

# HOOSIER SURVEYOR



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With the assistance of ISPLS Associate member Jason Coyle, Scouts (from left) Jeffrey Conner and Caleb Bowen learn how to level a Topcon GPT 3000LW total station in a May 17 Surveying Merit Badge workshop at Belzer Scout Camp. They used the total station as part of a requirement to record angles turned and distances to corners.

(See page 7 for Scout Merit Badge article)

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# HOOSIER SURVEYOR

VOLUME 34 NUMBER 4 SPRING 2008

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## EDITORS NOTE

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# PRESIDENT'S THOUGHTS

by Mark Isaacs, PLS, Brownstown, Indiana



Greetings to everyone:

Summer is usually a busy time for everyone, and this summer has not been any different for me and my family. Although it has been busy, it has been very enjoyable with all of us participating in county fairs, volleyball tournaments, and family activities. My children have been involved in 4-H projects and activities, church activities, sports, and working around the farm. It is hard to believe

that school is going to start in a couple of weeks and everyone will get back into some kind of organized chaotic routine. The summer has gone by very fast.

On June 7<sup>th</sup>, 2008 South Central Indiana experienced one of the biggest floods ever recorded in history for this area. The Columbus area had buildings and homes that were as much as three and four feet under water. Water was within two inches vertically and approximately 10 feet horizontally from the finish floor elevation of our building in Columbus. We escaped the flood with minimal damage. Ted Darnall, with Crowder and Darnall, was not so lucky. They had as much as 4 feet of water in their place of business and lost nearly everything. Crowder and Darnall have relocated in a building on higher ground in downtown Columbus. We have been busy dealing with surveying flood related issues with properties. The week after the flood we were called out to Schaeffer Lake, which is located near Hope, Indiana in Bartholomew County, to survey the dam and check high water marks. The Schaeffer Lake dam had as much as 5 feet of water coming over the top of the dam. Although it suffered some damage, it is amazing that it is still standing. We have also been performing topographic surveys and elevation certificates for homes in portions of the City of Columbus that were affected by the flood waters. We have found some areas where the high water mark of the flood water was 1.5 feet higher than the 2 foot flood protective grade. The protective grade is two feet higher than the 100-year flood elevation. Cummins, Inc. and Columbus Regional Hospital are two of the biggest employers in the City of Columbus that were really affected by the flood water. Cummins had a couple of buildings that had three feet of water in them and sustained severe damage. The Hospital also sustained severe damage and was forced to close. The basement was full of water. The building suffered water damage on the first floor of the building. Cummins is still in a clean up mode, but is slowly getting back to normal operation. The Hospital, however, will be closed for three to four months while they continue to clean up, make repairs, and remodel. Our farm, located in the Brownstown area, was also affected by the flood waters. Our buildings on the farm, which are located some two and a half miles from the White River, had approximately three feet of water in them. We lost some of our fence and approximately five acres of the 40-acre farm is covered with corn stalk drifts that are two feet deep. We are in the

process of rebuilding fence, and cleaning up. It will take us months to get things back to normal.

ISPLS is sponsoring the first annual ISPLS Golf Outing on Friday, September 5, 2008. There will be a SHOTGUN START at 9:00 am (Local Time). The event will take Place at Salt Creek Golf Retreat, located at 2359 SR 46 East, Nashville, Indiana. For additional information visit the web site at [www.saltcreekgolf.com](http://www.saltcreekgolf.com). The cost will be \$90.00 per player which Includes 18 hole-greens fees, cart & lunch. There will be prizes awarded to winners and any business or individual who would to sponsor a hole can do so for \$100. The intent of this event is to try and get members of ISPLS together in fun and fellowship. ISPLS does a great job sponsoring and putting on the Annual Convention. The Board of Directors wants to create more opportunities for the ISPLS membership to get together. We feel the golf outing is a start in that direction.

The 2009 ISPLS Annual Convention is shaping up to be an exciting educational convention. The entertainment for this year's annual banquet will be Jeff Havens, who will perform at the annual banquet on Thursday evening. Jeff is styled like a motivational speaker. "Uncrapify Your Life!" is the title of the program and is a study in exactly what not to do. It's a hilarious hour of intelligent entertainment that is guaranteed to make the audience members laugh out loud while providing a message everyone can appreciate. By highlighting and then poking fun of practices we're all guilty of, Uncrapify Your Life! stresses the importance of honesty and integrity in both our professional and personal lives. Also, because the two major subjects of Uncrapify Your Life! – communication and responsibility – are applicable to every business, Jeff will make it easy to address each participant's specific needs. The Uncrapify Your Life! program is certain to have everyone who attends talking about it for months afterwards. I hope this will draw a crowd and encourage everyone to stay and attend the entire banquet.

Some of the members of ISPLS and Vincennes University Surveying Alumni are involved in the "Vincennes University Alumni Association". This association has been formed and has selected a board and officers. It is preparing its bylaws and has stated as its primary mission "To assist the Vincennes University Surveying Department in assuring that it's students will receive hands-on training with the most modern surveying instruments available." Jim Tibbett and Ed Sweetland have been instrumental in making this happen. Please support this association financially. This is a good investment for the future of the Surveying Profession.

The 2008 IHSAA Volleyball season starts on August 4<sup>th</sup>. I will be a member of the coaching staff for the Girls Varsity Team at Brownstown Central High School. We start practice on the 4th with two-a-days practices. Our first match will be August 19<sup>th</sup>. We should have a very competitive team. We are hoping for a successful and winning season.

Closing thought: *"The probability that we may fail in the struggle ought not to deter us from the support of a cause we believe to be just."* - Abraham Lincoln

Mark R. Isaacs, PLS

# ISPLS BOARD OF DIRECTORS MEETING HIGHLIGHTS

by Dianne Bennett, Executive Director

## April 12, 2008

The ISPLS Board of Directors met on Saturday, April 12, 2008 at ISPLS headquarters. President Mark Isaacs called the meeting to order at 8:54 a.m. The minutes and treasurer's report were reviewed and approved.

Adjustments to Agenda - Mike O'Brien, ISPLS lobbyist and Rick Miller gave a report on the 2008 Legislative session. Also discussed was possible 2009 legislation.

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

Communication - Membership - The BOD reviewed and approved the membership applications submitted by the membership committee.

Hoosier Surveyor - Articles for the Spring issue need to be submitted by April 15th.

Professional Development - Education - The "Mock Trial" seminar on May 9th has 41 signed up to attend.

LS/SIT exam review held May 8th at IUPU-Fort Wayne had 16 signed up for the LS Review.

The 2008 Convention breakdown for income/expenses was reviewed by the BOD.

Scholarship - The committee recommendation for the Purdue University scholarship was Jacob T. Hoffman and for the Vincennes University scholarship was Skyler A. Potts. A motion was accepted and passed to accept the committee's recommendation.

Government Affairs - Board of Registration - Ed Sweetland presented to the BOD the April 11th BOR agenda. The next meeting is scheduled for July 11th.

GPS-GIS Monumentation - A web site has been set up for committee meeting minutes "Project Web Site Access Information: URL: <https://projects.woolpert.com/ispls/> User name: ISPLS\_2007, Password: HARN, Role: author".

Internal Affairs - Finance and Planning - The 2008/2009 preliminary budget was presented to the BOD.

Old Business - VU/ISPLS Advisory Board was discussed.

Finance AD HOC Committee presented the proposed rules for Sponsoring Chapter share of profits from the Annual ISPLS Conference. A motion was made and passed to prepare a "letter of Understanding" regarding Society and Host Chapter responsibility for the Annual Convention with the distribution of profits to be 85% for the Society and 15% for the Host Chapter(s).

Announcements - The next BOD meeting will be May 17th at 9:00 a.m. at ISPLS HQ in Indianapolis.

## May 17, 2008

The ISPLS Board of Directors met on Saturday, May 17, 2008 at ISPLS headquarters. President Mark Isaacs called the meeting to order at 9:00 a.m. The minutes and treasurer's report were reviewed and approved as amended.

