Focus on Public Relations

Elementary school students in Wright County get an opportunity to find out what a career in surveying is like. Read more on page 11.

Also Inside:
Convention Preview: Page 17
The Evolution of Simplicity: Page 22
“Final Point” Monuments: Page 32
SRX
Redefining Robotics

ro•bot•ics (rō-bōt'iks) n. 1. Intelligent instrument with the ability to follow users through temporary obstructions like trees. 2. Newest technology including precise, long-range, reflectorless measurement and patented IACS and RED-Tech EX technology.

SOKKIA

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“The liberty of the press shall forever remain inviolate and all persons may freely speak, write and publish their sentiments on all subjects, being responsible for the abuse of such right...”

— Minnesota Constitution

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About the Cover
The Wright County Soil and Water Conservation
District has sponsored “Education Beyond the Black-
board” for the past ten years or so. Recently, several
MSPS members volunteered their time to explain what
surveyors do. Thanks to Ed Otto for the cover photo and
an additional photo and article beginning on page 12.
Greetings to one and all,

The theme of this issue of the Minnesota Surveyor is public relations. As such, you will find many articles about some of the things that surveyors are doing throughout the state to promote our chosen profession. I applaud those who did submit articles for this issue and I encourage others to write about activities that I believe you are involved in, in your communities. This will encourage all of our members to be involved in some kind of public relations campaign on a local level.

I received an interesting comment related to public relations from my older brother who lives in California and has traveled the world. His comment was about part of one of my earlier articles where I mentioned that three out of the four presidents on Mount Rushmore were also surveyors. His comment was that he did not know that simple fact and we surveyors as a profession certainly have a long way to go as far as public relations goes. I am glad that I have informed and enlightened at least one person and I certainly agree that there is much to be done in the area of public relations.

As I write this article, our new Executive Team and the Annual Meeting Committee are busy making preparations for our upcoming Annual Conference being held January 31, February 1, and February 2, 2007. I’m excited about the opportunities for education and enlightenment that will again be a feature of this event. Please mark your calendar if you have not already done so.

Web Committee
On Tuesday, October 24, 2006, a meeting of the Web Committee with representation from the MSPS Board of Directors was held at the office of Ewald Consulting to consider the route to pursue in order to upgrade our existing website into a “dynamic website.”

The Web Committee decided to recommend to the MSPS Board of Directors that Affiniscape content management services be purchased. The MSPS Executive Committee voted to accept this recommendation. MSPS staff is now implementing this upgrade.

Some of the features of the new website will be online bill pay, online event registration, the ability for members to update personal information, and a surveyors’ forum. It was also discussed that the role of the Web Committee will change from actually entering the data on the website as they now do, to more of an editing and monitoring role to ensure that the correct information is on the web.

On Friday, November 10, 2006, the Web Committee again met at the office of Ewald Consulting to discuss the new look and layout of the website. The actual look of the “function” pull-downs will not change. A series of pictures featuring surveyors in their various job situations will replace the colored bar with the topographic lines. As such, we are looking for some good pictures of “surveyors in action.” If you have access to such pictures, please send them to Eric Ewald. If they are not used now, they will possibly be used in the future.

The goal of the committee and staff is to have the website upgraded and ready for use by the general membership by the Annual Conference. This would be a part of the Executive Director’s Report to the membership.

The members of the Web Committee are Dave Heim, Steve Jobe, Pete Blethen, and Paul Otto. I applaud all their hard work and dedication. I want you to know that one or more committee members has worked on some aspect of the website almost daily throughout this past year. It is through their efforts that our website is what it is today.

Public Relations Committee: Brochure Redesign
On October 12, 2006, John Chaffee, Dan McAninch, John Hosfield, John Freemyer, Eric Ewald, Getchen Zampognna, and I met at the MSPS office to discuss the status of the MSPS Brochures.

We reviewed the current six brochures that were probably prepared in the 1980s. It was noted that while they were “state-of-the-art” at the time they were produced, it is time for an upgrade. We also reviewed brochures from Wisconsin, British Columbia, Manitoba, Alberta, and Ontario Societies. It is to be noted that British Columbia and Alberta have downloadable color brochures with pictures on their websites.

The committee all felt that our goal would be to produce a brochure that would also be on the website, noting that it will still be necessary to print a small number of paper copies.

Rather than just upgrade the previous themes of the brochures, it was decided to determine our current target mar-

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From the President, continued from page 4

kets. The following target markets were identified: 1) Careers in Surveying, 2) Homeowners, 3) Professional Level Clients, and 4) Public Officials.

Markets 1, 2, and 3 were given first priority and staff is now working on prototype brochures to be edited at the next committee meeting.

Relative to the public officials’ brochure, the group discussed the success that Gary Hopko and Gary Stevenson had in convincing Benton County to hire a County Surveyor a few years ago. I was directed to write to them to solicit their input on the type of thing that might be helpful in a public officials’ brochure. It was also mentioned that MACS members deal with public officials on a daily basis and possibly this brochure could be a joint effort between MSPS and MACS.

As always, if you have any ideas on this brochure or any other brochures, please contact Eric and he will see that it is forwarded to the committee.

The Public Relations Committee is also working on an overall plan of public relations efforts that will be presented to the MSPS Board of Directors at the January meeting.

Chapter 4 Meeting
On Wednesday, November 15, 2006, it was my pleasure to be the guest at the Chapter 4 Meeting which was held at the Timber Lodge Steakhouse at Canal Park in Duluth. Helen Wright from the St. Louis County Historical Society was also present. The main topic of discussion was the possibility of creating a historical display showcasing the role of surveyors in the development of the area. Steve Jobe provided photos of displays in Wisconsin of a Railroad Museum and a museum display in Waukesha, Wisconsin was reviewed. Helen Wright stressed that rather than a display that showcases surveying in general, it would be most desirable to highlight the local involvement of surveyors in the specific area of Chapter 4. Initially, the plan is to house the display at the Railroad Museum in downtown Duluth. Helen stated that the typical amount of time at any location would be 3 to 4 months.

Future Chapter 4 display locations that were mentioned were the Interpretive Center in Ely, Ironworld Discovery Center in Chisholm, the Heritage Museum in Virginia, etc. An estimate of cost to build the exhibit was $2,000. There was discussion about the possibility of splitting the cost between Chapter 4 and MSPS. At the MSPS Board of Directors’ meeting a motion was passed to offer up to $1,000 for each Chapter on a matching basis to create a traveling historical exhibit.

I will write a letter to all of the Chapters to inform them of this initiative. I believe if you were to think about it, you would be able to come up with places in or near your community where such a display could reside on a temporary basis. I will also distribute pictures of the displays from Wisconsin. You will see that they only used a few pieces of survey equipment; i.e., a dumpy level, a gunter’s chain, and a steel tape. The rest of the exhibit is mainly graphics consisting of pictures, historic maps, and verbiage.

MSPS does have a limited amount of survey equipment that could be loaned to the Chapters for display purposes. For your information, MSPS does carry insurance on all of the historical equipment.

Chapter 4 created a committee to study this idea and come back to the next Chapter Meeting (at the MSPS Annual Conference) with a recommendation.

An election of officers was held with the following outcome: Charlie Chernak moved up to President from Vice President. Nick Stewart was elected Vice President with Maureen Hayes remaining as Secretary/Treasurer. Congratulations to all!

Chapter 3 Meeting
On Thursday, November 16, 2006, it was also my pleasure to be a guest at the Chapter 3 meeting held at the Holiday Inn South in Rochester.

A discussion was held regarding recent happenings at the MSPS Board of Directors meeting. I brought up the possibility of creating a traveling historical exhibit for Chapter 3. It was pointed out that Rochester, Red Wing, Winona, and other cities in Chapter 3 are travel destinations for many tourists each year. The display of MSPS historical equipment that was at Vince Fangman’s office in Pine Island for several years was also mentioned.

Roger Brand knows of several pieces of antique equipment; he will check into its status and report to the Chapter at the next meeting in January.

An election of officers was also held with the following results: Cory Felderman was elected President, Mark Haselius was elected Vice President, and Michael Fangman was elected Secretary/Treasurer (pending his approval as he was not present at the meeting). Congratulations to all!

A discussion took place about setting meeting dates for the upcoming year. I encouraged Chapter 3 and all Chapters to forward their minutes and any other Chapter happenings to Eric Ewald at mpsa@mnsurveyor.com. That way this information can be shared on the website.

Continued on page 6
MSPS Board of Directors’ Meeting
On Friday, November 17, 2006, the MSPS Board of Directors met at the MSPS offices. All members were present except Pat Trottier. Following is my report on some of the more noteworthy parts of our discussions:

Membership:
The Board approved a slate of new members in various classes as detailed in the Executive Director’s report in this magazine. Welcome aboard! I look forward to meeting each and every one of you. I encourage you to become involved at the committee and chapter level of MSPS. I hope that you will never regret your decision to join MSPS!

Executive Director:
Eric gave us an update of the progress of the website transition team meeting that I mentioned earlier.

Referrals have slowed to approximately two calls per week from 10 calls earlier this summer. Twenty One Report 4s were sold in November. Motion was made to authorize the web transition team to select a vendor that will provide clothing on which the MSPS logo would be applied. Expectations are that there will be no cost to MSPS and will probably be no profit to MSPS; however, there will be no capital expenditure or storage and shipping issues, either.

Past Presidents Committee/Final Points Report:
The committee has formulated a letter that will be sent to the known survivors of our deceased Past Presidents.

Based upon my last News & Views, we have been informed of the whereabouts of the relatives of Samuel Benzing Jr. (1960) and Carl Berg (1978). However, we still need information about survivors of the following: Dean Anderson (1954), Albert M. Kircher (1956), Carl J. Nedberge (1957), Charles O. Georgi (1962), Lloyd A. Ofstedahl (1963), James Simonet (1964), Peter J. Meyer (1965), and Philip A. Elmquist (1969-70).

Additionally, there was discussion about the possibility of living Past Presidents who have made arrangements for their final resting place. If you have made that determination and a plot has been chosen, there is no reason that the marker could not be installed. Also, we discussed the possibility of mounting the survey disc in a plaque if the cremation option is chosen.

The committee will send a letter outlining those options to the living Past Presidents in the near future.

NSPS Insurance:
After I attended the NSPS meeting in April, I volunteered to “check out” the NSPS insurance program.

I reported to the Board that we compared Errors and Omissions, Health, Auto, Worker’s Compensation, and Business Owners and Building Insurance with the NSPS Insurance Representative, Scott Sorensen of Assurance Risk Managers, Inc. (A.R.M.).

There was virtually no savings in any area except Errors and Omissions. I reported that savings to be significant; to the point that Otto Associates has switched insurance carriers with a cost savings of more than 50%. A.R.M. quoted four different insurance companies. Although it was not the cheapest, we chose to go with the New Hampshire group because of the size and overall excellent rating of the company. I recommend that you contact A.R.M. at the following address:

Scott Sorensen
Assurance Risk Managers, Inc.
2851 South Parker Road, Suite 760
Aurora, CO 80014
Phone: 303-454-9562

The only stipulation is that you be a member of NSPS. However, with a cost savings of over $18K per year, we can afford to be NSPS Members for a long time.

