HOOSIER SURVEYOR



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

VOLUME 36 NUMBER 4 SPRING 2010



AFFILIATED WITH THE AMERICAN CONGRESS ON SURVEYING & MAPPING





V.U. Surveying Program Receives Major Gift

Displaying equipment donated by the Vincennes University Land Surveyors Foundation are, from left, Foundation Chair James C. Tibbett; Bill Clark, program coordinator of VU's Surveying Technology Program; Austin Yake, instructor, and VU Surveying majors Stacie Pence of Franklin, Ryan Nanan of Tell City, Kyle Weiling of Vincennes, and Jabob Tibbett of Linton. The new equipment is valued at \$25,000. (See page 8 for article)

2010 OFFICERS & DIRECTORS

Jim Tibbett - President R.R. 2 Box 240 Linton, IN 47441

Linton, IN 47441 RES: (812) 847-3254 BUS: (812) 847-1952

Chuck Coyle - President Elect 7563 S. Artesian Dr.

Columbus, IN 47201 RES: (812) 378-3594 BUS: (812) 372-8441

Todd Bauer - Vice President 9125 Blackwolf Pass Leo. IN 46765

RES: (260) 627-2495 BUS: (260) 484-9900

Rich Hudson - Secretary 574 North 50 West Valparaiso, IN 46385

Valparaiso, IN 46385 RES: (219) 462-2946 BUS: (219) 462-1158

Dennis Grumpp - Treasurer 4244 S 650 W New Palestine, IN 46163

RES:(317) 861-1844 BUS: (317) 826-7100

TERM EXPIRES JAN 2011

Frank Ballintyn 2855 Plantation Ct. Sellersburg, IN 47170

Sellersburg, IN 47170 RES: (812) 246-9881 BUS: (812) 294-4306

Perry Cloyd 3906 Sycamore Drive Columbus, IN 47203 RES: (812) 375-1157 B

RES: (812) 375-1157 BUS: (812) 376-6357

Dennis Grumpp - Treasurer

Dan Kovert - Immediate Past President 8193 Fawnsbrook Drive Fishers, IN 46038 RES: (317) 841-1083 BUS: (317) 577-8204

TERM EXPIRES JAN 2012

Todd Bauer - Vice President

Don West 119 E Laredo Way S. Drive Carmel, IN 46032 RES: (317) 706-0831 BUS: (317) 522-2485

Ryan Swingley 6005 Woodmill Drive Fishers, IN 46038

RES: (317) 596-2755 BUS: (317) 544-4996

Jim Tibbett - President

TERM EXPIRES JAN 2013

Donald Bengel 73 E. Division Road Valparaiso, IN 46383

RES: (219) 465-0988 BUS: (219) 462-0690

Chuck Coyle - President - Elect

Rich Hudson - Secretary

Mark Isaacs 4337 N CR 275 W Brownstown, IN 47220 RES: (812) 358-2702 BUS: (812) 372-0996

ADMINISTRATIVE OFFICE

Dianne S. Bennett, Executive Director 55 Monument Circle, Suite 719 Indianapolis, IN 46204 Office: (317) 687-8859 Fax:(317)687-5053

Office: (317) 687-8859 Fax:(317)687-505 ISPLS is a Not For Profit Corporation

COMMITTEE ASSIGNMENTS (2010)

Prof. Development Administrator: Chuck Coyle

EDUCATIONCarol Morman - Chair

Peter Arnold
Bryan Catlin
Bill Clark
Randy Compton
Brad Cramer
Jason Deckard
Bruce Franke
Gale Fansler
Mark Hennessey
Doug Herendeen
Norman Hiselman

Keith VanWienen

SCHOLARSHIPS

Troy Smith - Chair Frank Ballintyn Lee Bender Phillip Burress Jason Deckard Luke Jahn Brian Rayl Kevin Rowland Mark Schepers

TRIG STAR

Tony Gregory - (State Coordinator)

Government Affairs Administrator: Todd Bauer

BOARD OF REGISTRATION LIAISON

Todd Bauer - Chair

COUNTY SURVEYORS Michael Stevenson -

Liaison

GOVERNOR GREAT LAKES COUNCIL

Don Bengel - Governor Tony Gregory - Alternate

GPS-GIS MONUMENTATION

Tom Mahon - Chair Zach Beasley Perry Cloyd Dale Grimes David Lauer Paul Maurer Robert Marucci Ryan Swingley

LEGISLATION

Mark Isaacs - Chair David Ayala Phil Beer Kevin Breitzke Lawrence Deckard Gale Fansler Bruce Franke Allan Frisinger Robert Marucci Jay Poe Michael Stevenson Keith VanWienen

Internal Affairs Administrator: Jim Tibbett

BYLAWS

Don Bengel - Chair Robert Gross Rich Hudson Ed Sweetland Ron Wharry

FINANCE & PLANNING

Dennis Grumpp - Chair Todd Bauer Chuck Coyle Dan Kovert Jim Tibbett

NOMINATIONS

Mark Gardner - Chair Robert Gross Rich Hudson Dan Pusey Kevin Sumner

Communications Administrator: Todd Bauer

PUBLICATIONS & MEDIA

David Best - Chair Dianne Bennett Mike Davis Kevin Sumner

MEMBERSHIP

Chuck Coyle - Chair Don West Richard McPhail Ron Wharry

PAST PRESIDENT'S COUNCIL

Dan Kovert - Chair Frank Ballintyn Bill Clark Perry Cloyd Tony Gregory Richard Hudson Mark Isaacs Ed Sweetland Open to Past Presidents

PUBLIC INFORMATION & MARKETING

Ryan Swingley-Chair Jason Coyle Gale Fansler Richard Hudson Orwic Johnson Norman Hiselman Mark Schepers Don West



ISPLS BOARD OF DIRECTORS (2010)

First row, I to r: Perry Cloyd, Columbus; Chuck Coyle, Columbus; Jim Tibbett, Linton; Don West, Carmel; Dan Kovert, Fishers; Dennis Grumpp, New Palestine; 2nd row: I to r: Rich Hudson, Valparaiso; Mark Isaacs, Brownstown; Frank Ballintyn, Sellersburg; Ryan Swingley, Fishers; Todd Bauer, Leo; Don Bengel, Valpariso.

HOOSIER SURVEYOR

VOLUME 36 NUMBER 4 SPRING 2010

CONTENTS

Masthead	1
President's Thoughts	2
ISPLS Board of Directors Meeting Highlights	3
2010 ISPLS Convention CEU Approved in Kentucky	5
A Book Review	
V.U. Surveying Program Receives Major Gift	8
Forty-Six "Secrets" and "Clever Strategies" for Dealing with the Recession of 2008-XXX*	
ISPLS Member Describes His Work as IBRLS Liaison to Indiana Attorney General's Office	
Boundaries & Estoppel	11-12
Completed Careers	13
ISPLS Member and Wife Adopt Twin South Korean Girls	15-16
A Movie Review	17
Contract Clause - Supplemental Fee Clause	19
Get Out the Fishing Poles	21
Calendar/New Members/Sustaining Members	
Firm Members	

EDITORS NOTE

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

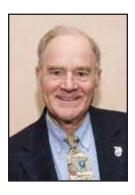
The Hoosier Surveyor is published quarterly by the Indiana Society of Professional Land Surveyors to inform land surveyors and related professions, government officials, educational institutions, libraries, contractors, suppliers and associated businesses and industries about land surveying affairs.

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

David B. H. Best - Editor 5402 Washington Boulevard Indianapolis, IN 46220 Phone: (317) 251-5136

Phone: (317) 251-5136 E-Mail: dbest.tj.gw@att.net Editorial Advertising Offices 55 Monument Circle, Suite 719 Indianapolis, IN 46204

Phone: (317) 687-8859 Fax: (317) 687-5053 Web Page: www.ispls.org EMail: ISPLS@aol.com



David B.H. Best ISPLS Editor



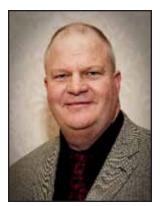
Dianne Bennett ISPLS Executive Director



Jill Patrick Administrative Assistant

PRESIDENT'S THOUGHTS

by James C. Tibbett, P.L.S., Linton, Indiana



Y column this issue will focus on the Right of Entry bill considered by the Indiana legislature, surveying equipment contributed to Vincennes University, the new ISPLS office location, input from ISPLS members to the Board of Directors, sage advice from my father, and some personal reflections on my work as my hobby.

For the second consecutive year a bill to permit Indiana land surveyors the

right of entry onto private property failed to pass the Indiana House of Representatives. The bill previously had passed the Indiana Senate by an overwhelming vote of 45 to 3. The Realtors Association voiced opposition to the bill on philosophical grounds relating to property rights. This opposition apparently carried weight with the House. Indiana law permits right of entry for county surveyors and for employees of the Indiana Department of Transportation, but not for private land surveyors. The practice of most Indiana land surveyors is to advise property owners of the need to cross private property to discover the best evidence for sectional control. For property owners not at home my company's practice is to hang a note on the property owner's door stating that we are conducting a boundary survey and find the need to cross the owner's property to gather sectional control monumentation. We include the name and address of our company. The Right of Entry bill will be submitted to the Indiana legislature at its next session. At a hearing on the bill ISPLS member David L. Gaston, L.S., presented our position on the right of entry issue to the Realtors Association and to the Indiana Association of Cities and Towns. Gaston reviewed the history of the issue and provided a brief summary of surveying concepts involved.

The Indiana Association of Cities and Towns and Realtors emphasized that the proposed right of entry statute will permit land surveyors access to highly secure areas, including water treatment facilities, military bases, and land of pharmaceutical manufacturers. An amendment requested by Homeland Security to exempt Class I structures was called into question by committee members because a term broadly interpreted included apartments and townhouses.

On March 4, 2010 the Vincennes University Surveying Alumni Foundation (VUSAF) presented the Vincennes University Surveying Program (VUSP) with three Topcon GTS-235W total stations complete with tripods, prisms, and targets having a market value of \$25,000. Thanks to seed money provided in 2007 by ISPLS and the ISPLS Southwest Chapter the total value of surveying equipment supplied to the VUSP is \$55,000. Currently the balance in the VUSAF is \$14,500. I hope that this program will eventually be extended to all Indiana schools of higher education having surveying programs. The VUSP now has for use by its students a laser

scanner, a robotic total station and other GPS equipment financed also in part by other grants and VU funding. With both two-year and four-year programs in place the addition of this high tech surveying equipment will promote greater interest in the VUSP.