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

Officer's Activity Reports: A report was submitted by Todd Bauer regarding "A Day at The Track" sponsored by ASCE on May 16th.

A request was presented for "Re-enactment Equipment". After discussion a motion was made to table the request to the July BOD meeting and discuss the financing of the request at the budget review.

Communication - Membership - The BOD reviewed and approved the membership application submitted by the membership committee.

Hoosier Surveyor - The committee will meet on Monday, June 9th to discuss articles for the summer issue.

Professional Development - Education - The ISPLS "Mock Trial" seminar had 66 people signed up.

There was a request for a refund from a registrant for a seminar due to an inadvertent scheduling error. A motion was made and passed to deny the request.

Licensing Exam Review - The coordination of the review will move under the Education Committee.

Convention 2009 budget - The board reviewed the "responsibility of the convention sponsoring chapter", 2009 convention schedule, 2009 convention program, hotel layout, banquet entertainment following dinner and the seminar moderator outline and convention budget.

Scholarships - A motion was made and passed to "create" an ISPLS Foundation and a \$10,000 budget (legal fees and seed money from the society investments) to create the foundation.

Scholarship monies - A motion was made and passed to send the current fiscal year monies (\$2100+) to Vincennes University.

ISPLS Policies - A motion was made and passed to send the "draft" Antitrust Guidelines and the "draft" Conflict of Interest Policy to the society accountant legal department for review.

Trig-Star - A written report was submitted. First place winner is Chase Mathison of Frankton High School in Frankton, Indiana; Indiana teacher is Jeff Thurston. Second place winner is Mak Hazo of Valparaiso High School in Valparaiso, Indiana; Indiana teacher is Patti Brady. Third place winner is Carolyn Tackett of Portage High School in Portage, Indiana; Indiana teacher is Barbara Lochmondy.

Government Affairs - Board of Registration - The next BOR meeting is July 11th.

NSPS Governor - A verbal report was given on the national NSPS and ACSM meetings March 5-9th in Spokane, Washington.

GPS-GIS Monumentation - A written report was submitted.

Internal Affairs - ByLaws - A tentative meeting is set for May 27th and June 10th.

Finance and Planning - The quarterly Wallington report was reviewed.

A motion was made and approved to accept the 2008/2009 budget as amended. A motion was made and approved to delete budget line items G-51, G-75, G-80, G-90 and S-100 and to add budget line G-85.

Announcements - The next BOD meeting will be Saturday, June 21st at 9:00 a.m. at Vincennes University.



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# Team ISPLS Finishes the 2008 Mini Marathon in 25th Place !

Congratulations to Team ISPLS ( Jeff & Christine Fransiski, Brian Rayl and Ed Sweetland) for finishing the Team Challenge of the 2008 Indianapolis Mini Marathon in 25<sup>th</sup> place. The team averaged a time of 2 hours, 32 minutes, 24 seconds and finished mid pack within the field of 36 teams. Most of the team members finished with a personal best times unfortunately the team captin Ed Sweetland did not finish the day on top. Yes, this is true. I finished the race with my worst time in the seven years I've run in the event. I was doing fine until mile 6 near the entrance to the Indianapolis Motor Speedway. When my legs began cramping. I had to walk the remaining 7.1 miles to the finish line. Since then I have raced a couple of 5K events. I redeemed myself by finishing with two personal best times. I had a bad day at the Mini but I will be back next year to try it again.

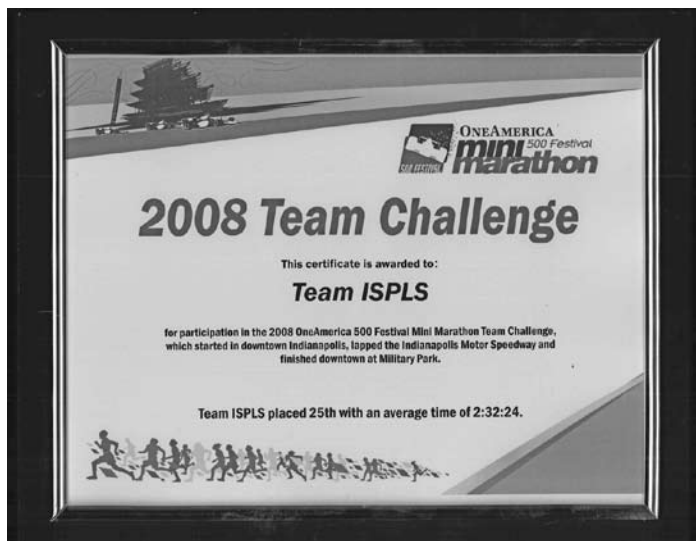
Currently many of the Team ISPLS members are now training in Indiana's hot & humid weather for upcoming marathons and half marathons. Jeff's wife Christine is training for the Goofy Challenge half marathon at Disney World, Florida. Jeff is also training for the Goofy Challenge half marathon plus the Disney World marathon, the Indianapolis marathon and Chicago half marathon. Brian is currently training for several Midwest running events as a member of the Anderson Roadrunners running club. I am currently training for the Chicago Marathon scheduled for October 12. Will be competing in several 5K & marathon relay races throughout this summer and fall.

I invite others to join Team ISPLS next May to run in the 2009 Indianapolis Mini Marathon. I would love to see ISPLS support multiple teams in next year's event. I hope to see you at the intersection of West and Washington Streets (the starting line) on May 2, 2009 wearing running shoes and race bib.

See you there!

Ed

FYI: The time for race winners (two runners tied for first) was 1:02:52.



## Final Race Times for Team ISPLS (13.1 miles) Average time of 2:32:24

**Brian Rayl (right) time: 1:39:09**



**Jeff Franciski (right) time: 2:07:07**



**Christine Franciski (right) time: 3:01:25**



**Ed Sweetland (right) time: 3:21:56**



Time for winners was 1:02:52. Kenyans Lamech Mokono and Valentine Orare were neck-in-neck at the finish of the 13.1 mile race. The two were declared co-winners.



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# Boy Scouts Receive Surveying Merit Badge at Belzer Scout Camp

by Mike Davis, Indianapolis

Six Boy Scouts from the Crossroads of America Council earned Surveying merit badges in May — and they did their field work on a permanent course added this spring by the Central Indiana Chapter at Indianapolis' Belzer Scout Camp.

Five 3-1/2" stamped bronze markers from Berntsen International not only mark the corner positions on the closed traverse but also publicize the merit badge and the Indiana Society of Professional Land Surveyors.

Those were among the goals of two of the chapter's members — Ryan Swingley, PLS, of Fishers, and Mark Schepers, PLS, of Brownsburg, who helped develop the project.

Swingley said having a permanent course meant instructors wouldn't have to observe corner positions every time a class was held, and the markers set in concrete could strike up interest in the merit badge among Scouts attending other functions at the 130-acre camp on the city's northeast side.

The class started at 9 a.m. May 17 in the camp's Center for Volunteer Training with a brief discussion of the history of surveying and the merit badge's requirements.

Other morning sessions dealt with types of surveying and mapping, careers in surveying, how the Global Positioning System has changed surveying, and why research is so important.

Videos, PowerPoint presentations and a wireless Internet connection helped provide a change of pace for the audience of eighth- to tenth-graders.

Discussions of safety, level circuits and traversing — with a break for lunch — took place before the field work began.

The Scouts were divided into two crews, locating the corner positions that had been placed in an activity field not far from the training center and then doing the required traversing and leveling. With the data recorded, they moved back indoors to sketch the course's bearings and distances and write a legal description of the replica of a five-sided lot.

All the work was finished around 3 p.m.

Earning the merit badge were Life Scout Caleb Bowen and

Star Scout Brandon Gamblin of Troop 696; Star Scout Jeffrey Conner of Troop 316; and Eagle Scouts Chris Davidson and Matthew Crocker and Life Scout Nathan Just of Troop 310. All are from Indianapolis.

