eastern Massachusetts Association of Land Surveyors

We have always argued the importance of membership in ACSM for the land surveyor. It is his only possible impact on matters affecting his profession on a national basis. Interestingly enough it now becomes necessary to point out the importance of membership in a local land surveying organization for members of the national body. A comparison of the membership list of ACSM against that of any state land surveyor association is liable to show that some ACSM members do not consider membership in the local group worth their while. One ACSM member argued in Washington at the March meeting that he has always avoided membership in his state land surveyor association *in favor of* membership in his Section of ACSM, as though there were a conflict between the two. It is difficult to see any merit at all in this position.

Neither ACSM nor its Sections can be expected to appear before state legislatures and boards of registration on matters of importance to surveyors at the local level. Fees and wages vary greatly even within a state and must be dealt with, if at all, by local organizations of land surveyors. Even surveying standards are subject to variation from state to state. A primary defense in malpractice cases is the standard of care as ordinarily applied locally. The best documentation to establish a normal standard of care in the local area is a set of surveying standards published by a state association of professional land surveyors or its chapters.

ACSM and its Sections can give support and guidance to local associations in all of these matters, but the writing and support of (or opposition to) legislation, the watchdogging of boards of registration activities the compilation of data on fees and wages, the compilation, editing, and publishing of surveying standards and many other matters such as liaison with allied professionals, municipal and state engineers association, and so on, can be dealt with most effectively by the state associations of land surveyors. These organizations, acting as Affiliates of ACSM, are also an important component of our national organization; they are not redundant to the Sections of ACSM nor are they parallel groups siphoning off the energies of the ACSM Sections. Professional land surveyors need to be organized on the local, regional, and national level. When all surveyors recognize this fact, we will be perceived by ourselves and others as professionals.

The state association of land surveyors should encourage participation of its members in ACSM; the correlative is also true and the leadership of ACSM should communicate to its members the importance of participation in a local association of land surveyors.

ACSM Feature Release

DUTIES OF A GOOD PARTY CHIEF

1. Make every effort to be at work everyday and arrive at work soon enough to get your materials and people ready to leave the office for field work by work time.
2. Remember that you are a supervisor and director of your group. Your value is measured by the success you achieve in motivating, training, teaching your assistants and developing smooth, efficient and accurate team effort. Accuracy and completeness of any task are essential.
3. See that you have the materials needed to do the job and use these materials efficiently.
4. Utilize the talents of your workers so that you get the most productive work accomplished.
5. Be able to plan your work ahead so that you know what the next move will be. Don't wait until one part of the job is done before deciding what to do next - think ahead.
6. Teach each person how to do the assigned job. Don't pretend that he already knows.
7. Teach each person in your crew to take pride in his work and to wear the proper clothing and maintain a neat appearance.
8. Keep a good set of notes. They should be easily read and not scrounged together. There should always be a neat sketch on the right-hand page of the field book showing your work.
9. Be always a little suspicious of using the controls set by others. Always check them out. Always have a way to check your work to make sure it is correct.
10. Try to put yourself in the person's place who is going to use your notes. Can your notes be plotted? Is the sketch properly oriented? Have you gotten enough information such as roads (names of roads), houses, poles, trees, etc.? If you are not sure about picking up an item, go ahead and get it anyway. It is better to have too much information than not enough.
11. Always remember that the company you work for must make a profit to survive. For you to survive, the company has to make a profit. The type, kind and amount of services you perform determine your status with the company.
12. Do everything you can to improve yourself. Take the attitude that someone is just about to pass you on the road to success.
13. Do not take for granted that others have gotten permission for you to survey on private property. In each case, assume that it has not been done, contact the owner, state your business and ask for permission to survey.
14. After you have gotten permission to survey, be extremely careful about cutting line in the owner's backyard. It will be more noticeable in the summer than in the winter.
15. Do not be afraid to tackle a job that is tough or requires more experience than you have. If you are not sure how to do the job or what is wanted, ask questions. Remember that others have been in the same position you are in and they got the job done by getting a few pointers along the way.
16. If you will, take the attitude of always giving more than 100% on any job. There is a great demand for dependable, aggressive and hard workers. This type of person will always have a job and will have very little difficulty finding one if the need arises.

From the **Tennessee Surveyor**

MARKING LINES

Popular dissatisfaction with the work of land surveyors in Virginia in the early 1600's caused the passage of an Act of 1659 that required that land be "plainly marked. . .for all persons to take notice of. "(see pages 11, 12, 50, 118 and 142 of the book **SURVEYORS AND STATESMEN** published 1979 by the Virginia Association of Surveyors). The Virginia Code of 1849 (P. 482 ch. 11) states that surveyors for grants should see that they were "plainly bounded by marked trees or other objects, except where watercourse or ancient marked line is the boundary."

Kentucky's Revised Statutes 56.230 (1) requires the surveyor to "bound each entry by plainly marked trees. . ." South Carolina's now Manual (3,10C) says: "If possible, he should mark the final lines. . .". West Virginia's regulation 8.08 states that "Property lines shall be marked whenever possible. . .by two hacks facing each side of the line. . .". The U. S. Code prescribes rules for the survey of public land, saying: "All lines shall be plainly marked upon trees. . ." (BLM Manual 1973 p. 5).

Curtis Brown states that a duty of a land surveyor is to "mark property lines. . ." (p. 231 BOUNDARY CONTROL AND LEGAL PRINCIPLES, 1964). Clark (p. 313 edition of 1959 ON SURVEYING AND BOUNDARIES) says: "Marked trees on a line. . .should control both course and distance".

Court cases in recent years have reaffirmed these principles, for how else can landowners know the location of their lines? In a Kentucky case (Beckley v. Bryan & Ransdale 91 Sneed 107) the Court said: "It ought also to be premised that from the year 1748 until the present day, the law has required every surveyor of land, at the time of making a survey, to see the same bounded plainly by marked trees or natural boundaries."

The U. S. Forest Service has clear instructions for line marking in the woods. A reasonable adaptation of those instructions appears desirable and adequate for private property lines in West Virginia as follows:

> Trees within arms reach of the line should have two hacks 6-8" apart, made upon the side of the tree facing the line, about breast height. The hacks should be made almost horizontal or with a slightly downward stroke of an axe or other sharp tool, being sure to cut through the bark and into the wood. A scar will appear that can be identified as to its date and will last indefinitely. The hacks, being thin, will heal quickly and rot will not enter the tree. Painting over the hacks will also help prevent rot. Notches or blazes should not be used. A blaze that exposes a large surface of raw wood, creates a fertile field for disease to enter. Trees that are "on line" should have two hacks made "fore and aft" where the line hits and leaves the tree. Witness, reference and pointer trees should have three hacks 6-8" apart, facing the corner. If a tree is the corner marker, three hacks should be made on the side the line enters and leaves the tree.

These specifications, if adopted by all land surveyors, would avoid the confusion of marks in the woods, and advance the profession of land surveying, not only in West Virginia but in other states as well.

Submitted by F. Henry Sipe, Elkins, W. Va.

SHOW APPARENT EASEMENTS

Surveyors can be held responsible for damages caused by their failure to render services in a proper manner. Claims against surveyors for negligence can arise out of an erroneous designation of land boundaries or existing structures. And, under some circumstances, surveyors can be held liable for failure to note the existence of easements on surveyed land.

A surveyor retained to prepare a site survey, including verification of a legal description, must use reasonable diligence to compile the information to be shown in the survey. This includes not only a duty to compute appropriate lineal measurements but also a duty to designate any easements which a reasonable inspection of the property would disclose.

A Washington engineering and surveying firm was hired by a land developer to measure boundaries for future construction and place stakes on the property conforming to the measurements described in the survey report. While setting the stakes, the surveyor discovered a manhole on the site. The firm failed to check the plat description in the county recorder's office and neglected to note the manhole in its report. The surveyor also failed to relocate the stakes after the manhole was discovered. When the construction was nearly complete, it was discovered that a corner of the building encroached on an easement of the local sewer district. The owner was forced to pay for relocation of the sewer line and sued the surveying firm to recoup this expense.

In upholding a jury verdict against the surveyor for negligence in failing to note the existence of the manhole in the report, the court held him responsible for failing to use reasonable diligence in inspecting the property for the existence of easements. If easements are discovered, the surveyor has a duty to bring them to the owner's attention. *Jarrard v. Seifert*, 22 Wash. App. 476, 591 P.2d 809 (1979).

Surveyors are not responsible for guaranteeing the discovery of all easements or other encumbrances on the property they survey. They need not determine the quality of their client's title about items which a reasonable visual inspection of the property would disclose.

The surveyor should note, preferably in writing the existence of fences, dirt roads, or other conditions that might disclose the existence of an easement. (From Victor O. Schinnerer & Company, Inc.)

—Wisconsin Society of Land Surveyors Newsletter,
July 1981

Color Code for Utilities

The following are standard color codes for field marking of underground utilities. These standards have been adopted by agencies and companies subscribing to the Underground Service Alert (U.S.A. Center).

Blue: Water

Orange: Telephone, Television, Fire Alarm, Western Union, Railroad

Red: Electric, Street Lighting, Traffic Signals

Yellow: Gas, Oil Chemical

Green: Storm Drain, Sewer

Berntsen Cast Products, Incs., has a color coding scheme for reference monumentation. The Northeast quadrant (#1) is metallic silver; Southeast quadrant (#2) is fluorescent purple; Southwest quadrant (#3) is fluorescent blue, and the Northwest quadrant (#4) is fluorescent orange.

— *Wisconsin Society of Land Surveyors Newsletter, July 1981*

EXPOSE YOUR FOOTSTEPS

It is in the best interest of the public we serve, ourselves and our competition to willingly share our records and files with those who seek them. If we want to be recognized as professionals, we must act like professionals. Sharing information is just one of the requirements necessary before such recognition is deserved and warranted.