I do believe that an A.R.M. Representative will be at our Annual Conference.

Governor’s Report:
Look on page 8 for John Freemyer’s report on the Fall Meeting of NSPS.

The Board talked about problems that NSPS is having getting sponsorship for the safety video that they are producing.

We also discussed a “Careers in Surveying” video that the California Society has produced and the possibility of MSPS obtaining the rights to copy and distribute this video, edited to reference MSPS instead of California. The estimated cost would be $1,000. I will keep you informed of the progress of this initiative.

Legislative Report:
Tom Pou, Nancy Haas, and Rick Morey (Chair) joined the meeting for the Legislative Report.

Prevailing Wage:
The Board approved the latest draft of the proposed classifications recommended by the committee. The strategy is to go forward and work with the Department of Labor (DOLI) to pursue a rule change. If that effort is unsuccessful or untimely, an attempt to change the statutes in the Legislature will be pursued.

Metes and Bounds:
The Board approved the final draft of the proposed recommended changes to

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A looming new year, time to renew your commitment to MSPS.

As this year comes to an end, the Board of Directors and staff are busily preparing for a new year for MSPS. Plans are in full swing for the Annual Meeting, new leadership coming onto the Board, a new operations plan, implementation of a new budget, sharpened strategic focus and membership renewals. Former Board members and Past Presidents can attest to the heavy lifting involved in keeping this organization operating in a way that adds value to membership and to hold the organization up as the professional and social center of the surveying profession in Minnesota — a position much revered since 1953. The organization is in great shape thanks to the volunteers who inject time, energy, and enthusiasm into its operations.

MSPS is also built and made stronger by the active participation of the organization’s 500-plus members throughout the state. I have read numerous descriptions of the members of an organization as its “lifeblood.” The Board and staff work together to build key structures and systems, and members make everything work through participation and support. So as this year is coming to a close, here are some ideas for all members to make the most of the membership experience for themselves and the greater whole:

Serve on a committee or the Board
Participating in the work of a committee or Board will help you or your staff members develop leadership skills that will serve well in your work. You will be networking and “in the know” regarding what is going on in the profession. You will become appreciated as a leader.

Get your staff involved
Would you like to magnify the value of your membership? Get more staff members involved. The value of your membership is limited only to you if other staffers don’t hear about training events, participate in leadership opportunities or read the publications. When you get staff involved they grow in their careers and they learn about their (your) profession. Importantly, attendance at association events can be an affordable “perk” to give your staff that will leave them recharged when they return to work.

Share an idea
Afraid your competitor will learn what you are doing and use it to capture the market? After 12 years in the association business, I’ve never heard of it. In my opinion, many businesses are more likely to suffer at the hands of an “outside” threat (for example, a competitor that isn’t yet in the business) than by a current competitor down the street. Share what you know, learn from them and get better together! Share the ideas by writing newsletter articles, teaching a course and participating in events.

Welcome New Members
We are pleased to welcome the following new members approved at the November Board of Directors meeting:

Life Member:
Donald Coulter

Firm Members:
Lake Country Land Professionals
Moore Engineering, Inc.

Training Members:
Ralph Schnorr
Jason Short
Nate Carlson
Jonathan Faraci

Technical Member:
Matthew Thibodeau

Student Member:
Benjamin Voegele

A Final Important Reminder...
The message has been going out for eight months via President’s News & Views, the Surveyor, the web and countless emails about our new address. This is a last reminder as many of you begin to send 2007 dues payments and An-

Continued on page 9
NPSP has endorsed a geocaching program as a method of promoting the surveying profession. This is a wonderful opportunity to become involved in a high-tech hobby and promote our profession to other geocachers at the same time. For this program to be successful the support of the State affiliates, local chapters and individual members is absolutely necessary.

What is geocaching?
Geocaching is a rapidly growing hobby that is essentially a hi-tech version of the old Treasure Hunt game. The basic idea is to have individuals and organizations set up caches and share the coordinate location of these caches on a geocaching website. Participants obtain coordinates on the website and use a handheld GPS to find the cache, which is usually a water-proof container that typically contains novelty items, a log book and pencil. The overall goal is to find a cache, take an item, possibly leave an item and enter the visit in the log book. Geocachers have the option of logging back onto the website to chronicle their finds for others to read.

The hobby began in 2002, two days after the Clinton Administration opened up the Global Positioning System to high-end civilian use. As of Spring 2006, there were 225,000 caches in more than 200 countries!

There are four basic kinds of “caches” and numerous games connected with this hobby:

1. Easy to find caches;
2. Hard to find caches;
3. Virtual caches (meaning “nothing there.” So a virtual cache means there is no cache container. It’s the location that is the cache itself. Nothing is normally traded, except photos and experiences);
4. “Off-set” caches (which are connected to Benchmarks).

Basic Information about Benchmark Hunting, Guidelines for hiding or listing a cache, a glossary of terms, and Frequently Asked Questions are all available at [www.geocaching.com](http://www.geocaching.com).

The NSPS Geocaching Program is described in a “Recommended Geocaching Guidelines” that will be available on the NSPS website and distributed to the affiliates. NSPS will also provide some cache contents (6-inch ruler with surveyor logo). It is also recommended that each state prepare a set of “Did You Know” cards to share some basic facts about the surveying profession.

Ideally, each state society will appoint a person to oversee its overall program and get individual surveyors to establish and maintain various sites across each state. During National Surveyors Week 2007 (the third week in March), the entire network would be publicized on both a state and national level.

The MSPS Board of Directors and Public Information Committee will be considering this program and will likely be looking for volunteers to help with implementation. This is also an excellent opportunity for our chapters to become involved and insure that caches are evenly distributed across the state. Contact any member of the Board or the administrative office and become involved.

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Definitions of Surveying and Associated Terms

The 2005 revised edition has been updated to incorporate over 500 new definitions and modify approximately 150 others. It contains over 100 more pages than the previous edition which was published in 1978.

Price: NSPS Member — $22.00; Non-Member — $27.00.

This book and numerous others can be ordered at [acsm.net](http://acsm.net)
or

ACSM, 6 Montgomery Village Avenue, Suite 403, Gaithersburg, MD 20879
From the President-Elect

John Hosfield

I am grateful and honored that I will be installed as the President of MSPS at our annual conference early next year. We should all be proud of the fact that MSPS will be celebrating its 55th year. I am especially thankful for all of the land surveyors who came before me, paving the way and providing an opportunity for all of us today. I look forward to representing our organization throughout the coming year. My term as President-Elect represents my fifth year on the Board of Directors. I spent four years as Director starting in 1999 and I am now in the first year of the three-year presidential term.

This past year as President-Elect has been filled with many of the same issues that MSPS dealt with in my first term as Director. There also have been many new issues to deal with — including hiring a new Executive Director, changing the duties of the secretary and treasurer to transfer some of their responsibilities to Ewald Consulting Inc., our new Executive Director.

I had the good fortune to grow up in a land surveying and civil engineering family which began almost 100 years ago when my grandfather Percy and his brother Raleigh Hosfield, who both lived in Faribault, would take the train to Owatonna, rent a horse and buggy and spend the day doing surveying and engineering work. My first experience as a land surveyor began in 1964 working for my father. So, for me growing up, land surveying was a very logical choice to pursue as a career. Unfortunately most people don’t have that type of family background and we all need to do whatever we can to encourage young people to pursue a career in land surveying. The study done in 2000 showing that the majority of land surveyors are in their 50s has changed very little — except those same surveyors are now approaching their 60s.

My wife asked me when I attended my first conference and what I remembered about it. I told her it was in 1969 at the Ambassador Hotel in St. Louis Park which I was attending with my Dunwoody classmates, and what I remembered was lunch. She laughed at me and asked if that was all I could remember about the conference. I explained to her that the reason lunch was so memorable was because just before lunch I was standing with two of my classmates when my father approached us. I introduced my friends to my father and he offered to buy the three of us lunch at the conference. My friends and I spent more than an hour with my father telling him about our classes at Dunwoody and he talking to us about his life as a land surveyor. I realize now my father was giving back to the profession by mentoring three young Dunwoody students and encouraging them to become involved in the land surveying profession.

We all need to give back to our profession and there are so many ways that we can do that: by taking interest in a young student at a conference luncheon, getting involved in TrigStar, speaking to a service club, serving on a committee or volunteering to have your name on the MSPS ballot and being willing to serve on the Board of Directors. One of the great rewards of serving on the board has been the opportunity for me to meet and get to know other surveyors from across our great state.

As has been discussed by many President-Elects in the past, it would be nice to increase our membership. Hopefully, making membership renewal available through the website and allowing for credit card payments will encourage more Land Surveyors to become members of MSPS. I encourage all of you to check out our new and revised website at www.mnsurveyor.com.

I look forward to working with all of you during this next year and I encourage each and every one of you to become more involved with MSPS. Thank you for your support.

From the MSPS Executive Director, continued from page 7

Address tied to the vendor). We want to make sure your dues renewals and Annual Meeting registrations are processed promptly! Thanks!

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From the Editor: Public Relations

By David Zenk, PE, LS, Editor

This issue of the Minnesota Surveyor magazine focuses on Public Relations. I thought it would be interesting to ponder what “public relations” means.

I hear the words advertising, lobbying, volunteerism, and softer words like good appearance, expertise, and citizenship — all of which describe an aspect of public relations.

Wikipedia, the online encyclopedia (www.wikipedia.com), defines public relations as, “the art of managing communication between an organization and its key publics to build, manage and sustain a positive image.”

This definition rightfully casts a wide net that includes the breadth of public relations activities in modern society. Since the concept is so broad, it is easy to get confused when pondering how to “do public relations.”

So let’s simplify it. Public relations is the result of all the intentional and unintentional activities you do in your life.

As editor, I will take this opportunity to shamelessly plug for you to show your public relations acumen by writing an article for the Minnesota Surveyor. Here is the list of focus topics for upcoming issues. Pick one and write something. I can hold it in my computer until publication day — yes, even for 2 years!

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National Geodetic Survey Announces New State Advisor

By Gilbert Mitchell, Chief of NGS Geodetic Services Branch

The National Geodetic Survey announces the appointment of David A. Zenk, PE, LS of Plymouth, MN, as Geodetic Advisor in Minnesota.

Prior to NGS, Zenk was a Principal Land Surveyor in the Geodetic Services Unit at the Minnesota Department of Transportation. He has taught Civil Technology and Land Surveying at Dunwoody College of Technology in Minneapolis. He holds Bachelors Degrees in Mechanical Engineering and Civil Engineering from the University of Minnesota and a Masters Degree in Surveying from Oregon State University. He is licensed as a Professional Engineer and Professional Land Surveyor in Minnesota. He is active in the surveying profession, serving as Editor of the Minnesota Surveyor magazine, teaching a surveying course in the University of Minnesota Geography Department, and speaking at surveying and mapping conferences.