Volunteers at the workshop included Jason Coyle, of Fishers; Rick Miller, PLS, of Indianapolis; Swingley; Don West, PLS, of Carmel; Craig Williams, PLS, of Greenfield; and Maciej Zurawski, LSIT, of Plainfield.

"Craig and Rick were great speakers and held the Scouts' attention," Swingley said in an e-mail message after the workshop. "Things had to go pretty fast in the field, but Don and Jason handled the leveling and traversing, so all in all, it went well. I am ready to do it again."

Looking back, Swingley said that things went pretty fast in the planning process. He and Schepers first talked in 2006 about focusing the chapter's attention on a Surveying Merit Badge to help interest young people in the profession. It took several years for the idea to take root.

"We both looked to what got us into surveying," Swingley said. "For me it was a love of the outdoors, technology and drafting. Mark has kids in Scouts and knows that most Scouts share the love for the outdoors, so we felt this could be a great group to target, considering the Surveying Merit Badge was already in place."

Though chapter issues and work caused the project to get sidetracked for a while, it got new life in January 2008 after an ISPLS convention meeting arranged by Roger Woodfill, PLS, of Lawrenceburg, to promote Scouting Merit Badge.

Swingley and Schepers got support for a workshop and permanent course from the chapter's board of directors in February. Later that month they received pledges of funding from a group of private surveying firms to help defray the project's cost. Chapter members voted to pay the rest.

Berntsen graciously donated the artwork and custom stamping

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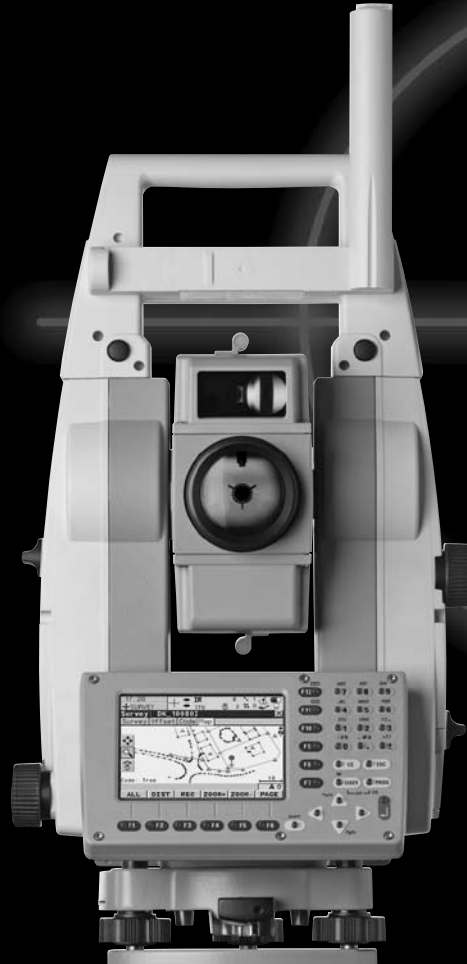


Crossroads of America Boy Scout Council's newest Scouts to earn a Surveying Merit Badge join ISPLS volunteers after a May 17 workshop at Belzer Scout Camp in Lawrence. Scouts (from left) are Jeffrey Conner, Troop 316; Brandon Gamblin, and Caleb Bowen, Troop 696; and Matthew Crocker, Chris Davidson and Nathan Just, Troop 910. Standing behind them are Don West, PLS; Mike Davis; Maciej Zurawski; Ryan Swingley, PLS; and Jason Coyle. Not shown are volunteers Craig Williams, PLS; and Rick Miller, PLS.



Making an observation on April 25 with a Trimble 5800 GPS VRS rover and Trimble TSC2 data recorder at one of five stations on the Surveying Merit Badge course at Belzer Scout Camp are (from left) ISPLS volunteers David York, PLS; and Craig Williams, PLS. After a group of six ISPLS volunteers observed the monuments with a Trimble VX total station, they split into two teams. A second team ran the level circuit with a DINI digital level. The GPS information was used to check the traverse.

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**Surveying Badge Belzer Camp**  
...continued from Page 7

for the bronze markers. Other companies donating money or supplies included Banning Engineering, The Schneider Corp., Stoepelwerth & Associates, USI Consultants and Weihe Engineers Inc.

“The next thing we did was to sit down with the ranger at Belzer to get permission to install our concrete monuments in the location we had picked out,” Swingley said.

Volunteers for the April 18 marker installation were Coyle; Schepers; Swingley; David York, PLS, of Indianapolis; and Zurawski.

Observations of the markers’ positions were made April 25 with a Trimble VX Total Station and a DINI Digital Level provided by Seiler Instrument Corp. Volunteers were Coyle, Schepers, Swingley, York, Williams and Zurawski.

Positioning Solutions Co. supplied instruments for the May 17 merit badge workshop: a Topcon GPT-3000LW Total Station and a Seco 4811 Auto Level.



*After observing a foresight with a Topcon GTP-3000LW total station, ISPLS Associate member Jason Coyle shows Scouts (from left) Matthew Crocker; Nathan Just and Chris Davidson how to record notes in a field book to help in drawing a scale map of their survey of the new Surveying Merit Badge course constructed this spring at Belzer Scout Camp by ISPLS volunteers.*



*Preparing to put concrete into one of the five 36-inch-deep holes dug April 18 to mark corner positions at the new Surveying Merit Badge course at Belzer Scout Camp are (clockwise, from left) ISPLS volunteers Maciej Zurawski; Mark Schepers, PLS; David York, PLS; and Ryan Swingley, PLS. The two pieces of rebar in Swingley’s hand will allow the monument to be found by a metal detector. The installation phase took about 2-1/2 hours.*

## **Boy Scouts Earn Surveying Merit Badges Throughout the Nation**

**by Mike Davis, Indianapolis**

Slightly more than 1,200 Surveying merit badges were earned by Boy Scouts throughout the nation in 2006, the most recent statistics available from Boy Scouts of America.

That ranks it ahead of Stamp Collecting, Fly Fishing and Bugling, but not many others among the more than 120 badges currently offered – even though it was one of the original 57 listed in 1911 when the first BSA handbook was printed.

Those numbers could change in the future, though. There’s a growing move throughout the nation to spark some interest in the badge, and Indiana is no exception.

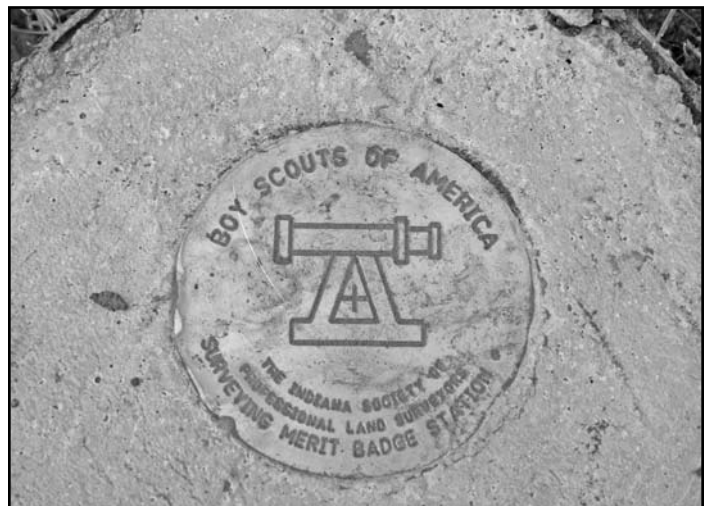
In addition to those who volunteered to help with the Central Indiana Chapter’s workshop in May, James Emans, PLS, of Bremen, and Donald Bengel, of Valparaiso, are other members of ISPLS who have served as counselors. Both have assisted family members: Emans with his son, and Bengel with his grandson.

