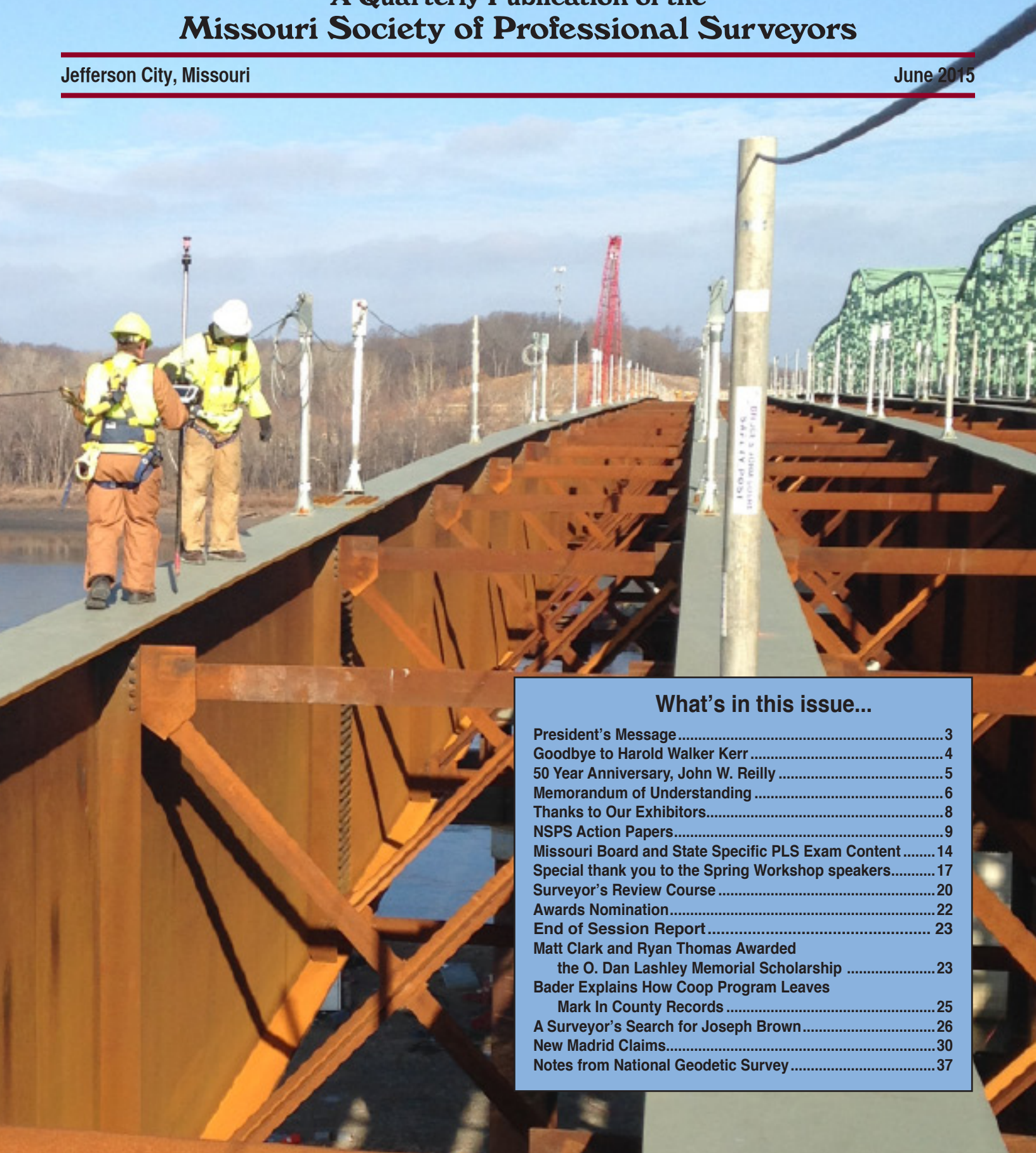


MISSOURI SURVEYOR

A Quarterly Publication of the
Missouri Society of Professional Surveyors

Jefferson City, Missouri

June 2015



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CALENDAR OF EVENTS

2015-2016

July 18, 2015

Board Meeting
Jefferson City, MO

August 26-28, 2015

Review Course,
Best Western Capital Inn,
Jefferson City, MO

October 8-10, 2015

58th Annual Meeting and convention
Tan-Tar-A Resort, Golf Club, Marina and
Indoor Waterpark
Osage Beach, MO

December 5, 2015

Board Meeting
Jefferson City, MO

February 17, 2016

Board Meeting and Capitol Visitation
Jefferson City, MO

April 28-30, 2016

Board Meeting, Golf Tournament, and
38th Annual Spring Workshop
Lake Ozark, MO

July 16, 2016

Board Meeting
Jefferson City, MO

August 24-26, 2016

Review Course,
Best Western Capital Inn,
Jefferson City, MO

October 13-15, 2016

59th Annual Meeting and Convention
Sheraton Westport Lakeside Chalet,
St. Louis, MO

December 3, 2016

Board Meeting
Jefferson City, MO

Donald R. Martin, Editor



Notes from the Editor's Desk

Donald R. Martin



Just when I thought a June issue of Missouri Surveyor was beyond my capacities I was saved by a couple of living examples of the old song *With a Little Help From My Friends*. You see, your ol' Editor has been ill. I was down for a long spell this spring, only recently getting back into action. While convalescing I wasn't *sad because I was on my own* due to helping friends of Executive Director Sandy Boeckman and President-elect Joe Clayton stepping up and stepping in. They compiled much of this edition well before I returned to editing. Thank you, you two! In case you were wondering, my pard Tripod the three-legged groundhog was with me the whole time helping the best he could. Bless his heart, he tried. But when he offered his thermometer I recalled just how the veterinarian takes his temperature. I fled my sick bed and planted my tail firmly, and tightly, in the Editor's chair at the front desk and got back to work! I'll take prose over probes anytime!

I best move on to this Edition's contents. We begin with memorials and honors. MSPS celebrates the surveying legacy and honors the life of departed Missouri surveyor *Harold Kerr*. This is followed by the recognition of an ongoing survey legacy – 50 years in the profession; way to go Missouri surveyor *John W. Reilly*. Then we have a copy of the *Memorandum of Understanding* which enables our State Land Survey office to resume its role in rule promulgation under the auspices of its new "home" within the Department of Agriculture. Next enjoy photos from the *Spring Workshop*. It is our way of calling attention to and thanking our vendors. Then we have a series of *Action Papers* from the National Society of Professional Surveyors. These represent desirable Federal matters sponsored by NSPS on behalf of the surveying and mapping communities. Familiarize yourself with the issues and share your concern and support with your congressional representative. This is followed by news from *Dr. Richard Elgin* reporting the results of Board of Registration questionnaire which sought the help and opinions of Missouri surveyors regarding the State PLS Exam. Next we snuck in our "thanks" to the speakers for our Spring workshop.

About midway through the Edition is the *Nomination Form* for our MSPS Awards. Participate and help us recognize the fellow members you find deserving. This is followed by an *End of Session Report* from our lobbyist Mo McCullough and the awarding of the Dan Lashley Memorial Scholarship. Next we have a surveyor in the "mainstream media" news in *Bader Explains How Coop Program Leaves Mark In County Records* courtesy of the St. Genevieve Herald. Then we present a feature in line with this bicentennial year of the establishment of the Initial Point of the 5th Principal Meridian. Joe Clayton chronicles his research for a historic image in *A Surveyor's Search for Joseph Brown*. Another surveyor/historian shares tales of Missouri's surveying past with *New Madrid Claims* by Steve Weible. We wrap it all up with the latest *Notes from National Geodetic Survey*.

Here you have it folks – your latest edition of Missouri Surveyor. Whether you read it intently or merely browse through; keep a copy at your desk or under the seat of your truck; add it to your library or line your bird cage; this is your publication and Missouri's voice of *surveyors leading the way!* Until next time...let's all get by with a little help from our friends or be a little help to our friends. Believe me, it works!

Donald

THE MISSOURI SURVEYOR

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The Missouri Surveyor is published quarterly by the Missouri Society of Professional Surveyors, to inform land surveyors and related professions, government officials, educational institutions, contractors, suppliers and associated businesses and industries about land surveying affairs. Articles or opinions appearing in this publication do not necessarily reflect the viewpoints of MSPS but are published as a service to its members, the general public and for the betterment of the surveying profession. No responsibility is assumed for errors, misquotes or deletions as to its contents. Articles may be reprinted with due credit given.

President's Message

Adam Teale



The first signs of Summer have arrived as schools are dismissing and family calendars are becoming more cluttered with games, camps, activities and vacations. Now the balancing act begins between professional responsibilities and family time.

Summer also signals the end the Second Regular Session of the 98th General Assembly. MSPS had four (4) bills we monitored of which three (3) did not make it through the session. HB586 a consent bill to change a technical error in the Registration Board's 327 bill from last year, HB931 sought to control the use of drones, and HB1000 the reworking of our education bill from years past died. The fourth was consent bill HB1052 to fix the problem with the utilities and easements has reached the Governor's desk and is awaiting his signature. I would like to thank our survey Representatives, Lobbyist, Executive Director, and legislative committee for their consistent monitoring and updates of these bills.