Those of us who have been in the business for a few years know and realize that most surveys are not original surveys, but rather are retracement surveys. We need to "follow in the footsteps" of the surveyor who did the original work. Or our survey may be a survey of another surveyor; in order to agree with him on our common lines we again must "follow in his footsteps".

If there is one thing that will tarnish the image of all land surveyors, it is for a property owner to find two or more monuments at a property corner. Such problems are generally caused by one or more surveyors not having the same or all of the available evidence. We could be smug and aloof about such a situation, knowing that we used our "secret" set of ties to the original starting corner. However, the aggravation and time spent digging out the files, defending our work and explaining it to our clients is totally unproductive and unprofitable. This is not to overlook our client's wasted time and also that of his neighbor's. Even if we are quite certain that our work is correct, the property owners don't know for sure. All they know is that "those surveyors" can't agree with each other.

The answer to the problem is quite obvious; when another surveyor needs some help and information, give it to him. Look at the advantages of such a practice:

1. He is more likely to agree with your work.
2. The property owner will marvel and admire surveyors who traverse great distances, over hill and dale, and end up at the same point.
3. Some day you may be looking for ties or other information and the only place to go is the surveyor who sought help from you.
4. It is opportunity to exercise your professionalism.
5. It is an opportunity to "Do unto others as you would have them do unto you".

Wisconsin NEWSLETTER
June, 1980

For Good Measure

One salesgirl in a candy store always had customers lined up waiting while other salesgirls stood around with nothing to do. The owner of the store noted her popularity and asked for her secret. "It's easy," she said. "The other girls scoop up more than a pound of candy and then start taking it away. I always scoop up less than a pound and then add to it."

—from the Colorado Side Shots, Feb. '82

Codes of ethics go down for the count

The new Codes of Ethics, in essence, could be summed up as the Golden Rule, "Do unto others as you would have them do unto you." All the specific rules of conduct that apply to the practice of engineering have been removed, putting the burden on an individual's conscience. How well this works remains to be seen.

At its fall meeting at Indianapolis last year, the American Consulting Engineers Council went on record as the first design professional organization to adopt such a Code. In brief, its provisions are:

- To hold paramount the safety, health and welfare of the public in the performance of professional duties.
- To perform services only in the areas of competence.
- To issue public statements only in an objective and truthful manner.
- To act in professional matters for each client as faithful agents or trustees.
- To avoid improper solicitation of profentitive assignments.

The structures against competitive bidding and advertising long since has bowed to the Department of Justice contention that these were in restraint of trade. Now design competitions without compensations, free engineering, and work on a contingency basis have gone down.

What next? Has ethical behavior become an anomaly in our modern society? Will registration boards and registration itself become only of historical interest? Signs are pointing that way.

JANE EDMUNDS
American Consulting Engineers Council

Societies should be prime in ethical enforcement

It is completely unrealistic for a professional society to adopt a code of ethics and not follow through on enforcement. True professionals are identified by the creation and adoption of such a code. They have an obligation to the public and the profession.

The best enforcement is by the professional society. Avenues other than drumming the unethical member out of the society are available. The ethics committee should hear the adversaries, whether members, professionals, or others, and decide on merit and substance.

If a complaint does have some justification, the society should mete out the penalty. If the situation warrants a complaint to the state examining board, then action in the name of the society is preferable and stronger than that by an individual. The society interest must be paramount; one bad apple in the barrel soon will affect all.

The salutary effect of an active ethics committee should not be overlooked. If an unethical operator knows his actions will be condoned, then he is entitled to feel encouraged in furthering the infringement.

From a lengthy career in ethical assignments for both engineering and surveying societies, I have noted that most professional codes are a great deal alike. Their objective primarily is prevention of borderline illegality. The interest of the public as well as the profession is prominent. Self-discipline is an essential of the professional society.

Leonard L. Lampert, P.E.
Leonard L. Lampert & Associates
Stevens Point, Wisconsin

WISCONSIN SOCIETY OF LAND SURVEYORS

Date: June 12, 1982
To: WSLS Members
From: Your Board of Directors

Subject: Conduct detrimental to Society members and the surveying profession

Whereas, It is one of the purposes of the Society to promote and maintain the highest possible standards of professional conduct; and

Whereas, The Society's Code of Professional Conduct states that a land surveyor shall not engage in any public disputes, arguments or public controversy with another land surveyor; and

Whereas, Such a controversy has been going on between two members in particular, on a continuing basis over the past several years; and

Whereas, The Society Board and its Ethics committee have spent hundreds of hours listening to and mediating the problems; and

Whereas, Disputes on the remonumentation of government corners must be handled individually, each on its own facts and merits; and

Whereas, A disagreement over the proper location of a corner does not necessarily mean that one side is absolutely correct and the other is therefore negligent, incompetent or unprofessional; and

Whereas, Complaints to the Society Ethics committee must be based on specific, documented, substantiated acts of wrongdoing; and

Whereas, The Society Board feels obligated to inform its members of what has been done to resolve the disputes and what it plans to do to conclude them; therefore, be it

Resolved, That both sides be informed once again to refrain from any further public statements and controversies that may cause embarrassment to the profession; and be it further

Resolved, That future unresolved disputes regarding the placement of government corners or any other corners, be handled by seeking consultation of others within the profession or by taking the disputes to court; and be it further

Resolved, That future complaints to the Ethics committee of WSLS be specifically spelled out and documented to show that an actual violation of a specific law(s) of Wisconsin did occur; and be it further

Resolved, That the Society board and its Ethics committee hereby close their files on all matters relating to the past controversy.

SURVEYOR RECOVERS FEES

A disagreement between a surveyor and his client resulted in his being ordered off the property.

The surveyor sued for work done. The matter was referred to a master who found for the surveyor, but reduced the amount due the surveyor from the $16,000 claimed to $11,000, based on *quantum meruit* (value received).

The master's report was adopted in *toto* by the lower court. The owner appealed, contending there were errors in the master's report. He said the plans for Phase II of the development were never tendered by the surveyor, but the lower court found that they had been prepared and presented to the city planning commission with the owner's approval. The plans were approved by the planning commission.

The state supreme court said it could not set aside a master's report which had been adopted by the lower court, unless there was clear error, which was not the case.

(Brown v. Summerlin Associates, Inc. 614 S.W. 2d 227.1981)

from: THE GEM STATE SURVEYOR/SPRING '82

THOSE MORTGAGE "SURVEYS" AGAIN

The spectre of possible problems being generated by the ever-present so-called mortgage "surveys" keeps rearing its ugly head. In spite of qualifying certificates, disclaimers, or caveats cautioning against using these plans for many other things than for a picture of the deeded property with a building located somewhere on it, the legal profession warns of the possibilities of suit-happy people taking action against the surveyor for deficiencies in these so-called surveys.

The problems arise because the banks are wanting to hold down the closing costs, and oddly enough, seem to always look to the surveyor's fees as the place this should be accomplished.

It is difficult to comprehend the logic in having a sketch made representing the deed description, showing the approximate location of buildings on this sketch, and accepting this as a survey of property that in today's market might be worth $60,000, $100,000 or $150,000 or more, only because the bank and the title insurance people want the surveyor to prepare this for them for $75.00 or some other figure not nearly equivalent to the present day costs of a precise survey.

It is difficult to comprehend how the title insurance industry can accept this type of thing for insurance purposes. The American Land Title Association, the New England Title Association, and many title insurance companies have lengthy detailed specifications which they say must be met for title insurance surveys, yet these specifications are being completely ignored. The title insurance people should be the ones insisting their specifications be complied with for acceptance of a surveyor's plans. But evidently the banks are calling the shots.

The sad part of this whole deal is that the surveyor gets the brunt of the owner's complaints. He cannot find the boundaries of his property. There are no corner markers. The bank told him they had to have a survey. He paid for a survey in the closing, but where are the evidences of the survey? The bank shrugs all this off and refers the property buyer to the surveyor with his complaints. It's high time we insist on providing a complete survey in accordance with standards of practice and charging fees commensurate with the services provided the bank and the title insurance company.

(Reprinted from the September, 1981 Massachusetts Surveyor)

SURVEYOR NOT LIABLE FOR FAILURE TO SHOW EXACT COURSE OF BROOK ON PROPERTY

A surveyor was employed to divide a residential lot into two pieces, and designate a strip of land along the side of the front piece, so that there would be an access road to the rear piece.

There was a creek running through the property which, as it turned out, had to be re-routed in order to build a road on the access strip.

The purchaser of the rear lot sued the surveyor, claiming that he had not clearly designated the course of the creek, showing it only in schematic form, and that purchaser's reliance on the map had caused him unexpected expense in building the road.

A jury held for the surveyor, but the judge reversed the verdict. The appellate court reinstated the jury's verdict, holding that the survey only need show the entrance and exit of the creek with accuracy. It also noted that the purchaser had walked over the property several times, and thus could not have been misled by the survey.

(Wetzler v. O'Brien 437 NYS 2d 343 N.Y. App. Div. 1981)

from: THE GEM STATE SURVEYOR/SPRING '82

BANKRUPTCY LAW ALLOWS LEGAL THEFT

By Richard L. Lesher

President, Chamber of Commerce of the United States

When you sit down to pay your monthly bills, how would you like to pay some of your neighbor's bills as well? If you don't take that suggestion too kindly, I hate to break the news—you already are.

Over one-half million Americans filed for personal bankruptcy last year, forcing the rest of us to foot a bill that ran into the billions of dollars. This represents a 75 percent increase over the bankruptcy rate in 1979.

The evidence is clear that the Bankruptcy Reform Act of 1978 has made personal bankruptcy easier. Recent studies by Purdue University's Credit Reserach Center and the National Credit Union Administration indicate that there has been widespread debt abuse since the 1978 act took effect. Filing under Chapter 7 is facilitated because the new code does not consider future income in determining an individual's ability to repay his debts, but only a portion of his present assets. Thus, persons with solid jobs and good incomes are still completely excused from their debts, simply because they don't have the resources at the present time.