“I am looking forward to working with him to meet the geodetic needs of surveyors and other land professionals in and around Minnesota,” notes Mitchell.
Land surveyors have an image problem. It’s not that we have a bad image; it’s that we’re nearly invisible. And why not? The average person can easily live his or her entire life without ever personally needing our services. Add to that our long history of very little self-promotion. Nevertheless, the services we provide are important to society. That’s a message which needs to be shared through well-planned public relations efforts.

Public relations has been described as the act of creating, improving and sustaining an identity by repeating consistent messages. It’s a proven method to communicate key messages to target audiences. Used strategically it can deliver information through various channels (i.e., media coverage, article placements, newsletters, speaking opportunities, websites, etc.) to help shape the way individuals think about — and respond positively to — a profession or organization.

Organizing public relations efforts could be a daunting task without the ability to pool our resources and talent through an organization such as MSPS. As a group, we can develop strategies for sustained and consistent efforts. Together we can fund efforts that would be difficult or impossible for a single person or company.

We have several target audiences, but our largest target audience can best be described as everyone. For over a year, MSPS has sponsored messages on public radio stations. These messages provide us with an efficient and cost-effective way of reaching everyone in the state who happens to be listening to one of many broadcasts. We have been working to track the success of this effort by monitoring the increased visits to the MSPS website and in some cases personal stories from listeners.

Currently the MSPS Public Information Committee is working on a set of new brochures. They are being designed for target audiences that include homeowners, developers, public officials and people interested in a surveying and mapping career. The media experts at Ewald Consulting will apply the final edits and graphics. When the brochures are completed everyone can help distribute them appropriately.

The Committee is also considering plans for a speakers’ bureau. One of the best methods to promote our profession is to provide speakers for schools, civic organizations, and other professional groups. Some subjects being discussed are the preparation of speaking outlines and PowerPoint files for consistent messages; speaker training and practice sessions; and promotion of the speakers’ bureau to potential audiences.

There are many other public relations methods. They include promotional events, Trig-Star, press releases, and

Continued on page 12
of the newest methods, as suggested by NSPS, may be using geocaching to make contact with potential future surveyors. P.R. experts advise that a variety of methods should be used together to obtain the best results.

We are licensed by the State for the protection of the public. With that comes a responsibility on our part to inform the public about our services. If we carry out that part of our responsibility, it will make our professional practice easier and more effective in several ways. Clients will have a better understanding of what we do, and don’t do. Public officials will be more cooperative about long-term efforts such as monumentation and GIS control. And more young people, and those considering a career change, will think of surveying. They will add new energy to our profession, not to mention taking some of the work off our overflowing desks.

The key to success is understanding that everyone needs to be involved. For that to happen, MSPS officers and the Committee need to hear from you about public relations—what is working, what isn’t, and anything new that might be tried. We are particularly interested in anything you or your firm may be doing that increases the visibility of the surveying profession. You can send information and comments to Committee chair John Chaffee (jchaffee@clark-eng.com) or to any officer, Board member, or Committee member.

Current Committee members are John Freemyer, Dan McAninch, Rick Morey, Dave Pemberton, Ric Williams, and Paul Voge. More members are welcome.

Wright County Soil and Water Conservation District 5th Grade Education Days
By Ed Otto

For the past decade or so, this District has sponsored “Education Beyond the Blackboard” at Ney Park near Maple Lake, MN. This takes place for three days in mid-September and May so that every 5th Grader in Wright County will have an opportunity to attend this event. This past year, there were 54 classes with a total attendance of about 1,350 students.

The way it works: Ten to twelve “teachers” are assigned to various stations throughout the park’s walking trail system. Each “teacher” will teach a class for approximately 15-20 minutes before the students rotate to the next class site. Class length depends on how many classes are scheduled for that specific day.

Past speakers have included Minnesota Department of Natural Resources conservation officers, Minnesota Department of Natural Resources Fishing staff, Metropolitan Mosquito Control District representatives, animal trainers, foresters, biologists, master gardeners, representatives from Pheasants Forever, and last but not least, Land Surveyors.

Recently, Lee Brown, Steve Jobe, and Ed Otto volunteered their time to tell the 5th graders what Land Surveyors do. Because the classes are held in an outdoor setting, it is easy to make a connection with a career where you can work outside. However, for those students who are not thrilled with the outdoors, there is certainly a career working in the office on computers with CADD. Emphasizing this information works especially well on days when the weather is threatening.

Past presentations have been a display and explanation of surveying equipment from old to new, with an emphasis on new technology, computer applications, and GPS. Also mentioned are the planning aspects of surveying and that many surveyors do presentations at City and County planning meetings.

In summary, this is a very worthwhile public relations/career activity in support of the profession that has been in place for quite some time now and one that will continue in the future.
Tucked within a lengthy bill dealing with state lands is a provision that requires cities to assist owners of landlocked properties by establishing easements, or cartways, for purposes of accessing property from a public road.

On May 26, 2006, Governor Tim Pawlenty signed into law Chapter 236. One of the provisions that went into effect the following day included a new state statute, Minn. Stat. (M.S.) 435.37. The new law provides that upon petition presented to the city council by the owner of a tract of land containing at least five acres, whose access to the property is limited to a navigable waterway or over the lands of others, the city council, by resolution, must establish a cartway connecting the petitioner's land with a public road. The law allows some city council discretion by providing that the city council may select an alternative route other than that petitioned for.

Who pays for the costs related to establishing a cartway? Before the cartway is opened, the petitioner must pay the full amount of damages to the city. According to the statute, "damages" means the compensation, if any, awarded to the owner of the land upon which the cartway is established together with the cost of professional and other services, hearing costs, administrative costs, recording costs, and other costs and expenses that the city may incur in connection with the proceedings for the establishment of the cartway. In addition, the city council may require the petitioner to post a bond or other security acceptable to the city council before the city council takes action on the petition.

Can a city expend street or bridge funds on a cartway? The statute explicitly states that a city cannot expend street or bridge funds on a cartway unless the city council, by resolution, determines that an expenditure is in the public interest. If no resolution is adopted to that effect, the grading or other construction work and the maintenance of the cartway is the responsibility of the petitioner.

Who pays for the maintenance of a cartway? If the city council does not pass a resolution stating the cartway serves the public interest, cartway maintenance costs must be borne by private property owners. The law provides that when a cartway is not maintained by the city, one or more of the private property owners who own land adjacent to a cartway, or one or more of the private property owners who has no access to the owner's land except by way of the cartway, may maintain the cartway. The statute provides that the cost must be equitably divided among all of the private property owners who have no access to their land except by way of the cartway.

The following factors may be taken into consideration when determining an "equitable" share of maintenance expenses:

- The frequency of use.
- The type and weight of the vehicles or equipment.
- The distance traveled on the cartway to the individual's property.

If the private property owners cannot agree on the division of the costs, the city council may determine the maintenance costs to be apportioned to each private property owner. The city council's decision may be appealed within 30 days to the district court.

Report 1

By Ted Kemna

The Report 1 Committee has met several times to go over the existing book and each committee member reviewed a particular portion of the book. Members of the committee have reviewed and suggested corrections, revisions and additions to the current report. Suggestions have also been made to the introductory paragraphs of the report as well as to the individual chapters.

With the recommendations from the committee members, I will make a first draft of the revised report for review by the committee and some other MSPS members before a final draft is available. The plan is to have the report completely reviewed and available for use by the Annual Conference in February 2008.

The committee members are Roger Brand, John Freemyer, Ronald Olson, John Starway, Gary Stevenson, Jerry Taylor, Paul Voge, and Ted Kemna.
Now how’s that for a title? A while back, I was asked to compile an Internet/online topic article for our MSPS publication. Now we all know just how big a topic that can be, and how wordy a person could get, especially me.

Many surveyors find themselves engulfed in technology that can improve the surveying workflow, such as CAD, COGO, computer networks, or Total Stations and GPS units. But as we are surrounded by technology, let’s not forget that it’s just another tool, one that we can take advantage of, as opposed to being victims of technology.

Why Citynerd? Well, I had to have some type of catchy name that could start this article out easy, and besides, www.citynerd.com remains my fun site, one that that I first did for my web school portfolio, but today is for my own fun, when I have the time...

Enjoy the stay; here are some highlights of our online world that perhaps some of you had not realized.

According to a report by the market research firm Frost & Sullivan, on average, it costs an organization $33 to have a staff person respond to a query by phone, $8 to respond via email, and 25 cents to process via a website.

<table>
<thead>
<tr>
<th>Marketing Quality</th>
<th>World Wide Web</th>
<th>Radio</th>
<th>Newspaper</th>
<th>Periodicals</th>
<th>Television</th>
<th>Direct Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large national audience</td>
<td>Yes</td>
<td>Maybe</td>
<td>Maybe</td>
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<td>Maybe</td>
<td>Yes</td>
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<td>International exposure</td>
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<td>No</td>
<td>No</td>
<td>Maybe</td>
<td>Maybe</td>
<td>No</td>
</tr>
<tr>
<td>Can be targeted to a specific audience</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Maybe</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Audience members can view ads at their convenience</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Relative expense</td>
<td>$</td>
<td>$$</td>
<td>$$</td>
<td>$$$</td>
<td>$$$</td>
<td>$$$</td>
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<tr>
<td>Instant customer interaction</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>


* Bigger & BIGGER ...

The sheer size of the Internet population continues to increase, now at an all-time high. While the percentage of Americans who say they use the Internet has continued to fluctuate slightly, Pew Internet’s latest survey, fielded February 15 - April 6, 2006, shows that fully 73% of respondents (±147 million adults) are Internet users, up from 66% (about 133 million adults) in the January 2005 survey. And the share of Americans who have broadband connections at home has now reached 42% (about 84 million), up from 29% (about 59 million) in January 2005.

So to put all that in perspective, considering the 16 months from January 2005 to April 2006, there was a 14 million American user increase.
* Top 10 Internet activities (out of a list of 65):

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent of Internet users who report this activity</th>
<th>Most recent survey date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send or read e-mail</td>
<td>91%</td>
<td>December 2005</td>
</tr>
<tr>
<td>Use a search engine to find information</td>
<td>91%</td>
<td>December 2005</td>
</tr>
<tr>
<td>Search for a map or driving directions</td>
<td>84%</td>
<td>February 2004</td>
</tr>
<tr>
<td>Look for health/medical information</td>
<td>79%</td>
<td>November 2004</td>
</tr>
<tr>
<td>Research a product or service before buying it</td>
<td>78%</td>
<td>February-March 2005</td>
</tr>
<tr>
<td>Check the weather</td>
<td>78%</td>
<td>November 2004</td>
</tr>
<tr>
<td>Look for info on a hobby or interest</td>
<td>77%</td>
<td>November 2004</td>
</tr>
<tr>
<td>Get travel info</td>
<td>73%</td>
<td>May-June 2004</td>
</tr>
<tr>
<td>Get news</td>
<td>68%</td>
<td>December 2005</td>
</tr>
<tr>
<td>Buy a product</td>
<td>67%</td>
<td>May-June 2005</td>
</tr>
</tbody>
</table>

Source: Pew Internet & American Life Project Tracking surveys (March 2000 - April 2006). Please note that the wording for some items has been abbreviated.