A Memorandum of Understanding between the Department of Agriculture and Board of Registration was signed on March 23. It authorizes the promulgation process of standards to begin. Presently the standards are at the Governor's Office for review and approval, followed by the Secretary of State's Office. Once those hurdles are cleared they will go through public comments and legislative rules committee for further review. This will be a long and drawn out process, but an important one because once a rule is in place it carries the same weight as any other law.

Our spring workshop just finished with positive feedback from those in attendance. We had a good workshop covering Land Descriptions, How to Fix a Boundary Problem, Missouri Minimum Standards, and a full day Mock Trial on Saturday. The Summer Minimum Standards Workshop has been replaced with online Minimum Standards. For the last two (2) years MSPS has been working with GeoLearn to develop an online Minimum Standards program which went live in October 2014. For those wishing to obtain their Minimum Standards PDU's you can access the classes through www.missourisurveyor.org, in the upper right hand corner click on the maroon MSPS logo and it will take you to the GeoLearn website. MSPS still plans to offer in-person Minimum Standards on a yearly basis either at the Spring or Annual Meeting.

I would like to remind everyone to make plans to attend the MSPS Annual Meeting, October 8th through the 10th at Tan-Tar-A. We are working on a strong line-up of topics and speakers to go along with our great list of exhibitors. If you have subject matter you would like to see at a meeting in the future please email me ateale@midlandsurvey.com and I will see that the topic gets forwarded to the committee.

Enjoy your summer. 🇺🇸

Cover Photo: MoDOT new Daniel Boone Missouri River Bridge between St. Louis and St. Charles Counties. Pictured from left to right: Eddie Stannard and Vince Kaimann. Photo by Steve Jantosik.

In Memory of Harold Walker Kerr

Harold Walker Kerr passed away on May 1, 2015 at the age of 77. He is the beloved husband of Carolyn Kerr nee Hedge of Wright City, Missouri. He is survived by his two daughters: Jennifer (Jim) Kerr-Ward of Lake St. Louis, MO & Sarah (Steve) Kerr-Lewis of Wright City, MO; four grandchildren: Jessica (Matt) Schlipp, Lauren Iannicola, Ashley Neldon & Morgan Lewis; two great-grandchildren: Macie Rose Schlipp & Matthew Lane Schlipp. He was preceded in death by his parents: William Floyd & Ruby Gay Doyle Kerr nee Trout, brothers: Frank, Luther & Bill Kerr. Mr. Kerr was the owner of Kerr & Associates Land Surveyors in Wentzville. He loved and cherished spending time with his grandchildren, and making delicious chocolate chip cookies. He was active in several social justice groups, and writing letters to the Post Dispatch editor. He also enjoyed gardening. Harold served our country and was a proud veteran. He was married to Carolyn Hedge in Cape Girardeau in 1959. He will be dearly missed by all who knew him.



Southwest Chapter's 9th Annual Fall Workshop Thursday, August 20, 2015

Speaker: Wendy Lathrop

Topics: "Ownership vs. Possession" (4 hours) and "Paper vs. Ground Truth" (4 hours).

Time: Doors open for registration at 7:30 am, classes begin at 8:00 am.

Location: Christ's Community United Methodist Church, 2700 East 44th Street, Joplin, Missouri.

Lunch: Catered Buffet at 12:00 noon from Red Hot & Blue and Charlie's Chicken.

Directions: From Exit 8 on I-44, head South along Range Line Road approximately 0.4 mile to the 44th Street Signal, head West along 44th Street approximately 0.25 mile to Church's driveway on South side of street.

Contact: Steve Lewis 417-781-0643 ext-1005

Registration Fees (8 PDU's)
Licensed Surveyor \$100.00
Survey Technicians/Students \$50.00

**To register on-line and for more information:
<http://swmsps-workshop.weebly.com/>**

50 YEAR ANNIVERSARY

John W. Reilly will have received his license as a Registered Land Surveyor 50 years ago, on August 30, 1965.

John attended Southeast Missouri University from 1954 to 1956 and assisted his father, Joseph A. Reilly, Bollinger County Surveyor from 1952 to 1975, in the family surveying business. In 1959, he enlisted in the U.S. Army for 2 years and was assigned to the U.S. Army Security Agency. John spent 21 months at Clark Air Force Base in the Philippines. He received an honorable discharge in June, 1961.

Wishing to follow the family profession, John apprenticed with an engineering firm in Festus, Missouri before receiving his Missouri Registered Land Surveyors' License # 1045.

In 1967, John contracted with Fred Weber to survey and plat the 5,000 acre Terre Du Lac lake community development at Bonne Terre, MO. Having completed the work at Terre Du Lac, he returned to Bollinger County to follow the path of his father, grandfather and great-grandfather before him. He was elected to the office of Bollinger County Surveyor in 1976 and held that office until his retirement on December 31, 2011. He currently serves as the Deputy County Surveyor and continues to practice his profession to this day.

John began his career using the compass and chain with his father 50 plus years ago and now uses the most sophisticated equipment available.

Our congratulations goes out to John for his many years of dedicated service to the County, the private sector and the surveying profession.



Memorandum of Understanding

Between Missouri Board for Architects, Professional Engineers, Professional Land Surveyors and Professional Landscape Architects and The Missouri Department of Agriculture's Division of Weights, Measures, and Consumer Protection, Land Survey Program

This is a Memorandum of Understanding (MOU) between the Missouri Department of Agriculture, Division of Weights, Measures, and Consumer Protection, Land Survey Program (hereinafter called Division) and the Missouri Board for Architects, Professional Engineers, Professional Land Surveyors and Professional Landscape Architects, Professional Land Surveying Division (hereinafter called the Board),

The Division and the Board agree the development of consistent and adequate rules regarding the practice of land surveying is of primary importance to protect the public. The Division and the Board agree to enter into this MOU to assure rules regarding the practice of land surveying adopted by either agency are consistent and do not conflict. State land surveying regulatory standards are needed to protect the public, the profession, and offices of records from inferior land surveys, provide the practicing surveyor and private individuals with a criterion to judge the quality of surveying, are used extensively in contracts for surveying services by federal, state, and local agencies, are included in local government platting requirements by reference, and are used by the Board to determine adequate performance in land surveying. This MOU establishes a procedure for simultaneously promulgating and publishing identical rules to the greatest extent possible.

1. Responsibilities Designated

- A. The Board and Division enjoy a shared responsibility to develop:
 - 1) Regulatory standards for property boundary surveys; (60.510-7, RSMo, and 327.041, RSMo);
 - 2) Plats for subdivisions of land; (445.010-120, RSMo); and,
 - 3) Regulatory standards for condominium surveys and plats (448.2-109, RSMo.).
- B. The Board's additional responsibilities will be for the development of:
 - 1) Regulatory standards for the type of report prepared by licensed land surveyors that locate improvements and encroachments into or from the subject property based on existing but not confirmed evidence; and,

- 2) Other surveying requirements specifically authorized by the legislature.

- C. The Division's additional responsibilities will be for the development of
 - 1) Regulatory standards for the restoration and/or reestablishment of corners of the USPLSS (60.321, RSMo.);
 - 2) Regulatory standards for horizontal and vertical control surveys (60.451-3, RSMo.);
 - 3) Any other surveying or mapping regulatory standards needed to carry out the responsibility delegated in 60.510, RSMo; and,
 - 4) Regulatory standards establishing minimum standards for digital cadastral parcel mapping (60.670, RSMo.).

II. Rulemaking Procedure

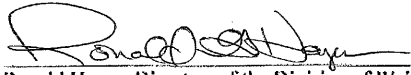
- A. It is the responsibility of the Division and the Board to develop those regulatory standards for which they have shared or additional responsibilities.
- B. Any rule or portion of a rule, as that term is defined in Section 536.010, RSMo, that is created under the authority delegated in Chapters 60, 327, 445, and 448, RSMo is subject to all of the provisions of Chapter 536, RSMo, and if applicable, Section 536.028, RSMo. It shall be the responsibility of the Board and the Division to periodically monitor the regulatory standards for which they have a shared or additional responsibility.

It is agreed that neither the Division nor the Board will promulgate or make any changes in land surveying regulatory standards without following the procedure in this agreement. It is agreed that enforcement of these identical regulatory standards is essential and when necessary, the Division will assist the Board in its enforcement efforts,

This Memorandum of Understanding may be terminated, with or without cause, by the Department of Agriculture's

Director of the Division of Weights, Measures, and Consumer Protection, or the Chair of the Professional Land Surveying Division of the Board upon providing thirty (30) days written notice of such termination. ■

Department of Agriculture



Ronald Hayes, Director of the Division of Weights, Measures, and Consumer Protection, Department of Agriculture

3/23/2015

Date



Darrell Pratte, State Land Surveyor

MARCH 23, 2015

Date

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, PROFESSIONAL LAND SURVEYORS AND PROFESSIONAL LANDSCAPE ARCHITECTS



Michael C. Freeman, Chair
Professional Land Surveying Division
Board for Architects, Professional Engineers,
Professional Land Surveyors and Professional
Landscape Architects

3/23/2015

Date



Judy Kempker, Executive Director
Board for Architects, Professional Engineers,
Professional Land Surveyors and Professional
Landscape Architects

3/23/2015

Date

Surveyor Wanted

Archer-Elgin Engineering & Surveying (Rolla, Missouri) is seeking a full-time, field-oriented experienced LSIT or licensed Professional Surveyor. Seeking a team-oriented, self-motivated, flexible, career-minded person to join our firm. Must have field experience with wide variety of equipment; must have worked on ALTA surveys, conventional boundary surveys, site/utility surveys and construction staking. Experience in survey research and CAD is a plus but not mandatory. Must have valid driver's license, pass background check and drug test. We offer competitive salary and benefits package. Please email resume, inquiries or questions to: archer-elgin@cmarcher.com