The ISPLS Board of Directors (BOD) voted to relocate the ISPLS office from its present location at 55 Monument Circle, Suite 719 to 8325 South Emerson Avenue, Indianapolis, IN 46237. The new, modern building will provide easy access from I-65 via County Line Road or from the East Southport Road exit. The new location will provide space for small group seminars and workshops. Parking will be available outside the ground floor entry. Other professional organizations also occupy the building. Outdoor signage will identify ISPLS. Another important feature is the unit's modern wiring that will meet our current and future computer needs. The date for the move to the new location will be announced soon.

Charles M. Coyle, Jr. L.S., President Elect, is now providing on list-serv a summary of BOD meeting minutes. We urge ISPLS members to keep abreast of ISPLS activities through list-serv. We solicit your ideas, concerns, and recommendations relating to ISPLS. The BOD will address your comments at future BOD meetings. The ISPLS Past Presidents Council (PPC), currently chaired by Daniel G. Kovert, P.E., L.S., ISPLS immediate past president, provides help and guidance to the current ISPLS administration.

Recently Randall D. Miller, L.S. in a letter to the BOD and the PPC recommended six areas for ISPLS involvement. Several of the recommendations will require long-term planning. In his letter Miller stated, "I cannot express my concern enough to you that ISPLS must take a harder look at protecting its profession. Our methodology has been to have a full-time lobbyist. I and others have agreed with the initiative. However, we have become extremely entrenched in that effort and not focused on some very important practical day to day issues." We agree with the ideas and suggestions he outlined. However, to achieve solutions will require time and long-range planning by the BOD.

With the advent of spring our work loads begin to increase. We have the opportunity to bid on new projects. My father once told me, "Son, if you get all the jobs you bid on, you are bidding too cheap. There is no way one company can do it all." Even though the real estate market is showing signs of life, in Southern Indiana the progress is still at a slow pace. The Edwardsport Power Plant is the one large project under way in this area. My company completed its part of the project last year. Economic recovery will be slow in coming, perhaps not for four to five years.

Now on a personal note I've found myself searching for a hobby as I near the fifty-year mark. I've tried hiking, golf, walking, woodworking, and quad-biking on mountain trails. These efforts have been to no avail. My wife Kimberly and I have a son enrolled in the VUSP and a daughter in her junior year at Linton High School.

...continued Page 5

ISPLS BOARD OF DIRECTORS MEETING HIGHLIGHTS

by Dianne Bennett, Executive Director

January 13, 2010

The ISPLS Board of Directors met on Wednesday, January 13, 2010 at Marriott East Indianapolis, Patriot Ballroom. President Kovert called the meeting to order at 8:38 a.m. The minutes and treasurer's report were reviewed and approved.

Staff Activity Report - A written report was submitted for review.

Communication: - Hoosier Surveyor - Material for the winter issue needs to be submitted by January 22, 2010.

Membership - The following membership applications were reviewed and approved. Professional - Rodney Young, Ralph Palmer, John Murphy, Jerry Govin, Todd Freund; Associate - Andrienne Taylor, Tim Greene.

Past Presidents Council - Mark Isaacs reported on the ISPLS Foundation and the Purdue University Scholarship.

Public Information and Marketing - After discussion it was decided not to re-new the ILTA membership dues for 2010.

Professional Development - Education Committee- There are 591 pre-registered for the ISPLS convention.

The SW Chapter seminar summary report was reviewed.

Trig Star- Tony Gregory gave an overview of the Trig Star Program at the convention from 4 to 6 pm.

Government Affairs - Board of Registration - The next BOR meeting will be January 22, 2010.

There was discussion regarding ISPLS providing "investigative" services to the BOR.

County Surveyors - The County Surveyors Association now has a web site.

NSPS Governor - Don Bengel reported that the Spring Convention will be in April in Phoenix, AZ. The Fall meeting will be in Orlando, FL.

GPS-GIS Monumentation - Ryan Swingley gave an update on the Height Modernization Consortium meeting.

Legislation - There is a committee hearing regarding the "right-of-entry" next Wednesday.

It was also reported that the LS-PE Registration Board combination is not in the current legislation, but the ISPLS board needs to continue following this legislation until the bill is approved.

Internal Affairs - Finance and Planning - A motion was made and passed to send Brown & Brown (Agency Associates) a letter of contract termination, which has expired.

Connolly Ford Leppert, Inc. presented a letter of engagement. Office space relocation - An update report with a timeline for

activities was presented. The current ISPLS lease will end June 30, 2010.

Nominations - Results of the Board of Directors election were presented. Rich Hudson, Don Bengel, and Mark Isaacs were elected to the board. A motion to destroy the ballot was approved.

New Business - A luncheon speaker for the convention was discussed.

A performance review of ISPLS lobbyist Mike O'Brien was discussed.

A letter from Roger Woodfill, Surveyors Historical Society membership was discussed.

ISPLS - PAC - there is "no" breakfast planned for the convention. A report on the ISPLS PAC was given by Gary Kent.

ISPLS BOD Meeting Schedule for 2010 is as follows:

March 6, April 17, May 22, June 26, August 7, September 18, November 6, December 11, January 13, 2011 (ISPLS Convention)

Next BOD meeting is March 6, 2010 at ISPLS headquarters, Indianapolis.

March 6, 2010

The ISPLS Board of Directors met on Saturday, March 6, 2010 at ISPLS headquarters. President Tibbett called the meeting to order at 9:05 a.m. The minutes and treasurer's report were reviewed and approved.

Adjustments to Agenda: Doug Herendeen gave a convention report on the 2010 convention. A letter regarding CEH request was reviewed. A motion was made and passed to deny the CEH request.

President's Discretion: President Tibbett presented comments on his vision for the BOD for 2010. A Young Professional Committee was created and Ryan Swingley will chair the committee.

Reports were given on the Michigan, Kentucky, Illinois and Ohio convention. A motion was made and passed to reimburse ISPLS Board attendees the difference in reciprocal reimbursement from the surrounding state.

Membership - There was a discussion of new membership requests and membership classification. A motion was made and passed to approve the new members as presented by the committee.

Board of Registration - A letter to the BOR was reviewed. After making grammatical corrections a motion was made and passed to accept and send the letter to the BOR.

ISPLS Foundation - A draft letter by Bose McKinney to Purdue University was presented. A motion was made and passed to send the letter in June.

Legislation - There was discussion on the Right of Entry. The committee will continue to pursue Right of Entry legislation. SB 356 passed without the combination of the PLS and PE boards.

Manuals - The board discussed/reviewed Manual 3 update.

ISPLS Membership Roster - There was discussion on printing the next roster. A motion was made and passed to update the roster after the 2010/2011 membership application renewal. A motion was made and passed to amend the motion to distribute the roster on October 1st.

Insurance - The BOD accepted the resignation letter from Brown and Brown formerly Agency Associates.

Seminars - A motion was made and approved for the workshop "Theory of Location " 6 CEH Mandatory .

A motion was made and passed to approve the Great Lakes height Modernization workshop for 8 CEH.

Vincennes University Land Surveyors Foundation - A motion was made and passed to sponsor the VU Golf Outing for \$200.

ISPLS Office Computer - A motion was made and then withdrawn to upgrade the office computer/printer. The issue was tabled until the next BOD meeting.

Trig Star National Expenses - A motion was made and passed to pay the Trig Star Coordinator expenses to attend the ACSM/NSPS meetings.





Your source for site Productivity tools

Sales **Service** Rental **Training**

GPS Machine Control Supplies

Total Stations

Lasers

Positioning Solutions Co. | Productivity Tools for Survey and Construction Professionals 7522 E. 39th Street, Indianapolis, IN 46226

Phone: 888-313-6111 | Fax: 317-542-7784 | www.1psc.com

President's Thoughts ...continued from Page 2

Recently my wife and I drove to Terre Haute one evening for dinner. During the 45-minute drive I talked about my company's current and upcoming projects. My conversation focused on my work and not about our family. It was simply about my work as a surveyor. I apologized for dominating the conversation. Then I said that I needed a hobby. My wife then turned to me and said that I didn't need to find a hobby because I already had one. My work as a surveyor was my hobby. She observed that I loved what I did as a surveyor. It was my hobby whether I knew it or not. It's great to have an understanding wife who accepts the fact that perhaps I spend more time with my occupation and not enough time with those I love.

My final comment is to wish all ISPLS members GOOD LUCK as you wrestle with these difficult economic times.

2010 ISPLS Convention CEU Approved in Kentucky

The Kentucky State Board of Licensure for Professional Engineers and Land Surveyors approved the following ISPLS Convention courses:

Course Name	PDH's Approved	Approval Dates	Course #
Floodplains FEMA/ NFIP for Land Surveyors & Engineers	3	4/29/2010	10-5-010
Bottom Line - Financial Management	6	4/29/2010	10-5-011
Boundary Dispute Resolution	6	4/29/2010	10-5-012
The Engaged Employee - Unleash the Potential	3	4/29/2010	10-5-013
Water Boundaries	3	4/29/2010	10-5-014

Your deadlines are deadlines







Custom orders your way ... when you need them.

When your name is on it, our name is behind it.

Berntsen delivers.

The professional's choice in survey products • www.berntsen.com • 877.686.8561





Trimble® GNSS Rover Show Specials! "Choose the GNSS TECHNOLOGY that's Right for you!"