Note: For the full report, please refer to www.pewinternet.org/

Continued on page 16

Did you know.... That it is proper to always capitalize the word Internet?

* Want to learn more? Citynerd recommends: www.learnthenet.com
* What are people looking for, and the MSPS site

<table>
<thead>
<tr>
<th>#</th>
<th>Hits</th>
<th>%</th>
<th>Search String</th>
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</thead>
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<tr>
<td>1</td>
<td>47</td>
<td>17.15%</td>
<td>mspsp</td>
</tr>
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<td>2</td>
<td>24</td>
<td>8.76%</td>
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</tr>
<tr>
<td>3</td>
<td>20</td>
<td>7.30%</td>
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</tr>
<tr>
<td>4</td>
<td>15</td>
<td>5.47%</td>
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<td>5</td>
<td>13</td>
<td>4.74%</td>
<td>mnsurveyor</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
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<td>7</td>
<td>8</td>
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<td>Land surveyors minnesota</td>
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<td>Mnsurveyor.com</td>
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<tr>
<td>9</td>
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<td>10</td>
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<tr>
<td>11</td>
<td>5</td>
<td>1.82%</td>
<td>minnesota surveyor</td>
</tr>
<tr>
<td>12</td>
<td>5</td>
<td>1.82%</td>
<td>mn society of professional surveyors</td>
</tr>
<tr>
<td>13</td>
<td>5</td>
<td>1.82%</td>
<td><a href="http://www.mnsurveyor.com">www.mnsurveyor.com</a></td>
</tr>
<tr>
<td>14</td>
<td>4</td>
<td>1.46%</td>
<td>becoming a land surveyor</td>
</tr>
<tr>
<td>15</td>
<td>4</td>
<td>1.46%</td>
<td>Land surveying</td>
</tr>
<tr>
<td>16</td>
<td>4</td>
<td>1.46%</td>
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<tr>
<td>17</td>
<td>4</td>
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<tr>
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<td>minnesota state surveyors</td>
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<tr>
<td>19</td>
<td>3</td>
<td>1.09%</td>
<td>surveying minnesota</td>
</tr>
<tr>
<td>20</td>
<td>2</td>
<td>0.73%</td>
<td>Land surveying minneapolis area</td>
</tr>
</tbody>
</table>

* Citynerd’s notes: In theory, these visitor counts shown would represent non-member users visiting www.mnsurveyor.com. (There were 2801 unique visitors to www.mnsurveyor.com during October, 2006).

David Heim is a Land Surveyor and web developer, employed by Hennepin County, MN. His surveying-related website developments include: www.landsurveyor.us, www.macsinfo.us, www.mnsurveyor.com, and several areas of www.hennepin.us.
### Preliminary Program: Schedule at a Glance

**Minnesota Society of Professional Surveyors**  
**55th Annual Meeting: January 31 - February 2, 2007**

#### Wednesday, January 31

<table>
<thead>
<tr>
<th>Time</th>
<th>Session A</th>
<th>Session B</th>
<th>Session C</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 to 8:30 a.m.</td>
<td>Registration</td>
<td>Evidence, Exhibits and Testimony: Boundaries</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>and Beyond</td>
<td></td>
</tr>
<tr>
<td>8:30 a.m. to</td>
<td>Evidence, Exhibits and Testimony: Boundaries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:30 p.m.</td>
<td>and Beyond</td>
<td></td>
<td></td>
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</tbody>
</table>

#### Thursday, February 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Session A</th>
<th>Session B</th>
<th>Session C</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 to 8:30 a.m.</td>
<td>Check in, registration, Exhibit Hall opens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:30 to 10:15</td>
<td>Business Meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:15 to 11 a.m.</td>
<td>Break: Visit the Exhibitors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 a.m. to noon</td>
<td>The New Eminent Domain Law in Minnesota</td>
<td>Leica Geosystems</td>
<td>Chapter meetings</td>
</tr>
<tr>
<td></td>
<td>Lee McGrath</td>
<td>Greg Schneider</td>
<td></td>
</tr>
<tr>
<td>Noon to 1:15 p.m.</td>
<td>Lunch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:15 to 2:15 p.m.</td>
<td>RTK Testing: Conventional vs. VRS</td>
<td>Grid Systems</td>
<td>MACS Meeting 1:15 to 4:30 p.m.</td>
</tr>
<tr>
<td></td>
<td><em>Brad Canaday</em></td>
<td>Gerald Mahun</td>
<td></td>
</tr>
<tr>
<td>2:25 to 3:25 p.m.</td>
<td>Positional Accuracy &amp; Potential Errors</td>
<td>Astronomic Observations</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Dave Zenk</em></td>
<td>Gerald Mahun</td>
<td></td>
</tr>
<tr>
<td>3:30 to 4:30 p.m.</td>
<td>TrigStar</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Rob Roberts</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Friday, February 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Session A</th>
<th>Session B</th>
<th>Session C</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 a.m.</td>
<td>Prayer Breakfast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:30 to 9:15 a.m.</td>
<td>Legislative Agenda</td>
<td>Boundary Re-establishment</td>
<td>Colorado Survey</td>
</tr>
<tr>
<td></td>
<td><em>Tom Poul</em></td>
<td>Gerald Mahun</td>
<td>Jay Wittstock</td>
</tr>
<tr>
<td>9:20 to 10:05 a.m.</td>
<td>MSPS Open Forum</td>
<td>PLS Layout</td>
<td>Frontier Precision</td>
</tr>
<tr>
<td></td>
<td><em>MSPS Board</em></td>
<td>Gerald Mahun</td>
<td>Steve Richter</td>
</tr>
<tr>
<td>10:10 to 11 a.m.</td>
<td>State Board of Registration</td>
<td>PLS Layout</td>
<td>Coordinates for Section Corners</td>
</tr>
<tr>
<td></td>
<td><em>Bill Brown, Don Borcherding</em></td>
<td>Gerald Mahun</td>
<td>Rich Antony</td>
</tr>
<tr>
<td>11 to 11:30 a.m.</td>
<td>Break: Visit the Exhibitors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30 a.m. to 1:15 p.m.</td>
<td>Lunch, Awards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:30 to 2:20 p.m.</td>
<td>CADD Tips and Tricks</td>
<td>PLS Lost Corner Restoration</td>
<td>U.S. University Surveying Education</td>
</tr>
<tr>
<td></td>
<td><em>Sharon Flade</em></td>
<td>Gerald Mahun</td>
<td>Ken Wong</td>
</tr>
<tr>
<td>2:30 to 3:30 p.m.</td>
<td>Architecture &amp; Suburbia</td>
<td>PLS Section Subdivision</td>
<td>Inventory of the Public Land Records of</td>
</tr>
<tr>
<td></td>
<td><em>John Archer</em></td>
<td>Gerald Mahun</td>
<td>Minnesota</td>
</tr>
<tr>
<td>3:30 to 4:45 p.m.</td>
<td>Closing Session</td>
<td></td>
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</table>
Minnesota Society of Professional Surveyors
55th Annual Meeting: January 31 - February 2, 2007
Program Highlights and Other Details

Exhibits: Thursday and Friday, Terry Haws Center
Exhibits for 2007 take place on both Thursday and Friday in the spacious Haws Center, located on the first floor. Stop by and visit with our exhibitors and sustaining members as well as representatives of educational institutions. Refreshments will be served in the Haws Center after the exhibit hall opens. Exhibits open at 8 a.m. on Thursday.

13th Annual Map Contest: Thursday and Friday, Terry Haws Center
Entries will be judged in three categories: Subdivision Plat, C.I.C., and RLS; Boundary and/or Topographic Survey; and A.L.T.A. Survey. A student category is also included. The entry fee is $5 per map. Cash and certificates will be awarded, and the maps will be displayed in the Exhibit Hall (Haws Center) Thursday through early Friday afternoon.

MLS Foundation Silent Auction: 9 a.m. Thursday and Friday, Haws Center. Auction will close at 1 p.m. on Friday.
To raise scholarship funds, the MLS Foundation will hold its traditional silent auction in the Exhibit Hall. Winners will be announced Friday after lunch and before the afternoon sessions start.

Acoustic Jam Session: 4:30 to 5:30 p.m., Thursday
Musicians — bring your instruments. No amps, please. Everyone is welcome to attend.

MLS Foundation Live Auction: 5:30 to 6:45 p.m. Thursday, Haws Center
In conjunction with the pre-President’s Banquet Social, the foundation will offer the opportunity to verbally outbid your friends and coworkers on donated items for sale. The cash bar will open at 4:45 p.m.

President’s Banquet: 7 p.m. Thursday, Civic Center: Glenn Carlson Hall (ticket required)
Join us for a gala evening of socializing, food, entertainment and door prizes. We will have a bountiful buffet that includes your choice of four entrees, side dishes, salads and desserts. Everyone is welcome. Please consider this a personal invitation from the President — Ed and First Lady Wendy Otto would like to share this evening with you.

Friday Prayer Breakfast: 7 a.m. Friday
Radisson Hotel: Private dining room off Chanticleer (ticket required).

Friday Lunch Speaker: 11:30 a.m., Haws Center
Awards, MLS Foundation scholarships and Trig Star Program

Location: The conference will be held at the Civic Center in St. Cloud, Minn. The Civic Center is located downtown beside the Mississippi River at 10 Fourth Ave. South. A direct phone line will be set up to the registration booth for your convenience in locating attendees. The number will be listed in our confirmations.

Lodging: Rooms are available at your choice of two hotels — both adjacent to the St. Cloud Civic Center. All rooms at both hotels are non-smoking unless you specifically request a smoking room. At the Kelly Inn, single/king rooms are $74 + tax; double rooms (two double beds) are $84 + tax. Call the hotel at 320-253-0606 for reservations. At the Radisson, standard double rooms (two double beds) are $76 + tax; queen suites are $76 + tax; master suites (2 rooms, 2 double beds, sofa sleeper) are $86 + tax. Call 320-654-1661 for reservations. Room blocks are available at both hotels only until Dec. 30, 2006 — so make your reservations now!

Pre-registration: This is your way to save money and to enable us to plan the meeting better with adequate counts. Substantial price reductions will be realized for early registrations and for MSPS members. You can also take advantage of discounts for multiple registrations from the same firm or agency if you use a single check (see registration forms). Purchase orders, checks and credit cards are accepted. Confirmations will be sent.

Refund policy: Full refunds for cancellations prior to Jan. 15; 50 percent refunds prior to Jan. 22 and no refunds thereafter. Substitutions are permitted.

Meals: Wednesday seminar fees include morning and afternoon refreshments and lunch. All conference packages include Thursday and Friday morning and afternoon refreshments and Friday lunch only. Packages A, C and E also include Thursday lunch and the President’s Banquet. Optional additions: Thursday lunch, President’s Banquet and Prayer Breakfast. Please note special meal requests on the forms.