Annual Conference

Mark Your Calendar for October 8-10, 2015
in the newly renovated Tan-Tar-A Resort in Osage Beach

Speakers will include

William Clark
Dr. Dick Elgin
Don Bordcherding
Darrell Pratte

Steve Schmidt
Stan Emerick
Jim Mathis
Steven Weible

Ron Heimbaugh
Mark Wiley
Bob Shotts

Thanks to Our Exhibitors



LAND SURVEY PROGRAM



LASER SPECIALISTS



SURDEX



OZARK LASER



GEOLEARN



SURVEYORS MATERIALS



SEILER INSTRUMENT



CARLSON SOFTWARE



ZAHNER & ASSOCIATES



GRINER & SCHMITZ

Spring Workshop ~ May 8-9, 2015

NSPS Action Papers

Fully Fund 3DEP

The 3D Elevation Program (3DEP) developed by the US Geological Survey (USGS) will satisfy the growing demand for consistent, high-quality topographic data and a wide range of other three-dimensional representations of the Nation's natural and constructed features. Among the applications that will benefit from 3DEP data are flood risk management, agriculture, water supply, homeland security, renewable energy, aviation safety, and other areas. Indeed, USGS has identified more than 600 applications that would benefit from such enhanced elevation data.

3DEP uses advanced airborne laser technology, known as LiDAR (light detection and ranging), to build the most detailed and complete elevation maps ever produced on a nationwide scale. In 2012, the USGS developed the 3DEP initiative to respond to growing need for high-quality topographic data and a wide range of other three-dimensional representations of the Nation's natural and constructed features.

Recent events such as Hurricane Sandy and Irene have highlighted the importance of accurate elevation to ensure responsible coastal and flood resiliency. State and local emergency response efforts will also be improved with enhanced elevation data. 3DEP will enable USGS to lead government efforts to "map it once, use many times" and increase efficiencies across sectors and number of users,

USGS, with involvement from the private sector and other stakeholders, conducted a *National Enhanced Elevation Assessment* (NEEA) to determine and document the need for national elevation data within government and private markets. The results indicated that enhanced elevation data have the potential to generate \$13 billion in annual benefits, at a benefit:cost ratio of 4.7 to 1.

MAPPS and NSPS believe 3DEP will promote economic growth, facilitate responsible environmental protection and resource development and management, assist with infrastructure improvement, and generally enhance the quality of life of all Americans. A capable, qualified private sector capacity exists to fulfill the data acquisition requirements of 3DEP. Utilizing the Geospatial Products and Services Contract (GPSC), a suite of multiple-award USGS contracts with the private sector competitively procured via the qualifications based selection process pursuant to 40 USC I 10 1 and FAR part 36.6, a public-private partnership between USGS and the private sector will accomplish 3DEP via task orders for LIDAR acquisition. MAPPS and NSPS strongly support the USGS intent to utilize these contracts for 3DEP data collection and processing. Small businesses will help fly aerial data collection missions while also contributing to the processing of the elevation data.

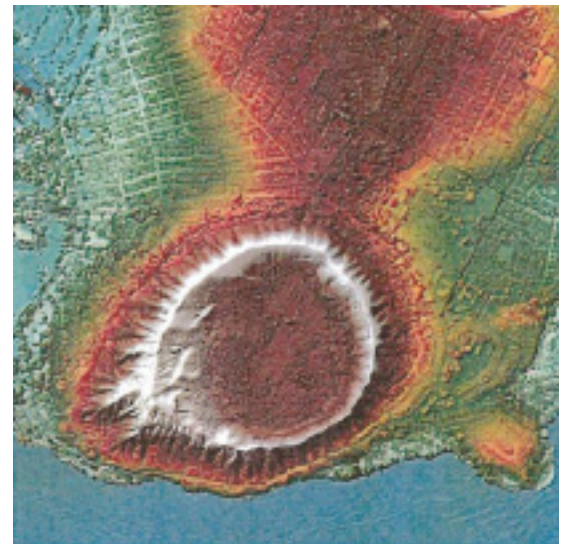
The equipment, infrastructure, service capacity, and capability of the private sector, as well as the contract vehicles in USGS, are in place to efficiently implement the 3DEP program. Moreover, Congress provided an innovative mechanism for cooperative activities in elevation data when it enacted section 100220 of Public Law 112-141, which can be utilized to pool funding from Federal, state and local government entities.

MAPPS and NSPS respectfully urge Congress to cooperatively fund the 3DEP program. For USGS, in the Interior, Environment and Related Agencies appropriations bill for Fiscal Year 2016, it is suggested that *Core Science Systems* include an increase of \$28.7 million above the President's request for 3DEP. For the Natural Resources Conservation Service (NRCS) in the, Agriculture and Related Agencies appropriations bill for Fiscal Year 2016, it is suggested that *LiDAR-Enhanced Soil Survey (LESS)* include no less than \$20 million to acquire enhanced elevation data that can contribute to 3DEP. For the Federal Emergency Management Agency (FEMA) in the Department of Homeland Security appropriations bill for Fiscal Year 2016, it is suggested that the *National Flood Insurance Program (NFIP)* include no less than \$20 million to acquire enhanced elevation data compatible with 3DEP.

ACTION REQUESTED:

MAPPS and NSPS respectfully urge members of Congress on the Appropriations Committee to support 3DEP funding, and other members to indicate their support for 3DEP to the Appropriations Committee, at the levels suggested herein. For more information, contact John Byrd, MAPPS and NSPS Government Affairs Manager, at jbyrd@jmpa.us or (703) 787-6665 and go to www.3DEP4America.com.

(continued on next page)



NSPS Action Papers (continued)

Federal Land Asset Inventor Reform (FLAIR) Act: Improving Real Property Stewardship

Since 2003, the Government Accountability Office (GAO) has repeatedly designated 'Managing Federal Real Property' as an area of "high risk" of waste, fraud and abuse. This activity is again on the list released by GAO on February 11, 2015 (GAO-15-290). One of the reasons cited by GAO is the fact that the government does not have a current, accurate inventory of the land it owns, most recently noting "effective real property management and reform are undermined by unreliable real property data." The General Services Administration (GSA) collects data from at least 30 federal agencies, but GAO has found its system, the Federal Real Property Profile (FRPP), "unreliable and of limited usefulness" and "not current or reliable." This point was underscored once again by the House Appropriations Committee in the FY 15 Financial Services appropriations bill report.

It is estimated that the government wastes \$2 billion a year on some 77,000 unneeded buildings. The GSA inventory includes buildings only, and not land. The last official report on unneeded federal land (1997) indicated that the Bureau of Land Management alone is holding more than 3.4 million acres that had been identified for disposal through the agency's land use planning process.

On the other hand, the government inefficiently maintains a plethora of land inventories that are inaccurate, out-of-date, single purpose, and non-interoperable. The inefficient and wasteful nature of the government's current way of doing business was demonstrated by then-Interior Secretary Gale Norton's 2005 testimony before the House Interior Appropriations Subcommittee:

"The Department currently uses 26 different financial management systems and over 100 different property systems. Employees must enter procurement transactions multiple times in different systems so that the data are captured in real property inventories, financial systems, and acquisition systems. This fractured approach is both costly and burdensome to manage.

The Department of Defense has reported to MAPPS that it maintains more than 300 property management systems. This inefficiency should not be the case when a single, uniform, reliable, regularly maintained database is currently available through state-of-the-art geographic information systems (GIS) technology. Small business will also benefit from helping with such GIS technology and integration efforts, as well as helping state and local governments with their ongoing efforts to inventory non-Federal property.

In the 114th Congress, Representatives Ron Kind (D-WI) and Rob Bishop (R-UT) are planning to re-introduce the Federal Land Asset Inventory Reform (FLAIR) Act (H.R. 916 in the 113th Congress). This bill was reported favorably out of the House Natural Resources Committee in July 2014 by a unanimous, bipartisan vote. In the Senate, a companion bill is needed for reintroduction.

This bill creates a single, federal multipurpose cadastre (a uniform Federal computer database), in accordance with standards recommended by the National Academy of Sciences. It also calls for an "inventory of inventories," so that duplicate, wasteful activities can be identified and eliminated. The FLAIR Act will provide all agencies owning federal real property an improved accounting of their land assets. Such an inventory will assist in improved federal land management, resource conservation, environmental protection and utilization of real property, as well as identify property the federal government no longer needs to own.

ACTION REQUESTED:

MAPPS and NSPS respectfully urge Representatives to cosponsor the FLAIR Act in the 114th Congress. To cosponsor, please contact Natalie Mamerow in Representative Kind's office at 5-5506. MAPPS and NSPS respectfully urge Senators to sponsor companion legislation in the 114th Congress. For more information, contact John Byrd, MAPPS and NSPS Government Affairs Manager, at jbyrd@jmpa.us or (703) 787-6665.



Private Sector Utilization

Geospatial technology, identified by the U.S. Department of Labor as one of the top three emerging technologies for the 21st century, is estimated to be a \$100 billion worldwide market growing at an annual rate of 10-15%. In this difficult economy, government agencies should be utilizing private sector geospatial firms to the maximum extent practical, not duplicating or directly competing against them.