Platinum Rover Special - \$27,500.00*

Trimble R8GNSS VRS Rover with TSC2 & Trimble Access

Platinum Rover Special includes:

- · Trimble R8 GNSS RTK, US-GSM
- · ANTENNA GSM/GPRS QUADBAND TNC
- · TSC2 Trimble Access w/ Roading
- TSC2 Accessory Kit
- · Carbon Fiber Telescopic Range Pole with Bipod
- · 1 Full year Seiler GPS Technical Support
- · Priorty response to Support Cases
- · One Day Training



Gold Rover Special - \$17,990.00

Trimble R6GNSS VRS Rover with TSC2 & Trimble Access

Gold Rover Special includes:

- · Trimble R6 GNSS RTK
- TSC2 Trimble Access w/Roading
- Carbon Fiber Telescopic Range Pole with Bipod
- 1 Full year Seiler GPS Technical Support
- TSC2 Accessory Kit

Optional add-on:

US-GSM Module or Internal Radio \$900.00



Silver Rover Special - \$13,554.00*

Trimble R4GNSS VRS Rover Value Special with Trimble Digital Field Book

Silver Value Special includes:

- Trimble R4 GPS, Internal Radio 450-470 MHz
- Trimble R4 GLONASS Upgrade (Factory)
- Trimble R4 410-470 Mhz Transmit Upgrade (Factory)
- · Trimble Recon Controller
- · Bluetooth Accessory Socket card kit for Recon Controller
- · 2 meter fixed height pole



Contact Us:

St. Louis - (314) 968-2282

Kansas City - (816) 331-3383

Indianapolis - (317) 545-7090

Milwaukee - (414) 423-0780

Omaha - (402) 896-4478

Email: solutions@seilerinst.com

A BOOK REVIEW

By David B. H. Best, LS

Recently a friend of mine (not a surveyor) loaned me a book he had purchased at a garage sale titled: "The Theory and Practice of Surveying; Containing All the Instructions requisite for the skilful practice of this Art" by Robert Gibson." His interest in the book was not its subject, but its publication date: 1814. The handsome, leather-bound book is showing its age with evidence of bookworms having tunneled through the leather in several places. On the inside front page inscribed in exquisitely impressive handwriting is the book owner's name: "Daniel Beadle's Property January 4, 1818." On the inside back page inscribed in even more impressive artistic handwriting is the owner's name once more: "Daniel Beadle July 23, 1820." Stuck through this page is a small rusted needle. On the spine of the book is its abbreviated title: "GIBSON'S SURVEYING."

The book is in three parts. Part I. Containing Decimal Fractions, Involution and Evolution, the Nature and Use of Logarithms, Geometry and Plane Trigonometry. Part II. Or the Practical Surveyor's Guide and Part III. Containing the Astronomical methods of finding the Latitude, Variation of the compass, etc. with a description of the instruments in these operations. Following is a LIST OF TABLES: Logarithms of Numbers; Sines, Tangents, and Secants; Natural Sines; Points of the Compass; Traverse Table; Mean Refraction; Sun's Parallax; Dip of the Horizon; Dip for Dif. Dist of Land; Semidiameter of the Sun; Transit of Pole Star; Difference of Altitude of Pole Star and Pole; Sun's declination; and Reduction Table. Following the tables are thirteen (13) folded plates that relate to the Part I concepts and problems.

The author is precise and detailed in his discussion of mathematical concepts. Part I is replete with examples of mathematical solutions. The author lists 49 definitions relating to plane geometry beginning with its definition: "Geometry is that science wherein we consider the properties of magnitude." The author defines a "right line" in Definition 5: "A right line is the shortest line that can be drawn between any two points, as the line AB. Fig. 1. but if it be not the shortest, it is then called a curve line, as AB. Fig. 2." Listed are geometry Postulates: "That a right line may be drawn from any one given point to another;" and Axioms or self-evident TRUTHS: "Every whole is greater than its parts."

Can you define the terms "lemma" and "scholium?" A lemma is "some demonstration, previous and necessary, to render what follows the more easy." A scholium is "a remark or observation made upon something going before." Or from my Random House Unabridged Dictionary lemma is defined as a subsidiary proposition introduced in proving some other proposition and scholium as a note added to illustrate or amplify, as in a mathematical work.

In Part II, the "Practical Surveyor's Guide," we find the chain described as follows: "The stationary distance, or merings (an obsolete term apparently referring to parcel or portion) of ground, are measured either by Gunter's chain of four poles or perches, which consist of 100 links; (and this is the most natural division) or by one of 50 links, which contains two poles or perches: but

because the length of the perch differs in many places, therefore the length of chains and their respective links will also vary."

In Part II is a detailed description of the calculation of area by means of the latitude and departure general method and by the Pennsylvania method, also known as the Bowditch method, for correcting for latitude and departure. The author cautions as follows: "The learner must not expect that in real practice the columns of lat. and those of dep. will exactly balance when they are at first added up, for little inaccuracies will arise, both from the observation taken in the field, and in chaining; which to adjust, previous to finding the meridian distances, we may observe, that if, in small surveys, the difference amount to two-tenths of a perch for every station; there must have been some error committed in the field; and the best way in this case, will be to rectify it on the ground by a re-survey, or at least as much as will discover the error. But when the differences are within those limits, the columns of northing, southing, easting, and westing, may be corrected as follows:..." The correction applied is then by the Bowditch rule.

Part II concludes with a list titled "Promiscuous Questions" or problems. What follows are the first four of these "Promiscuous Questions." Do you accept the challenge to solve these problems? The answers will be found at the end of the article. 1) The perambulator, or surveying wheel, is so contrived as to turn just twice in length of a pole or 161/2 feet; what then is the diameter of the wheel? 2) Two sides of a triangle are respectively 20 and 40 perches; required the third, so that the content may be just an acre? 3) I want the length of a line by which my gardener may strike out a round orangery (a place, as a greenhouse, in which orange trees are cultivated) that shall contain just half an acre of ground. 4) What portion does the arpent of France, which contains 100 square poles of 18 feet each, bear to the American acre, containing 160 square poles of 16.5 feet each, considering that the length of the French foot is to the American as 16 to 15? How about one more "Promiscuous Question?" 5)Required: the dimensions of a parallelogram containing 200 acres, which is 40 perches longer than wide? Check the end of the article for the correct answers.

Section II of Part III contains descriptions of the instruments requisite in astronomical observations. These are the Quadrant or Sextant and the Azimuth Compass. Both instruments are described in great detail. The introductory comments for the Quadrant are as follows: "It is generally allowed that we are indebted to John Hadley, Esq. for the invention, or at least for the first public account of the admirable instrument, commonly called Hadley's Quadrant, who in the year 1731, first communicated its principles to the Royal society, which were by them published soon after in their Philosophical Transactions; before this period, the Cross Staff and Davis's Quadrant were the only instruments used for measuring altitude at sea, both very imperfect, and liable to considerable error in rough weather; the superior excellence however of Hadley's Quadrant, soon obtained its general use among sea-

...continued Page 13

VU Surveying Program Receives Major Gift

VINCENNES, IND. – The Vincennes University Surveying Technology Program is the recipient of a gift of equipment valued at \$25,000.

The gift includes three Topcon GTS-235W total stations and related equipment that were donated by the VU Land Surveyors Foundation. Included in the Foundation's mission is the statement, "to support the program's purchase or lease of modern surveying equipment."

"We believe that Vincennes University has and will continue to have an important role in the higher education system for Land Surveying, establishing a strong educational foundation for Land Surveying students in meeting life's challenges," said James C. Tibbett, president of the Indiana Society of Professional Land Surveyors (ISPLS) and chair of the VU Land Surveyors Foundation.

In 2007 the ISPLS provided a \$10,000 grant to the VU Surveying Program for four total stations. To continue this support, in 2008 Tibbett and Edward Sweetland created the VU Land Surveyors Foundation. In 2009 the Southwest Chapter of the ISPLS adopted the Foundation and the Chapter raised more than \$14,500 for it. Another fund drive for the Foundation is planned this April.

"Thanks to the Indiana Society of Professional Land Surveyors seed money and the Southwest Chapter of ISPLS involvement, the Foundation has placed approximately \$55,000 worth of equipment into the VU Surveying Program and still has a balance of \$14,500 to work with," Tibbett said.

The latest equipment was provided through donations by Myers Engineering - James Myers; U.S. Surveyor Michael Felbusch; CB&M Surveys - James C. Tibbett; Precision Surveying - Gary Witty; Bledsoe Riggert Guerrettaz - Matt Cooper, Marty James, and Bernie Guerrettaz; Cash Waggner and Associates - Calvin Cash; Stradtner, Rowland and Associates, Inc. - Kevin Rowland; Hennessy Surveying, Inc. - Barry Hennessy; Morley and Associates - Danny Leek; Positioning Solutions - Steve Pfingsten; Southwest Chapter of ISPLS; Topcon; Victor McCauley, and Edward Sweetland.

For the past 30 years, all of VU's Surveying students have been employed at the time of graduation. Surveyors establish land and water boundaries, write descriptions for legal documents including deeds and leases, lay out construction and mineral sites, and collect information for the mapping and design of subdivisions, industrial, route and utility surveys, and commercial sites.



FORTY-SIX "SECRETS" AND "CLEVER STRATEGIES" FOR DEALING WITH THE RECESSION OF 2008 - XXX*

by Tom Peters, Author and Public Speaker

I am constantly asked for strategies/"secrets" for surviving the recession. I try to appear wise and informed - and parade original, sophisticated thoughts. But if you want to know what's really going through my head, see the list that follows:

You come to work earlier.

You leave work later.

You work harder.

You may well work for less; and, if so, you adapt to the untoward circumstances with a smile--even if it kills you inside.

You volunteer to do more.

You dig deep, deeper, deepest -- and always bring a good attitude to work.

You fake it if your good attitude flags.

You literally practice your "game face" in the mirror in the morning, and in the loo mid-morning.

You give new meaning to the idea and intensive practice of "visible management."

You take better than usual care of yourself and encourage others to do the same -- physical well-being significantly impacts mental well-being and response to stress.

You shrug off s*** that flows downhill in your direction - buy a shovel or a "pre-worn" raincoat on eBay.

You try to forget about "the good old days" -- nostalgia is self-destructive. (And bores others.)

You buck yourself up with the thought that "this too shall pass" --but then remind yourself that it might not pass any time soon, and so you re-dedicate yourself to making the absolute best of what you have now.

You work the phones and then work the phones some more -- and stay in touch with and on the mind of positively everyone.

You frequently invent breaks from routine, including "weird" ones - "changeups" prevent wallowing and bring a fresh perspective.

You eschew all forms of personal excellence.

You simplify.

You sweat the details as never before.

You raise to the sky and maintain at all costs the Standards of Excellence by which you unfailingly and unflinchingly evaluate your own performance.

You are maniacal when it comes to responding to even the slightest screwup.

You find ways to be around young people and to keep young people around - they are less likely to be members of the "sky is falling" school.

You learn new tricks of your trade.

You pass old tricks of the trade on to others - mentoring matters now more than ever.

You invest heavily in your computer-Internet-Web2.O" cloud" skills

You remind yourself that this is not just something to be "gotten through" - it is the Final Exam of Competence, Character and, even if you're not a boss, Leadership.