Darren Norrington, PLS, of Mitchell, and Jim Lietzan, PLS, of Mishawaka, also have experience with Scouting and may one day step into a counselor’s role. Norrington said the boys in his troop haven’t quite reached First Class rank, when they can begin working on merit badges. Lietzan said he’s worked with Webelos Scouts, who soon will be Boy Scouts, to help them earn their Engineering achievement – and Aaron Blank, PLS, of Mishawaka, said he’s given a presentation on land surveying to some second-year Webelos Scouts.

“I hope we can have some discussion about setting up a Surveying Merit Badge course at a council camp and start a plan to offer the Surveying Merit Badge on a regular basis,” said Lietzan, who also is the Cub Scout training chairman for the Algonquin District

...continued Page 11

Photo's provided by Jason Coyle



*This is one of five Berntsen 3-1/2 inch bronze markers placed in concrete at the corners of the Belzer Scout Camp’s new Surveying Merit Badge course. It features a stamped copy of the merit badge emblem.*

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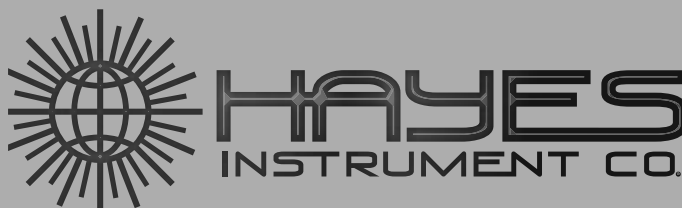
*have always given me straight answers to every question I've asked. Sometimes the answer is yes and sometimes the answer is no, but my clients get the truth from me and that's what I get from Hayes.*

*There will always be logistical issues in surveying. The one thing I haven't learned to do is to be in two places at once, but I am working very hard on learning how to do that. Hayes in Tennessee and me in Florida has never been an issue. The truth of the matter is that with overnight deliveries, the internet, email, FTP access and the telephone we can all do business with just about anyone we want.*

*I'm a Consulting Surveyor and I wouldn't have it any other way. Things change and my business will change right along with them. The keys are motivation, support and always remembering that the harder we work, the more luck we have."*

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# BOY SCOUT SURVEYING REQUIREMENTS

While earning this merit badge, Scouts will discover how land is measured and how it is described so that others can know where boundary lines are. They will have a chance to use some fine measuring instruments, apply advanced mathematics, operate computing equipment, and create a survey map.

## Requirements

1. Show that you know first aid for the types of injuries that could occur while surveying, including cuts, scratches, snakebite, insect stings, tick bites, heat and cold reactions, and dehydration. Explain to your counselor why a surveyor should be able to identify the poisonous plants and poisonous animals that are found in your area.
2. Find and mark the corners of a five-sided lot that has been laid out by your counselor to fit the land available. Set an instrument over each of the corners and record the angle turned between each line and the distance measured between each corner. With the assistance of the counselor, compute the error of closure from the recorded notes. The error of closure must not be more than 5 feet. From the corners, take compass readings or turn angles to trees, shrubs, and rocks, and measure to them. All measurements should be made using instruments, methods, and accuracies consistent with current technology.
3. From the field notes gathered for requirement 2, draw to scale a map of your survey. Submit a neatly drawn copy.
4. Write a metes and bounds description for the five-sided lot in requirement 2.
5. Use one of the corner markers from requirement 2 as a benchmark with an assumed elevation of 100 feet. Using a level and rod, determine the elevation of the other four corner markers.
6. Get a copy of the deed to your property, or a piece of property assigned by your counselor, from the local courthouse or title agency.
7. Tell what GPS is; discuss with your counselor the importance of GPS and how it is changing the field of surveying.
8. Discuss the importance of surveying with a licensed surveyor. Also discuss the various types of surveying and mapping, and applications of surveying technology to other fields. Discuss career opportunities in surveying and related fields. Discuss the qualifications and preparation for such a career.

— From “Boy Scout Requirements 2008,” published by Boy Scouts of America

## Boy Scouts Earn Surveying Merit Badge ...continued from Page 9

in the LaSalle Council in Northern Indiana.

Bengel, who has been a merit badge counselor in Engineering (4,998 in the U.S. in 2006) and Drafting (1,499), said the Surveying badge is challenging but also interesting.

“Kids should like it because it involves outdoor stuff,” he said. “The whole purpose of merit badges is to get kids to meet people and get some knowledge. Most are not terribly difficult.”

He’s also seen it help people choose a vocation. “I’ve had people say they went into a certain field because of the merit badge they earned,” he said.

While he doesn’t think it would be too difficult to get fellow land surveyors to help serve as counselors for a special workshop, he suspects it would be a long day.

However, it’s the type of volunteer work that Charles “Chuck” Coyle, PLS, of Columbus, says is something that “goes right to my heart.”

Coyle, who joined a Boy Scout troop in the Castleton area on the Indianapolis northside in the early 1960s, received his Eagle rank as soon as he was 14 and stayed in Scouting until he left for college in the fall of 1970.

“Scouting has offered me many opportunities to grow and experience many things that have just flat out helped me to cope with many of life’s situations,” he said.

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# SHS Members Present Lincoln-Era Surveying

## Demonstration at Scouting Encampment

By James Q. Morley, P.E., P.L.S.

LINCOLN CITY, Ind. – More than 4000 boy scouts, girl scouts, and their leaders encamped at Lincoln State Park and the Lincoln National Memorial May 9-11 for the Bicentennial celebration of the birth of Abraham Lincoln.

The Buffalo Trace Council and the Evansville, Indiana, Boy Scouts of America Council organized the Lincoln Bicentennial Encampment. Joining in to lead and stage the event were the Rain Tree Girl Scout Council, the National Park Service, the Lincoln State Park staff, the Indiana State Police, the Spencer County Sheriff's Office, the IDNR Conservation officers, the Spencer County EMS, and hundreds of volunteers.

Encampment attendees were told about Lincoln's arrival in Indiana. Faced with land title problems on the three Kentucky farms he was working, Lincoln's father, Thomas Lincoln, moved the family to a farm in Indiana in December 1816 when young Lincoln was eight years old. On October 15, 1817 Thomas Lincoln "entered" the Indiana farm in the books of the Vincennes government land office.

On May 10 at the encampment five members of the Surveyors Historical Society manned one of the 53 program stations in Lincoln State Park. The stations depicted pioneer life in Indiana in the early 1800s. Dressed in vintage costumes to demonstrate to the scouts the use of a circumferentor and the surveyor's Gunter chain, equipment used by surveyors in the 1800s, were Roger Woodfill, P.L.S. of Lawrenceburg, Orwic Johnson, P.L.S. of Columbus, Brad Rayl, P.L.S. of Anderson, Haldon Ashton, P.L.S. of Middletown, and Dwane Weiss, P.L.S., from Illinois. Also assisting the scouts were surveyor wives Mrs. Rayl and Mrs. Ashton who also were dressed in period costumes. The SHS re-enactors told about the many difficulties surveyors encountered when conducting the early land surveys and how important these surveys were to the early settlers. A highlight to the scouts was to hear about Abraham Lincoln's work as a surveyor after he moved to Illinois.

Feedback indicates that this event had a positive impact on many of the scouts. The father of one of the boy scouts said that his son was so impressed by the SHS members presentation that he has decided to enroll in the Vincennes University land surveying program.