The federal government has more than 1.1 million employees who are involved in performing commercially available activities, such as surveying, mapping and geospatial services. These are activities that can be found in the “Yellow Pages” from private companies, including small business, on Main Street, USA. Numerous government studies have identified surveying, mapping and other “geospatial” activities as prime examples of commercial activities in which the federal government competes with and duplicates the private sector.



Regrettably, Congress has tied the hands of agencies by restricting the utilization of the private sector. Section 1636 of PL 110-181, the National Defense Authorization Act (NDAA) for FY2008 suspended DOD public-private competitions under OMB Circular A-76. Section 737 of Division D of the Omnibus Appropriations Act, 2009, P.L. 111-8, imposed a moratorium on OMB Circular A-76 public-private competitions, and this moratorium has been continued in subsequent appropriation bills and remains in effect today pursuant to Section 742 of Division E of the Consolidated and Further Continuing Appropriations Act, 2015, P.L. 113-235.

Congress should repeal these provisions and lift restrictions on agency use of the private sector. Before leaving office, then-Defense Secretary Leon Panetta called for lifting these restrictions. A moratorium should be placed on Federal “insourcing” (transferring functions from contractor performance to in-house government employee performance of commercially available activities), or, at a minimum, there should be a requirement that a demonstrated, quantifiable cost saving be shown before in-sourcing occurs.

There is a need and role for government in surveying, mapping and geospatial activities. Agency personnel should be focused on inherently governmental activities such as enforcement of standards and specifications, development of requirements, coordination, and administering contracts. Commercial activities, including data acquisition, processing, applications, and value, added services should be left to the qualified, competent and capable private sector in surveying and mapping.

In the 113th Congress, Representative John J. “Jimmy” Duncan, Jr. (R-TN) and Senator John Thune (R-SD) introduced the “Freedom from Government Competition Act”, H.R. 1072/S. 523. It will codify the “Yellow Pages” test, applied by Mayors and Governors, both Democrat and Republican, that says if you can find private sector firms in the Yellow Pages providing products or services that the government is also providing, then the service should be subject to market competition to break up the government monopoly and prove a better value to the taxpayer. This bill will not only make government smaller and more efficient, but more than \$27 billion annually and improve the quality of services. This bill will soon be re-introduced in the 114th Congress,

ACTION REQUESTED:

MAPPS and NSPS respectfully urge members of Congress to offer amendments to appropriations bills and authorization legislation calling for utilization of the private sector to the maximum extent practical for geospatial activities. MAPPS and NSPS opposes limits on the ability of agencies to utilize the private sector and urges members of Congress to reject such provisions and repeal existing restrictions. MAPPS and NSPS also urge Congress to enact a moratorium on insourcing. Additionally, Representatives are asked to cosponsor the Freedom from Government Competition Act by contacting Don Walker in Representative Duncan’s office at 5-5435. Senators are urged to cosponsor the Senate companion by contacting Jon Abdnor in Senator Thune’s office at 4-2321. For more information, contact John Byrd, MAPPS and NSPS Government Affairs Manager, at jbyrd@jmpa.us or (703) 787-6665.

(continued on next page)

NSPS Action Papers (continued)

Geospatial Location: Enabling Safe Corridor Utility Distribution

It is said that the pipelines in the United States could encircle the Earth 25 times. The American Public Works Association estimates that an underground utility line is hit somewhere in the United States every 60 seconds. Geospatial information directly influences all aspects of Accurate Safe Utility Location (ASUL) risk assessment and emergency management. Advanced location surveying technologies, including light detection and ranging (LiDAR), sonar, radar and imagery, provide input into Geographic Information System (GIS) data and other geospatial assets are of most critical value in emergency response during the initial hours and days immediately following any incident. When utilized in the field at specific incident response locations, ASUL maps can be effective and life-saving tools. In California, a utility's disastrous gas pipeline incident brought forth an emergency plan from an independent review panel, the National Transportation Safety Board (NTSB), industry associations and regulators such as Pipeline and Hazardous Materials Safety Administration (PHMSA), California Public Utilities Commission (CPUC), former NTSB leadership, American Gas Association (AGA), Interstate Natural Gas Association of America (INGAA) and others.

Over the past decade, many deaths, injuries, and billions of dollars in repairs to the utilities and damaged property have been associated with poorly mapped or maintained distribution systems. Millions of dollars in environmental cleanup, countless road and facility closures, and dozens of evacuations are the additional results of these breakdowns. It is important to note that these systems most often physically parallel and work in tandem with existing transportation corridors, such as railroad and highway structures. These systems connect nearly every household to a common grid, often exposing citizens to unsafe and potentially explosive conditions. Because Federal, state and local governments control the corridor rights-of-way, report, and react to incidents (through state One Call, Miss Utility, or 811 systems), and issue permits for projects surrounding these systems, accurate geolocation surveying and mapping must be in place so that these facilities are not damaged or be allowed to further deteriorate.



Federal officials, transportation designers, telecom, and utilities and pipeline operators, as well as government, need accurate location information to manage existing underground infrastructure and plan for future growth and development. Surveys and maps of underground utilities are often inaccurate. In many cases, they don't even exist. The lack of location data is often cited by the National Transportation Safety Board (NTSB), Government Accountability Office (GAO), and other authorities as a factor in pipeline and other utility accidents. The inaccuracy of location data, unmarked utilities, and crowding within rights of way are major factors contributing to disruption to underground infrastructure. Digging, drilling or excavating in the vicinity of unknown, unmarked, unmapped, or incorrectly located utilities can be costly in terms of wasted excavation time, service disruption and utility downtime, environmental damage, and-worst of all-personal injury or loss of life. One Call, Miss Utility, or 811 systems are often nonresponsive to surveyors.

An Accurate Safe Utility Location + Infrastructure Mapping Reform (ASUL+IMR) is needed for accurate location of America's underground utilities. This data partnership program will save lives, time, and money. Such a partnership should begin with current private sector protocols and practices and be open to evolving standards and technologies. This initiative should include both management of physical infrastructure, the information technology systems used to manage our most basic, daily consumption of power, water, communications, transportation and natural gas, and be compatible with One Call, Miss Utility, or 811 systems. Accurate geospatial location can enable safe corridor utility distribution through surveying and mapping data sets provided by and for terrestrial and mobile LiDAR; acoustical sounding; ground penetrating radar data; GPS; structures and topography; critical infrastructure; cadastral; airborne imagery and elevation; and transportation and pipeline. Small businesses providing surveying, mapping and geospatial data, products and technologies can work closely with utilities, end users, and government to provide innovation and flexibility in the planning, mitigation, response, and remediation phase.

Representative Jackie Speier (D-CA) will soon re-introduce a new version of H.R. 22, the "Pipeline Safety and Community Empowerment Act" from the 112th Congress. This bill will recognize the importance of surveying and mapping data and asset information in ensuring pipeline safety, and assist in the creation of accurate asset inventories.

ACTION REQUESTED:

MAPPs and NSPS respectfully urge Representatives to cosponsor the "Pipeline Safety and Community Empowerment Act" which will enable safe corridor utility distribution. To cosponsor, please contact Miriam Goldstein in Representative Speier's office at 5-3531. MAPPs and NSPS respectfully urge Senators to sponsor companion legislation to H.R. 22 in the 114th Congress. For more information, contact John Byrd, MAPPs and NSPS Government Affairs Manager, at jbyrd@jmpa.us or (703) 787-6665. 🇺🇸

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Missouri Board and State-Specific PLS Exam Content... Questionnaire Results

by Dr. Richard L. Elgin, PLS, PE; Rolla, Missouri; Chairman, State-Specific Land Survey Exam Committee
Missouri Board for Architects, Professional Engineers, Professional Land Surveyors and Professional
Landscape Architects

A few months ago the Missouri Board sent a questionnaire to each Missouri licensed Professional Land Surveyor. One thousand and thirty-three (1033) questionnaires were sent, 244 were returned (24%). The purpose was to seek opinions as to subject matter to be included on the Missouri State-Specific PLS Exam.

Many years ago the Board's LS Exam Committee identified seven subject areas for examination and recently split these areas into two parts: Part I, "General" covers four subject areas: 1.) Minimum Standards, 2.) State Statutes and Board Rules, 3.) State Plane Coordinates, and 4.) Riparian Boundaries. Part II, "USPLSS" covers three subject areas: 1.) Original GLO, 2.) Resurveys on the USPLSS, and 3.) Calculation problems related to reestablishing lost corners. All the questions used on the exam are relative to Missouri law, rules, statutes, practice and procedures. Below are the subject area results by importance.

TABLE ONE
Questionnaire Results
The Seven Current Subject Areas Ranked By Importance

	Not Important	Somewhat Important	Important	Very Important	Average	Standard Deviation
1.) Missouri GLO procedures, rules, section protraction, platting and measurements. The GLO system as applied in Missouri.	1	2	3	4	3.74	±0.50*
2.) Missouri "Minimum Standards for Property Boundary Surveys."	1	2	3	4	3.65	±0.53
3.) Resurveys on the U.S. Public Land Survey System and essentially Chapter 60.	1	2	3	4	3.62	±0.56
4.) Calculation problems relating to reestablishing lost corners on USPLSS (in Missouri).	1	2	3	4	3.43	±0.72
5.) Board Rules and statutes (other than Chapter 60) affecting Missouri land survey practice and procedures.	1	2	3	4	3.32	±0.67
6.) Missouri State Plane Coordinate System.	1	2	3	4	2.96	±0.83*
7.) Missouri riparian boundaries.	1	2	3	4	2.87	±0.73

* Of the seven, the widest disparity as to importance are State Plane Coordinate questions, the closest is Missouri's GLO system.