Continuing Education: Minnesota PDHs — the state board does not pre-approve credits. You must decide from their rules which classes you determine you can claim for credit. The two business meetings will not be covered. Forms for Minnesota, Iowa, North Dakota and South Dakota will be available at the registration desk.

Reciprocity Programs: MSPS will offer a $20 discount from its nonmember fee for those attending from a neighboring association of professional surveyors. MSPS also extends a fee reciprocity to ACSM/NSPS members who are also members of a state society other than Minnesota.
A Look at Some of Our Speakers

Richard N. Antony has taught at St. Cloud Technical College since 1995 in the Land Surveying and Civil Engineering Technology program. The LSCE program is a two-year program that concentrates on surveying fundamentals, engineering concepts, field techniques, surveying and engineering computations, utility design and computer aided drafting and design. Rich graduated from St. Cloud State University in 1970 with a B.S. in secondary education majoring in geography and a history minor. He graduated from St. Cloud Technical College in 1976 in the municipal engineering program, and became registered in Minnesota in 1992. Rich earned his masters degree in 1997 in civil engineering with a concentration in surveying fundamentals, engineering computations, utility design and computer aided drafting and design. Rich graduated from St. Cloud State University in 1970 with a B.S. in architecture and a history minor. He taught at St. Cloud Technical College in Madison, Wisconsin. As surveys manager, he manages the personnel, budget and equipment for the construction and location survey activities in the Twin Cities metro area.

Sharon Flader is a senior survey technician at Loucks Associates. With considerable experience in and understanding of both AutoCAD and land surveying principles, she leads the implementation and coordination of the company’s AutoCAD standards. She has significant experience in plat design, topographic surveys and ALTA/ACSM land title surveys. Her skills as a senior survey technician allow her to layout and create plats quickly, while maintaining the many city and county standards.

Dwight Lunden has been a teacher and the head football coach for Becker High School for 38 years. Over the last 20 years his winning percentage has been above 80 percent. For the last six years his team has played at the Metrodome for the State Tournament. Over the last three years they have won the State Championship once and taken second place twice. Dwight and his wife live in Becker, Minn. They have three grown children who are all teachers and coaches, as well as three grandchildren.

Jerry Mahun is a licensed land surveyor in Wisconsin. He teaches surveying and civil engineering technology courses at Madison Area Technical College in Madison, Wisconsin. Prior to MATC, Jerry taught at Penn State — Wilkes-Barre, Purdue University, and UW-Platteville. He has worked for NGS, BLM, WisDOT, and in private practice as well as serving a stint in the U.S. Army before both sides agreed to an amicable separation. He’s a member of the Wisconsin Society of Land Surveyors and has served on its board and a number of its committees.

Mike Max returned to WCCO-TV as a sports reporter and anchor in April 2005. He hosts WCCO Sports Tonight With Mike Max on WCCO Radio. Mike started his career as an intern at WCCO-TV. He was hired as a sports producer and soon began reporting for the station. A true Minnesotan, Mike grew up in Gaylord, Minn., and played football, basketball and baseball. He attended Hamline University and furthered his talents on the court and on the diamond, playing basketball and baseball for the Pipers. Mike claims there is only one sport he has never participated in: bullfighting. That’s because bullfighting is banned in Gaylord, he adds.

Lee McGrath is the executive director of the Institute for Justice Minnesota Chapter. He joined the institute in December 2004 and litigates cutting-edge constitutional cases protecting economic liberty, school choice, private property, freedom of speech and other individual liberties in both federal and state courts in Minnesota and nationally. Minnesota Lawyer recently recognized McGrath as one of 2006’s Up and Coming Attor-
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Introduction

The public land surveys were simple in design. Simplicity was necessary, because they were designed to permit the federal government to convey title to land quickly and cheaply; and inevitable, because of the principle that a corner set by a deputy was the true corner even though a later survey might prove it to be incorrectly set (Act March 1, 1800, 2 Stat. 73). Simplicity was not unchanging, but rather evolved over the first few decades that the surveys were prosecuted.

Two surveying elements gave the surveys simplicity. Both allowed the federal government and any prospective landowners to identify precisely the boundaries of tracts of land and the location of these tracts. The first element was the basic figure, the square township, established in 1785, when the national government established policies predicated on transferring ownership of the western lands, the area ceded to the government by the several states and American Indians bands, quickly and cheaply. (See United States Department of State, 1934a, 12-18) The locational control of those townships, provided by an initial point, the intersection of a principal meridian and baseline, although recognized in the same legislation, did not become accepted until 1804, when Jared Mansfield, the Surveyor General, proposed surveying Indiana Territory separated from the area already surveyed in Ohio, “not as an isolated tract” but with regard to the connections with the earlier surveys, “according to one general and uniform system.” (White, 1982 51) These elements gave the surveys flexibility to respond to both the government’s need to convey title to land and to the conditions faced by the surveyors in running the lines and establishing corner monuments. They changed unavoidably, as the government became more sophisticated in its approach to land conveyances and as surveyors became more sophisticated in following the directives provided by Congress and the Surveyors General. Surveys were always prosecuted in areas about which little was known. As a consequence, there was minimal guidance on how the earliest surveys should be carried out, what equipment should be used, or what standards should be used to ensure accuracy. The surveys always reflected the basic principles that gave them simplicity and elegance, a simplicity that has been decried by those who wish for land divisions that took into account the ecological characteristics of the land surface, based on more recently gained knowledge of land.

The Basic Figure: the Six-Mile Township

In 1785, at the end of Congressional debate, the six-mile square township (with sides defined by north-south and east-west lines) had become the basic surveying figure. (Pattison, 1964) A Land Ordinance directed surveyors to divide the area that became known as the Seven Ranges, now located in eastern Ohio, into “townships of six miles square, by lines running due north and south, and other crossing these at right angles, as near as may be,” all “plainly marked by chaps on trees.” (White 1982 12) Although the method of finding “due north and south” would

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change, and special provisions were allowed in places such as Louisiana, the square township remained the basic figure. What would change, however, was how the townships were subdivided, according to Congressional perceptions of the appropriate acreage of land parcels offered for sale.

Detailed instructions were not needed in these initial surveys, because only the exterior lines of the townships were surveyed, and only mile corners were established. In the Land Ordinance, townships would be sold either in their entirety or in lots of 640 acres, renamed sections in later legislation. Surveyors were directed to mark a corner every mile along the township lines and mark such corners differently than the township corner. These corners were then connected by lines protracted on the plat to establish lots numbered 1-36. Individual sections of towns were not surveyed until land was sold. The Ordinance stated,

The plats of the townships respectively, shall be marked by subdivisions into lots of one mile square, or 640 acres, in the same direction as the external lines, and numbered from 1 to 36; always beginning the succeeding range of the lots with the number next to that with which the preceding one concluded. (White, 1982 12)

Only a very small area (commonly called the Seven Ranges) was surveyed under the Ordinance, from September 30, 1785 to July 1788. These surveys were crude, “cost as much as three times as much (and took three times as long) as Congress probably expected” (Pattison, 1964 154) but as White (1982 18) noted, “they laid a basis for a system of surveys that could be improved and refined as better equipment and funding became available.”

No new land law was enacted by the Congress, operating under a federal Constitution, until 1796. In early 1787, however, the Continental Congress initiated a new land policy by contracting to sell two areas to private concerns, one, approximately 1.5 million acres immediately west of the Seven Ranges, to the Ohio Company of Associates, and the other, approximately 300,000 acres, between the Great Miami and Little Miami rivers to John Cleves Symmes, a New Jersey land speculator. (Figure 1) The process of subdividing these private lands “kept alive, and,... developed the tradition of rectangular surveying which began in the Seven Ranges.” (Pattison, 1964 172) One individual, Rufus Putnam, played an important role in this continuity, serving as supervisor of the Ohio Company surveys and then surveyor general of the federal government in 1796-1804.

By 1796 Congress changed land policy, due to the “disappointment” of the results of the private speculative ventures and the related bribery scandals that had surfaced in the House of Representatives. Surveys under this policy were also limited in area but these provided the basis of all subsequent surveys. (Pattison, 1964, 193; Squires, 2002) The Act of May 18, 1796 made two changes in the method of subdividing townships. The first was that the current method of numbering township subdivisions, called sections for the first time, was introduced. Also, the Act stated “one half of the land

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taken alternately” was to be “subdivided into sections, by running through the township parallel lines at the end of every two miles, with section corners at every mile on all lines surveyed.” (Figure 3) This meant that some townships were subdivided into squares comprising four sections, squares further subdivided into sections by protracted lines connecting the three established section corner monuments. “Sale by sections was looked upon as a means of bringing land closer to the financial reach of actual settlers.” (Pattison, 1964 195) Other townships were not subdivided at all but sold entirely or in quarters. All lines run by the deputies were to be “plainly blazed.”

Four years later, on May 10, 1800 (2 Stat. 73) Congress enacted legislation directing the Surveyor General to subdivide those townships that had not been subdivided under the earlier act, “into half sections of three hundred and twenty acres each, as nearly as may be, by running parallels lines through the same from east to west, and from north to south, at the distance of one mile from each other, and marking corners, at the distance of each half mile on the line running from east to west, and at a distance of each mile on those running from south to north.” (United States, Department of State, 1934b 88-97) (Figure 4) In addition, the act directed the Surveyor General to throw all excesses and deficiencies in measurement into the north and west tier of sections. (Stewart 1935 25)

Four years later, in the Act of March 26, 1804 (2 Stat. 277) Congress authorized the sale of land in either half sections or quarter sections, created by dividing the half sections “by lines running due east and west.” (White 1982 48) There was no provision for establishing corners on north-south section lines, however a deficiency that was rectified the following year in “another milestone on the road to a great national land system” (Stewart, 1935 27). The Act of February 11, 1805 (2 Stat 313) directed the Surveyor General to create quarter sections by marking on the section lines “intermediate corners, as nearly as possible equidistant from the corners of the section.” (Stewart 1935 28)

The Act of April 24, 1820 created the half quarter section stating, “in every case of the division of a quarter section the line of the division thereof shall run north and south, and the corners and contents of half-quarter sections which may hereafter be sold shall be ascertained in the manner and on the principles directed and prescribed by ... the Act of February 11, 1805.” (3 Stat. 566)

On April 15, 1832 Congress enacted legislation allowing land to be acquired in “entire sections, half-sections, quarter sections, half-quarter sections, or quarter-quarter sections.” (4 Stat. 503) The Act stated, “in every case of a division of a half-section, the line for division thereof shall run east and west, and the corners and contents of quarter-quarter sections, which may thereafter be sold, shall be ascertained as nearly as may be, in the manner, and on the principles, directed and prescribed by the second section” of the Act of February 11, 1805. (White 1982 90)

So, over almost four decades, 1785 to 1832, the square township was regularly subdivided into smaller and smaller tracts, to help individuals acquire title to land.