The effect of this and other loopholes is predictable. The Purdue study discovered that four out of 10 people who filed for Chapter 7 bankruptcy last year could afford to pay 50 percent or more of their nonmortgage debts over five years. Twenty-nine percent could repay all their debts over five years.

There is now strong movement in Congress to rewrite the Bankruptcy Reform Act. These legislative changes are important, but let's not overlook the broader perspective of this issue. When an individual borrows something from another, he has a moral commitment to repay that debt. No matter how fancy you get with the laws, that commitment is still binding, and allowing for a few extraordinary cases, it should be honored. Anything less is just stealing in another form,

—from California Council of C.E. and L.S. Newsletter

CORPS ANNOUNCES SURVEYING PROCUREMENT CHANGE

NEW YORK — The U.S. Army Corps of Engineers announced here Thursday, it will procure surveying services by negotiation in those states whose laws define surveying as part of the profession of engineering.

At a COFPAES panel on Procurement of Surveying and Mapping Services; sponsored by ACSM, Corps Civil Works Engineering Chief Lloyd Duscha said surveying is a professional service that should be performed by the best qualified firm. However, he noted that legal interpretation of existing Federal law limits the Corps to the use of negotiation for surveying to those states which define surveying as part of engineering. In those states in which negotiation cannot be used, Duscha said most surveying would be procured through competitive negotiation.

Duscha said it will be up to the Corps Districts to review the laws of states in their jurisdiction to determine whether negotiation can be used. He also indicated that in cases where a Corps project crosses state lines, negotiation can be used if surveying is considered part of engineering in any one state in which the project is located.

CORPS' SURVEYING PROCUREMENT CHANGE QUESTIONED IN CONGRESSIONAL HEARING

WASHINGTON, D.C.—Officials of the U.S. Army Corps of Engineers were questioned in a Congressional hearing Wednesday, February 24 on their proposal to change its procurement of surveying services from negotiation to competitive bid.

U.S. Representative John Myers of Indiana, the Ranking Republican of the House Appropriations Subcommittee on Energy and Water Development, asked Major General E. R. Heiberg, Director of Civil Works, and Lloyd Duscha. Chief ot the Engineering Division of Civil Works, why the Corps was proposing a change in their procurement procedures.

Mr. Duscha told the committee there has not been a change in the law, but a change in interpretation. He said the Corps was of the opinion it was legal to negotiate for certain services, but that has been questioned by "higher-ups."

Representative Myers told the Corps there are certain benefits to competitive bidding, but there are also areas in which negotiation should be used, such as "competence," "type of work," and "expertise" in surveying. Myers also asked the Corps to keep the committee advised noting the members will be interested to know of their final decision, which is expected in the coming weeks.

Engineering Experience Not Equivalent to Surveying Experience

The supreme court of New Hampshire has held that an applicant for a land surveyor's license cannot take the exam until he has the requisite experience in surveying. It did not allow the applicant's experience as a design engineer for four years with the highway department of a local city to be counted in his experience record, upholding the state registration board's identical decision.

—reprinted with permission from Victor O. Schinnerer & Company

HOUSE COMMITTEE HEARS COMMENTS ON FEDERAL LAND SURVEY ACT

FALLS CHURCH, VA. — ACSM member Bob Myers of Missouri testified before the House Public Lands Subcommittee and indicated strong ACSM support for H.R. 4399, the Federal Land Survey Act.

The bill's sponsor, Rep. Manuel Lujan (R-NM) said "we must make it our policy to develop and maintain accurate, reliable and current cadastral survey records . . . as soon as possible."

Strong statements in support of negotiation for procurement of surveying services were made by Reps. Don Clausen (R-CA), Jim Weaver (D-OR) and Abraham Kazen (D-TX).

Myers told the committee ACSM is interested in working with the Bureau of Land Management and Forest Service to develop procedures for timely and quality surveys of federal lands. Subcommittee Chairman John Seiberling (D-OH) expressed an interest in resolving the opposition of BLM and Forest Service in order to act promptly on the bill.

ACSM-ASP Joint Government Affairs Director John M. Palatiello urged all members who reside in these Congressmen's states to contact them promptly to indicate the profession's appreciation for their support.

GAO UPHOLDS RULE ON SURVEYORS & STATE LICENSES

A recent General Accounting Office decision upholds a federal agency requirement that the surveyors it engages be licensed in the state in which the boundary survey is to be conducted. In the same decision GAO objects to a requirement that the surveyors have an office within a specified distance of the survey site.

It is a long-established legal principle that state licensing laws may not be imposed on the federal government or its contractors, but in this case the federal agency itself mandated the date license requirement.

GAO, on this point, said that the agency could properly establish a state license as a necessary qualification so long as it reflects agency needs and does not unduly restrict competition. It was noted in this regard that the surveys were to be filed in accordance with state law, or be suitable for filing, with the state, and that the boundary surveys may affect private property owners as well as the property rights of the federal government.

On the point of geographic limitation, an old issue for engineering work also, GAO said it had previously upheld geographic limitations that were adequately justified, but in this case the limitation to firms located within 200 miles of the job site was not adequately related to the agency's needs. The actual requirement, the decision said, is for surveyors with local knowledge and experience, rather than a requirement that the firm be from the immediate vicinity. The 200-mile limit needlessly excluded potential competitors that might well meet the real requirement, GAO said.

The latter point may affect future federal agency procedures for engineering services. Many agency calls for technical (qualification) proposals for engineering services have been imposing geographical limitations.

—from the Engineering Times, Nov. '81

THE BUSINESS OF LAND SURVEYING

By: John A. Martin, P.L.S.

In today's economy, one of the best bargains to be found is a land survey. Consider the transfer of a lot and dwelling with a sale price of $100,000. The real estate agent will receive a fee of approximately $7,000 for showing and selling the property. The legal fees will range from $350 to $500 if no unusual problems develop during the transaction. The title search, title examination and title insurance will cost the buyer approximately $350. The mortgage company may obtain "points" from both buyer and seller which could total from $3,000 to $8,000. A "warehouse" fee of $150 may also be charged to cover the cost of marketing the mortgage. The total cost to buyer and seller of the property can range from $10,000 to $15,000. The surveyor is probably the least expensive party to this transaction, with fees ranging from $100 to $200.

One item in a property transfer that has sometimes been eliminated is the survey—a reaction to the expense of the transaction. Thus, the survey affidavit was born. Surveyors are convinced that the mother and father of the survey affidavit were not married. The cost for the perparation of a survey affidavit must certainly be passed on to the buyer and seller. It would be interesting to compare the cost of preparation of the affidavit, to the cost of that "expensive" survey.

The surveyor who conducts his own land surveying business feels that the survey affidavit and "moonlighters" are the prime causes which prevent him from earning a decent living for himself and his family. However, the affidavit and the moonlighter are not the cause of the surveyor's economic condition. They are factors of his own creation. First, consider the birth of the survey affidavit. When a professional, in any field, places such a small value on his work, as the surveyor does, it naturally follows that those professionals who use those services will feel that the work must not really be necessary at all. Whenever cost-cutting measures are considered, those items costing the least are prime candidates.

If the surveyor was the midwife at the birth of the survey affidavit, he was even more helpful in the creation of the moonlighter. One of the main reasons for the bargain rates in land surveying is the traditionally low pay of the surveyor and his assistants. If a surveyor cannot make ends meet on the wages paid to him at his regular job, he will probably become a moonlighter at the first opportunity. If he is licensed, he may offer his services to title companies or attorneys at a cut-rate price in order to obtain survey orders. He will have no difficulty obtaining technicians to assist him, because they are usually in a similar economic condition and moonlighting, to them, is survival.

It is doubtful the average moonlighter is happy with his situation. Even if he provides quality service, he is aware of his lack of finacial responsibility to his client should he become involved in judicial proceedings. His full-time position can easily be placed in jeopardy as a result of his outside employment. The pros and cons of moonlighting can be argued forever. In my own case I attempted to start a business many years ago, by moonlighting. The attempt was abandoned after a few weeks, due to my own sense of ethics and discovery that surveying, no matter how much you may love it, can become sheer drudgery when practiced to excess: every day, every week, without rest.

One significant fact of my brief period of moonlighting is worth considering. The fees which were obtained in one weekend at moonlighting exceeded my wages for the entire week, working as an employee. To achieve this, however, I must point out that I had few administrative expenses since my moonlighting surveys were subcontracted from established surveyors who, for various reasons, were unable to perform them personally.

The professional surveyor is rarely a successful businessman. It is quite possible for a surveyor to be highly regarded for his expertise and, as a result, obtain a great many survey clients. While enjoying this success, he may also be contributing to the success of his bankers, from whom he is borrowing money to meet his payroll every few months. If this same surveyor could train himself to be as successful at running a business as he is at being a surveyor, he would be contributing to the success of his banker, but as a depositor rather than as a borrower.

All business has problems. Cash flow, employee turnover, absenteeism, personnel problems and deadbeat clients are universal problems. The surveyor must decide if he wants to be solely involved with the technical operation of the business, or if he wants to run the business as an administrator. Only an exceptional individual can combine both the technical and operational aspects of such an endeavor.

To quote Rodney Dangerfield, surveyors "can't get no respect." But respect from others is impossible unless surveyors respect themselves. They must become aware of the value of their professional services. They must earn the respect of their clients by the way they conduct their business, and by the excellence of the professional services which they provide. If the surveyor continues to have a low opinion of his worth and continues to maintain his business on the basis of providing low cost service, the amount of respect he receives will be precisely what he deserves.

from NJSPLS Coordinate, July '81

NSPS RESOLUTION REQUIRING EVIDENCE OF PROFESSIONAL DEVELOPMENT PRIOR TO RENEWAL OF A LICENSE TO SURVEY

Whereas, the body of knowledge required to practice the profession of surveying is constantly increasing and/or changing emphasis; and
Whereas, failure to rely on the total body of knowledge does not serve the public welfare because it may raise costs, and/or reduce accuracy of survey work; and
Whereas, survey work may be used for long periods of time and by unknown third parties; and
Whereas, surveyor candidates come from varying academic and non-academic backgrounds, and are examined by law only for minimum competency; and
Whereas, surveyors continually practicing with minimum competency do not promote the image and goals of the surveying profession;
Be it therefore resolved:
1.) That NSPS/ACSM recommend evidence of professional growth be required before renewal of a license to practice surveying is granted.
2.) That NSPS/ACSM shall develop an on-going program to promote uniform changes in the various state laws to reach this goal.
3.) That NSPS/ACSM shall offer assistance in providing and evaluating development opportunities in the profession of surveying.