You network like a demon.

You network like a demon inside the company - get to know more of the folks who "do the real work", and are/can be your most important allies when it comes to getting things done seamlessly and fast.

You thank others by the truckload if good things happen - and take the heat yourself if bad things happen.

You behave kindly, but you don't sugarcoat or hide the truth -humans are startlingly resilient and rumors are the real killers.

You treat small successes as if they were World Cup victories - and celebrate and commend accordingly.

You shrug off the losses (ignoring what's going on in your tummy), and get back on the horse and immediately try again.

You avoid negative people to the extent you can - pollution kills.

You eventually read the gloom-sprayers the riot act (Gloom is the ultimate WMD at a time like this.)

You give new meaning to the word "thoughtful."

You don't put limits on the budget for flowers - "bright and colorful" work marvels.

You redouble, retriple your efforts to "walk in your customer's shoes."

(Especially if the shoes smell.)

You mind your manners - and accept others' lack of manners in the face of their strains.

You are kind to all mankind.

You keep your shoes shined.

You leave the blame game at the office door.

You call out the congential politicians in no uncertain terms.

You become a paragon of personal accountability.

And then you pray.

*As many were quick to point out this list works just as well in good times as in bad!

Reprinted from "The Florida Surveyor" October 2009 Issue.

GRS-1 THE NEW WAY TO RTK





GRS-1



AT HAYES WE CALL IT THE EASY RECEIVER...

EASY TO LEARN
EASY TO USE
EASY TO PAY FOR

IT'S NOT JUST A FIELD CONTROLLER...
IT'S NOT JUST A GPS RECEIVER...

IT'S BOTH: THE MOST INNOVATIVE

ALL-IN-ONE SURVEYING SOLUTION!

Topcon does it again with 'World's-First' industry-leading technology; the new GRS-1 receiver is an affordable network RTK rover kit that can do almost any surveying task.

- Designed for network RTK
- Complete rover system weighs 5 lbs.
- Integrated TopSURV software with full COGO routines
- Includes Microsoft Windows Mobile 6.1
- Integrated cellular modem
- · Wifi & Bluetooth standard
- Built-in digital camera
- 72 Channel GPS + GLONASS dual frequency receiver
- 1 GB Memory
- 806 MHz Processor
- Access to WAAS correction
- Digital compass
- 1 cm accuracy

THIS ALL-IN-ONE COMPACT RECEIVER WITH ANTENNA & ROVER ROD STARTS AT

\$11,490!

HAYES 'WORRY-FREE' MONTHLY LEASE PAYMENTS AS LOW AS

\$356.19



www.HAYESINSTRUMENT.com

800-251-1280

ISPLS MEMBER DESCRIBES HIS WORK AS IBRLS LIAISON TO INDIANA ATTORNEY GENERAL'S OFFICE

By Michael L. LeBoy, L.S. As Told to David B. H. Best, L.S.

Note: This interview recounts the work of the liaison of the Indiana Board of Registration for Land Surveyors to the Office of the Indiana Attorney General in the investigation of consumer complaints against Indiana registered land surveyors.

- Q: As a member of the Indiana Board of Registration for Land Surveyors (IBRLS) explain your position as the IBRLS liaison to the Indiana Attorney General.
- A: I am the contact point for the Attorney General's (AG) office when the AG receives a consumer complaint from the public relating to the work done by an Indiana land surveyor.
- Q: Explain the process of dealing with complaints issued by citizens or by land surveyors against Indiana registered land surveyors or against persons surveying without the benefit of a license alleging infractions of the Indiana Administrative Code.
- A: Once a consumer complaint is filed with the AG's office, the AG will acknowledge said complaint to the party who has filed the complaint. The AG's office then communicates with the party (respondent) against whom the complaint was filed. An active review and investigation of the complaint then commences by the AG's office. The respondent can provide supporting data, information or material relating to the surveyor's work in question. When the foregoing procedure is complete the AG then prepares a summary of the complaint, a response to the complaint, and a proposed course of action. The AG's office then assigns three (3) persons to review the summary and the proposed response to which they add feedback. If the complaint requires a review of a licensed land surveyor to determine if any other violations have occurred as to the quality and content of the services rendered, the summary and supporting data is forwarded to the designated liaison for review and recommendations.

After the liaison provides his recommendation and if the recommendation includes a statement that the Indiana Administrative Code was violated, a settlement conference will be convened. The conference will be an informal discussion between the respondent, respondent's counsel, representatives from the AG's office, the Indiana Professional Licensing Agency (IPLA), and the liaison. The respondent's counsel can be an attorney(s), respondent coworkers, or whom ever respondent designates to attend the conference. At the conference the issues relating to the complaint in the opinion of the AG and the liaison are presented. The respondent is then permitted to respond and present any mitigating circumstances to support his position. Often the conference discussion relates to options available to resolve and/or close the complaint. Normally, in a settlement conference the only options available, in the opinion of the AG and the liaison, are statutory in nature, the penalties of

which may range from censure to revocation of license and may include fines, additional continuing education, or other penalties.

- Q: What occurs when the settlement conference is concluded?
- A: There are two paths to follow when the settlement conference ends. The first path is a settlement agreed to and formally prepared in writing after the settlement conference by the AG's office. The written settlement is presented to the respondent and to the liaison for both to sign. After the signatures are affixed the written settlement is presented to the IBRLS at one of its scheduled meetings for review and approval. The respondent is not required to attend this meeting. Members of the IBRLS may ask the liaison questions relating to particular items or decisions included and/or made in the settlement. The IBRLS may find inconsistencies in the settlement document that will not permit a vote by the IBRLS. However, the IBRLS has the ability and responsibility to accept or reject any settlement presented thereto. If the IBRLS rejects a settlement document, it shall provide feedback and guidance in what it will accept in a settlement.
- Q: If a settlement cannot be reached, what is the other path to be followed?
- A: If a new settlement cannot be reached during the initial settlement conference, then an Administrative Hearing (AH) presided over by an Administrative Law Judge shall be scheduled. In the AH the AG's office presents the evidence for the State against the respondent. The respondent in turn presents evidence to the contrary or may offer evidence of mitigating circumstances. The liaison may or may not be called by the State to testify. Members of the IBRLS may ask questions of the respondent or of witnesses for the respondent. The liaison or any member of the IBRLS with just reason may excuse themselves from the proceedings. However, a majority of the members of the IBRLS is required for the hearing to proceed. The liaison is required to excuse himself from the hearing at this point because of his involvement in the complaint process, whereas the IBRLS normally would not be required to do so. Once the hearing is closed the IBRLS debates the evidence and arrives at a judgment.
- Q: In the event the case will require an AH what questions may respondents ask you as the IBRLS liaison?
- A: During the settlement conference a respondent may ask me what will happen if the case requires an AH. Questions may include: Will I lose my license? Do I have to close my business? As the liaison I give honest, no-holds-barred answers. I tell the respondent, in my opinion, what the issues are and their severity. I tell them that if I was a voting member in the hearing, how I would vote,

and, if the complaint is found for the State, what I think is a proper settlement (punishment). I remind all parties that the IBRLS is made up of seven (7) members who are their own people and, those who vote, will vote their consciences.

- Q: An ISPLS chapter is considering establishing a committee to review complaints against surveyors. Several state surveying societies have such review committees. To the best of your knowledge how effective are these review committees?
- A: I believe this can be a great idea depending on what goal is to be accomplished. If this is being done to assist the public and the profession by speeding the process so that complaints are resolved and taxpayer dollars are not being spent, I believe it would be great. If this can be a part of the review process for respondents to use during the compliant/review process, again I believe this can be very valuable. However, I believe some of the following items need to be reviewed: 1) Will whoever brings the complaint against the respondent be comfortable that the respondent will be sufficiently "punished"?; 2) If so, what will the "punishment" be and how will the "punishment" be enforced?; 3) If the committee is not officially attached to the AG's office, how does this occur?; 4) How does the respondent protect himself during the process? If not performed with great discretion and openness, it can appear as a "vigilante" process. 5) How does the committee present itself as a regulatory body and not one that may have other motives? We have the recent occurrence in Central Indiana of concrete suppliers who were accused of price-fixing that ultimately involved Federal authorities. The appearance of a non-regulated body that may be looking at their fellow professionals to assist them in improving the quality of their work, may also be viewed as an entity trying to eliminate the immediate competition.
- Q: How time-consuming is your work as the liaison for the IBRLS to the AG office?
- A: The simplest complaints require only one to two hours to resolve. Generally these are ones in which we cannot find a valid complaint. The recommendation to the AG is to close the file. Complaints of this nature represent approximately ten percent of the complaints I receive as liaison.

If a large complaint is received relating to multiple surveys that do not meet the minimum requirements set by the State of Indiana, the review time may take up to 20 hours or more in the initial response phase. Communications with the AG's office and a settlement conference may require another eight hours. The actual hearing, if it goes through that path, can take another one to two hours per complaint. Other lesser complaints may take eight hours through the entire process. Unfortunately, most complaints lean toward the larger end of the spectrum. Therefore, the average is closer to 20 hours per complaint.

- Q: Is there a common thread to the complaints against surveyors in the cases you have dealt with?
- A: A few items stand out. Generally in the complaints filed surveyors have not discussed the theory of location or have not provided a detailed surveyor's report that completely presents the issues involved and the decisions made. In addition, the lack of information concerning controlling monuments used or located that accepted standards and rules of practice require are not shown. The typical response in a surveyor's report that reads "As shown on the plat" will generally be a forerunner to an inadequate and/or incomplete survey.
- Q: On the average how many complaints are registered each year?
- A: Generally ten to twelve complaints are registered each year.
- Q: In terms of a timeline how long does it take for a complaint brought before the AG's office to be resolved?
- A: Depending on the complexity six months to one year.
- Q: How can proceedings (minutes) of IBRLS meetings be accessed?
- A: Go to www.in.gov. Click on the Indiana Professional Licensing Agency. Under professions click on land surveyors. The minutes and agenda are posted in that location.
- Q: How long have you served as the IBRLS liaison to the AG's office?
- A: For approximately three years since I was appointed to my position.
- Q: What final thoughts can you offer relating to your position as IBRLS liaison?
- A: While I have no pleasure in detailing the professional inadequacies of a few individuals, I find it a great honor as well as a humbling experience to serve the public and my profession. I appreciate my fellow board members for the tough decisions that they must make as well as the privilege of providing service to my profession which has given me very much.
- Ed. Note: Michael L. DeBoy, L.S., is part owner and secretary/treasurer of DeBoy Land Development Services.