The subdivision of irregular or fractional areas also changed. The Land Ordinance of 1785 recognized fractional townships and fractional sections, then called lots, by stating, “where ... only a fractional part of a township shall be surveyed, the lots, protracted thereon, shall bear the same numbers as if the township had been entire.” (White, 1982 12) They seem to have been treated the same as regular townships and regular sections in other respects. In the Act of 1796 six-mile square townships were to be established, “except where the Indian boundary or navigable rivers make full townships impossible.” (White 1982 29)

12 The 1820 legislation made the first provisions for subdividing fractional sections containing 160 acres or more. (3 Stat. 566) Sections containing less than 160 acres were to be sold in their entirety. In 1832, however, “fractional sections, containing fewer or more than one hundred and sixty acres, shall ... be subdivided into quarter-quarter sections, under such rules and regulations as may be prescribed by the Secretary of the Treasury ...” (4 Stat. 503)

**Locational Control**

Each subdivision in a regular six-square mile township has duplicate subdivisions in every other regular township; there is nothing unique about section 2, or even the north-east quarter of the north-east quarter of section 2, in a township. But each subdivision has a unique location in the United States and the designation of this location is the second element of simplicity in the surveys. The scheme of locational control that evolved

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*Figure 4. Townships subdivided under the Act of 1800 (After Pattison 1964 211)*
was, in fact, necessitated by Congress authorizing surveys in areas that were separate from the areas that had already been surveyed. The adoption of this scheme allowed the surveys to be prosecuted simultaneously in different parts of the country.

The early attempts at locational control involved the lands in what is now Ohio.\textsuperscript{14}

Townships in the Seven Ranges were surveyed from a point “due north from the western termination of a line, which has been run as the southern boundary of the state of Pennsylvania.”\textsuperscript{15} Thus was established the first initial point. A north-south line would function as a principal meridian, although never described as such and all townships were numbered westwards from that line, and would also function as a township exterior line. An east-west line would be drawn from that point approximately 42 miles west. This line, known as the Geographer’s Line, because it was run by the Geographer of the United States (Thomas Hutchins), functioned partly as a baseline as surveyors established townships southwards to the River Ohio. The line would also function as a township exterior line. However, the Ordinance also directed each township be numbered from the River Ohio, which thus partly performed the function of a baseline.

In the area privately purchased by Symmes a principal meridian, or “the standard” as it was called at the time, a line “to which all east west lines were to be adjusted,” performing part of the function of a meridian, was established (Pattison, 1964 182). A baseline was also established “as far south as the bends in the Ohio River would permit.” (Pattison, 1964 182, Peters, 1930 285-294) These lines controlled only a small area. (Figure 2)

There was no locational control described in the 1796 act. Rufus Putnam, the Surveyor General, continued to use the “principal meridian” and the “baselines” used previously. The idea of a principal meridian and a baseline was well known but, since the surveys were confined to relatively small areas, there was no need for coordination.\textsuperscript{16} The coordination was necessitated after the Act of May 1, 1802, when Jared Mansfield, the Surveyor General, was authorized to survey the Vincennes Tract in Indiana Territory.\textsuperscript{17} “Mansfield clarified and

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coordinated all of these loose and poorly connected rectangular fragments. He made a system of rectangular coordinates.” (Stewart, 1935 39) Mansfield described his plan to carry out the surveys and to coordinate them not only with the surveys that had already been made in Ohio but the future surveys there. He wrote, in October 1804, to Secretary of the Treasury, Albert Gallatin,

You will perceive, that I have not considered this as an isolated tract; but have had regard to its connection with the old surveys (in Ohio) and the surrounding country, according to one general and uniform system. For this purpose I have ascertained a meridian, which I conceive to be at a proper distance from the one, which forms the Western boundary of the State of Ohio, and which lies near the Eastern extremity of the Tract, as a Directive, from which the Ranges on each side of it may be counted. This in the General Map, may be called the 2nd Meridian. One meridian, viz. that which is the Western boundary of the State of Ohio, would have been sufficient if the surveys could have been made in regular progression from it Westward; but it would be impossible, in this discontinued Tract, without more data than I am in possession of, to determine its exact position in relation to the surveyed country, so as to estimate the intermediate ranges which may actually arise. Hence the necessity of a new series of ranges and townships. (White, 1982 51)

He continued, “The townships would not then, as heretofore, be numbered from the Ohio, but from the Baseline, which I have caused to be run for the purpose of surveying here.” (White, 1982 51) Mansfield's plan was approved by Gallatin. The First Principal Meridian was defined as a line running north from the confluence of the Great Miami and Ohio rivers that had already been established as the boundary between Ohio and Indiana Territory. The baseline was the Great Miami River to the east of the Principal Meridian and the River Ohio to the west. (Peters, 1930 276-278) The Second Principal Meridian was to be established, as his letter suggested, “at a proper distance” from the first. It is not clear how the location of this line was decided, near the junction of the Little Blue and Ohio rivers. The baseline, another seemingly arbitrary line, had already been run and the initial point established some 3 miles east of the eastern boundary of the Vincennes Tract. (Figure 5) In November 1804, Gallatin directed Mansfield to establish a Third Principal Meridian north from the junction of the Mississippi and Ohio rivers. This meridian and the baseline, which Mansfield intended to link to the baseline of the Second Principal Meridian and extend west to the Mississippi, would control the surveys of lands in an area ceded by American Indians in 1803 and 1804 and the French claimants at Kaskaskia. Thereafter Principal Meridians and Baselines would be established whenever considered necessary.

Conclusion
The simplicity and elegance of the public lands surveys rests on two elements; the six-mile square township, a geometric figure used to create the first parcels of land that could be owned by an entity other than the federal government and the net of principal meridians and baselines that defined the location of these parcels. Both of these elements, which changed in the early part of the nineteenth century, established the legal description of parcels throughout the United States. The late Hildegard Johnson, who was chair of the Geography Department at Macalester College, stated in her book Order Upon the Land, “the distribution of principal meridians and baselines in the United States reflects no system but is the result of historical and geographical forces, such as settlement before the survey(s), westward migration along certain routes, and the cession of Indian lands,” (Johnson, 1976 72) but missed the point. The principal meridian and baselines and the square townships did reflect system: a system of expediency based upon the surveying prerequisites to accomplish the task asked of them to survey unknown areas quickly and cheaply in the face of the demand for land from individuals and ultimately corporations and states. This demand for land was the result of settlement, migration, and the cession of Indian lands, in addition to other forces.

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Notes

1 I use the term “national government” to distinguish between the government operating under the Articles of Confederation and the “federal government” operating under a Constitution adopted in 1789.

2 Pattison (1964 90-92) described the elimination that all lines should be run using true north as a convenience to surveyors in the Seven Ranges. White (1982 14) suggested that the phrase “as near as may be” recognized that surveying was not an exact science.

3 There were a number of exceptions that allowed deviations from the rectangular system. See for example, Stewart, 1935 29-30 for deviations allowed in Louisiana.

Interestingly, a letter from Rufus Putnam, the first Surveyor General, dated March 10, 1798 suggested, “the expediency of repealing that part of the law which requires that north and south lines ... shall be run according to the true meridian; and to require instead thereof, that the Surveyor General cause all instruments made use of in the surveys, to be adjusted to one meridian; that the variation of this meridian with the true meridian, in various parts of the territory, or tracts of land, to be ascertained and noted on the plats of each township or district.” (United States, Congress. American State Papers “Public Lands” [Washington DC Gales and Seaton, 1832-1861] Vol. I p.73). Although his suggestion was not wholly adopted by Congress, the notation of variation of lines from the true north-south meridian is of course a standard feature of plats.

4 The “plat” of these surveys can be found in Rumsey’s digital map collection: http://www.daviddrumsey.com/maps890097-24408.html

Actually this “plat” is a map, “The Seven Ranges of Townships” reproduced from Mathew Carey’s “General Atlas” published in Philadelphia, 1814.

5 Bills were presented on three separate occasions for the western lands (Pattison, 1964 185-187)

6 Under this new policy Congress reserved two areas, one immediately north of the Ohio Company lands and one at the mouth of the Ohio River where military veterans could acquire land that they had been promised as compensation for their service. (Pattison, 1964 170) In addition, Congress offered land to any individual willing to purchase not less than a million acres of land in one body. (Pattison, 1964 170)

7 He was not the only surveyor who provided continuity between the surveys made under private control and the subsequent government surveys.

The Ohio Company and Symmes were not the only private speculators. Companies, like Royal Flint and the Illinois and Wabash Company, and individuals, such as George Morgan, were all interested in acquiring western lands and the Yazoo companies were interested in acquiring land in Georgia. (Pattison, 1964 191)

8 The Act of May 18, 1796, also provided for the appointment of a Surveyor General, whose duty was to survey the public lands northwest of the Ohio River.

9 There does not seem to be agreement as to why this numbering system was used.

10 White (1982, 42) noted that this act could not be complied with.

11 For the question of navigability, see White (1982 30). White (1982 29) noted that the Greenville treaty line and the rivers Ohio, Scioto, Great and Little Miami rivers and the private land claims had all created fractional townships.

12 I have already written about the Principal Meridians and baselines in the Northwest Territory; see Squires “Principal Meridians and Baselines in the Old Northwest Territory” Disclosures (Summer, 1992) 14-16

13 For a fuller description of these surveys, see William E. Peters “Ohio Lands and Their History” (New York, Arno Press, 1979) The classic work on Ohio lands is C. E. Sherman “Ohio Land Subdivision” Vol. III Final Report of the Ohio Cooperative Topographic Surveys (Columbus, OH, Ohio Department of Natural Resources, 1925)

14 Commonly called “Ellicott’s Line,” because it was run by surveyors under the direction of Andrew Ellicott, the line would not be completed until a year later. (See Pattison, 1964 103) Even at this time there was recognition that the survey lines established for landownership purposes were distinct from lines established for jurisdictional purposes, hence the language “nothing herein shall be construed, as fixing the western boundary of the state of Pennsylvania.” In contrast, the western border of Ohio that was used as a Principal Meridian.

15 Peters (1930 42-44) described these surveys and the lines used as reference. Also see White (1982 34) describing the surveys of the Connecticut Western Reserve, an area reserved by Connecticut when ceding its claim to the western lands. In December 1803,
The Surveyor of the Land South of Tennessee — a position established by the Act of March 3, 1803 (2 Stat. 225) — ran a principal meridian at Washington, Mississippi intersecting the line of demarcation between the United States and Spanish Florida that had been run several years earlier (White, 1982: 47).

The idea of, and the need for, a baseline and principal meridian was well known. (Stewart, 1935: 38)

17 The Native American had given the French a tract of land containing 1.6 million acres, a rectangular block lying at right angles to the course of the Wabash River at Vincennes, known as the Vincennes Tract, in 1775. George Rogers Clark secured this land for the United States and the Land Act of 1796 honored its boundaries. For a map of the Tract, see White (1982, 52). Indiana Territory had been established two years earlier, with the western boundary to run due north from the junction of the Great Miami and Mississippi rivers.