With the exams in two parts, the questionnaire asked the subject area percentage by exam. Those results, coupled with the Board’s Exam Committee recommendation and consideration by the Board’s Land Surveying Division has resulted in adoption of the percentages listed below.

TABLE TWO
Subject Matter To Be Included By Percent On The
Two State-Specific Exams

Part I Exam, "General" (1 hour)	Percent
a.) Missouri "Minimum Standards"	40%
b.) Board Rules and Statutes (other than Chapter 60)	35%
c.) Missouri State Plane Coordinates	15%
d.) Missouri Riparian Boundaries	<u>10%</u>
	100%
Part II Exam, "USPLSS" (1 hour)	Percent
a.) Missouri GLO procedures, rules, protraction	35%
b.) Resurveys on Missouri USPLSS and Chapter 60	30%
c.) Calculations problems relating to reestablishing lost USPLSS corner positions	<u>35%</u>
	100%

The questionnaire included a section where surveyors could offer suggestions for subject areas which should be included on the exam. Subject areas suggested include: Ethics, boundary descriptions, records research, the difference between obliterated and lost corner, and, "common sense!"

By regions of the State, the questionnaires were returned in the following percentages:

TABLE THREE
Respondents by Geographical Distribution

Area	%
St. Louis	18
Kansas City	17
Multiple Areas or Out of State	17
Southwest	12
Southeast	9
Central/Jeff City/Columbia	7
South Central	7
Springfield	5
Northeast	3
Northwest	3
North Central	<u>2</u>
	100%

(continued on next page)

By number of years of licensed practice, the questionnaires were returned by:

TABLE FOUR
Respondents by Number of Years Licensed

Age	%
21 years or more	46
11-20 years	31
6-10 years	17
5 years or less	<u>6</u>
	100%

Although not relevant to the state-specific exam, the questionnaire asked surveyors their opinion of perhaps modifying the statutory requirements of recording plats of survey. Five options were offered:

TABLE FIVE
Ranked Questionnaire Results Concerning Recording Plats of Survey

Statement	Questionnaire % In Agreement
1.) The statute should remain as it is right now: Every survey that creates a new parcel must be recorded.	37%
2.) Require that any survey that creates a new parcel, restores or reestablishes any corner not previously existing or a resurvey which materially differs with a record document (deed or survey) shall be recorded.	32%
3.) It should be mandatory that every plat of survey must be recorded.	20%
4.) Recording a survey should be at the sole option of the person who ordered the survey. Let that person decide whether to record the survey. Let that person pay for recording.	8%
5.) It should be mandatory that every plat of survey must be recorded, except that the person who paid for the survey can have the option of <u>not</u> having survey recorded and can only exercise that option by signing a statement so stating his or her desire.	<u>3%</u>
	100%

Note that 69% of respondents agree that a survey be recorded if it creates a new parcel, reestablishes a corner or if the survey materially differs from the record. Only 20% believe every plat must be recorded.

(continued on page 16)

Also not exams-related but of interest to the Board is the issue of the appropriate amount of required surveying education prior to licensure. Questionnaire results follows:

**TABLE SIX
Surveying Education
Prior to Licensure**

Statement	% Agreeing with Statement
1.) The current requirement of 12 college credit hours in surveying is adequate.	42%
2.) Additional college credit hours in surveying should be required. The number of hours should be: 18 24 30	38% of these the average number of hours was 21.
3.) A 4-year degree in any subject should be required so long as most of the college credit be in surveying and very closely related subjects.	20%

Note that 80% of respondents agreed that some amount of surveying education be required for licensure. The amount of education ranges from 12 credit hours (current requirement) to 21 credit hours (see above). Somewhere in between it seems would be appropriate, according to the questionnaire. Next question: What is the content/syllabus of these required hours, and, who is going to teach them?

The main purpose of the questionnaire was to help establish the percentages of the seven topic areas examined for on the state-specific exam. Thanks to all who participated in the questionnaire. 🇺🇸

Special thank you to the Spring Workshop speakers!

**Eric Harris, JD
Robert Shotts, PLS**

**Trial participants: Judge Ray Dickhaner
Michael A. Campbell, Attorney, Kevin Elmer, Attorney**

**Defendant Earl Graham, PLS
Respondent Don Bormann, PLS**

Land Owners Troy Hayes, PLS and Norman Ellerbrock, PLS

***MSPS appreciates all those that donated their time and energy
to make the Mock Trial a success!***

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PROGRAM

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Surveying Math (Bring your NCEES-approved calculator)

- Calculator Use & Basic algebra
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- Traverse Calculations and Coordinate Geometry
- Surveying Math Applications

Thursday, August 13 ~ 8:00 am - 5:00 pm & Evening Session
Surveying Fundamentals

- Errors Analysis & State Plane Coordinates
- Route Surveys, GPS & GIS
- Exam Preparation, Legal Principles & Definitions

Friday, August 14 ~ 8:00 am - 3:30 pm
Missouri Practice

- Missouri Minimum Standards & Board Rules
- Missouri GLO System, Resurveys on Missouri's GLO system (RSMO Chapter 60)
- Other Missouri Statutes, Riparian Boundaries

This course is appropriate for those who will be taking any part of the surveying licensing exams, or for those already licensed and wish to review surveying topics and receive PDUs.

INSTRUCTORS

Dr. Joseph Paiva, PLS, is a geomatics and business development expert and a former university educator, who is now CEO and Principal of GeoLearn (www.geo-learn.com), an online education company specializing in courses for professionals and technicians in the geospatial industry.

Dr. Dick Elgin, PLS, PE, works for Archer-Elgin Surveying and Engineering, LLC (Rolla).

Mike Flowers, PLS, is the former Missouri State Land Surveyor. He is a member of the Missouri Board of Architects, Professional Engineers, Professional Surveyors and Landscape Architects.

All are well known surveying professionals. Joe Paiva helped found the Review Course and for years all three have previously taught parts of it.



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**Send email to Robert Ubben, MSPS Nominating Committee Chair
rubben@affinis.us**

Awards Nomination Form

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October 16, 2015 at Tan-Tar-A Resort*

Person Nominated: _____

Name of Award: _____

On a separate page highlight the reason(s) for your recommendations/nomination.

Mail or fax completed form to the **Missouri Society of Professional Surveyors, PO Box 1324, Jefferson City, MO 65102, Fax: 573-635-7823, no later than September 1, 2015.** If you have questions contact Robert Ubben, Awards Committee Chair.

AWARDS

Surveyor of the Year Award has been given since 1987. This award is given to a MSPS member who has given freely of his/her time and efforts to the organization and toward the betterment of the surveying profession.

* Must be a Member of MSPS.

* Should enjoy an outstanding reputation for his/her knowledge, integrity and professional competency.

Robert Myers Service Award has been given since 1990. This award is given to an MSPS members who, over an extended period of time (ten years minimum) has given exemplary service and dedication to the surveying profession and in particular to the Society.

PAST RECIPIENTS INCLUDE

Surveyor of the Year – Robert Ubben, Darrell Pratte, Chris Wickern, Mark Nolte, Ralph Riggs, John Teale, Mike Gray, Don Martin, Dan Lashley, Richard Cox, Jim Mathis, Robert Shotts, Troy Hayes, Craig Ruble, Gerard Harms, John Holleck, John Stevens, Richard Barr, Erwin Gard, Charles Kutz, Robert Myers, Dan Govero, Jim Anderson, Mike Flowers, Bob Pirrie, and Jerry Day

Robert E. Myers Service Award – Sharon Herman, Troy Hayes, Rich Howard, Stan Emerick, Don Martin, Robert Myers, John Teale, Jim Mathis, Robert S. Shotts, Stan French, Dan Lashley, Gaylon Smith, Gerard Harms, John A. Holleck, J. Michael Flowers, Erwin Gard, Rich Norvell, David Krehbiel, Richard Elgin, Dan Govero, Jim Anderson, Rich Barr, Norman Brown, and Harold Schulte

End of Session Report

by *MSPS* Lobbyist Richard “MO” McCullough

The 2015 legislative session was adjourned per the constitution on May 15 at 6:00 p.m. Approximately 2113 bills had been introduced but only 120 or so were passed and sent to the Governor and, well over 200 bills died on the House and Senate calendars without final debate or action being taken on them. The Republican majority declared the session a success, the Democrats not so much.

The Republicans point to the passage of several of their priority items as the reason they feel 2015 was a productive year at the Capitol. Those include: passage of the 2016 \$26 billion dollar budget; bonding for state building projects, HB’s 17-19; medical malpractice reform, SB239; municipal court reform, SB5; student transfer overhaul, HB42; unemployment benefits on term reform, HB150; welfare benefits reform, SB24; right to work, HB116. Some that failed were: ethics reform; deadly force reform; prescription drug monitoring; transportation funding; voter ID; Medicaid reform/expansion.