Contractor status needs clarifying

By DON HENDERSON
Director, National Affairs Department
Indiana Farm Bureau, Inc.

SINCE the 1960s the Internal Revenue Service has undertaken an aggressive campaign to audit the employment tax liabilities of business taxpayers. In this effort the I.R.S. has tried to re-characterize as employees many individuals who are traditionally considered independent contractors.

HENDERSON

The distinction between an independent contractor and an employee for a business is very important because businesses are not required to withhold on payments to independent contractors, or to pay social security or unemployment taxes on such payments. Also, the Social Security Self-employment tax rate on an independent contractor is lower than the combined employer-employee tax rate. Independent contractors are not liable for federal unemployment taxes because they are ineligible for unemployment benefits.

Thus, if the I.R.S. prevails in reclassifying certain workers as employees, a business that contracted with an independent contractor to have services performed can become an "employer," liable for employment taxes which were not withheld or paid and penalties. Even in cases where the I.R.S. is unsuccessful in its reclassification efforts, the burden of defending against a large retroactive assessment can be very expensive.

The I.R.S. is currently prohibited from issuing regulations to reclassify these businesses under a moratorium scheduled to expire on June 30, 1982. For this reason legislation to clarify the independent contractor status is desperately needed for both the agricultural and insurance industries.

Senate Finance Committee Chairman Robert Dole (R-KAS), introduced legislation on April 14 (S. 2369) that if enacted will clarify the standards for determining whether an individual is an independent contractor or an employee for tax purposes. The bill provides a five-part test to determine whether an individual is an independent contractor.

The five-part test in S.2369 would identify an individual as an independent contractor if:

1. **The worker performs service under a written contract providing that the worker will not be treated as an employee for employment tax purposes.**
   The written contract, executed before the services performed, would have to inform the worker of his self-employment tax responsibilities and his disqualification for various employee benefits under the tax law.
2. **The business for whom services are performed files all required information returns for payments to the worker.**
3. **The worker controls the number of hours he works and substantially all the scheduling of his hours.**
4. **The worker rents his place of business at a fair rental value.**
5. **The worker is economically independent, meaning he either risks income fluctuations because he is paid on the basis of sales or other output or he has a substantial economic investment in tangible assets used in connection with performance of the service.**

According to Dole, this bill describes within its five-part test the majority of independent contractors whose service-recipients are in serious risk of unreasonable I.R.S. reclassification efforts. However, the bill does not describe all independent contractors, and for this reason it retains also the common law as in alternative standard.

To improve tax compliance in the independent contractors sector, the Dole bill relies on penalties for failing to comply with information reporting requirements. However, with all but one exception, no new information reporting record keeping would be required.

Farm Bureau is in support of legislation that will clarify the standards for determining whether an individual is an independent contract or an employee.

NOTICE OF AWARDS

The National Society of Professional Surveyors (NSPS) is sponsoring four awards to be given for excellence in the surveying profession this year. The awards are:

1. SURVEYING EXCELLENCE AWARD

Chairman: M. Louis Shafer
520 Loretto Drive
Roseville, California 95678

This award is presented to a person who has performed outstanding service to the surveying profession. It is not necessary that the person be a surveyor or member of NSPS or ACSM, but candidates must be nominated for the award by an ACSM affiliate section or two NSPS members at large. This award includes an engraved plaque and a $500 honorarium contributed by Technical Advisors, Inc., Wayne, Michigan.

2. SURVEYOR PROJECT OF THE YEAR AWARD

Chairman: Ms. Kelly Olin
3526 "M" Street
Sacramento, California 95816

This award is presented to the best paper describing a surveying project in which the candidate directed or participated. The project need not have occurred within the preceding 12 months to be eligible. This award includes an engraved plaque and a $200 honorarium from NSPS.

3. STUDENT PROJECT OF THE YEAR AWARD

Chairman David R. Knowles
2448 Elaine
Fayettevile, Arkansas 72701

This award is presented to the student who writes the best paper describing a survey related project in which the student was a participant. The writing of the paper must be an individual effort. Any undergraduate student enrolled in a surveying or surveying related program is eligible for this award. The award includes an engraved plaque, a $100 honorarium contributed by Landmark Enterprises, and travel expenses to the ACSM/ASP spring meeting.

4. EXCELLENCE IN PROFESSIONAL JOURNALISM

Chairman: R. B. Buckner
1958 Neil Avenue
Ohio State University
Dept. of Geodetic Science
Columbus, Ohio 43210

This award is presented annually to the affiliate society whose newsletter is judged to have the highest quality during the previous year. The award is an engraved plaque and is presented to the editor or the newsletter at the awards ceremonies during the annual convention.

Questions pertaining to or requests for the guidelines of any of the four NSPS awards should be addressed to the Chairman of the award.

M. LOUIS SHAFER
General Chairman
NSPS Awards Committee

GUIDE TO RIGHT-OF-WAY SURVEY PRACTICES

After many years in the works the ASCE Task Committee on Right-of-Way Survey Practices has finally published its *Guide to Right-of-Way Survey Practices*. The committee was chaired by WSLS member, William T. Wambach. He reports that the 12-page pamphlet will soon be available for general distribution. Its cost is not yet known but when we learn all the details, we'll pass them along to the membership.

Wambach emphasizes that the publication is a *guide*, not a set of rigid requirements and standards. As a matter of fact, the pamphlet contains a disclaimer which tells what it is and what it is not.

Following the disclaimer and introduction, the pamphlet contains a short history of the ASCE committee. The original catalyst of this project was our esteemed friend from Illinois, the late Winfield Eldridge. The American Congress on Surveying and Mapping (ACSM) later joined ASCE in this project.

This guide should be applied to: (1) New easements; (2) new fee land acquisition; (3) resurveys of existing easements; and (4) resurveys of fee land holdings for: (1) Transportation facilities; and (2) transmission facilities, which cross one owner's property to serve others.

Categories covered in the publication are Land Survey Work —Technical and Legal; Monumentation, Descriptions; Platting and Recording; Conclusions and Recommendations.

We are not able to reproduce the entire contents of the guide in this newsletter, however, the committee's final recommendations are listed below.

1. Every new right-of-way plat should be recorded in the same public office that all other land title records are kept.
2. Land surveying, monumentation, and drafting of legal descriptions for rights-of-way should be performed with the same degree of care, with the same principles, techniques, equipment, and procedures, and under the same statutory and common laws as are utilized for the performance of a land title survey of any tract in the same locality.
3. All surveying operations, including research, measurement, monumentation, platting, and description writing should be performed under the responsible supervision of a person who is licensed or registered as a land surveyor in the jurisdiction in which the property is located.
4. Permanent monuments should be placed at all changes in direction, preferably on each side of the right-of-way.
5. The cap portion of the monument should be marked with the name of the organization acquiring the right-of-way, or the license number of the registered land surveyor in charge, or both.
6. Organizations that manage rights-of-way should periodically inspect and maintain their monuments.
7. The descriptions prepared for rights-of-way should be correctly defined, unambiguous, truly represent the intentions of the parties involved, and should clearly state the monuments on which the description is based.
8. Reliable State Plane Coordinates may be included in the description or be shown on the plat as *supplemental* information, because they contribute to the available evidence for retracement surveys, but are not to be used in lieu of references to legal records and monuments.
9. Units of measurement should be shown on the plat.
10. The transfer of title document should not contain qualifying statements that cause ambiguity and destroy the intent of the legal description to accurately locate the boundary lines of the right-of-way on the ground.
11. Organizations acquiring right-of-way should coordinate with local and national land surveying, land title, engineering, right-of-way, and bar associations in the development and refinement of technical manuals that set forth policies, methods and standards for surveys, monumentation, plats, descriptions and deeds; and, where necessary, in the promotion of statutory changes to accomplish the public recordation of right-of-way plats.

• **Utility Pole Hazard.** Since utility poles were first used to hang wire by Western Union, they have become an attraction to the land surveyor. Being more or less permanent, free of bark, identifiable by number and in many cases demarcating the centerline of an easement, the utility pole is ideally suited for and commonly used as a witness corner and with a nail or spike driven at its base, for a turning point or bench mark. This latter use is one that has been the cause of serious injuries to utility workers for many years and the utility companies have only recently identified the surveyor as the one responsible for leaving nail heads sticking out of the base of poles.

I was consulted by George H. Lyon, safety director of Jersey Central Power & Light Company, concerning an accident which occurred October 16, 1981. Lineman Brad Mauel, while ascending a pole on Ocean Road in Lacy Township, cut out at approximately 7 ft. and fell to the ground. In the fall his body turned so that it was perpendicular to the pole and, an instant before making contact with the ground, his thigh snagged on a nail 18 in. above the ground. The nail opened a gash in Mr. Mauel's leg that required 24 stitches to close.

From photographs and the nail itself, I recognized it as a bench mark. This is only the most recent of numerous cases of injuries caused by nails in poles, even nails driven flush have caused a climber's hook to cut out, which in turn caused an injury.

There are two valid reasons why a surveyor should transfer and remove his (spike in pole) bench marks and cease the practice.

1. *Humanitarian*

The surveyor should be concerned for the welfare of another person and avoid causing an unnecessary hazard.

2. *Financial*

The surveyor should be aware that a utility pole is private property and he is liable.

A utility or insurance company would have little difficulty in tracing the responsible surveyor and a subpoena of his field notes (spike set in Pole #1200, elev. 28.96') would give sufficient evidence to prove liability, thus relieving them of the medical, lost time, and disability expenses.