18 As Andro Linklater remarked, in “Measuring America: How an Untamed Wilderness Shaped the United States and Fulfilled the Promise of Democracy” (Walker & Company, 2002: 160), “The regularity that Jared Mansfield imposed on both himself and the United States was ruthless.”

19 This could not be done because American Indians had not yet ceded the land and so, “While the baselines of the Second and Third Principal Meridians are almost on the same latitude, the surveys had to be run in a roundabout and piecemeal manner and relative positions calculated (sic), which were partly based on the Indian boundary surveys and partly on astronomical observations.” (White 1982: 51)
neys. McGrath received his law degree from William Mitchell College of Law in St. Paul where he was the president of the local Federalist Society chapter. In addition to his law degree, McGrath holds an MBA in finance from the University of Chicago and a bachelors degree in business administration from Georgetown University. Lee was also a Policy Fellow at the Humphrey Institute, University of Minnesota.

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Steve Richter has been working with the Surveying Industry for 17 years. He is a Trimble Certified Trainer, and has trained more than 300 professionals on the proper use of GPS equipment since his certification. Originally from Bismarck, N.D., Steve and his family moved to Minnesota in 2000 to operate the St. Cloud office for Frontier Precision. Now with two offices and eight professionals in Minnesota, Frontier Precision specializes in the sales, service, and support of Trimble GPS and Conventional equipment and supplies. Steve is responsible for training and support duties for Frontier Precision.

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<td><strong>Total:</strong></td>
<td><strong>$7,517.00</strong></td>
<td><strong>$158.25</strong></td>
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Better than cash
A cash purchase is final. It’s yours whether you like it or not. It uses your valuable cash reserves. It means using equipment until it becomes obsolete and then disposing of it. Profits come from using your equipment, not owning it.

Better than a bank loan
A bank loan has the same disadvantages as paying cash, plus interest costs. Many banks won’t even make loans on ‘high-tech’ to new businesses or newly licensed individuals. Bank loans can be put off or renewed if business is slow. Meanwhile you are making payments on equipment that has become obsolete. With the ‘Worry-Free’ Lease, just turn the equipment in!

Better than other leases
Most commercial leases are non-cancelable, meaning you can’t return the equipment before the end of the lease term for any reason, even death! Most non-cancelable lease contracts state that you must pay the total of all lease payments. In other words, you don’t save any money by paying off the lease early. The ‘Worry-Free’ Lease purchase or cancel anytime option eliminates both of these objections to leasing.

‘Worry-Free’ Leasing Service
Banks and commercial lease companies have no interest in the performance of your equipment after the Lease contract is signed. The Hayes ‘Worry-Free’ Lease cancellation option guarantees that we are going to do everything in our power to keep you productive and happy with your equipment, so you will continue ‘Worry-Free’ Leasing as a permanent way to solve your surveying equipment financing needs.

Example monthly rental cost for a 4-month project on a $10,000.00 system

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<th>Industry Average</th>
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MS 505 that was recommended by the committee. This draft includes input from the mass mailing to the members. The next step is to organize a meeting of the other interested professions. These would include MSBA Real Estate Division, County Recorders, Title Examiners, MACS, LMC, AMC and possibly others. The hope is to have this meeting in early December so as to move on to the legislature in January-February 2007. We will keep you posted on the progress.

NSPS Response – Construction Staking with GPS:
We discussed a request by NSPS President Joe Dolan regarding a recent court case in California where it was determined to be “unlicensed practice” for contractors to do their own construction surveys including GPS. Furthermore, surveyors who furnished electronic files to said contractors were considered to be “aiding and abetting” said unlicensed practice. Rick Morey was copied on this correspondence and concurred with Rick’s opinion. I directed Rick to write a response to President Dolan on how the laws in Minnesota differ from California on this issue.

CALSA:
Pete Jenkins presented a concept for a contest to demonstrate the use of GLO records in a land survey. The board approved supporting this project which they will present at the Annual Conference.

Public Relations:
Dan McAninch presented the work of the committee to the board, as I mentioned earlier in this report. The Board approved the concept of the four brochures with items 1, 2, and 3 being ready for distribution by the Annual Conference. Also, they would be available on the website for free downloads and printing by our members.

Rod Squires Book Proposal:
Eric mentioned the positive support that he has received regarding this initiative. John Freemyer has talked to Rod and shared that the preparation of a “Ready for Scan” original by Rod could take as long as a year. The Board discussed the potential printing of this book and potential sales and associated costs.

The Directors voted to support the printing of the book with MSPS fronting the printing costs with some clarification of exact costs and quantities to be determined. The Board discussed the potential of a display and sign-up sheet for sales at the Annual Conference. This would help determine the number of books to be printed initially.

Education:
Denny Peterson reports that, to date, the committee has received 32 applications for scholarships (up from 13 last year). Discussion was held about the December 12, 2006, Donor Event that MSPS Representatives will attend and the search for another Professor at SCSU.

There was discussion about Discovery Academy at St. Cloud Technical College, where a link to business and secondary education is being sought. Possibly, a website link can be created. Denny will explore this in the near future.

Nominating Committee Report:
People are needed for the following positions: President-Elect, Secretary, Foundation Director, and 2 Directors. Several candidates have stepped forward to serve and some are still trying to decide. Steve Jobe is working to fill the ballot. If you or someone you know is interested in serving your Society in one of these capacities, please contact Steve or me.

Workshop:
Tony Blumentritt is all set for the December 7 Seminar. He and new Chair Paul Voge secured a new speaker for the spring event. Look for more information as it becomes available.

Awards:
Again, Chair Steve Jobe is looking for candidates. If you know someone who is a deserving candidate, please contact Steve or me.

Foundation:
The Foundation is looking for items for the live auction and silent auction events to be held at the Annual Conference. They will meet on December 7, 2006, to discuss scholarships. I distributed an order sheet of a painting I commissioned with my classmate, Artist Dan Metz. The painting is of Norris Taylor, PLS (Minnesota License No. 2). It is title “N.Y. Taylor 1872”. This print is Dan’s depiction of Norris working on the original government survey in the Red River Valley area of Minnesota.

This order form is found on page 31.

We will give away one framed print each year for the next 10 years for the live auction, with additional prints available for sale. The idea is to build an “Otto Scholarship Fund” wherein the interest from the fund can be given each year to a student. Look for the display at the Foundation booth at the Annual Conference.

Chapters:
After the September Board Meeting I sent a letter to all the Chapters encouraging Trig-Star Programs and CST Programs in all Chapters.

I am happy to report that from my recent outings to Chapters 3 and 4, they have taken this to heart and are working on Trig-Star events in Duluth and
Rochester. Chapter 1 is again preparing for their Trig-Star event in March in Mankato. Henry Nelson reports that Chapter 6 discussed the need for the CST Programs — especially because after August 2007, this certification will be a requirement on MnDOT projects. As such, Walt Gregory has expressed an interest in being the MSPS CST Committee Chairperson. I look forward to hearing more about that program.

Summary
In summary, since I last wrote to you, it has been a busy period for MSPS and I feel good about some of our recent accomplishments. However, we need to continue working on our initiatives to promote our chosen profession. I thank all who have given of their time and talents in our many efforts.

I look forward to our upcoming Annual Conference. As you are aware, this will be the first Annual Conference for our new Executive Director, Eric Ewald, and the staff at Ewald Consulting. I encourage you to take time at the Annual Conference to make his acquaintance and get to know him on more of a personal level as I have had the pleasure these past months.

So Long for Now,
Edward J. Otto
MSPS President

What is a “Final Point” Monument?
By Ted Kemna

MSPS is sponsoring a program created by the National Society of Professional Surveyors (NSPS) Foundation called the “Final Point” Project. This project would establish a monument of recognition at the final resting place or other appropriate location of each person being recognized. MSPS has decided to recognize all persons who have served as president of the society because of the impact they have had and the service they provided. This monument is a beautifully engraved four (4) inch diameter bronze marker with the name of the society, the name of the surveyor, the license number and the year they served as president.

We have information on some of these persons, but we particularly need information on persons who have served between 1953 and 1975. Should anyone know a friend or relative or past employee or employer who has served as president during the early years of the Minnesota Land Surveyors Association (MLSA), please contact Ted Kemna, any member of the Board of Directors or the MSPS Executive Director.

As these monuments are installed, we would get pictures and have articles available which would promote the society and the surveying profession.


Corrections to 2006 MSPS Roster

Please note the following corrections to the 2006 MSPS Roster, which was published in Autumn 2006. The corrections are listed by the section in which they appeared (or should have appeared).

Individual Member Directory:
John K. Barnes should have been listed in this section. His contact information is: 16608 Elm Dr, Minnetonka, MN 55345; Sunde Land Surveying, LLC; 952-881-2455; LS 16456. Chap: 6
The fax number for Rick M. Blom, Lynn P. Caswell, Bryan Balcome and Kelly L. Jordan (all from John Oliver & Associates, Inc.) is (763) 441-5665.

Firm Member Directory:
Carley-Torgersen, Inc. and David E. Torgersen were misspelled. The name was spelled correctly in the Individual Member Directory.
The correct street address for Egan, Field & Nowak is 7415 Wayzata Blvd.

County Surveyors:
Pine County: Robin Mathews
Pope County: Rodney Eldevik

MSPS L.S. Members – Dual Registrations:
Stanley W. Simonson, #18147, is also licensed in Wisconsin.

We apologize for the errors. These changes have been made in our member database. As a reminder, the next MSPS Roster will be published earlier in the year during 2007. You will receive your roster approximately 6 weeks following the annual meeting.
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ANNOUNCING

"N.Y. Taylor, 1872"
By Dan Metz, 2006

In 1873, Taylor accepted his first contract as a U.S. Deputy Surveyor. He was later elected as Meeker County Surveyor, a position he held for many years. In 1921, he helped enact the first licensure laws for land surveyors and became the first “Registered Land Surveyor”. Norris was also elected the first President of the Minnesota Surveyors and Engineers Society in 1896.

Prints of this original painting depicting N.Y. Taylor working on the original government survey in the Red River Valley area by Dan Metz (www.danmetzart.com) are now available for framing and display in your home or surveying office. Edward J. Otto, the 2006 President of the Minnesota Society of Professional Surveyors (MSPS), has commissioned the original work. A portion of the proceeds from the sale of the prints will be given to the MSPS Foundation for the “Otto” Family Scholarship Fund.

Printing will be limited to 500 prints. Each print will be a 16” x 22” full color image of the original. It will be numbered and signed by the artist, Dan Metz and will include a Certificate of Authenticity.

ORDER FORM

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</tbody>
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Name: ________________________________________________

Mailing Address: ______________________________________

City, State, Zip Code __________________________________

Daytime Phone Number: ______________________ Email: ______________________

Please make checks payable to Edward J. Otto, 9 West Division Street, Buffalo, MN 55313.
Lightning kills about 80 people in the U.S. each year and injures hundreds. Among construction workers, laborers, machine operators, engineers, roofers, and pipefitters have been struck by lightning most often on the job. Your chances of getting hit by lightning are greatest in Arkansas, Florida, Mississippi, New Mexico, and Wyoming. In most places, lightning hits most often in late afternoon in spring and summer. But lightning can hit anyone in the wrong place at the wrong time. Lightning can hit the same place many times, too.