Completed Careers

Ronald "Ron" Stephen Hansell, Esq, PLS, PE

Former ISPLS member Ron Hansell passed away at his home in Missoula, Montana on February 20, 2010. He was a professional land surveyor, attorney and professional engineer who was an active member of ISPLS until his move to Montana in 2001.

Ron was born in Lafayette, Indiana to Regina Minnicus Hansell and Richard Hansell. He was the second of four brothers. He served in the Peace Corps and subsequently in the U.S. Marine Corps, where he served in Vietnam under Lt. (now U. S. Senator) James H. Webb.

He earned his BSCE and MSCE from Purdue University, and his juris doctorate from Indiana University, Indianapolis School of Law. He had a private law practice in Indianapolis. Ron and his wife, Rosemarie Neimeyer, raised their daughter, Sarah, in Indianapolis.

Ron had an unparalleled enthusiasm for life and, in particular, music and friends. His life as a professional was only a small part of who he was. Ron loved music, whether it was jazz, blues, classical, folk, bluegrass, alternative, rock or Middle Eastern. He played guitar, cornet, trumpet, hammered dulcimer and harmonica. Ron enjoyed hearing and supporting local live musicians. During his years in Indianapolis he was active in the Indianapolis Symphonic Choir.

Ron moved to Montana in December 2001 where he passed the Montana State Bar examination and opened a solo practice in Missoula and Ravalli counties. Once in Montana, he became involved with the Missoula Symphonic Chorale, Habitat for Humanity's Messiah, Musikanten in Helena and Missoula, the Florence-Carlton Community Church choir, and any other organization that needed a tenor on short notice. He played in the Missoula Concert Band, the Wednesday Bonner Park City Band concerts and Tuba Christmas.

Ron taught seminars across the country, was active in the American Bar Association, the Montana Bar Association and the Missoula and Ravalli county bar associations.

He is survived by his mother, Regina in Monticello; brothers Larry, Dennis (Marie) in Houston and Mark (E.A.) in Yelm, Washington; daughter Sarah Hansell Paluso (Philip); grandson Roman; and innumerable other friends and family members.

Robert A. Nowicki, PLS (85)

Robert A. Nowicki, age 85, of Dyer, formerly of South Holland, passed away Saturday, April 10, 2010.

Robert was Founder and President of the Robert A. Nowicki & Associates Professional Land Surveyors. He was a member of Lake Hills Baptist Church and very active in the First Babtist Church of South Holland, serving as a Deacon, Trustee and Sunday School teacher. He was village trustee of South Holland, past President of IPLSA and village engineer of Lynwood. Robert was an Army Verteran of WWII and member of South Holland American Legion and VFW post 9964.

Book Review ...continued from Page 7

men, and the many improvements this instrument has received from ingenious men at various times, has rendered it so correct, that it is now applied, with the greatest success, to the important purposes of ascertaining both the latitude and longitude at sea, or land." Comment: Not until John Harrison in 1773 was recognized by Parliament as having invented a watch that could keep accurate time aboard ship was it possible to determine longitude with any degree of accuracy. Longitude is based on time, not by quadrant observations!

Table I in Gibson's book is the table of Logarithms of Numbers. How long has it been since any of us have solved a problem by using logarithms? In a high school or college math class? On a personal note this writer used logarithms in solving problems on his Indiana's surveyor's exam for licensure. Can you define the term "logarithm?" We find this explanation in Section III of Part I titled Of Logarithms: "Logarithms are a series of numbers, so contrived, that by them the work of multiplication may be performed by addition; and the operation of division may be done by subtraction. Or—Logarithms are the indices, or series of numbers in arithmetical progression, corresponding to another series of numbers in geometrical progression . . . "

The final portion of the book is a series of thirteen plates folded into the book illustrating the concepts and problems in Part I. The textbook is thoroughly researched. With its publication date of 1814 it could have been acquired by Thomas Jefferson for his library. It could have been available for Abraham Lincoln during the sixweek period he studied by candlelight to prepare for his work as a deputy surveyor in Sangamon County, Illinois from 1833-1835. In our high tech era with our use of computers, GPS, and EDMs we must place ourselves in proper perspective and recognize the skills of nineteenth century surveyors. Consider the expedition led by Meriwether Lewis and William Clark. From the maps prepared from the field notes of Lewis and Clark the estimated distance of 8000 miles we now determine to be within forty miles of the actual distance traversed.

Robert Gibson's "The Theory and Practice of Surveying," published in New York City, deserves a prominent place in the library of surveying textbooks for its thorough, precise, and lucid explanations and depictions of mathematical and surveying concepts. In its day it more than likely was cited as the "bible" of surveying. We are left with the query: Who was Daniel Beadle? A surveyor? More than likely. Perhaps a genealogical search may turn up the answer. I now return the book to my friend wishing that it was a volume in my library, not his.

Answers to the "Promiscuous Questions": 1) 2.626 ft.; 2) Either 23.099 or 58.876 perches; 3) 27 3/4 yards; 4) As 512 to 605; and 5) 200 perches by 160.



Surveying Instruments • Supplies • Rentals • Repairs



GRX1 GPS Receiver

- Your choice of Data Collector: Carlson Surveyor Plus or Sokkia SHC2500
- Dual Radio System inside
- A Digital UHF and Incell Modem
- · Affordable with monthly payments as low as \$400 per month

Let Turning Point customize to your every need! For details please contact Tim Kerans.

Turning Point provides consultative sales, rental and training of measuring system products and software for Reality Capturing. Our staff offers extensive experience in the sales of Surveying, Construction, Forensic and Engineering HDS, TPS and GPS technologies.

Turning Point is an Authorized Distributor for Leica Geosystems HDS, Sokkia Corporation and Carlson Software, serving the Great Lakes Region.



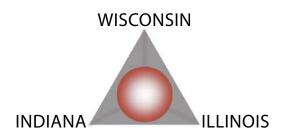




Call for hands-on seminar dates today!



Let the Leica C10 Laser Scanner open **NEW** opportunities for you today!



Tim Kerans tkerans@turningpointsystemsgroup.com Cell: 414-712-3261

6480 N. Industrial Road, Milwaukee, WI 53223 Office: 414-353-8774 • Fax: 414-353-4887 www.turningpointsystemsgroup.com

ISPLS Member and Wife Adopt Twin South Korean Girls

By David A. York, L.S. As told to David B. H. Best, L.S.

Ed. Note: This interview is included in this issue of the Hoosier Surveyor to illustrate unusual or unique aspects in the lives of ISPLS members. We welcome suggestions for other articles about out-of-the-ordinary happenings occurring with others in our Society.

Q: What led the two of you to seek adoption? A: First, let me give you a bit of important background information. Kristin and I first met through E-Harmony, an organization that matches people with like backgrounds and interests who are interested in matrimony. That was in 2003. We were married on June 9, 2004 on the island of Kauai in the State of Hawaii. Kristin was adopted from South Korea in 1971 by an American couple. She was raised in Iowa and Nebraska. She also has a sister who was adopted domestically from Illinois. We knew we wanted to have children. We decided to explore the adoption route, knowing that there were many children greatly in need of loving parents and good, stable homes. As we explored the South Korean program we knew it was right for us.

Q: Did you consider children of other races or was your only choice South Korean children?

A: Yes, we did consider children of other races. We considered both domestic and international adoption. However, South Korea's program is long-standing and their relationship with the United States is a good and respectable one. Because Kristin was adopted from South Korea that made it even more special and significant.

Q: Explain the fees that are required for international adoptions.

A: When you adopt internationally the fees you pay support not only the foster families that raise the children, but also support the programs, shelters, and counseling programs for the birth mothers. The fees also support the orphanages where the children are first placed until foster families are found. We knew that in South Korea our fees would support a good cause.

Q: Were you seeking only one child?

A: When we started the adoption process we considered adopting more than one child. Usually a childless couple is awarded only one child for adoption. In South Korea that child is usually a boy. Initially we told our social worker and also indicated on the adoption application that we were open to adopting twins. We were told that it was rare to be awarded twins. Incidentally, we could not choose the gender. GOD had other plans for us! Both we and the people in our Indianapolis adoption agency, Bethany Christian Services, were overwhelmed with surprise when we were chosen to adopt twins. It's most uncommon for this to occur. The last time the adoption agency received twins from South Korea was ten years ago.

Q: Did the twin baby girls come as a surprise to you?

A: Indeed, they did. We were expecting only a single child and we assumed the child would be a boy. We were the first couple in

the past ten years from the Indianapolis area to receive twins from South Korea through the Bethany Christian Services. It was a total GOD thing!

Q: Please explain the adoption process for the two of you.

A: For us the process began in July, 2007. We filed an initial application with the Bethany Christian Services. We were required to attend several informational meetings. Each of us wrote in-depth personal profiles. Our assigned social worker conducted a complete home study that involved meetings with us during which we told about how we were raised, how we would raise children, and the expectations we would have of our children. We were both required to take medical examinations to confirm that we were both healthy, physically and mentally. In addition, we underwent criminal background checks by the local police agency and the FBI. The entire adoption process ended eighteen months later in November 2008. Q: When were you notified that you were to receive twin girls for

Q: when were you notified that you were to receive twin girls for adoption?

A: We were notified that we had been matched with the girls in July, 2008.

Q: Tell about the lives of the twins shortly after they were born. A: At the age of two months they left their birth mother and were placed with separate foster families. In South Korea placing a set of twins with a foster family was considered a burden. Most important was the assurance that each girl would be nurtured and loved and receive the attention each needed. The two foster mothers lived in the same neighborhood. The foster mothers who knew each other arranged for the two girls to play together often.

Q: When did you learn that the twins were ready to be placed in your custody?

A: We received word about two weeks before Thanksgiving, 2008. We had the option of having the twins flown to Indianapolis or flying to South Korea to pick them up ourselves. The decision was an easy one for us since Kristin had not been back to South Korea since her adoption. This was the best decision we ever made. We now plan to return when the girls are ten years old so that they can experience South Korea for themselves.

Q: Tell about your trip to Korea and your first meeting with the twins and their foster mothers.