If you have a nail in a pole, do everyone a service, transfer your elevation and pull it out.—William T. Murray, *area surveying supervisor, JCP&L* via NJSPLS *Coordinate*, Vol. 4, No. 1

LUKENS APPOINTED EXECUTIVE DIRECTOR OF REGULATED PROFESSIONS SERVICE BUREAU (ROPES)

The Sunset Law went into effect July 1, 1982 and brought with it the reorganization of the administration of certain Indiana boards and commissions whose headquarters is 1021 State Office Building. New Executive Director is Horace M. Lukens III, Evansville.

Lukens moved to State government from his position as president and treasurer of Lukens and Sons Insurance Inc., Evansville.

A 1949 graduate of Bosse High School, he graduated from Indiana University, with a B.S. in Insurance and Economics in 1953.

His military record consisted of the following: 1953 Commissioned 2nd Lt., U.S. Army Reserve, Branch: Armor; 1953 Graduate: Armor Office Basic Course, Ft. Knox; 1953-54; Graduate, U.S. Army Aviation School; 1954-56, 1st Lt., Hq & Hq co, 6th Armored Calvary Regiment; 1956-60; 1st Lt., Tank Company, 152nd Inf. Regt, Indiana National Guard.

His varied civic background lists: Past President, Evansville Rotary Club; Member and Past President, Independent Insurance Agents of Evansville; Past President, Indiana University Alumni Club of Vanderburgh County; Member, Kappa Delta Rho Social Fraternity; Member of Elder, First Presbyterian Church of Evansville; Member, Aircraft Owners and Pilot Association; Member, Board of Trustees, Vanderburgh Christian Home; Past Treasurer, Evansville Rescue Mission; Member, Indianapolis Rotary Club.

Horace M. Lukens, III

His governmental background includes: Assessor, Knight Township, Vanderburgh County, 1962-1966; Assessor, Vanderburgh County, 1966-1970; President, Evansville Vanderburgh Area Plan Commission.

Her civic involvement activities, then and now, include:

Marion Area Chamber of Commerce Downtown Improvement Committee 1975, community development committee 1981 — current.

United Way of Grant County professional division chairman 1977 Grant County Chapter of American Red Cross board of directors 1981 — current.

REGISTRATION BOARD ADDS DISTAFF MEMBER

Responding to the Sunset Law provisions, Governor Orr has appointed a new public member to the Registration Board. She is Mrs. Ruthann Sumpter, Marion, Indiana, wife of Wm. J. Sumpter.

Her educational and training background is Ball State Teachers College secretarial training, Hatha Yoga intensives, 20th Conference/ Work Session of the Downtown Research & Development Center, New York City, all in a 17 year period.

Her latest previous positions were: Better Business Bureau marketing and promotion representative 1977-1979; Downtown Marion Association executive Director (liason to Chamber of Commerce and Marion Development Committee), 1980 to date.

A partial honors and biographical listings include:

1969 Edition of Personalities of the West and Midwest

1969 Edition of Outstanding Young Women in America

1974 Edition of the World Who's Who of Women

Jaycee Wife of the Year nominee 1973 and 1974

YWCA Volunteer Recognition 1978 and 1980

FROM INDIANA Professional Engineer

Vol. 45, No. 4, July/August, 1982

..it's our business

by R. H. Kohls
Agricultural Economics Department
Purdue University

Is there a change in the making?

DR. DON PAARLBERG, a distinguished economist, recently made some predictions about the 1980s. He stated "public confidence in the ability of government to solve economic and social problems will decline. The half-century drift in transferring power to the central government is tapering off."

Certainly the growing dependence upon government has been a major trend since the depression days of the 1930s. A particular industry is in trouble—give buyers special tax breaks. There are too many poor people—have government take income from the wealthy and give to them. There are too many people without jobs—have government create new jobs. The environment is polluted—have government clean it up.

The list of new government responsibilities can be expanded indefinitely. In fact, it is now accepted procedure when something goes wrong, blame the government! Because government has entered into so many parts of our life, the accusation often may be correct!

The current recession dominates the news. However, many of our problems have been developing for some time. Record peacetime inflation has been with us for a decade. Unemployment rates have been increasing in good times and bad. The rate of growth in our economy has been slowing down for several years. If we believe our economic problems have developed only during the past few months, we have very short memories!

The U.S. is not an island of woe adst a world of prosperity. Most European countries also are experiencing economic slowdowns; growing unemployment and inflation. Canada has high unemployment—so do Britain, Germany, Belgium, France, and Italy—to identify a few.

The centrally controlled countries also have their problems. Russia is having economic troubles. We have observed the pain of Poland's near economic collapse. Czechoslovakia and Romania have brewing economic problems.

One thing all these countries have in common has been the increasing role of central government. Of course, in the Soviet block the government is the economy! But in the western democracies the trend has been toward increasing government involvement in subsidies, market controls, income distribution and enhanced welfare programs.

Some basic issues exist for all societies. None has yet discovered how everyone can have everything that he wants. Choices have to be made. Things must be produced before they can be divided up. Money is not worth having if one cannot buy needed things with it. Incentives are necessary to encourage people to work hard and businesses to be efficient. Work and efficiency are necessary if we are to make the most from our resources. Assigning these basic issues to "the government" does not eliminate the necessary discipline and hard reality of making a living. In fact, evidence is piling up that government may perform many of these tasks very poorly. Perhaps, as Dr. Paarlberg predicts, people are losing faith in government to solve all their problems. If so, the process of change will be slow but of far reaching consequence to our future.

NEWSNOTES

Here and There

Professor John McEntyre, Purdue University, will be on sabbatical leave during the fall semester 1982 in order to study modern developments in multipurpose cadastres in Canada, Australia, and New Zealand. Rodger Durham, a graduate instructor, will be teaching his fall courses in legal aspects of surveying and land survey systems.

Professor Lloyd Kemmer, professor emeritus and ISPLS life member, is recovering from open heart surgery during the spring 1982.

Hughart Brown of Jamaica, a graduate instructor at Purdue for a couple of years, completed a master's degree in surveying in May and is currently teaching at Metropolitan State College in Denver, Colorado.

Purdue's surveying and mapping program has recently been the recipient of several gifts and they are greatly appreciated. The door prize won by Dean Hamilton, Indianapolis, at the Annual Meeting in January 1981, a photogrammetricly-compiled topographic map contributed by Accu-Air Surveys, Inc., of Seymour, was purchased by Jake Hall, Indianapolis, (value $750), and then, in turn, was contributed to Purdue. The mapping will be incorporated into the instruction at the summer surveying field project course. Another door prize, subdivision computer services contributed by Technical Advisers of Ann Arbor (value $75), won by Phil Thornburg, Richmond, was presented to Purdue. For the last two years, John Chance and Associates of Lafayette, Louisiana, has contributed $5000 to Purdue to be used in the surveying and mapping program. Chance's company performs both land and offshore surveying for the oil industry. About 10 Purdue graduates are employed by Chance. These expressions of solid support of the Purdue land surveying program are greatly needed and appreciated. There are many others who have strongly supported the program, both orally and morally, through the past ten years. However, continued and expanded support will be necessary from Indiana land surveyors, if the four-year program is to survive the current recession, depressed new home construction, and lower enrollments. Continued encouragement and referrals to interested youth to the land surveying profession are needed now.

The ISPLS library has been the recipient of a number of books, technical manuals, and journals this year which are currently being catalogued before being shelved. We are indebted to members Lee Bender, C.A. Budnick, and Dean Hamilton for these generous contributions. A list of additions to the ISPLS library will appear in the next newsletter.

AN ASTRONOMIC MERIDIAN FOR RURAL SURVEYS

*by David A. Wahlstrom, PE & LS ** ****
IUPUI, Indianapolis, IN

It soon becomes apparent to anyone involved in aiding people preparing to take a state land surveying registration examination that a significant number of surveying practitioners are uncomfortable and/or unfamiliar with astronomic observations. Whether it is necessary to familiarize one's self with the procedures to be followed when making an astronomic observation is subject to considerable debate. However, a surveyor will, on occasion, be faced with having to survey a parcel described as follows:

> BEGINNING at an iron stake driven in the ground on the southerly bounds of Mud Pond Road, said point being 800 feet, more or less, generally easterly from the centerline of the intersection of Elm Hollow Road and Mud Pond Road; thence South 25 degrees West five chains; thence East five chains; thence North 25 degrees East to the Mud Pond Road; thence westerly along the southerly bounds of the Mud Pond Road to the point of beginning; containing acres of land. (1)

Because the aforesaid tract of land was located in the midst of its parent tract, it became necessary to determine the astronomic bearing of each line.

> ... (A)nd the court would not be warranted in giving to the word "north," ... any other than its ordinary meaning ... The word "north," unless qualified or controlled by other words, means "due north." (2)
>
> Unless other terms of a deed ... show that a different method was intended by the parties, a "due north" call should be surveyed on an astronomical basis.(3)

THEORY

Virtually evey treatise on plane surveying covers the topic of astronomical observations. Therefore, no attempt is made in the instant paper to "re-write the book" on astronomic observations.(4) (Readers should consult the footnotes for typical references). However, the majority of student oriented treatises tend to advocate the use of the altitude method for determining the astronomic azimuth of a line.(5) The primary advantage to utilizing the altitude method when making solar observations is that critical timing of the solar observation is not imperative.(6) Difficulties with the method include the difficulties associated with setting both the horizontal and vertical cross hairs tangential to the sun simultaneously and the difficulties in determining corrections for refraction.(7)

Precise timekeeping devices are now readily available. As a result, the hour angle method of making solar observations should be considered. "(With) an accurate knowledge of the chronometer error on local time or Universal Time, the hour angle method will yield somewhat better results than that using altitudes."(8) Another advantage is the fact that only the leading or the trailing limb of the sun has to be brought tangent to the vertical cross hair. Also, no correction for refraction is required.(9)

The azimuth of the sun, using the hour angle method, can be determined by solving the following equation:

$$\tan Z = \sin t / (\cos l \tan d - \sin l \cos t) \qquad E1$$

where Z is the azimuth of the sun,

t is the meridian angle (equal to the lesser of LHA or 360° — LHA),

l is the latitude of the observer,

and, d is the declination of the sun.(10)

Appendix A contains the solution of an example problem using the hour angle equation.(11) The HP-41C calculator program listed in Appendix B also solves the equation.