The final week of session was marred by two incidents which could have long term implications on Missouri politics. One was the “interngate” sexting scandal which resulted in the resignation of Speaker of the House John

Diehl and the election of new Speaker Rep. Todd Richardson. The other was the implementation of a seldom used parliamentary procedure by Senate leadership called “previous question.” This effectively stops debate and forces a vote on a bill, in this case HB 116 “right to work.” Following this maneuver the Senate Democrats declared the session over and began filibustering every motion, issue and bill brought up. The Senate shut down and for all practical purposes so did the House. The First Regular Session of the 98th General Assembly was over. Many believe the Senate Republicans call for the “previous question” on May 14, 2015 could have a negative effect on 2016’s session. Stay tuned, only time will tell.

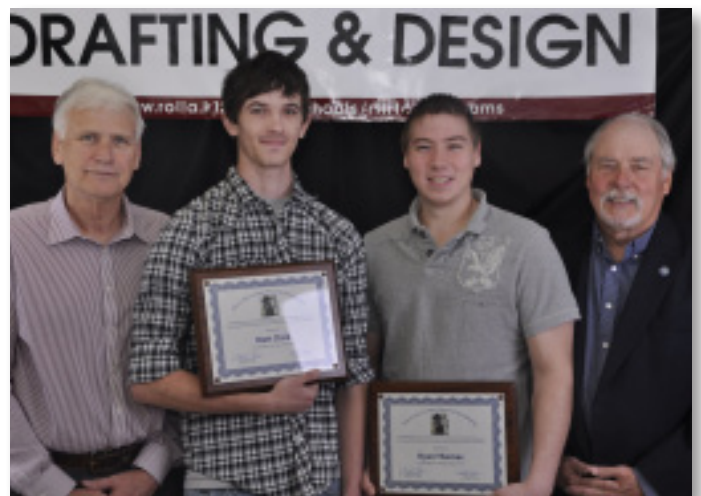


Richard “MO” McCullough

RTI Drafting & Design Students Matt Clark and Ryan Thomas awarded the O. Dan Lashley Memorial Scholarship

For the Spring 2015 semester, Matt Clark and Ryan Thomas were each awarded the O. Dan Lashley Memorial Scholarship at Rolla Technical Institute (RTI) in Rolla. Presenting the scholarships to Matt and Ryan are selection committee members Darrell Pratte, PLS and J. Michael Flowers, PLS. Matt and Ryan will graduate from the Rolla Technical Institute Drafting & Design Program in May 2015.

The annual \$500 scholarship was commissioned by O. Dan Lashley, a long-time Department of Natural Resources surveyor and Rolla resident, specifically for an RTI Drafting & Design second year student interested in land surveying. Mr. Lashley had a love of surveying, educating young people about the profession, and encouraging them to consider a career as a Professional Land Surveyor. 🇺🇸



Pictured from left: Darrell Pratte, PLS, Matt Clark, Ryan Thomas, J. Michael Flowers, PLS

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Bader Explains How Coop Program Leaves Mark In County Records

May 13, 2015, St. Genevieve Herald

Ste. Genevieve County Surveyor Gerald "Duck" Bader said he replaces about 10 to 15 monuments per year under a cooperative program between the Ste. Genevieve County Commission and the Missouri Department of Agriculture's land surveyor program.

"I've done between 250 and 300 altogether over the years," Bader said during an April presentation to the county's Democratic Club. "I've probably got another 50 or 60 of them ready."

Even at that, Bader is not running out of markers to replace in the re-monumentation program, which restores land boundary markers placed in the early and middle 1800s.

"Every corner to a land grant and every half-mile in a section would be a corner, and a section line would intersect with a land grant, there would be a corner there," Bader explained. "So how many are there in Ste. Gen. County? Thousands. Five-, six-, seven-thousand altogether. A lot of those are gone. The evidence is so deteriorated, you won't find them."

"We try to do five or six of them in one area where we don't have to drive across the entire county to do one. ... I'd like to do more, but \$500 doesn't cover near the time and cost that it takes to put in a monument but I believe in the program." 🇺🇸



Ste. Genevieve County Surveyor Gerald "Duck" Bader showed members of the Democratic Club a monumentation pole that is placed in the ground to assist surveyors in finding property lines. He discussed the re-monumentation program during the club's monthly meeting in April. (Photo by Toby Carrig/Herald staff)

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A Surveyor's Search for Joseph Brown

This is not the Joseph Brown we're looking for

by Joe Clayton

It's not just monetary donations* which are needed for the Joseph C. Brown Memorial recognition project. While any donations are greatly appreciated there also are needs for research. So back in March when Stan Emerick asked if I wanted to help research Joseph Cromwell Brown (JCB), I was more than happy to say "yes!" As the rich and colorful history of Territorial Missouri and its seat in St. Louis unfolded before me I was quickly engaged by my subject and records of an accomplished surveyor and his fascinating era. The archives read as though they were pulled out of the movie Gang's of New York or the TV show Dead Wood! The "Hill Faction", "Jail Faction" or "Survey Faction" as it was sometimes called puts Deputy Surveyor and Sheriff Joseph C. Brown right at the center of the action.

The focus of my research was specific. Having been intrigued when Stan reported at the February MSPS Board meeting he was still trying to find an image of JCB, I was determined this would be my contribution. My focus, my *research mission* was to seek and find the elusive Brown portrait. As I began my quest to look upon the face of the great surveyor Brown, I turned to another great surveyor Brown, Norman Brown! I was told that Norman had seen a JCB image "in some publication once." I spoke with Norman by phone. He had indeed seen the JCB image in the Missouri Historic Review, published by the Missouri Historical Society quarterly since 1907, but wasn't sure which issue. Following Norman's lead I turned to their online archive which made looking for mentions of JCB easier than one would think...or at least than I feared. Before too long I came upon an article in their October 1995 issue that had the image just as Norman had described; *a stern, capable looking man with a straight handlebar mustache*. It all seemed too easy but there he was! Joseph C. Brown, Initial Point of the 5th PM founder, on page 15! I hadn't even gotten dust on my Indiana Jones fedora yet I solved the mystery of the ancient surveyor's image.



Missouri Historical Society, St. Louis

October 1995 Missouri Historic Review Image

I gleefully shared the news with Stan. My mind buzzed with ideas. I would call a motion for MSPS to support legislation to have JCB's Bust added to the Hall of Famous Missourians at the Capitol Rotunda; his image could be added to the grave site memorial; a commemorative coin with his face; etc... Why it's

the greatest thing that's happened to surveying since the advent of the compass! Well, maybe not that big...but this was a biggie.

Then the email from Stan; "This is not the Joseph Brown we're looking for; the Historic Review had made an error. This image is Mayor of St. Louis from 1871-1875, Joseph Brown." The other Joseph Brown, (*bet those Prospect Robbins researchers didn't face this kind of confusion!*) Like a bad Mime of a Jedi Mind Trick the rug was pulled out from under me; maybe the compass was a little bigger deal than I had thought!

Oh, never mind, back to the drawing board. With records and lore behind me the only hope I can muster is to find living descendants of JCB and hope they have an old portrait on the wall or an early photo in their wallet. It's not impossible! Thomas Easterly and Frederick Webb were taking Daguerreotype photos in Missouri as early as 1845. Brown died February 21, 1849. Albeit brief there was time for an antebellum snapshot or a 19th century selfie...wasn't there? Descendants; how hard could that be??

Joseph C. Brown's Descendants

I'll share what I've learned about the descendants of Joseph C. Brown (JCB) and maybe someone else can help fill in blanks. And with any luck we'll find a (JCB) living descendant!

I found clues in death certificates for Joseph T., Bertram, Beverly F., Dovie V., James Henry (II), and Elizabeth Offutt Brown. I used the Cordell, Conway and Offutt Family genealogies for source information; also used Iron County Genealogy Trails and census information for sources.

Joseph C. Brown - Born Prince Edward County, VA January 29, 1784- Died February 21, 1849
April 26, 1827 married Martha Nice Stephenson – Born 1804 - ? Martha's middle name is listed as Nash on her son Joseph's death certificate. Nash also occurs later in descendent naming.

Joseph C. Brown's children

The Browns had a daughter Ellen; believe Ellen to be Elizabeth M. per 1850 Census, a son James Henry and a son Joseph Thomas.

James Henry Brown - Born 1829 – Died 1881
Married Caroline M. Moffitt Born 1824 – Died 1900
He is listed as the clerk in the Post Office located at 87 Chestnut in St. Louis' City Directory of 1851. He wouldn't have been more than 23 years old; still not sure of his birthday. The next available directory, 1857,

has no mention of James Henry and there are too many James Browns to be sure which would be JCB's son.

Joseph Thomas Brown - Born January 14, 1832 - Died December 9, 1918, Houstonia, MO Married March 22, 1860 in St. Louis Co, MO Virginia (Conway) Brown Born Bonhomme, MO January 11, 1838 - Died September 17, 1888, Houstonia, MO. Virginia was baptized June 11, 1838 at Bonhomme Presbyterian Church. Joseph T is first listed in the 1857 St. Louis Directory as a Doctor. Joseph T. doesn't show up in the 1860 St. Louis Directory.

Elizabeth M. Brown - Born 1836 - ? Only the two sons are mentioned in Joseph C. Brown's obituary. This led to speculation that Ellen or Elizabeth preceded her father in death. JCB Bio names his daughter Ellen, but the 1850 Census shows Martha, James, Joseph and her to be in the same residence. Elizabeth's age is listed as 14. Middle name may be Nash; M could be a transcribing error. By record I find no progeny for Elizabeth, only know her maiden name.

James Henry had at least one child.