A: We flew from Indianapolis to Chicago. There we met Kristin's sister Jill who joined us on the flight to South Korea. Jill would give us help and support with the girls. The 14-hour flight landed in Seoul, South Korea. As a surveyor I enjoyed the flight over the Arctic and China observing the flight path via the in-seat GPS system. We arrived on a Friday night and spent the weekend acclimating ourselves to Korean cuisine and customs. The Korean people are very friendly and outgoing. On Monday we met with the adoption agency coordinator, with the two foster mothers, and best

of all with our soon-to-be daughters Aubrey and Ella. Their Korean names are Nai-hui and Da-hui, respectively, and are pronounced "Na-hee" and "Da-hee." Incidentally, our girl's middle names are their Korean first names. The girls were beautiful! Their foster mothers who were very caring and outgoing spoke no English. The adoption coordinator was our translator. Based on Korean custom we gave the foster mothers and their birth children gifts. They showed surprise and graciously accepted the gifts. After about an hour we left. We were to take full custody of the twins on Thursday of that week. In the interim we toured Seoul, shopped in the markets, and ate Korean cuisine. The meeting with the foster mothers and the twins was in the Holt Adoption Agency, a partner with the Bethany Christian Services.

Q: Describe your reactions upon seeing the twins for the first time on that Monday.

A: We, of course, had photos of them before flying to Seoul. However, seeing them in person for the first time was an indescribable emotional moment for both of us. It was a beautiful experience. The dear girls were so cute and huggable. They were very active and lively. We could immediately note their different personalities. It was evident that they loved their foster families very much.

Q: After taking full custody of the girls on Thursday of that week you flew home to Indianapolis that same day. Tell about the flight home.

A: Twenty minutes after lifting off from the Seoul airport we were initiated into "parenthood." Diarrhea struck Ella while on mom's lap. Later the same event occurred with Ella on my lap. She may have had a touch of the flu because she vomited later and cried during most of the 12-hour flight to Chicago. Aubrey slept most of the way, but experienced a touch of diarrhea as we hit the ground at Chicago's O'Hare Airport. We thanked the crew of Korean Air Lines for the care and service they showed us, walking the aisles and holding the girls often with warm bottles of milk in hand. The girls slept during the commuter flight to Indianapolis. Friends and family met us at the airport. Though beat and tired we were glad to be home at last.

Q: Tell about the twins' adjustment to their new home.

A: We thought that their first adjustment would be to car seats that are not required in South Korea. They adapted to the seats easily. The carpeting in the house was strange to them because Korean houses have wood floors with no carpeting. The carpet felt funny to them. They adjusted quickly to their new home and new parents. They have had their moments when one had a toy the other wanted. For the most part they have acclimated well. For the first three months we slept on the floor with them because they had not slept in cribs before. We were the challenged ones – accustomed to beds, not floors. The girls now sleep in the same room. Each wants to be with her "sissy" most of the time!

Q: How do the girls differ? How are they alike?

A: Most of the time Aubrey is daddy's girl and Ella is mommy's girl. They are active little girls. They love to play with other children and with all sorts of toys. Aubrey's stuffed dog and Ella's stuffed monkey are their favorites. Aubrey, older than Ella by one minute, is the Alpha female of the two. She is more dominant and is the first to explore or do something in a new environment. She is a dare devil. Ella is more loving and nurturing. She is more willing to share or give a hug. She hangs around mom and dad longer in a new setting. However, Ella may tattle on her sister.

Q: How have your lives changed?

A: Our lives, now revolving around our children, require more planning and consideration. Others might say that the girls are the lucky ones. I say that we are the lucky ones because GOD has blessed us with two of the most beautiful and bright little girls we have ever known.

Q: Do you have contact with other couples who have adopted foreign-born children?

A: Yes, we do. Our social worker at the Bethany Christian Services has two adopted children also from South Korea. We also have church friends who adopted two girls from China. We try to meet often with couples who have adopted South Korean children.

Q: What advice do you have for couples who are considering the adoption of foreign-born children?

A: All children whether biological or adopted are precious in GOD's eyes. Be patient and trust the process. The application process can be frustrating. The lengthy wait time before a couple receives its forever child can be a killer! One must remember that the child or children you are matched up with are meant to be yours. When you meet them you will agree that the wait was worth it. In addition, we agree that if all parents had to go through the training we endured for our children, the world would be a much better place to live, especially for those so precious in GOD's eyes.



Dave is holding Ella (L) and Kristin is holding Aubrey.

A Movie Review By David B. H. Best, L.S.

Attention all land surveyors! For 96 minutes of whimsical fun I recommend the movie titled "The Englishman who went up a hill and came down a mountain." The setting is 1917 in the South Wales town of Ffynnon Garw. Comedy favorite Hugh Grant is the lead as Reginald Anson, retired from the British army after suffering from shell shock during the first wave at Verdun. He is teamed with Ian McNeice as George Garrad, a 25-year veteran of the British Ordinance Survey. The two are assigned as surveyor/cartographers to measure the heights of prominent hills in South and North Wales for military purposes. Their first assignment is the height of the town's namesake hill. Unbeknownst to the two is the simple fact that for centuries the citizens of the town have referred to Ffynnon Garw as a "mountain." To be identified as a mountain, according to Anson, its height must be at least 1000 feet. Below a thousand feet it is a "hill."

Anson and Garrad arrive in Ffynnon Garw on a Sunday morning. They pull up outside the town's pub and lodgings establishment. Once in the pub they introduce themselves to Morgan the Goat, the pub's innkeeper, played by Colm Meaney. Sgt. Thomas played by Leuan Rhys appears. Anson then announces that they are cartographers who are "here to measure a mountain." Word is then spread by Sgt. Thomas to the townspeople of the Anson/Garrad mission. The following day the two proceed to run their preliminary measurements and sightings. Returning to the pub they find the men of the town crowded into the pub placing their estimated heights of the "mountain" on a small blackboard, contending to win the lottery. The estimates run from 1278 feet to 3100 feet. As he is about to make his way up the stairs to his room, Garrad hesitates and then reports, "Look, I may be wrong, but after 25 years of doing this thing, I doubt it But I would say '930 feet!' Gentlemen." All in the room are stunned and say in unison "930 feet!"

Morgan proceeds to Anson's room to confront him. Anson says, "The thing is we haven't really measured your "mountain" yet. We've really made a preliminary reconnoiter. A very approximate figure." Anson then continues, "We'll make measurements using this (he uncovers the transit on its tripod) . . . To use this thing which we call the transit we have to be able to have a clean view of the summits of Newton, Beacon, and Churchill."

Morgan says, "But they're not mountains!"

Anson then explains their surveying process: "Ay, they're not mountains. But Majesty's Ordinance of 1887 established their height and the distance between them and the distance between them and Ffynnon Garw. Given those measurements we should be able to obtain the true height of this (Anson points out the window to Ffynnon Garw in the distance) . . . elevation."

Morgan then says, "So you're saying it probably isn't 930 feet?"

Anson retorts, "Well, I debate whether the measurement was accurate." And as Morgan leaves the room, Anson adds almost under

his breath, "Mr. Morgan, your mountain, whatever, may well be more than 930 feet, but it may also be less."

The following day Anson and Garrad continue the survey with townspeople gathered atop the "mountain" as observers. With the survey complete Anson and Garrad return to the pub where they are confronted by those assembled inside awaiting the great pronouncement. Anson and Garrad informed them that they had hours of calculations yet to perform. Later that day Anson informs those gathered in the pub, "We have now completed the survey and I must inform you it is 980 feet."

"Hill!" It's a Hill!" Led by Morgan and the town's minister the Rev. Robert Jones the people in the town decide to raise the mountain. They will carry dirt by whatever means to raise the hill by 20 feet to make it a mountain! We witness an endless train of men, women, and children carting earth from their gardens up the mountain in buckets, horse—drawn carts, in every imaginable container possible. The town's flag pole with foot marks at 20', 19', 18' etc. was reset at the top of the mountain. One of the men in passing remarked to Rev. Jones that it was going to rain on Thursday. And that it did. It rained on Thursday, Friday, and Saturday.

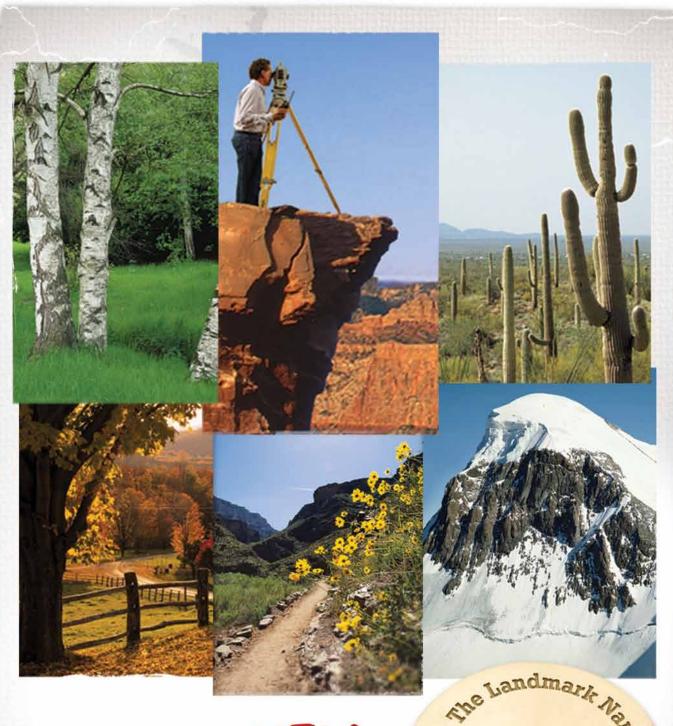
With the prospects of Anson and Garrad scheduled to leave for another cartographic project in North Wales before the hill became a mountain, several people intervened to delay their departure. An auto mechanic jimmied an engine part. The Rev. Jones punctured a tire with his pocket knife. And Betty from Cardiff, played by Tara Fitzgerald, a servant posing as her mistress, was enlisted to make a play for Anson, a successful play as it turned out. Anson and Garrad, delayed in their departure, attempted to leave by train. The ticket master joined in the ploy.