FIELD PROCEDURE

The field procedure for gathering the data necessary to determine the astronomic azimuth of a traverse line follows. The field procedure must be facilitated by the use of the following pieces of specialized equipment:

1. Darkening filter for the telescope eyepiece. ($28)
2. Radio Shack Timekube. ($35)
3. Quartz controlled chronograph. ($20)

Observations should be made before 9 a.m. (10 a.m. DST) and after 3 p.m. (4 p.m. DST.)(12)(13)

Step 1. Set up and level the theodolite on an existing traverse station.

Step 2. With the instrument in face-left position, set zero and backsight with the reference mark.

Step 3. Place the darkening filter on the telescope.

Step 4. Sight the sun, setting the vertical cross hair so that the leading limb of the sun will "run into" the cross hair.

***Step 5.** At the moment the sun's leading limb becomes tangent to the vertical cross hair, start the chronograph.

Step 6. Turn the Timekube on.

Step 7. At the moment of the minute time-tick, stop the chronograph.

Step 8. Record the Universal Coordinated Time from the Timekube, the elapsed time from the chronograph, and the horizontal angle between the reference mark and the sun.

Step 9. Repeat Steps 4 through 8 for the second observation.

Step 10. Change the position of the instrument to face-right.

Step 11. Sight the sun, setting the vertical cross hair so that the trailing limb of the sun will "run away" from the cross hair.

Step 12. At the moment the sun's trailing limb becomes tangent to the vertical cross hair, start the chronograph.

*If the chronograph has a lap feature, one might want to reverse the order of starting the chronograph and starting the Timekube. More specifically, start the Timekube, then start the chronograph at the minute time-tick. When the sun is tangent to the vertical cross hair, stop the chronograph with the lab button. Read and record the elapsed time, then restart the chronograph with the lap button and repeat for each observation. Each of the elapsed times should then be added to the initial Universal Coordinated Time observation. Finally, stop the chronograph at a time-tick following the final observation to check the overall accuracy of the chronograph.

STEP 13. Repeat steps 6 through 8.

STEP 14. Repeat steps 11 through 13 for the fourth observation.

STEP 15. Sight the reference mark and record the angle. (It should be 180 degrees.)

STEP 16. Scale the latitude and longitude of the observer's position from a USGS quad sheet. (Appendix B contains an HP-41C program to aid in interpolating values from the quad sheet.)

STEP 17. Using a current ephemeris, determine the values of the Sun's declination (d) and the Equation of Time (E.O.T.) at zero hours, Greenwich Civil Time. Also determine the hourly change of the d and of the E.O.T.

STEP 18. Determine the actual time of each observation by subtracting the chronograph reading from the Universal Coordinated Time reading.

STEP 19. Solve for the azimuth to the reference mark using the HP-41C program outlined in Appendix B.

STEP 20. Average the results obtained *supra* to determine the final azimuth to the reference mark. (No appreciable error will result if the interval between observations is short (2 or 3 minutes).(14)

STEP 21. Convert the final azimuth determined *supra* to the grid azimuth for the particular SPCS zone.

DATA

Solar (Kern K1-S)

12 sets (2DR) Average azimuth = 103 deg. 25.3 min.
Standard deviation = 0.2 min.
Range, minimum value = 103 deg 24.9 min.
Range, maximum value = 103 deg 25.5 min

Polaris (Wild T2)

1 set (3DR) Average azimuth = 103 deg. 25 min. 16 s.
Standard deviation = 03 seconds.

Magnetic (Suunto compass)

10 Obsv. Average azimuth = 50 deg.
Standard deviation = 2 deg.
Range, minimum value = 45 deg.
maximum value = 52 deg.

CONCLUSIONS

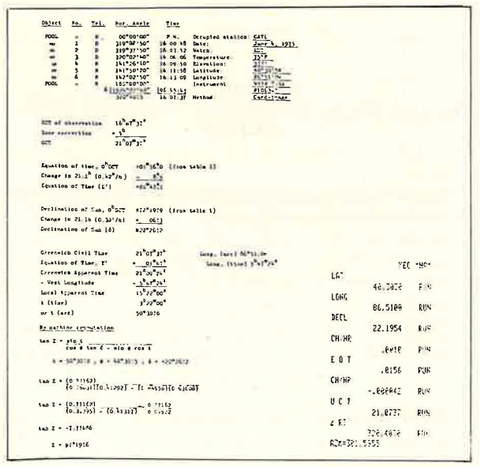
The azimuth of a traverse line, determined by following the field procedures and the computational procedures outline *supra* is compatible in precision with traversing measurements made for rural surveys. The primary advantages of the outlined procedure are that the field data can be collected in less than ten minutes and the azimuth can be computed in less than ten minutes.

ERRATA (as of November 20th, 1980)

The HP-41C program for computing the azimuth of the traverse line (Label HA) listed *infra* was written for use in the Eastern Standard Time zone. For other time zones, it is necessary to change Step 81 to the Universal Coordinated Time of local civil noon for the zone.

ERRATA (as of October 9th, 1981)

The HP-41C program for computing the azimuth of the traverse line (Label HA) listed *infra* has been revised. Version three (see line 2 of the program) of the program will solve for the azimuth of the traverse line whether Z is less than or greater than 90 degrees.



APPENDIX A

The computation of an astronomic meridian by the hour angle method. (15)

APPENDIX B

This appendix contains two programs to aid in determing the astronomic meridian. the programs are intended to run on the HP-41 continuous memory calculator.

The first program (Labeled "LL") is a simple utility program which allows the user to determine the value of the latitude and longitude by scaling values from a USGS quad sheet. The program is self-prompting and is activated by entry of the data followed by pressing the R/S key. Latitude and longitude are entered in DD.MMSS and scaled measurements can be entered in any unit of length.

The second program (labeled "HA") can be used to determine the astronomic azimuth, and the mean of the grid azimuth of a traverse line by use of the hour angle method. The program is self-prompting and is activated by entry of the data followed by pressing the R/S/ key. All data is entered in DD.MMSS or HH.MMSS as appropriate.

```
LABEL LL

 01*LBL "LL"          21 PROMPT
 02 FIX 4             22 STO 16
 03 "LAT SE           23 RCL 14
COR?"                 24 /
 04 PROMPT            25 .125
 05 HR                26 *
 06 STO 17            27 ST+ 18
 07 "LONG SE          28 RCL 15
 COR?"                29 RCL 13
 08 PROMPT            30 /
 09 HR                31 .125
 10 STO 18            32 *
 11 "MAP HEI          33 ST+ 17
GHT?"                 34 "LAT="
 12 PROMPT            35 RCL 17
 13 STO 13            36 HMS
 14 "MAP WID          37 ARCL X
TH?"                  38 AVIEW
 15 PROMPT            39 STOP
 16 STO 14            40 "LONG="
 17 "N TO PT          41 RCL 18
?"                    42 HMS
 18 PROMPT            43 ARCL X
 19 STO 15            44 AVIEW
 20 "W TO PT          45 END
?"
```

```
LABEL  HA

01*LBL "HA"          44 15                88 -
02 "9/28/81          45 *                 89 STO 10
V3"                  46 RCL 02            90*LBL "VV-
03 CLΣ               47 -                 91 RCL 10
04 "LAT"             48 180               92 RCL 04
05 PROMPT            49 -                 93 -
06 HR                50 ABS               94 X>0?
07 STO 03            51 STO 09            95 GTO "WW-
08 "LONG"            52 RCL 05            96 360
09 PROMPT            53 RCL 06            97 +
10 HR                54 RCL 01            98*LBL "WW-
11 STO 02            55 *                 99 Σ+
12 "DECL"            56 +                100 LASTX
13 PROMPT            57 TAN              101 HMS
14 HR                58 RCL 03           102 "AZM="
15 STO 05            59 COS              103 ARCL X
16 "CH/HR"           60 *                104 AVIEW
17 PROMPT            61 RCL 03           105 STOP
18 HR                62 SIN              106*LBL "GG-
19 STO 06            63 RCL 09           107 HR
20 "E O T"           64 COS              108 RCL 00
21 PROMPT            65 *                109 RCL 02
22 HR                66 -                110 -
23 STO 07            67 RCL 09           111 RCL 03
24 "CH/HR"           68 SIN              112 SIN
25 PROMPT            69 X<>Y             113 *
26 HR                70 /                114 -
27 STO 08            71 ATAN             115 HMS
28*LBL "XX"          72 X<0?             116 "GRID="
29 "U T C"           73 GTO "S-          117 ARCL X
30 PROMPT            74 GTO "N-          118 AVIEW
31 HR                75*LBL "S-          119 STOP
32 STO 01            76 180              120 GTO "XX-
33 "∠ RT"            77 +                121*LBL 05
34 PROMPT            78*LBL "N-          122 MEAN
35 HR                79 STO 10           123 HMS
36 STO 04            80 RCL 01           124 "MEAN="
37 RCL 07            81 17               125 ARCL X
38 RCL 08            82 X<=Y?            126 AVIEW
39 RCL 01            83 GTO "PM-         127 STOP
40 *                 84 GTO "VV-         128 GTO "GG-
41 +                 85*LBL "PM-         129 END
42 RCL 01            86 360
43 +                 87 RCL 10
```

Program "HA" returns values for the astronomic azimuth (AZM=) and the grid azimuth (GRID=) in D.MS. However, the program ignores the second term when computing the grid azimuth. To determine the grid azimuth, store the values of the Central Meridian (C.M.) of the SPCS zone in register 00 in D.dd. Also, if the project is in a Lambert projection zone, change step 111 to RCL 19, delete Step 112, and manually store the value of l in register 19. (The longitude of th C.M. and the value of l can be found in SPCS Projection Tables.) SIZE should be set at 020.