*Orwic A. Johnson, PE and PLS, describes methods of surveying in Indiana in the 1800s to attentive boy scouts and scout leaders at the Lincoln 2008 Camporee in Lincoln State Park, Lincoln City, Indiana. (Photo by James Q. Morley, PE, PLS)*



*During the Lincoln 2008 Camporee in Lincoln State Park, Lincoln City, Indiana, inquisitive boy scouts ask Bradley A. Rayl, PE and PLS, how surveyors in the 1800s measured angles with a circumferentor. (Photo by James Q. Morley, PE, PLS)*



*Explaining the use of the circumferentor (surveyor's compass) to boy scouts, girl scouts and scout leaders at the Lincoln 2008 Camporee in Lincoln State Park, Lincoln City, Indiana, is Haldon L. Ashton, PLS. (Photo by James Q. Morley, PE, PLS)*



*Dressed in vintage surveyors garb to demonstrate 1800s surveying methods and equipment to boy scouts, girl scouts and scout leaders at the Lincoln 2008 Camporee at Lincoln State Park, Lincoln City, Indiana are (l to r) Bradley A. Rayl, PE and PLS, Duane Weiss, PLS from Illinois, Orwic A. Johnson, PE and PLS, and Haldon L. Ashton, PLS. Missing from the photo is Roger Woodfill, PLS. All are members of ISPLS (except Duane Weiss) and the Surveyors Historical Society. (Photo by Roger Woodfill, PLS)*



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# Jacob T. Hoffman Receives 2008 John G. McEntyre Endowment Scholarship

by David B.H. Best, PLS, Indianapolis

Recipient of the 2008 John G. McEntyre Endowment Scholarship is Purdue University senior Jacob T. Hoffman. Hoffman graduated from Martinsville High School in 2003. He transferred from Indiana University Purdue University Indianapolis to Purdue University in West Lafayette, Indiana in 2006. Currently he is employed by Moses Surveying in Frankfort, Indiana as he begins his final year at Purdue. His responses to the following queries find Hoffman to be dedicated to a future in land surveying.

## 1) What factors or persons influenced you to plan on a career in land surveying?

I give credit to Ross Drapalik, Drapalik Surveying and Engineering of Martinsville, IN, for introducing me to the land surveying profession. After high school, while pursuing a degree in computer science at IUPUI Mr. Drapalik offered me a job as a rod man. I decided that I would give it a try. I fell in love with the work. Unfortunately, I didn't realize this until I had put three years into a computer science degree. The real turning point in my career decision was when I found myself talking much more about my work than about my schooling. After I discovered this, I began to wonder whether this career path was meant for me. I decided that I was much more interested in land surveying than in computer science. I transferred to Purdue to study land surveying. From there I met Ron Wharry, LS of Moses Surveying in Frankfort, IN, who has since mentored me in land surveying. I owe much of my knowledge and experience to him.

## 2) What is your major field of study at Purdue University?

It is Geomatics Engineering and Land Surveying.

## 3) What courses in your major field are of the greatest interest to you and why?

So far the courses that have interested me the most are Legal Descriptions, Drainage Design, and Land Surveying Systems. This is a direct result of the fact that I have used what I learned in these classes during the course of my work and it is very interesting to get a better understanding of why I do what I do at work. However, I am looking forward to my classes in Land Boundary Law and Subdivision Design because I know I have much to learn in these areas.

## 4) When you graduate in May 2009, what degree will you receive?

I will obtain a Bachelor of Science in Land Surveying and Geomatics Engineering.

## 5) What are your outside interests and hobbies?

My outside interests include trap and skeet shooting, traveling and seeing new places, hunting, watching movies, and reading.

## 6) What is your perspective on opportunities in land surveying and its future?

This is a very complicated question so I will do my best to answer. Land surveying is a very rapidly growing profession with new

technology like GPS, photogrammetry, remote sensing, and GIS systems. Unfortunately from what I have observed land surveyors are a rapidly aging group of people. There seem to be very few young people entering the profession in comparison to the number of people retiring. This problem, combined with the fact that several schools are modifying or cancelling their land surveying programs, could lead to some very problematic situations in the future. The need for qualified land surveyors is on the rise and as long as people own land and land is developed the need will exist. With the new technologies available adequate training and education is essential for the profession to thrive. In relation to this there are two outlooks that I can see:

1. State governments will have to allow engineers to do the work normally performed by surveyors. This could be a problem if the engineers are not adequately educated in the field of surveying.
2. Young people will see the demand for land surveyors and will become interested in the profession. This will lead to an increase in land surveying programs in Indiana schools of higher education.

Obviously the preferred solution to the problem is option number two. However, for this to happen more students need to be exposed to surveying. From my experience most people have a very limited idea of what the profession of surveying entails. If they can be made aware of the opportunities in land surveying, then more young people will pursue careers in the field.

## 7) What is your favorite movie?

My favorite movie... Wow what a difficult question. I would probably have to answer Monty Python and the Holy Grail. However, I will watch anything starring Arnold Schwarzenegger.

## 8) Of all the books you've read, what one is your favorite? What book are you currently reading?

My favorite book is probably Jurassic Park by Michael Crichton. However, I will read anything by Crichton, Dan Brown, and C. S. Lewis. The book that I am currently reading is The Art of War by Sun Tzu.

## 9) What extracurricular activities were you involved in at Martinsville High School?

High school, that makes me feel old. My high school career ended over five years ago so I'll try and remember what I did. I was in Marching Band, Spanish Club, Fellowship of Christian Athletes, and some other things. However, it would be better to list what I am involved in at Purdue: ISPLS (President), Trap and Skeet Club (Range Officer), International Association for the Exchange of Students for Technical Experience (Reception Coordinator), and Campus House Sound Force.



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### Associate Member ISPLS

#### Philip “Chip” VanDuyn, Jr. (43)

Philip R. “Chip” VanDuyn, Jr., 43, a project manager in the surveying department of The Schneider Corporation passed away on March 19, 2008. Chip was a surveyor and, although not registered, he exhibited a competency in his work, a love for the profession and an eagerness to always learn more. He was with Schneider for 13 years and, prior to that, he was employed by Nolan-Gibson Associates in Greenfield. Chip demonstrated an enthusiasm in nearly every aspect of his life, most pointedly in his interactions with people - his co-workers, colleagues, clients, friends, and especially his wife Lynn and children Adam, 12, and Abbie, 8. He loved people and would happily banter with everyone from the president and owners of the company to the janitors. His athleticism was renowned and, in fact, his 1983 time of 15.1 seconds in the hurdles still stands at Greenfield High School. The profession, The Schneider Corporation, the community and most importantly, his family, will miss him and all are the less for his untimely passing.

### Life Member ISPLS

#### John E. Beals (81)

John E. Beals, age 81, died Wednesday, May 7, 2008, at Friends Fellowship Community, Richmond, IN., surrounded by his loving family.

John was a graduate of Earlham College. He was a birthright Quaker, an active and longtime member of First Friends Meeting, participating in Stephen Ministries and singing in the choir. In 1954 he started his surveying career. In 1968 he was president of the Indiana Society of Professional Land Surveyors (ISPLS). In 1974 he was given the ISPLS Bridge Award for “Distinguished Service of this decade; for the betterment of the Society, the Profession and the future of mankind.” In 1986 he received another Bridge Award to honor ISPLS members who encourage aspiring young surveyors, and established a committee to create a 4-year surveying program at Purdue, the first of its kind in the nation. He represented ISPLS in London, England, at their International Conference.

He enjoyed family camping making apple cider and raising African violets. In 1992 he began his bread ministry, baking and giving out over 2,000 loaves of bread.

Funeral services were held May 9th at Doan & Mills Funeral Home, Richmond, Indiana. A memorial service was held at the Community Room of Friends Fellowship on Saturday, May 10th. Burial was in the Earlham Cemetery.