Sunday dawned with bright sunshine. Alas, the mountain was now once again a hill. Rain-caused subsidence left the mountain shy by four feet. Morgan, knowing that Anson and Garrad would leave the following morning, convinced the Rev. Jones to instruct the congregants to assemble on the hill after the church service. The earth-moving project began once again, attaining mountain height by day's end. The following morning Anson legally proclaimed the hill a mountain and announced that he and Betty from Cardiff were engaged to be married.

Years later a survey determined the mountain to once again be a hill of 997 feet. The townspeople once again engaged in a third monumental effort to raise the hill to mountain status.

Ed. Note: You are encouraged to go onto Google to read reviews of this 1995 movie. You will find that the real-life local legend that this account did occur is fiction. The summit of Garth Mountain (the inspiration for the movie) is a Bronze Age burial mound. From a land surveyor's perspective we detect factual errors. To quote from

...continued Page 19



EXPLORE NEW BOUNDARIES!

Monuments, Caps and Accessories 800-445-5320 · surv-kap.com



Contract Clause - Supplemental Fee Clause

by Knud E. Hermansen†

All surveyors in private practice have been in the situation where the client has sought services beyond the scope of the contract. For example, a survey crew will go to a construction site and be delayed several hours after they should have completed the contractual services because the client requested extra services (("While you're here..."). All too often when the surveyor attempts to bill for the extra services the client objects that the extra charge was never agreed upon.

It is neither good for practice nor good for the promotion of the business to refuse a client's request to perform extra services or delay performing additional services until a new or modified contract can be executed. Therefore, prudence requires the surveyor to include in the initial contract what will more than likely be an eventuality after its execution.

To prepare for client requests beyond the scope of contractual services, the surveyor should include a supplemental fee clause in the contract. The supplemental fee clause is included in a contract to provide a basis for the fee charged for additional work performed outside the scope of the contract. The supplemental fee clause also provides notice to the client that they can and should expect to be charged for additional work outside the scope of the contract that they have requested the surveyor to perform.

Supplemental Fee: For any and all additional work outside of the scope of the contract that is requested by the Client or the Client's agent or representative, the Surveyor shall be paid \$__ per hour plus costs.

The supplemental fee clause is often predicated on an hourly rate or cost plus basis. These two formulations of a supplement fee are the most flexible and easy to apply to unknown or unexpected situations.

The supplemental fee should be reasonable; yet, it should be set higher than the fee that would be negotiated directly for the same services. A higher (but still reasonable) supplemental fee provides some leeway for the surveyor to compromise and still profit should the surveyor wish to compromise their fee for promotional purposes. A supplemental fee clause also helps coerce the client to plan ahead and negotiate additional services with the surveyor in order to save money. Perhaps most importantly, a higher supplemental fee compensates the surveyor for the aggravation brought about by the disruption of surveying services scheduled for other clients.

Often a notice provision is included with the supplemental fee clause. The client may have some concern about unanticipated additional work and associated supplemental fees, especially when the surveyor may be dealing with the client's agent or representative rather than directly with the client.

Supplemental Fee: For any and all additional work outside the scope of the contract that is requested by the Client or the Client's agent, or representative, the Surveyor shall be paid \$__ per hour plus costs. Provided; however, the Surveyor shall attempt to contact the client or leave a voice mail message using the client's cell phone (#__) if the additional services are being requested by the Client's agent or representative.

A clear declarative act should be required in the contract where the client is concerned that they may be charged a supplemental fee when they could believe the work is covered within the scope of the contract.

Supplemental Fee: For any and all additional work outside the scope of the contract that is requested by the Client or the Client's agent, or representative, the Surveyor shall be paid \$__ per hour plus costs. Provided; however, before commencing the additional services, written (handwritten, typed, or printed) confirmation of the services shall be prepared and initialed by the Client or Client's agent, or representative before commencing the additional work. Otherwise, all services performed on behalf of the client will be presumed to fall within the scope of the contract.

The scope of work section of the contract is related to the supplemental fee clause. A clearly defined scope of work does not allow confusion as to what is or is not additional work that is subject to a supplemental fee.

Despite including the supplemental fee clause, some clients will not be pleased to pay additional money. (Some clients are not pleased to pay the contracted amount.) Accordingly, it is always wise to clearly document the additional services and put the client on notice that the services about to be performed are additional services and subject to the supplemental fee.

† Knud is a professional land surveyor, professional engineer, and attorney at law licensed in several states. He teaches in the surveying program at the University of Maine and operates a consulting firm specializing in professional liability, boundary disputes, land development, and title issues.

Movie Review ...continued from Page 17

one Google source we find the following: "Elevations of climbable mountains weren't then and aren't now determined by triangulation to known landmarks; it would have been done by "spirit leveling," which is, more or less, a local measuring of one's vertical change along a path from an already established elevation which, in turn, is ultimately tied to sea level. Elevations determined by sightings to remote landmarks, as in this film, would be very imprecise because of atmospheric refraction. Indeed, if such a technique could have worked, the hill elevation could already have been determined by measurements from the supposed reference landmarks. A resurvey of a hill that might have turned it into a mountain would have been a differential measurement. The surveyor would only have had to measure the elevation change between a nearby point that he had already passed through on the way to the summit, and the modified summit."



The shortest distance between two points is not a trip back to the tripod.

TRIMBLE S8 TOTAL STATION



"Back and forth." Easily two of the most hated words for any surveyor. Except perhaps, "again".

Trimble[®] VISION[™] technology brings new levels of productivity to the Trimble S8 Total Station by dramtically reducing trips back to the tripod. Now you can see everything the instrument sees from your controller

Why walk back? With the longer range EDM you can stay put, keep your feet dry, and use your controller to aim, acquire, and capture measurements to reflectorless surfaces — at more than twice the distance you're used to.

The Trimble S8 also gives you live video streaming with surveyed data on the screen to confirm your task list. With photo documentation, you have visual verification for all data before leaving the site. Eliminating an even costlier form of back and forth.

Trimble VISION is the latest in a long line of innovations designed to make surveying more productive, in the field, in the office, and wherever the next opportunity takes you.



© 2010, Trimble Navigation Limited. All rights reserved. Trimble and the Globe & Triangle logo is a trademark of Trimble Navigation Limited, registered in the United States and in other countries Trimble Access is a trademark of Trimble Navigation Limited. All other trademarks are the property of their respective owners. SUR-183

FOR MORE INFORMATION CALL YOUR TRIMBLE DEALER

Seiler Instruments Indianapolis, IN 317-849-7090



Get Out the Fishing Poles By Ronald E. Koons, RoSaKo Safety

Tarm weather is beginning to take over in Indiana. As we get rid of the Carharts and long underwear it's time to get ready for the summer heat. There are a number of items we need to check before going out into the field. Let's go over some of those items to help our crews get prepared.

High visibility apparel is probably the first thing that comes to mind. During the winter our crews had either reflective jackets or larger vests to go over our coats. We now need to drop down in size to a smaller vest so there isn't a lot of extra material. A larger vest on a smaller person is just not what should be done. Part of the reflective material could be lost as the vest folds over. Most workers prefer to go with a lighter weight material for the summer months. The "Captain Kangaroo" (If you know what that means you've been around awhile.) surveyor's vests are available in just about all weights of materials and in both Class II and Class III. As I have said many times I always recommend going to a Class III vest. The MUTCD says that both classes are acceptable for road-

way use. However, the MUTCD also says that each business must determine if extra levels of protection need to be undertaken to protect workers in any given situation. For that reason it is better to start with a Class III vest to eliminate any potential conflicts and to give maximum protection. Remember that all of the Class III vests now have a short sleeve

The black-legged tick and Lyme's disease is still a problem and can't be forgotten.

For the past several years I have received a number of calls asking about high visibility T-shirts. These are typically provided at no charge to employees and may even have the company's name imprinted. I have seen the shirts in both fluorescent orange and yellow. With no reflective striping this shirt won't meet a Class II or III rating. I recently attended a convention where some of the shirts on display had reflective striping and were rated as Class II High Visibility Apparel. While these may work for some situations that a crew would encounter, I still believe that using Class III Apparel as the starting point is a far better idea. Whatever you decide to do just make sure that you are ready for summer and that ample vests and other high visibility apparel in the appropriate weight are available.

I was just out on a project with an exterior remodeling crew recently. Already, they are having problems with wasps. That reminds me that it is time for everyone to be prepared for encounters with insects and other creepy, crawly, and flying creatures. You should have a good 10 hour Deet containing insect repellant available for your workers. When biting insects start to roam members of the survey party need to apply Deet first thing before they go out into the field. The black-legged tick and Lyme's disease is still a problem and can't be forgotten. We all know that mosquito bites can lead to some serious health issues with the press that West Nile has been getting recently. Depending on the type of work your crews may be doing, they may also need a wasp/hornet type of spray.

Hydration is a constant problem during the hot, humid days of summer. Plenty of fresh water needs to be provided or one of the fluid replenishment sports drinks. Better yet, have a combination of sports drinks and water available to offer variety for your workers. Sports drinks can be provided in bulk containers as well as individual bottles. The cost of bulk type drinks is substantially cheaper that individual bottles. Just remember that OSHA requires disposable cups so workers won't have to drink out of the same cup as another worker (gross!). Depending on the climate, an 8 or 10 pound bag of ice in a 5-gallon container along with water or a sports drink should stay cool most of the day. In real hot weather or when several workers are using the container you may have to add more ice at lunch time.

> The shorts or no shorts issue also crops up every year. Several years ago IOSHA cited a local paving contractor for employees wearing shorts when placing hot asphalt. Some of the workers then got very upset when the company issued a "no shorts" policy. The workers wrote to their congressman and got a return back from OSHA that said they could wear

shorts as long as there was no history of burns to the legs. That to me was one of the dumbest things that I had ever heard. The problem here is not a workplace issue, but an issue of just what type of clothing the employees are wearing. For years workers wore natural fabrics in the form of work pants. This type of pants had some breathability and helped keep the workers cool. Blue jeans on the other hand are hot. However, they do offer even more protection against abrasions, nicks, etc. What may be needed is a happy medium. If workers wear a different type of pants they may not encounter the heat issue as much as they would with jeans. If your crew is working all day in an area where there is no chance of thorns, barbed wire fencing or other items that could hurt their legs then maybe shorts could be worn if everything else indicates hazards aren't present. Why anyone would want to wear shorts into a woody area with the potential for snakes, insects, scratches etc is beyond me.