The mean ot any number of computations can be computed at any time by pressing the LN key.

FOOTNOTES

1. *Liber of Deeds* 751 at page 588, Sullivan County Clerk's Office, State of New York.

2. *Currier v. Nelson,* 96 Cal. 545, 31 P. 531 (1892).

3. *Richfield Oil Corp. v. Crawford,* 39 Cal. 2d 729, 249 P. 2d 600 (1952). But see *Martin v. Tucker,* 111 R.I. 179, 300 A.2d 480 (1973) (finding that due south was equivalent to magnetic south).

4. See K. Curtis, *Meridian Determination by Solar and Polaris Observation* (sic), Indiana Society of Professional Land Surveyors (1975) for an excellent, comprehensive treatise on the subject.

5. See R. Davis, F. Foote, & J. Kelly, *Surveying: Theory and Practice* (5th ed. 1966) at 539 for a typical discussion regarding the determination of an azimuth by the altitude method.

6. P. Kissam, *Surveying for Civil Engineers* (1956) at 236.

7. J. Mackie, *The Elements of Astronomy for Surveyors* (8th ed. 1978) at 188.

8. *Id.*

9. *Id.*

10. M. Schmidt & W. Rayner, *Fundamentals of Surveying* (2nd ed. 1978) at 218.

11. See also *id.* at 224 for the solution of a typical example problem using equation E1.

12. P. McDonnell, Jr., *Selected Topics in Control Surveying* (rev. 1978) at 34.

13. See J. Mackie, *supra* note 7, at 185 for a discussion of the effect errors in the various parameters have on the determination of the final azimuth value.

14. *Id.* at 184.

15. K. Curtis, *supra* note 4, at 46.

ADDENDUM
AZIMUTH BY THE HOUR ANGLE METHOD

Program "HA" returns values for the astronomic azimuth (AZM=) and the grid azimuth (GRID=) in D.MMSS. However, the program ignores the second term when computing the grid azimuth. To determine the grid azimuth, store the longitude of the Central Meridian (C.M.) of the SPCS zone in register 00 in D.dd. Also, if the project is in a Lambert projection zone, change step 20 to RCL 19, delete step 21, and manually store the value of l in reglster 19. (The longitude of the C.M. and the value of l can be found in SPSC Projection Tables.) SIZE should be set at 020.

V4 and later versions of the program allow the user to enter values for the declination and the equation of time for the date in question and for the *next day, thereby eliminating errors associated with choosing the wrong sign for the hourly change in these values.*

The mean of any number of computations can be computed at any time by pressing the LN key.

```
 01+LBL "HA"          41  24              90  17
 02  "REVISED         42                  91  X<=Y?
                      43  RCL 01          92  GTO "PM"
 03  "01/18/8        44                  93  GTO "VV"
                      45  RCL 07          94+LBL "PM"
 04  CLD              46  +               95  360
 05  "LAT"            47  RCL 01          96  RCL 10
 06  PROMPT           48  +               97  -
 07  HR               49  15              98  STO 10
 08  STO 03           50  *               99+LBL "VV"
 09  "LONG"           51  RCL 02          100 RCL 10
 10  PROMPT           52  -               101 RCL 04
 11  HR               53  180             102 -
 12  STO 02           54  -               103 X>0?
 13  "dec  0          55  ABS             104 GTO "WW"
                      56  STO 09          105 360
 14  PROMPT           57  RCL 06          106 +
 15  HR               58  RCL 05          107+LBL "WW"
 16  STO 05           59  -               108 Σ+
 17  "dec  +1         60  24              109 LASTX
                      61  /               110 HMS
 18  PROMPT           62  RCL 01          111 "AZM="
 19  HR               63  /               112 ARCL X
 20  STO 06           64  RCL 05          113 AVIEW
 21  "EOT  0          65  +               114 STOP
                      66  TAN             115+LBL "GG"
 22  PROMPT           67  RCL 03          116 HR
 23  HR               68  COS             117 RCL 00
 24  STO 07           69  *               118 RCL 02
 25  "EOT  +1         70  RCL 03          119 -
                      71  SIN             120 RCL 03
 26  PROMPT           72  RCL 09          121 SIN
 27  HR               73  COS             122 *
 28  STO 08           74  *               123 -
 29+LBL "XX"          75  -               124 HMS
 30  "U T C"          76  RCL 09          125 "GRID="
 31  PROMPT           77  SIN             126 ARCL X
 32  HR               78  X<>Y            127 AVIEW
 33  STO 01           79  -               128 STOP
 34  "& RT"           80  ATAN            129 GTO ":::"
 35  PROMPT           81  :::02           130+LBL 05
 36  HR               82  GTO "S"         131 MEAN
 37  STO 04           83  GTO "N"         132 HMS
 38  RCL 08           84+LBL "S"          133 "MEAN="
 39  RCL 07           85  180             134 ARCL X
 40  -                86  +               135 AVIEW
                      87+LBL "N"          136 STOP
                      88  STO 10          137 GTO "GG"
                      89  RCL 01          138 END
```

ADDENDUM:
The 1982 SOLAR EPHEMERIS - a program for the HP-41CV

The following program (labeled "EPHEM") computes the Sun's declination (dec) within plus or minus three seconds. It also computes the Equation of Time (E.O.T.) within plus or minus two seconds. The program will return accurately computed values for any date and time occurring in 1982.

Values are computed by entering the month number, the day number, and the Universal Coordinated Time (UTC) of the instant in question. The program is self-prompting and is activated by simply pressing the R/S key and responding to the prompts. Hence, no other operating instructions are necessary. All inputs and outputs are in D.MMSS.

The final computed value of the declination is stored in Register 04. The final computed value of the E.O.T. is stored in Registered 05. SIZE should be set at 017.


```
 01+LBL "EPH
SM"
 02  "FIRST I
NPUT"
 03  AVIEW
 04  PSE
 05  " 01.18/
82"
 06  AVIEW
 07  PSE
 08  "82 EPHE
MERIS"
 09  AVIEW
 10  PSE
 11  PSE
 12  "ANSWS I
N D.MS"
 13  AVIEW
 14  PSE
 15  PSE
 16  "MO.DA
"
 17  PROMPT
 18  STO 11
 19  "DAY 032
"
 20  PROMPT
 21  STO 12
 22+LBL 01
 23  "U.C.T.
H.MS  2"
 24  PROMPT
 25  FIX 4
 26  STO 13
 27  RCL 11
 28  375
 29  *
 30  9
 31  -
 32  INT
 33  RCL 11
 34  9
 35  *
 36  13
 37  -
 38  INT
 39  9
 40  *
 41  -
 42  RCL 12
 43  +
 44  30
 45  -
 46  RCL 17
 47  HR
 48  24
 49  /
 50  +
 51  STO 14
 52  1
 53  -
 54  183
 55  /
 56  1
 57  -
 58  STO 16
 59  2
 60  *
 61  STO 05
 62  -.000127
 63  STO 31
 64  RCL 05
 65  *
 66  -.00001
 67  +
 68  STO 02
 69  RCL 05
 70  *
 71  RCL 01
 72  -
 73  .000087
 74  +
 75  STO 03
 76  RCL 05
 77  *
 78  RCL 02
 79  -
 80  -.000191
 81  +
 82  STO 01
 83  RCL 05
 84  *
 85  RCL 03
 86  -
 87  -.000378
 88  +
 89  STO 02
 90  RCL 05
 91  *
 92  RCL 01
 93  -
 94  .000463
 95  +
 96  STO 03
 97  RCL 05
 98  *
 99  RCL 02
100  -
101  .001165
102  +
103  STO 01
104  RCL 05
105  *
106  RCL 03
107  -
108  -.001672
109  +
110  STO 02
111  RCL 05
112  *
113  RCL 01
114  -
115  -.003153
116  +
117  STO 03
118  RCL 05
119  *
120  RCL 02
121  -
122  .008654
123  -
124  STO 01
125  RCL 05
126  *
127  RCL 03
128  -
129  .01359
130  +
131  STO 03
132  RCL 05
133  *
134  RCL 01
135  -
136  -.035504
137  +
138  STO 03
139  RCL 05
140  *
141  RCL 02
```

```
142  -
143  -.040329
144  +
145  STO 01
146  RCL 05
147  *
148  RCL 03
149  -
150  .071756
151  +
152  STO 02
153  RCL 05
154  *
155  RCL 01
156  -
157  .067115
158  +
159  STO 03
160  RCL 05
161  *
162  RCL 02
163  -
164  -.498128
165  +
166  STO 01
167  RCL 05
168  *
169  RCL 03
170  -
171  -.385964
172  -
173  STO 02
174  RCL 05
175  *
176  RCL 01
177  -
178  6.645076
179  +
180  STO 03
181  RCL 05
182  *
183  RCL 02
184  -
185  2.868018
186  +
187  STO 01
188  RCL 05
189  *
190  RCL 03
191  -
192  -33.4747
193  +
194  STO 02
195  RCL 05
196  *
197  RCL 01
198  -
199  -2.48990
200  -
201  STO 03
202  RCL 05
203  *
204  RCL 02
205  -
206  -13.4617
207  +
208  STO 01
209  RCL 02
210  -
211  2
212  *
213  STO 04
214  HMS
215  "dec = "
216  ARCL X
217  AVIEW
218  STOP
219  9.372
220  ENTER^
221  .98561
222  RCL 14
223  *
224  +
225  .9856
226  RCL 14
227  *
228  3.307
229  -
230  SIN
231  1.916
232  *
233  +
234  1.9715
235  RCL 14
236  *
237  6.614
238  -
239  SIN
240  .02
241  *
242  -
243  STO 07
244  TAN
245  .91746
246  *
247  ATAN
248  STO 08
249  360
250  ENTER^
251  RCL 07
252  X<>Y?
253  GTO 8
254  270
255  ENTER^
256  RCL 07
257  X<>Y?
258  GTO 8
259  180
260  ENTER^
261  RCL 07
262  X<>Y?
263  GTO C
264  90
265  ENTER^
266  RCL 07
267  X<>Y?
268  GTO D
269  GTO E
270+LBL F
271  RCL 08
272  360
273  *
274  STO 09
275  GTO C
276+LBL E
277  RCL 08
278  360
279  X<>Y
280  +
281  STO 09
282  GTO F
283+LBL D
284  RCL 08
285  180
286  +
287  STO 09
288  GTO F
289+LBL C
290  RCL 08
291  180
292  X<>Y
293  +
294  STO 09
295  GTO F
296+LBL E
297  RCL 08
298  STO 09
299+LBL F
300  37.329
301  ENTER^
302  3.94244
303  RCL 14
304  *
305  +
306  +
307  ENTER^
308  RCL 09
309  *
310  -
311  60
312  /
313  STO 05
314  HMS
315  "E.O.T.
= "
316  ARCL X
317  AVIEN
318  STOP
319  GTO 01
320  END
```

* The instant paper was initially presented at the Fall 1980 Technical Meeting of the American Congress on Surveying and Mapping, Niagara Falls, New York.