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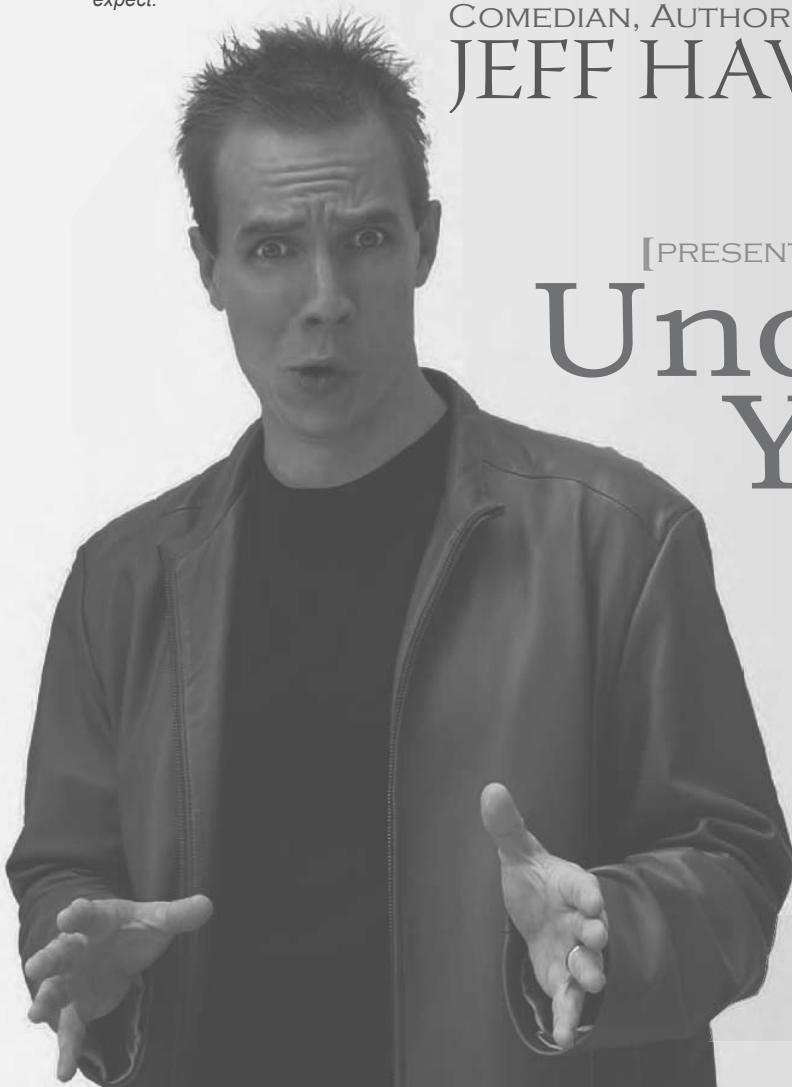
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# MEET A MEMBER: Orwic A. Johnson, PE, PLS

by David B. H. Best, PLS, Indianapolis

Our featured ISPLS member this issue is past president Orwic A. Johnson who has dual registration as a professional civil engineer and a professional land surveyor. Now retired, Johnson operated Columbus Surveying and Engineering from 1979 to 2007. In retirement he continues with his interest in woodworking and performs as an Ebenezer Buckingham re-enactor for the National Surveyors Historical Society.

## 1) What factors or persons led to your career in engineering and land surveying?

As you will see in what follows, there never was an individual or factor that led me to choose civil engineering or land surveying as a career. There were a few people who encouraged me to work hard. However, no one ever suggested that I follow the path I did. Things just happened that way.

## 2) Tell about your early years, where you were born and raised, and about your family.

Dad was a high school drop-out. He was a self-taught mechanical engineer and tool designer. My mom was a secretary and bookkeeper. I was born on July 9, 1939, a blistering hot day, in my grandparents' home in Evansville, Indiana. My parents were living in a two-room apartment in Columbus at the time, but mom went back to her home for my birth. My mom and I returned to Columbus six weeks later. I became the first and only child to live in any of the landlord's apartments. In 1941 my folks purchased a two-story house on seven acres at the out skirts of Columbus where I grew up exposed to some small farm life that included my choice of spending Saturdays plucking chickens to sell or dressing rabbits. I chose the rabbits. My two favorite childhood activities were reading and building things with my erector set, for which I could never get enough parts.

## 3) Tell about your educational background.

Due to continuing district changes, I attended three different schools by the time I was in third grade. Dad didn't like some of the stories I was bringing home from the third grade, so halfway thru the first semester, he managed to enroll me in St. Peters Lutheran School. Later I experienced a fantastic change in teaching. Columbus High School offered the usual science and math classes with no advanced study. However, with the aid of one of the finest teachers I had my senior year, we had an "electronics class" in which the physics teacher taught 20 subjects to 26 students. We each had to have a science project which we entered in the Regional Fair. I lost that contest to an environmental project. Dad died in 1956 and his place in my life was filled by the "Chapter Dad" of the Order of DeMolay. This was my senior year and, of course, everyone wanted to know where I was going to college and what I was going to major in. Frankly, I had no idea. I wound up at Purdue in Electrical Engineering. After two and a half years, my studies turned from electrons to females. Purdue didn't offer any credits in that subject so Purdue and I parted company after another, but enjoyable, semester. I went to work full time with my summer employer in a custom cabinet shop. In my

spare time, I started building a small house on part of the seven acres with the idea of renting it out. That plan didn't work. A year later, on a blistering hot August day in an un-air conditioned church, I married Betty McLain, the joy of my life. We moved into the shell of a house that had five sheets of drywall installed with all electric service, except the stove, provided by extension cords running from the fuse panel. The senior cabinet maker retired and we were short of help. Work progressed on the house at night while I was working 10 hour days. I was getting a little tired of the hours and bored with several production run jobs. Spring was in the air and I wanted to get outside. I had a man off sick and a production run job that we had to ship with only one machining operation left that was a total no brainer. Even though I had been working later than normal the night before, I decided to run the job consisting of counter boring two holes in 300 blocks of wood. I must have dozed off, because I was definitely too young to have a senior moment when I succeeded in drilling off a fingernail. I woke up with a start. When I went home that night, I told Betty that my job was getting too boring and I had to find another one. With a baby on the way, she was not happy about the thought of my getting a new job. I ignored her, picked up the paper and there was an add for a "draftsman good at mathematics". Dad had taught me drafting when I was about 13. Six weeks later I had a new job working for the late George Crowder in a business that I had never heard of, Consulting Engineering and Land Surveying. I spent three days getting acquainted and doing a quantity take-off for a small bridge and then got stuck on a survey crew as a rodman. It was heaven!

## 4) Did you serve in the military?

Things went well for two months until I received a letter from the Draft Board announcing that my friends thought I was good material for the Army. I dutifully reported and took my preliminary physical and then called my friendly recruiter to discuss options. He came to the house. We talked and I agreed to join. He left to fill out the papers. The next day while Betty was shopping she ran into her old Sunday School teacher who was also the secretary of the local draft board. When asked how she was doing, Betty told her not well because I was being drafted. The lady asked why? Since Betty was very obviously pregnant this was an automatic deferral. We knew a child was, but did not know that pregnancy also counted for deferral. I tore up the papers when I got home. The recruiter was very unhappy. About this same time, I enrolled in an ICS course in electrical engineering. By November, I had the kitchen, bathroom, and nursery done with the last coat of paint going on the nursery walls the night before newborn son Tony came home from the hospital with Betty.

## 5) Describe your career in engineering and land surveying. Did you work for others? Were you in business for yourself?

I had worked for George Crowder for about a year and a half when work started getting very scarce and winter was coming. I began putting out feelers and heard that Arvins was looking for drafters. I filled out an application and received a call the next morning that

they wanted to interview me that afternoon. So I developed a bad headache, went home, changed clothes, and headed for the interview thinking "At last a job in electronics." The Personnel Manager was not the slightest bit interested in my college or my feeble knowledge of electronics. He was talking to a draftsman who knew something about wooden cabinets. Even though I told him that I had to give two-weeks notice, I was hired on the spot as a Junior Engineer in phonograph engineering. The job was interesting for awhile but we had too many people for the work and they were gradually resigning. Also, the department head wanted more people to show how important he was, so he always required people to work overtime. From my standpoint, that was good because 10 to 12 hours overtime a week really helped the billfold. But the work was definitely boring. I decided to call George and ask him to rehire me. He was happy because many of the contracts we had been trying to get in October had come in and he was way short of help. He even offered me a raise. Next morning I asked to see the personnel manager at Arvins. The secretary handed me a note when she returned. He wanted to see me. When I got to his office, we chatted and I asked what he wanted. He told me that because of my outstanding work I was being promoted to engineer with a nice raise and what did I want? I looked at him and said "I resign."