Make sure you cover these items with your field crews. Since some of these items may require some judgment on your part it is important to remember that safety and comfort go hand in hand. Always remember that when going out to the lake for a days work you need to get out the fishing poles. A little fun at lunchtime never hurt anyone!

CALENDAR

May 22, 2010

ISPLS Board of Directors Meeting, Headquarters, Indianapolis

May 13, 2010

ISPLS NORTHWEST CHAPTER Meeting, Kelsey's Steak House, Valparaiso, Indiana. Contact: Rich Hudson - Phone:

(219) 462-1158 Cell: (219) 241-4448

May 13, 2010

CIC meeting at 6:00 pm at Sitech-East side of Indy, Jim Wyant with Sitech will be giving a presentation on Machine Control. For more information contact Jason Coyle

jcoyle@Stoeppelwerth.com

May 25, 2010

Tecumseh Chapter meeting - Contact Zach Beasley zbeasley@tippecanoe.in.gov

June 11, 2010

The Indiana Society of Professional Land Surveyors Presents A One Day Seminar On "Rule 12 & Theory of Location in Sequential Conveyances" 6 CEH Mandatory (Limit 75 People)

Holiday Inn Conference Center (812) 372-1541

2480 Jonathan Moore Pike, Columbus, Indiana

Presented by: Gary Kent, PLS. For more information contact

ISPLS at 317-687-8859 or ISPLS@aol.com.

Registration is also on line at ISPLS.org.

June 18, 2010

ISPLS Northwest Chapter fun night, Friday, June 18th,

Arrival Time: 6:00 p.m. Game Time: 7:00 p.m.

South Shore Railcats ISPLS Northwest Chapter Fun Night Railcats vs. Rockford RiverHawks. Contact Rich Hudson or

Glen Boren, Rich Hudson Phone: 219.462.1158

Cell: 219.241.4448 Email: rhudson@bonargroup.com or

Glen Boren Phone: 219.736.0555 Email: gboren

July 16, 2010

Northwest Chapter ISPLS 7th Annual Golf Outing,

Where: The Course at Aberdeen, Valparaiso.

Registration due: July 10, 2010. Contact Don Williams 219-314-1465.

WELCOME NEW ISPLS MEMBERS

William Clifford - Affiliate Peter Fovargue - Student Todd Freund - Professional Anthony Garcia - Affiliate Mitchell Garrett - Affiliate Jerry Gobin - Professional

Tim Greene - Associate

Jarrod Hahn - Associate

Jonthan Hause - Professional

John Murphy - Professional

Ralph Palmer - Professional David Reynolds - Professional

Andrienne Taylor - Associate

Rodney Young - Professional

SUSTAINING MEMBERS

BERNTSEN INTERNATIONAL, INC.

P. O. Box 8670 Madison, WI 53708 (800) 356-7388

HARRISON MARKER AND INSTRUMENT COMPANY

P.O. Box 66 Anoka, Minnesota 55303 (763) 421-1445

HAYES INSTRUMENT CO.

502 S. Cannon Blvd. Shelbyville, Tennessee 37160 (800) 251-1280

POSITIONING SOLUTIONS CO.

7522 E. 39th Street Indianapolis, Indiana 46226 (317) 542-7673

SEILER INSTRUMENT & MANUFACTURING COMPANY

9454 Harrison Park Lane Indianapolis, Indiana 46216 (317) 545-7090

SURV-KAP

P. O. Box 27367 Tucson, AZ 85726 (800) 445-5320

TRIMBLE NAVIGATION LTD-SURVEY DIV

10355 Westmoor Drive, Suite 100 Westminister, CO 80021 (720) 887-6100

TURNING POINT SYSTEMS GROUP

6480 N. Industrial Road Milwaukee, WI 53223 (414) 712-3261

FIRM MEMBERS



Bryan J. Moll, LS

Department Manager

AMERICAN STRUCTUREPOINT

TEL 317.547.5580 FAX 317.543.0270 CELL 317.408.2215

7260 Shadeland Station Indianapolis, IN 46256-3957 www.structurepoint.com HOME 317.826.1384 bmoll@structurepoint.com

Joseph C. Zwierzynski, P.E. President

2211 E. Jefferson Blvd. South Bend, IN 46615 574.236.4400 574.236.4471 (fax) 574.514.8425 (cell) jzwierzynski@dlz.com www.dlz.com



MATTHEW E. WANNEMUEHLER, L.S.

ADMINISTRATOR OF ENGINEERING AND SURVEYING

EVANSVILLE 800.423.7411 **INDIANAPOLIS** 888.830.6977

WEST LAFAYETTE 800.790.0286

BERNARDIN · LOCHMUELLER & ASSOCIATES, INC.

6200 Vogel Road • Evansville, Indiana 47715-4006 • www.blainc.com ENGINEERING . SURVEYING . PLANNING . ENVIRONMENTAL SERVICES



Rich Hudson, L.S. 219.462.1158 Valparaiso, IN rhudson@bonargroup.com

Charlie Bevington, L.S. 260.969.8845 Fort Wayne, IN cbevington@bonargroup.com

Indianapolis Plymouth Scottsburg Valparaiso Defiance Fort Wayne



CALVIN B. CASH III, PLS

METZGER BUILDING SUITE 106 JASPER, IN 47546

EVANSVILLE . JASPER

PH: 812.634.5015 FAX: 812.634.5017 CELL: 812.631.8491 ALT NO: 812.836.4779 CCASH@CASHWAGGNER.COM

WWW.CASHWAGGNER.COM



Architects + Engineers

Eric C. White, RLS Survey Project Manager ewhite@cripe.biz

3939 Priority Way South Drive, Suite 400 Indianapolis, Indiana 46240 Telephone + Facsimile 317 706 6333 www.cripe.biz



DONOVAN ENGINEERING

2020 INWOOD DRIVE EXECUTIVE PARK FORT WAYNE, IN 46815

GREG ROBERTS P.L.S. JOHN R. DONOVAN P.E. & P.L.S. FRANCIS X. MUELLER P.L.S.

OFFICE 424-7418



Mike Falk, PE, LS

5979 McCasland Ave. • Portage, Indiana 46368 Phone: 219-762-7024 • Toll Free: 888-965-1143

Fax: 219-764-4261 Net: www.falk-pli.com



Ross Holloway, PE, PLS

President

none: 317.831.7918 800.831.7918 317.831.8255

P.O. Box 234 Mooresville, IN 46158

wayengineering.com

Marbach, Brady & Weaver, Inc.

3220 Southview Dr.

Elkhart, IN 46514

574,266 1010 Fax 574 262 3040

chris@marbachpis.com

Christian F. Marbach, PLS

Engineering & Surveying Since 1918

FIRM MEMBERS

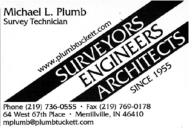


Consulting Engineers Land Surveyors Architects Construction Managers

Danny K. Leek, P.L.S.

4800 Rosebud Lane Newburgh, Indiana 47630 Off: 812-464-9585 Fax 812-464-2514

http://www.morleyandassociates.com





Bradley A. Rayl, P.E., P.L.S.

1940 East 53rd Street Anderson, IN 46013

Business: (765) 643-5614 • Fax: (765) 643-1874 Email: rse@netdirect.net

R.W. GROSS & ASSOCIATES, Inc.

Land Surveyors



Robert Wm. Gross, R.L.S. President

420 Columbia Street, Suite 100 Lafayette, Indiana 47901-1300 Phone: (765) 742-0101 Fax: (765) 742-7223

engineering - gis - surveying



The Schneider Corporation

Historic Fort Harrison 8901 Otis Avenue Indianapolis, IN 46216

317.826.7132 Direct 866.973.7100 Toll-Free 317.826.7200 Fax

Rick Miller, P.LS. Director of Surveying

rmiller@schneidercorp.com E-mail

Indianapolis ■ Lafayette ■ Carmel ■ Avon ■ Merrillville

Site Line, Inc. Land Surveying and Development Service

John H. Silnes, L.S.

461 West Main, P.O. Box 602 • Greenwood, Indiana 46142 Office (317) 882-9301 • Fax (317) 882-2201



STOEPPELWERTH & ASSOCIATES, INC.

CONSULTING ENGINEERS • LAND SURVEYORS www.Stoeppelwerth.com

David J. Stoeppelwerth, P.E., P.L.S. President & C.E.O.

Dial Direct: (317) 577-3402 Mobile: (317) 517-6468 Direct Fax: (317) 570-4742

7965 East 106th Street Fishers, IN 46038 Phone: (317) 849-5935 Fax: (317) 849-5942



105 N. 10th Street Lafayette, IN 47901 www.tbirddesign.com Fax: 765-742-1905 Mobile: 765-479-8320



1625 N. Post Road Indianapolis, IN 46219-1995

Kent D. Downey, P.E., L.S.

Bus. (317) 895-2585 Fax (317) 895-2596 E-mail: kentd@ucea.com www.ucea.com



Office 8415 East 56th Street Indianapolis, Indiana 46216 Phone: 317-544-4996 Fax: 317-544-4997 Email: dwoo@usiconsultants.com postoffice@usiconsultants.com

> Daniel R. Woo, PLS President

FIRM MEMBERS

VESTER & ASSOCIATES, INC. —

PATRICK N. CUNNINGHAM, R.L.S.

TELEPHONE (765) 742-6479 FAX (765) 742-5271

309 COLUMBIA ST. SUITE 101 LAFAYETTE, INDIANA 47901



WEIHE ENGINEERS INC.

10505 N. College Indianapolis, IN 46280 (317) 846-6611

ALLAN H. WEIHE, P.E., L.S. PRESIDENT

CIVIL ENGINEERS LAND SURVEYORS LAND PLANNERS



"Excellence in Engineering Since 1975"

Indianapolis Evansville West Lafayett
6.195 South Eart Street, Suite A 6401 Vogel Road, Suite 7:10 1444 Segamore Parkus
Phone 131.788.4551 Phone 1812.475.1691 4487 Fara 131.788.4553 Fara 131.784.5351 Fara 131.785.6353



4703 Chester Drive © Elkhart, IN 46516 £574.293.7762 £574.294.3717 c 574.596.9068

email: kenjones@wightmanpetrie.com

Effective Solutions ▶▶▶:



7140 Waldemar Drive Indianapolis, Indiana 46268-4192 ▶▶▶ 317.299.7500

FAX: 317.291.5805 ,