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ARE YOU BEGINNING TO FEEL OLD?

The best way to tell whether you are getting old is to ask yourself whether your curiosity batteries are running down. Can you still get interested—even enthusiastic—about new people, new things, new happenings? Do you know more about anything now than you did this time last year?

One reason why people get old is because they let change baffle them. They don't stop to realize that change starts in infancy, and continues through all one's life, that everybody experiences change—changed looks, changed family situations, changed health, changed desires.

If you would refute the things your insolent mirror seems to be telling you, take yourself in hand. Make whatever effort may be required to maintain your "get-up-and-get." Investigate something you haven't explored. Do interesting things you never even thought about doing before. And keep alert to other people's ideas, no matter how fantastic they seem. If you would stay young don't let the omnibus of time pass you by. Get aboard and ride with it! "It's magnificent to grow old, if one keeps young."

—from Colorado "Side Shots" May '82

ACSM is a Non-Profit Professional Association with the following objectives:

- To advance the sciences of surveying and mapping and related fields, in furtherance of the public welfare and in the interests of both those who use surveys and maps and those who make them, and to establish a central source of reference for its members.
- To speak on the national level as the collective voice of the professions embodied within ACSM.
- To contribute to public education in the use of surveys and maps, and to encourage the further development of surveying, mapping, and charting programs.
- To encourage improvement of college curricula for the teaching of all branches of surveying and cartography both in the technological sciences and the professional philosophies.
- To honor the leaders in the sciences of surveying and mapping.
- To support a program of publications that will represent the professional and technical interests of surveying and mapping.

Opinion: CPAs must keep up

INDIANAPOLIS — All public accountants must complete 80 hours of continuing education every two years in order to qualify for an Indiana permit, Attorney General Linley E. Pearson said Friday.

Pearson gave his official legal opinion in response to a query by state Sen. Johnny Nugent, R-Lawrenceburg.

Nugent wanted to know whether the continuing education rule applies to public accountants and certified public accountants who were licensed before the rule took effect in early 1980. Pearson concluded that it does.

"It is manifestly reasonable for the Legislature to require proof of continuing education in the field of accounting on a regular basis to insure that those in the practice of accounting are kept up to date on the developments in the fast changing discipline," Pearson concluded.

Sat. Aug. 7, 1982

Survey can show if land measures up

By The Atlanta Bar Association
Special to Journal-Constitution

Q What is a land survey, and what will it reveal about real property?

A Basically, a land survey is an accurate measurement of the distances, directions and angular turns of a parcel of improved or unimproved property. The drawing of the measurements by a professional surveyor is called a "plat" or "plat of survey."

Facts revealed by a survey will depend largely on its purpose. Typically, the most important functions of a survey are to establish the correct property lines or boundaries and to determine the acreage of the property. A plat will illustrate the location of physical improvements on the property, including easements for such additions as utility poles and drainage systems.

Q Why and when should a prospective buyer of a piece of property require a survey?

A Every purchaser wants to be sure that what he is paying for is what he is getting. Without a survey, the possibility that this will not be the case is much greater.

It often happens that a buyer is shown a piece of property that runs from "that big oak down to the fork in the creek" or "down by the fence line." More often than not, no intentional misrepresentation is made.

However, the purchaser might buy the property only to find that the oak tree he believed to be the corner was only an approximate location, or that the fence on the adjacent property was not erected along the actual property line.

Had a survey been made, the corners of the property could have been identified and clearly marked with iron pins.

The time to have a survey done is *before* buying. A problem may be so serious that the purchaser will decide not to make the investment.

Also, the smart property buyer will not purchase land without obtaining satisfactory evidence of good marketable title.

One means of accomplishing this is by title examination. In the process, the title examiner will carefully check the plat of survey, if one is available, for any conflicts between the legal descriptions in past deeds conveying the property and the lines shown by the plat.

Many times a survey will indicate that a neighboring driveway or other physical improvement, such as a garage, is over the property line and is thus encroaching upon the property being surveyed. It also will indicate whether such improvements located on the surveyed property encroach upon others.

The examiner also will check the survey for easements, improvements erected near or on the boundary line, available access to the property and disputed boundaries. When used in conjunction with a title examination, a good survey will reveal most potential problems.

In a case where a survey of a property has been made in the past, the determination of whether a new survey should be prepared depends on the location of the property, the purchaser's familiarity with the property and how recently the former survey was made.

The possibility of boundary line problems or unrecorded easements is much greater with property that has not recently been surveyed. The example above using the old oak tree in the legal description illustrates how a problem can arise with older property.

The cost of a survey will vary according to the size of the property, the amount of information being requested and whether there exists a former survey of the property that can be updated. When the cost is compared to the possible losses that may occur without a survey, it is often a very wise expenditure. ■

Single number now available for underground line location service

As more and more underground utility lines are placed this year, adding to the millions of miles of underground lines in Indiana, the request, "Don't Dig Blind," becomes more urgent.

Anyone who drills, trenches, landscapes, blasts, ditches or digs near underground lines can call a single toll-free number (1-800-382-5544) to alert participating utilities of such activities. Each utility with lines in the area will then come to the site and place color-coded markers to identify buried facilities. In order to give utilities adequate time to locate buried facilities, we ask that you call our statewide line location service at least two working days prior to the start of actual excavating.

This free service can save you time and money, and can prevent disruptions of service to thousands of customers. So please, don't dig blind!

IS THE RISK WORTH IT?

By Gary R. Harris — Editor, Minnesota Disclosures

Three days ago, while in midst of completing a survey project for a proposed subsidized apartment project, a request was made of me to alter my certification verbiage of the survey.

The request was made by a representative of the mortgage company involved with financing the project. They, in turn, were prompted by a demand from the title company which was contracted with to insure the title of the project. The request was for me to certify to the existence or non-existence of all easements of record. I refused and a discussion as to the alternative solutions to the dilemma ensued. I reiterated my refusal to do so.

To say the least, the mortgage company representative was angry but also confused and flustered. I believe that after additional discussion, he began to understand my position when I asked him if he would sign a document guaranteeing the same. The shoe, all of a sudden, did not fit. Increasingly, this exact request is being made to us when dealing with title, mortgage and insurance companies. The requests are made matter of factly as if it is routine. This scares the hell out of me and raised my curiosity as to how many surveyors are also considering it routine and complying with it.

I, for one, am not in the habit of providing title searches or title opinions. Making such a certification without qualification is doing just that. If my interests were in that direction, I would have become an abstractor or attempted law school. In the surveying profession, research is a number one priority; that is, research of adjoining and underlying descriptions which may lead to a hiatus in the client's property lines, not searches for *every* easement that may affect the property.

To withstand this assault by those in the financial and title companies and survive without getting skinned, we must all be united in our refusals to grant this blatant attempt at passing liability to the surveyor for title defects that rightfully belong to those making the request.

Qualification is the key to remaining unscathed but professional in our approach to the solution to this problem. Surveyors should take a lesson from the law profession in their approach to title opinions. The final paragraphs to the majority of title opinions issued, removes any liability they may have appeared to incur in the preceding opinion and statements. Qualify your statements and certification as to the origins of your data and the limits to which you will warrant the statements. If the easements or lack thereof shown on your survey drawing are taken from a title opinion or title commitment, state that fact and detail the document from which the data originates. If the easements shown are due to your own research and efforts, decide the extent that you wish to warrant and state it in your certification. If you wish to certify to all visible easements, do so, but with caution.

To sum, when a request is made of you to certify to all easements of record, either follow the guidelines as discussed herein or the following in descending order:

1) Check your errors and omission insurance
2) Pray
3) Retire

26th ANNUAL **31st ANNUAL**

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OF THE

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AND THE

ILLINOIS REGISTERED LAND SURVEYORS ASSOCIATION

FEBRUARY 17, 18, and 19, 1983

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IMPORTANT DATES TO REMEMBER

September 24/25, 1982 - One-day Workshops
ISPLS Workshop on Hand-held Calculators by Robert B. Stephenson, New Mexico, Friday, Sept. 24 - Holiday Inn, Plymouth, IN, Saturday, Sept. 25 - Sheraton East, Indianapolis, IN (Announcement and registration will be sent in separate mailing).

September 19-24, 1982
ACSM-ASP Fall Convention, Diplomat Resort, Hollywood, Florida.

February 17-19, 1983
Indiana/Illinois Joint Convention, Indiana Society of Professional Land Surveyors/Illinois Registered Land Surveyors Association, Ramada Inn Convention Center, Champaign, Illinois.

March 13-18, 1983
ACSM-ASP Annual Convention, Washington Hilton, Washington, D.C.

April 20-22, 1983
ASCE Speciality Conference on Right-of-Way Surveying and Engineering, La Mansion del Rio Motor Hotel, San Antonio, Texas.

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