Lightning can stop your heart and kill you. You can also get burns, nervous system damage, and other health problems. Some effects may not be noticed until months after a lightning strike.

**Protect Yourself**

**When to act**

If you hear thunder and see lightning, act right away — especially if you count 30 seconds or less between the thunder and lightning. If the thunder gets louder or you see the lightning more often, the storm is getting closer. (Sometimes lightning will strike out of a sunny sky 10 miles or more from a storm.)

Lightning hits tall things, metal, and water — or a person standing on open ground or a roof.

Your worksite should have a plan for what to do in a lightning storm. (OSHA does not allow work on or from scaffolds in storms, in some cases.)*

**If a Storm is Near...**

**Do NOT:**

- Be the tallest object in an area.
- Stand out in the open.
- Stand under a tree. (If the tree is hit, you can be too.)
- Stand in a gazebo or open shelter, like a baseball dugout or bus shelter.
- Stand next to metal objects — pipes or light poles or door frames or metal fences or communication towers — indoors or out.
- Stay next to water — ponds or running water — indoors or out. (Do not take a shower.)
- Use plug-in power tools or machines — indoors or out.
- Use a plug-in telephone (or a computer with a modem) — indoors or out.
- Do not go back to work outdoors until a half-hour after the lightning and thunder stop.

**If someone is hit:**

- Call emergency services (911).
- A victim does not stay electrified. You can touch him/her right away. If the victim has no pulse, try CPR (cardio-pulmonary resuscitation). If there’s a portable defibrillator, follow the instructions. But be careful about staying in the open in a storm to take care of the victim — or you can get hit, too. If you can, move the victim to a shelter.

For more information, call your local union, the Center to Protect Workers’ Rights (CPWR) (301-578-8500 or www.cpwr.com), the National Institute for Occupational Safety and Health (1-800-35-NIOSH or www.cdc.gov/niosh), or OSHA (1-800-321-OSHA or www.osha.gov). Or check the website www.elcosh.org.

Advance Surveying & Eng.
Jim Parker
5300 S. Hwy. 101
Minnetonka, MN 55345
952-474-7964

Anderson Engineering of Minnesota
Roger Anderson
13605 1st Avenue N, Suite 100
Plymouth, MN 55441
763-412-4000

BDM Consulting Eng./Surv.
60 Plato Blvd E, Suite 140
St. Paul, MN 55107
612-548-3132

BDM Consulting Eng./Surv.
Jacob Honsa
200 Fifth St
Elk River, MN 55330
612-419-2387

BDM Consulting Eng./Surv.
Timothy Peterson
826 NW 30th St
Faribault, MN 55021
507-291-1137

Boerhave Land Surveying
James E. Boerhave
14243 Mitoka Circle NE
Prior Lake, MN 55372
952-445-9154

Bogart Pederson & Assoc.
Dennis Pederson
13076 1st Street
Becker, MN 55308
763-262-8822

Bogart Pederson & Assoc.
311 Division Street West
Maple Lake, MN 55358
320-963-6900

Bogart Pederson & Assoc.
2077 Frontage Road N, Ste 12
Waite Park, MN 55378
320-252-0400

Bolton & Menk, Inc.
Ric Williams
12224 Nicollet Avenue
Burnsville, MN 55337
952-890-0509

Bolton & Menk, Inc.
Harvey Samson
2638 Shadow Lane, Suite 200
Chaska, MN 55318
952-448-8838

Bolton & Menk, Inc.
Bruce Firkins
219 N. Main Street
Fairmont, MN 56031
507-238-4738

Bolton & Menk, Inc.
Peter Blethen
1960 Premier Drive
Mankato, MN 56001
507-625-4171

Bolton & Menk, Inc.
Larry Zieg
140 1st Avenue North
Sleepy Eye, MN 56085
507-794-5541

Bolton & Menk, Inc.
Craig Johnson
NAU Building, 7333 Sunwood Drive
Ramsey, MN 55303
763-433-2851

Bolton & Menk, Inc.
Peter Blethen
2040 Highway 12 East
Willmar, MN 56201-5818
320-231-3956

W. Brown Land Surveying, Inc.
Woodrow A. Brown
8030 Cedar Ave. South, Ste 228
Bloomington, MN 55428
952-854-4055

Wallace F. Buckler
North Lakeshore Drive
Box 144
Crosby, MN 56441
218-546-6375

Carley-Torgersen, Inc.
David E. Torgersen
70 W. County Road C, Ste 703
Little Canada, MN 55117
651-484-3301

Carlson & Carlson, Inc.
Larry Coutire
8713 Dupont Avenue South
Bloomington, MN 55420
952-888-2084

Comstock & Davis, Inc.
Ron Murphy
1446 County Road J
Minneapolis, MN 55432
763-784-9346

Cornerstone L.S., Inc.
Dan Thurmes
200 East Chestnut St. Ste B100
Stillwater, MN 55082

C.E. Coulter & Associates
John Peterson
1000 E. 146th St. Suite 216
Burnsville, MN 55337
952-953-3639

Duffy Eng. & Assoc., Inc.
350 Highway 10 South
St. Cloud, MN 56404
320-259-6575

EDS, Inc.
6480 Wayzata Blvd
Minneapolis, MN 55426
763-545-2800

Egan, Field & Nowak, Inc.
7415 Wayzata Blvd.
Minneapolis, MN 55426
952-546-6837

Fischer Land Surveying
P.O. Box 66
Langdon, ND 58249
701-256-5728

Howard R. Green
2550 University Ave W Suite 400
St. Paul, MN 55114
651-644-4389
<table>
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<tr>
<td>Charlie Christopherson</td>
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<tr>
<td>3601 Thurston Avenue</td>
</tr>
<tr>
<td>Anoka, MN 55303</td>
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<tr>
<td>763-427-5860</td>
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<tr>
<td><strong>Hedlund Planning, Engineering &amp; Survey</strong></td>
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<tr>
<td>Jeffrey Lindgren</td>
</tr>
<tr>
<td>2005 Pin Oak Dr.</td>
</tr>
<tr>
<td>Eagan, MN 55122</td>
</tr>
<tr>
<td>651-405-6600</td>
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<td><strong>Hosfield &amp; Associates</strong></td>
</tr>
<tr>
<td>John Hosfield</td>
</tr>
<tr>
<td>415 West North Street</td>
</tr>
<tr>
<td>Owatonna, MN 55060</td>
</tr>
<tr>
<td>507-451-4598</td>
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<td><strong>Houston Engineers, Inc.</strong></td>
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<tr>
<td>10900 73rd Ave. N., Ste. 106</td>
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<td>763-493-4522</td>
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<tr>
<td>Russ Halverson</td>
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<tr>
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<tr>
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<td>201 W. Travelers Trail</td>
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<tr>
<td>515 S. Washington Avenue</td>
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<tr>
<td>Albert Lea, MN 56007</td>
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<td>Mark D. Kemper</td>
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<td><strong>Lake Country Land Professionals</strong></td>
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<tr>
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<tr>
<td>Faribault, MN 55021</td>
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<tr>
<td><strong>Land Consultants</strong></td>
</tr>
<tr>
<td>Cedric Schultz</td>
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<tr>
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<tr>
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<tr>
<td>Jon Bunkowske</td>
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<tr>
<td>502 SE 10th Street</td>
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<td><strong>Landform Engineering</strong></td>
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<tr>
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<tr>
<td>Richard Licht</td>
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<tr>
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<tr>
<td>Maple Grove, MN 55369</td>
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<tr>
<td>763-424-5505</td>
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<td><strong>Loucks McLagan</strong></td>
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<tr>
<td>Paul J. McGINLEY</td>
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<tr>
<td>20 East Thompson Ave.</td>
</tr>
<tr>
<td>W. St. Paul, MN 55118</td>
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<tr>
<td>651-457-3645</td>
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<tr>
<td><strong>Massey Land Surveying &amp; Eng.</strong></td>
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<tr>
<td>Richard Massey</td>
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<tr>
<td>P.O. Box 428</td>
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<tr>
<td>Kasson, MN 55944</td>
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<tr>
<td>507-634-4505</td>
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<tr>
<td><strong>McCombs Frank Roos</strong></td>
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<tr>
<td>14800 28th Avenue N., Ste. 140</td>
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<td>Plymouth, MN 55447</td>
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<td>763-476-6010</td>
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<td><strong>McCombs Frank Roos/Hult Assoc.</strong></td>
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<tr>
<td>Dale F. Hebeisen</td>
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<tr>
<td>6641 Lake Blvd, P.O. Box 37</td>
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<tr>
<td>Forest Lake, MN 55025</td>
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<td>651-464-3130</td>
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<tr>
<td><strong>McGhie &amp; Betts, Inc</strong></td>
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<tr>
<td>James R. Swanson</td>
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<tr>
<td>1648 3rd Avenue S.E.</td>
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<tr>
<td>Rochester, MN 55901</td>
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<tr>
<td>507-289-3919</td>
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248 Apollo Drive
Lino Lakes, MN 55014
763-398-6830

Metro Land Surveying/Engineering Co., Inc.
1639 Main St. N. Suite 7
Pine City, MN 55063
320-629-3267

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Dan McAninch
12510 Fletcher Lane N. #B
Rogers, MN 55374

Moore Engineering Inc.
Jeffry Volk
1042 Fourteenth Avenue E.
West Fargo, MN 58078
701-282-4692

O’Malley & Boe Land Surveyors, Inc.
328 SW 3rd Street
Willmar, MN 56201
320-235-4012

Otto Associates
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Paul E. Otto
9 W. Division Street
Buffalo, MN 55313
763-682-4727

Pel llen Land Surveying
Jeffrey Rausch
Box 35, 18486 202nd Circle
Hutchinson, MN 55350
320-587-4789

Rehder & Associates
Alvin R. (Al) Rehder
3440 Federal Drive, Suite 240
Eagan, MN 55122
651-452-5051

RLK Incorporated
1321 Andover Blvd. Suite 114
Ham Lake, MN 55304
763-434-7646

RLK Incorporated
303 E. 19th St. PO Box 656
Hibbing, MN 55746
218-262-5528

RLK Incorporated
6110 Blue Circle Dr. #100
Minnetonka, MN 55343
952-933-0972

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E.G. Rud & Sons, Inc.
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Bloomington, MN 55420
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Alexandria, MN 56308  
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**Widseth Smith Nolting**  
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**Widseth Smith Nolting**  
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Crookston, MN 56716  
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**Leica Geosystems, HDS**  
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651-322-6668

**Mathison Company**  
P.O. Box 333  
Fargo, ND 58107  
800-437-4744

**Northwest Laser and Instruments**  
2200 University Avenue, Suite 100  
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651-645-3828

**Scientific Instruments, Inc.**  
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