Back to surveying and engineering. Having finished my electrical engineering course with ICS, I took a selected course in Civil Engineering. I stayed with George for two more years and finally realized that he did not promote employees. They stayed where he hired them. I took a job with Lloyd White who operated a small construction company. I also moonlighted with an engineer for four years during which time I realized that I wanted to be a civil engineer. At that time the engineer and surveyor applicants took the same fundamentals exam and separate professional exams. You could not apply for the fundamentals exam only. You also had to qualify for the professional exam. At that time you were required to have 8 year acceptable education and experience to sit for the engineers' exam and only 5 years to sit for the surveyors' exam. I applied for the surveyors' exam because part of my education and experience could be applied to both and I wanted a shot at the fundamentals part as soon as I could. After all, that was based on a college education. My first application was denied and I was told to get two years of additional experience. After two more years, I reapplied. That application was accepted. Not only did I pass the fundamentals exam, I also passed the closed book and the law and ethics portions of the surveyors' exam. I failed the open book portion. I should have purchased and studied a couple of surveying books. That I immediately did, passing that section at the next exam. I now had my LS license in January of 1970. With the passage of time, I tried for the PE exam and was seated for the fall exam which I passed and received my PE license in February of 1971. It was a good thing that I passed that test because I had left Lloyd White's employment in mid 1970 and went to work at Dunlap and Company under Gene Darnall. This job presented a problem because technically Gene was my boss but I had the PE license. At his request I also applied for PE and LS licenses in Ohio, Kentucky, and Illinois and received my LS by examination and my PE by reciprocity in those states. As it turned out, I did very little work in those states either at Dunlap or at my own Company.

When I went to work for Dunlap, I did not know that they were being purchased by Southwest Forest Industries. By the end of 1974 the site development and surveying sections were to be closed. I made a half-hearted attempt to find a job with another company but none appealed to me. Therefore, I started Columbus Surveying & Engineering on January 1, 1975 with one full-time and one part-time employee. By 1979 I had 25 full time employees. This was really too many for one professional to deal with. During a recession I laid off a couple employees. Several then saw the writing on the wall and resigned for better jobs. Soon I was down to nine employees, a number I pretty well stayed with until I retired and formally closed the firm on December 31, 2007.

**6) As a surveyor what has been your primary focus? What do you like to do best? Office work? Field work? Are you now retired?**

There is no question, I like field work the best. You always see something happening even if it is only a new fence being installed or a couple of trees being planted. You can see something happening because of your work. Second, is the challenge of subdivision design by maximizing the existing terrain and minimizing tree loss and earthwork. Finally, I enjoy the challenge of interpreting some really weird metes and bounds descriptions and conducting the necessary research to be satisfied that I can defend my pins in court. Yes, I am now basically retired. It took me nearly a year to cut the tails off of jobs-in-progress. Now I only do a few mortgage loan surveys and a little consulting to pay for my re-enactment work.

**7) You are involved with surveying re-enactment events. Whom do you portray? What led to this interest? Where have these events taken place?**

I became interested in and joined the National Surveyors Historical Society to learn more about the history of surveying and the use of instruments in the United States and as a brief tax deductible vacation. This led to my purchasing appropriate early 1800 costuming which many have seen me wear at our annual conventions. Betty also enjoyed these events. I portray Ebenezer Buckingham, but have a lot of difficulty staying in character when people ask questions. I participated in the re-enactment of the establishment of Indiana's Initial Point. Since then I have had exhibits at the '07 Muster on the Wabash, the '08 Lore of the Lowery at Friendship, and participated in the '08 Lincoln Bicentennial Scout Encampment at Lincoln State Park. I have plans to have my own tent and to exhibit at three rendezvous/festivals this fall. To better understand the roots of our profession, I whole heartily recommend that all members join the NSHS and participate in at least two of their fall Rendezvous events.

**8) Other than your interest in re-enactments, what are your hobbies and other interests?**

I remain an avid woodworker. I still read at least one novel a week. In my "spare time" I am working with the Bartholomew County

...continued Page 23





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## Meet A Member

...continued from Page 21

Historical Society, accessioning and organizing their collection as well as working on exhibits and designing a new barn. I am on the boards of both the Historical Society and the Columbus Architectural Archives group. I have been known to go fishing.

**9) As a former president of ISPLS (1979) what, in your opinion, are the most effective ways in which ISPLS serves its members? What suggestions, if any, do you have for ISPLS to better serve its members?**

The Society has come a very long way since 1979. We have roughly three times as many members today as we had then. We have a full time office and are in a stable financial position. We have our own State Board of Registration. We have continuing education. The latter two have helped weed-out sub-prime surveyors. Where do we go from here? We need to lobby colleges to give students field experience in research of property line identifiers. We need seminars on the old methods: compass and chain, transit and tape, computations by logarithms, and significant places in numbers. New surveyors can then better understand the sources of errors in the field and in descriptions. We need a seminar to teach the difference between a lost and an obliterated corner and the procedures for reestablishment. We need a good title for a senior field man/party chief who can not be licensed due to lack of a college degree but can survey circles around any college graduate in the field.

**10) Tell about your family.**

I told a lot about my family in the introduction but, to continue, I have three children. Tony has partially followed in my footsteps as a surveyor. In order to be himself, he has his private pilot's license, his aircraft mechanics license and, while I am a woodworker, he is a crack welder. Mary, my oldest daughter, has one son, Alex, and lives with her husband David Rhodes in Tuscaloosa, Alabama where she is the owner of the local Wild Birds Unlimited store. Julia is my youngest and lives on the south edge of Indianapolis with her two daughters and husband, Albert Brashear. She has a degree in social work. After a six-year vacation to get the girls on the right track, she has returned to school to obtain a degree in nursing. Of course, as many of you know my wife, Betty, passed away April 4, 2007.

**11) In your many years in surveying what do you consider to be the most dramatic technical innovation our profession has experienced?**

I consider myself very fortunate to have entered the Profession when I did. I had the opportunity to learn surveying with a transit and 100-foot steel tape. This meant that the survey crew basically covered every inch of the lines being established or reestablished and had the opportunity to see what existed on the ground and even to fall over markers. Computations were done in the office by hand and frequently checked by another by hand. Then came EDM's and computers. Work was easier but was it checked? Electronics

did and does make errors. Operators lost the ability to estimate a computed answer to see if it was in the right ball park. Survey crews located corners by radial means and never saw an inch of the proposed line between the points they picked up. And finally we have GPS which, according to some articles, allows an uneducated individual to mark his own property corners within an eighth of an inch. But, the question was, what do I consider the most dramatic technical innovation? I consider it to be the lowly metal detector that shows us how often our predecessors missed the point and makes us strive to find the true, original corner.

**12) All professions require the infusion of new blood into their ranks. What, in your opinion, is the best and most effective way our profession can convince the younger generation that a career in land surveying can be a most rewarding one?**

We need to get out of our offices and meet people. We need to tell them that we are LAND SURVEYORS. Not telephone stooges asking dumb questions. Not the men who came down the rivers in canoes in Allan W. Eckert's book, "The Frontiersmen" to view and appraise the land. If we are going to require a college degree, we need to see that it teaches measurement, research, and field search along with the normal college material so that when we hire a graduate, we do not need to spend the first year teaching him the fundamentals at a graduate's wages. We need to talk to young people about not only the starting salary but also the thrill of finding a one or two hundred year old buried marker. We need to emphasize the challenge of solving the puzzle of a very convoluted description and the pleasure of seeing a land development based on your stakes and perhaps even on your design.

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## Skyler Potts Awarded Peggy Archer Memorial Scholarship by David B. H. Best, PLS, Indianapolis

The 2008 winner of the ISPLS Peggy Archer Memorial Scholarship is Skyler A. Potts, a student in the Vincennes University land surveying program. Potts, formerly an engineering student at the University of Evansville, will graduate from Vincennes University in May 2009 with an associate degree in land surveying. Upon graduation he will seek employment with an Indianapolis surveying firm where he plans to fulfill requirements to take the Indiana examination for land surveyors.