James H. Brown's child (Surveyor Brown's grandchild)

James Henry (II) Brown - September 21, 1866 - May 20, 1943
Married Alice Crecelius
Married Dovie Virginia Schofield - Born March 12, 1870 - Died September 2, 1959

James Henry (II) Brown's children (Surveyor Brown's great grand children)

Henry Brown? - Born 1894, St. Louis
Lola Brown Lomax - Born 1889 - Alive in 1940
Married Henry Warwick Lomax - Born 1881, MO - Died January 20, 1942, Norman, OK

Lola Brown Lomax's children (Surveyor Brown's great grand children)

Dorothy Dale Lomax - Born 1921 - Died 1939
Kathryn Jane Lomax - Born 1917 - ?

The next thing I find on Joseph Thomas Brown is in Fulton Missouri in 1875...1876 State census and the 1880 U. S. census in Fulton, lists:

Joseph Thomas Brown age 48 Physician.
Virginia Conway Wife age 42
Keeping house.
Daughter **Laura**, age 19; census shows name as **Lavina**.
Daughter Virginia C. age 16.
Son Beverly Nash age 10.
Son Bertram age 7.

Joseph T. Brown was elected Coroner 1880-1883, History of Callaway Co. 1884.

Joseph T. Brown is listed on his son Bertram's death certificate as Houstonia MO, North Pettis Co., same as his own death certificate, which also says he's a widower at the time of his death.

Joseph T. Brown's children (Surveyor Brown's grandchildren)

Laura Brown - Born May 20, 1861 - ?

She would have been near age 57 at the time of her father's death in 1918. She is listed as informant on Joseph Thomas Brown's death certificate, which also lists her as living in Houstonia, Mo. Only knowing her maiden name makes it hard to track her past 1918. Possible connection to School of the Ozarks

Virginia C. Brown - December 15, 1863 - 1899

She would have been near age 54 at the time of her father's death in 1918. Again only knowing her maiden name makes it hard to track her past 1880. Possible connection to School of the Ozarks

Bertram Brown - April 6, 1873 - June 11, 1910

Death certificate issued in Clay Co., reports he lived in St. Louis area and was married. Joseph T. Brown is listed as informant living in Houstonia, MO. Married Elizabeth Offutt November 7, 1869-December 5, 1955

Bertram Brown's children (Surveyor Brown's great grand children)

Bertram Brown - Born August 31, 1903 - Died December 20, 1960

Marshall Douglas Brown - Born 1906- Died 1966

M. Douglas Brown Belleville, IL is informant on Elizabeth (Offutt) Brown's Death certificate 1955

Beverly Nash Brown - Born December 11, 1869

He would have been 48 at the time of his father's death in 1918, two days before his birthday.
Beverly Nash Brown Marries Oka Mary Mullin May 16, 1905 in Iron County.
Oka M. Brown Born September 29, 1883- Died August 12, 1918.
Beverly shows up in the 1910 U.S. Census as living in Iron County Missouri Arcadia Township as Berrly:

Berrly N. Brown age 41.
Oka M. Brown age 24 wife.
son Beverly Brown age 3.
son Bertram Brown age 2.

Beverly N. Brown 1930 U.S. Census San Diego California:

(continued on next page)

A Surveyor's Search for Joseph Brown (continued)

Beverly N. Brown age 60 Head of Household.
 Rosina H. Brown age 49 Wife.
 Bertram J. Brown age 22 Son.
 Lucy B. Harman age 19 Step-daughter.
 Eleanor Harman age 17 Step-daughter.
 Dorothy L. Brown age 16 Daughter.

Nash's wife died about 4 months ahead of his father, Joseph T., and Beverly could have made his way back to his father's home before removing to California. It's hard to say how things would have been divided between the children. If family heirlooms came to James Henry Brown they would have most likely passed to James H. (II), then on to daughter Lola.

Beverly Nash Brown's children (Surveyor Brown's great grand children)

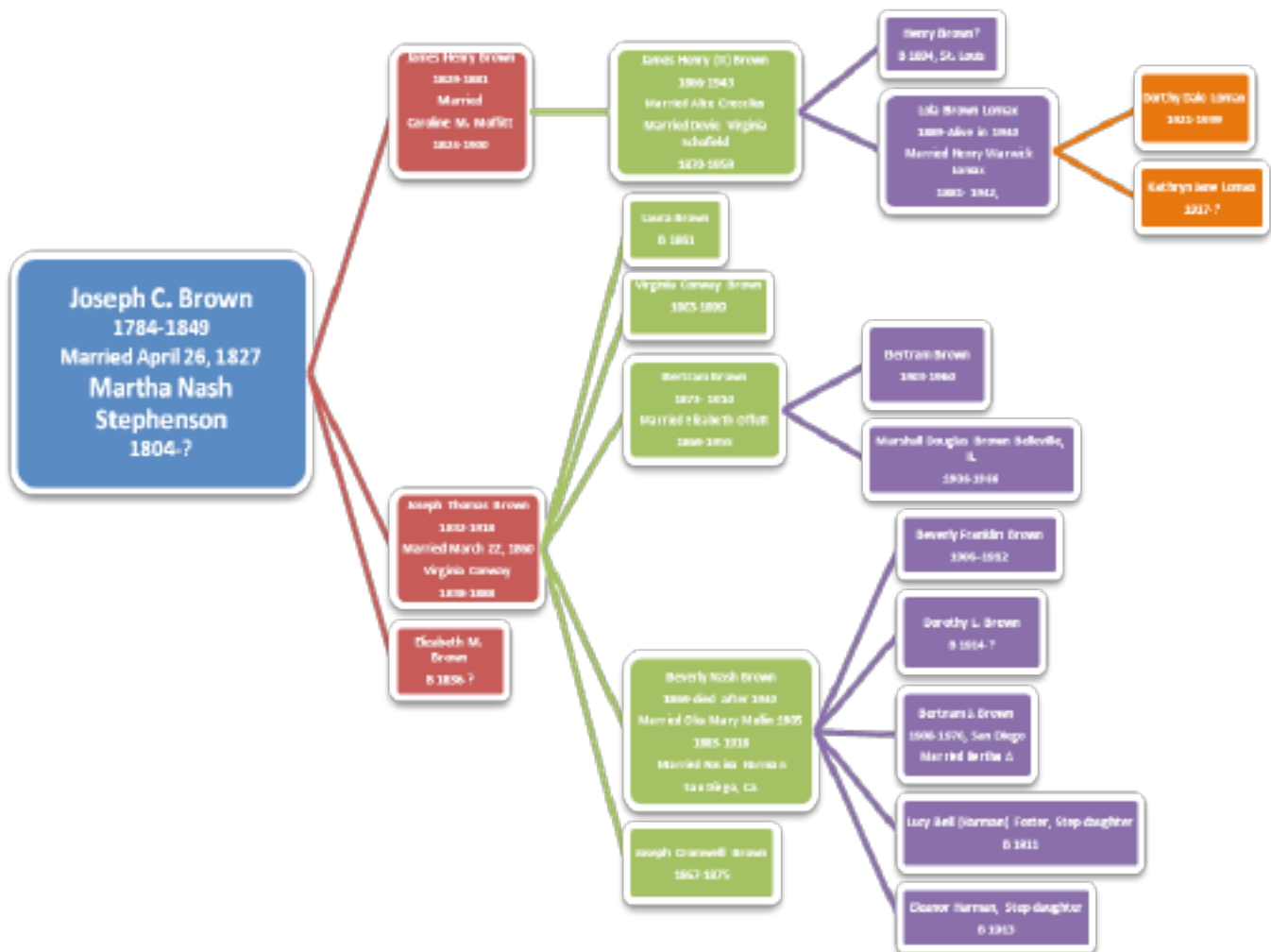
Bertram J. Brown - Born March 8, 1908- Died February 8, 1976 in San Diego.
 Bertram J. Brown married a woman named Bertha A.

...and here my trail has ended; so far!

My sense is if any family heirlooms, i.e. images of JCB, came to Joseph T. Brown they would have stayed at his home in Houstonia, Mo., with eldest child Laura. Although Beverly

If Martha and Elizabeth went back to Virginia any family heirlooms may have been removed with them back east. Elizabeth and her descendants may have JCB image in Virginia. Hopefully I'm not the only one looking for a living descendant of JCB and the publishing of this information will bring to light answers to the before asked questions. All the before mentioned information has come from free resources. Maybe others with online genealogy memberships and skills can finish filling in the blanks. If so I can be reached by emailing josephclaytonpls@gmail.com.

*Tax deductible donations to, Missouri Society of Professional Surveyors Foundation for the Joseph C. Brown Memorial, 722 E. Capitol Ave., Jefferson City, MO 65101 🇺🇸





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New Madrid Claims

by Steven E. Weible, PLS, April 2015

Robert McCay, being duly sworn, says ... that AD seventeen hundred eighty six, he this deponent was on his way to New Orleans from Post St. Vincennes, and in the month of December of that year he stopped at the place where the village of New Madrid now stands, at which time, there was not any persons living there, it being a perfect wilderness. This deponent further says that in the spring of the following year, being AD one thousand seven hundred and eighty seven, when He returned there was about twelve persons living on the spot where the village now stands, being employed in trading with the Indians ... this deponent further says that in seventeen hundred and eighty nine, he was again at New Orleans, when the then Governor sent for Him and made enquiries as to the situation of the place etc, and in the year of AD seventeen hundred and ninety Pierre Fouch arrived at this place and took command of the same, and named the village New Madrid ... This deponent further says ... that AD seventeen hundred and ninety four or five, the village of Little Prairie was settled by Francis Lessieur... This deponent further says that on the morning of the seventeenth of December AD one thousand eight hundred and eleven the first Earthquake was felt, which was the one that destroyed the Little Prairie, but the one that did the material injury to the Village of New Madrid was not until the seventh of February following. This Deponent says that Earthquakes have continued from that time to this time, during the fall & winter. (Excerpt from deposition of Robert McCay, August 15, 1825, Hunt's Minute Book #2, pages 154-155, Missouri State Land Survey microfiche location: 720/3198A1.)