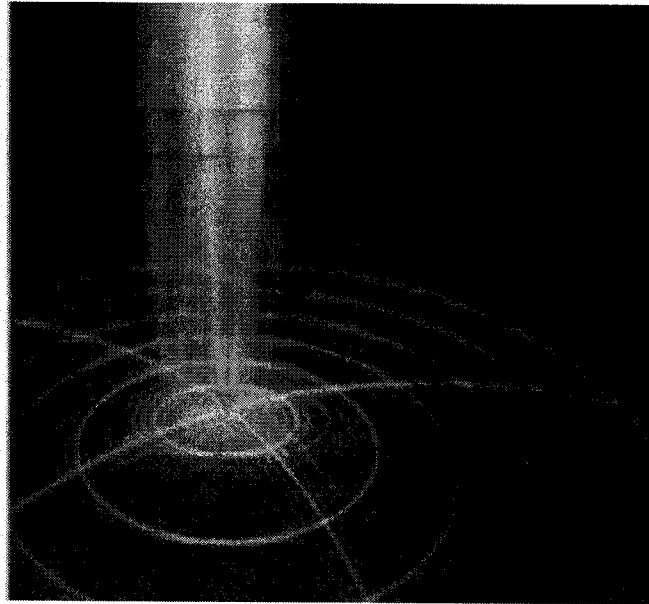
Potts considers Vincennes University Professor Austin Yake as instrumental in influencing him to consider land surveying as a career. While attending the University of Evansville Potts was the leader of several engineering projects. "These projects helped me gain leadership skills," Potts said. Later he hopes to start his own firm after he gains his registration as a land surveyor.

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# **FIELD VEHICLE SAFETY**

**By Ronald E. Koons, RoSaKo Safety**

I guess by nature I am a little nose. I like to see what is going on around me. That is probably a good trait since I do safety inspections for companies each month. When I do an inspection nothing is sacred. If I am in a manufacturing facility or office, I will look in every nook and cranny that I can find. If doors are locked and I question what may be behind the door, I will ask for someone to find the key. When I am doing safety inspections for surveying companies a field vehicle always gets heavy scrutiny. Let's look at some items that are important for safety in your field vehicles.

We should probably start with the vehicle itself. Who is responsible for repairs? What about normal maintenance such as oil changes and tire rotations? Do you have a system for keeping track of what repairs and maintenance have been done on each vehicle? A vehicle that is in good condition is the best way to start a safe day's work. A professional truck driver is required to complete a daily vehicular safety check. Do you have any requirement for your drivers to at least do a minimal check each day before they start work? Simple things such as liquid levels, steering, brakes (driving and parking), tire inflation, seatbelts, horn, etc. can be checked in just a few minutes of time. However, something must be done with the information that is collected during the inspections. If an item is found to be defective, then the driver must make a determination if it is critical to the safe operation. If a vehicle isn't safe to drive then don't drive it! I can recall one company that had a report required each week to be sent into the office, but it was completed on a daily basis. For over a year and one-half the driver had been marking that there was a major crack in the windshield. The person for the company who schedules maintenance just didn't think that was important enough to bring the truck in off the road. Plus, he didn't want to spend the money. Remember, if you have your drivers complete a list someone has to follow-up to make certain the required repairs are done by a competent mechanic.

We also need to look at the driver. Your insurance company should be doing BMV checks of all employees. Most insurance companies do the check based upon a list of employees you provide each year. Are you including non-field crew workers? Many companies don't think about employees who drive their personal vehicles during work. Even if an administrative assistant is going to the office supply store in his own vehicle, your company can have liability in the event of an incident. Most companies are now giving names of all of their workers to the insurance company. This gives them valuable information, if one or more workers have bad driving records or maybe even no license at all! Your company policies should include wording about the requirement for all employees who drive during working hours to have a valid operator's license. Don't allow anyone to drive a company vehicle at anytime or their own vehicle during work hours, if they don't have a valid opera-

tor's license. You also need to have a company policy that requires seatbelt usage while driving.

Now that we have covered the vehicle and driver how about safety equipment? There are items you may need for a vehicular emergency and then items that may be needed for work. Some items would be for both. A short list includes fire extinguisher, first aid kit, and reflective triangles for the vehicle. In addition, for work related items you need the basic Personal Protective Equipment (glasses, hearing protection, possibly a dust respirator, gloves, hardhat, etc.) along with traffic control signage, safety vests, and traffic cones. Make sure that you have ample supplies of each item. If you have three workers per vehicle there must be enough PPE so each worker can be outfitted. Believe it or not that is one of the items I find many times during my monthly inspections. In the past three months while on construction jobsites I have had surveyors on site. Every single vehicle was short even basic items such as vests. Of course I received many excuses like "I didn't know I would need my vest today" or "No one told me this was a hard hat jobsite" or my favorite one..."I didn't know they had a safety inspector for this jobsite." Your crew needs to be prepared each and every time

***Don't allow anyone to drive a company vehicle at anytime or their own vehicle during work hours if they don't have a valid operator's license.***

it leaves the office for anything they might encounter. How many times have you had to re-direct a crew during the day because a client called with an "emergency"?

Last, but not least, is how all of the required tools of your trade along with the safety gear is stowed in your vehicle. For years surveyors have used heavy plywood boxes their crews assemble. While some of these aren't bad,

some would fall apart in the event of a serious accident. If you build your own, keep in mind that the box should be secured to the vehicle. The best place would be to the frame, and not just sheet metal. However the box is constructed, you have to have covers that prohibit material from becoming flying objects in the event of a sudden braking event or wreck. Use screws and not just nails. Rebar, wooden stakes, tripods and other equipment flying through the air at 55, 65, 70 or even 80 mph can become deadly projectiles. Some of the manufactured storage boxes and compartments offer all of this protection and are geared just for the surveying profession. Also keep in mind the temperature requirements of the products you carry. We all know that spray paint can't get too hot or an explosion can occur. You need to have ample supplies of paint in your vehicle, but in excessive amount should be avoided. Also make sure that the cans aren't in direct sunlight. You might also want to look at warnings on some of your batteries. Some batteries have lower thresholds at high temperatures.

I hope this has helped you look at your vehicles from a safety standpoint. Pass this along to all of your crews and maybe we can raise the level of vehicular safety just a notch or two.

## CALENDAR

### August 9, 2008

ISPLS BOD meeting, 9:00 a.m., Headquarters, Indianapolis

### August 19-22, 2008

Surveyors Review Course. Campus of Missouri University of Science and Technology (MS&T). Co-sponsored by MS&T and Missouri Society of Professional Surveyors.

Topics: Exam Preparation, Legal Principles, USPLSS, Errors Analysis, Route Surveys, Celestial Observations, Instrumentation, Photogrammetry, GPS Surveys, State Plane Coordinates, Problems Session, Practice NCEES-like Exam. Contact: Engineering Continuing Education; MS&T: Rolla, Missouri 65409; 573-341-4132

### September 14, 2008

State Board of Registration meeting, Room W064, Indiana Government Center South, Indianapolis

### September 20, 2008

ISPLS BOD meeting, 9:00 a.m., Headquarters, Indianapolis

### September 20, 2008

South Dakota Society of Professional Land Surveyors 25th Anniversary Celebration, Mt. Rushmore National Memorial. For more information contact: Janelle Finck, (605) 348-1538 or [janelle.fiskls@midconetwork.com](mailto:janelle.fiskls@midconetwork.com)

### November 8, 2008

ISPLS BOD meeting, 9:00 a.m., Headquarters, Indianapolis

### November 9, 2008

State Board of Registration meeting, Room W064, Indiana Government Center South, Indianapolis

### December 6, 2008

ISPLS BOD meeting, 9:00 a.m., Headquarters, Indianapolis

### January 14, 2009

ISPLS BOD meeting, 9:00 a.m., Marriott East Indianapolis

### January 14-16, 2009

ISPLS 57th Annual Convention, Marriott East Indianapolis

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