The New Madrid earthquakes that began in mid-December 1811 and continued into 1812 are considered by the United States Geological Survey to be "some of the largest in the United States since its settlement by Europeans." Reports indicate widespread occurrences of ground fissures, subsidence, liquefaction, landslides and damages caused by ground motion. The physical damage was obvious and directly affected the livelihoods of the inhabitants of the region. More devastating, though, was the psychological effect of the lesser quakes and aftershocks that continued to occur, causing many established inhabitants to want to leave the area.

At the time the series of earthquakes began, the First Board of Commissioners was nearing the end of its task of examining the claims to land granted by the Spanish and French and deciding the validity of those claims. Since the New Madrid area was an established area of settlement prior to the purchase of the Louisiana territory by the

United States, there were many land claims in this area that had been approved by the Commissioners.

Owners of confirmed claims petitioned the Federal government for relief, but the more pressing matter of the War of 1812 prevented a timely response. Finally, three years later, the Federal government responded to this natural disaster by passing the Act of February 17, 1815, chapter 45, *An Act for the relief of the inhabitants of the late county of New Madrid, in the Missouri territory, who suffered by earthquakes* (U. S. Statutes at Large, Volume 3, page 211). The Act applied to those owning confirmed claims of land in the county of New Madrid, Missouri territory, to the extent that the county existed on November 10, 1812, whose land had been materially injured by the preceding earthquakes. They were authorized to locate the same quantity of land on any of the public lands of the territory that were authorized for sale. No one was permitted to locate a quantity of land greater than was confirmed to him unless he owned less than 160 acres. Such persons owning less than 160 acres were authorized to locate and obtain any quantity of land not exceeding 160 acres. The maximum quantity of land that could be located under this Act was limited to 640 acres. Lands containing lead mines or salt springs were not authorized for selection. In exchange, the title to the lands previously held was relinquished to the United States.

In order to make a claim for new location under this Act, the landowner was required to appear before the recorder of land titles for the territory of Missouri and produce competent witnesses to affirm that the land owned had been materially damaged by earthquakes. Having received sufficient proof, the recorder of land titles would then issue a location certificate, stating the quantity of land authorized to be located. The claimant would select a tract of land and then make application to the principal deputy surveyor for the territory, later the Surveyor of the Public Lands, specifying the land located and requesting that it be surveyed. The results of the survey were forwarded to the recorder of land titles for recording and issuance of a patent certificate. The patent certificate was then submitted to the Commissioner of the General Land Office. If approved by the Commissioner, a patent was issued for the new location.

To prevent the process from dragging out indefinitely Congress passed the Act of April 9, 1818 chapter 42, *An Act limiting the time for claims being produced for lands authorized to be granted to the inhabitants of New Madrid* (U. S. Statutes at Large, Volume 3, page 417). This Act

compelled those making a claim under the previous Act of February 17, 1815 to file their application and produce their evidence to the recorder of land titles on or before January 1, 1819. The recorder of land titles was not to issue a location certificate for any claim that did not meet the deadline.

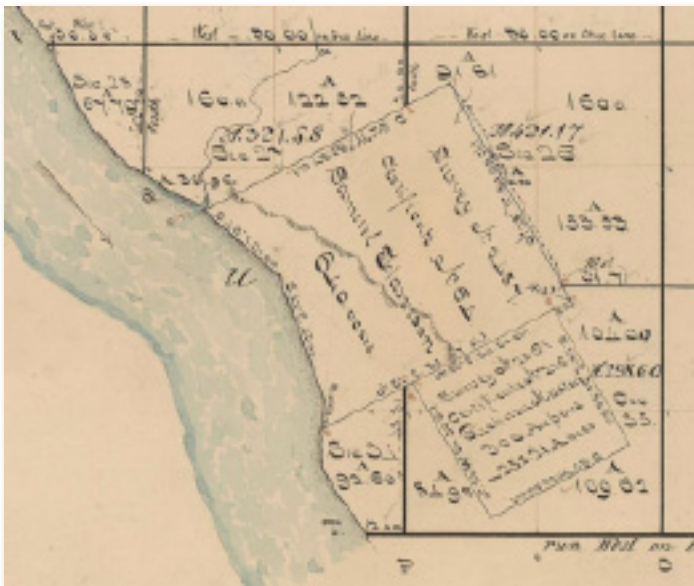
As claimants began to file claims under the 1815 Act, location certificates were issued, surveys were requested and issues began to arise. The 1815 Act was intended to provide relief to those who owned the land at the time of the earthquakes. Many of these original owners, however, had already sold out and moved away. In their place were opportunists ready and more than willing to take advantage of the situation. The opportunity to locate prime real estate before it was available for sale was very attractive to the settler and potentially very lucrative for the speculator. Thus, location certificates were readily sold and transferred from person to person for valuable consideration.

At the time the 1815 Act was passed, the surveys of the public lands in the Missouri territory had not yet begun. The Fifth Principal Meridian would not be established until later that year, beginning in October. Nevertheless, the Act appeared to allow the holders of location certificates a right to locate at their option without being limited by sectional lines, since waiting for the lands to be surveyed would not provide the relief desired. Tracts located in this manner did not conform to the sectional lines, resulting in fractional adjoining sections. The U. S. Attorney General took issue with this and opined that such locations were illegal and any sales of the fractional sections that had already occurred should be declared void.

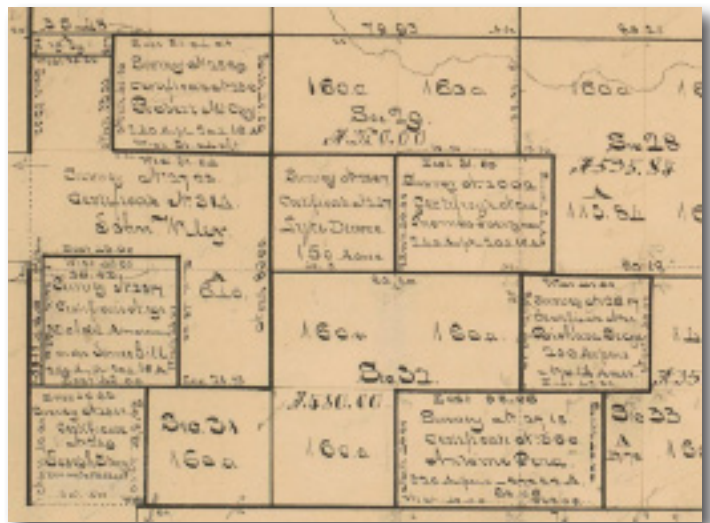
In response to this issue, Congress passed the Act of April 26, 1822, chapter 40, *An Act to perfect certain locations and sales of public lands in Missouri* (U. S. Statutes at Large, Volume 3, page 668). This Act allowed those claims that had already been located that did not conform to the sectional and quarter sectional lines of the public land surveys to be perfected into grants. It also approved the sales of the fractional sections created by these nonconforming New Madrid locations. This Act further stipulated that any claims located after the passage of the Act were required to conform to the sectional and quarter sectional lines as nearly as possible to make the quantity of land permitted to be located. The time allowed to locate a claim was limited to one year after the passage of the Act.



New Madrid Claims in Township 44 North, Range 10 West in Cole County, Missouri. (image courtesy of the Missouri State Land Survey)



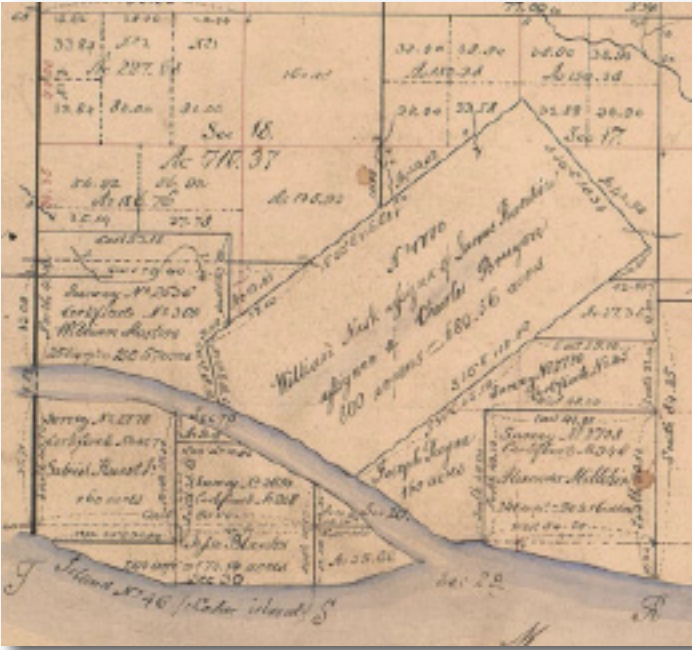
New Madrid Claims that do not conform to the sectional and quarter sectional lines, located in Township 48 North, Range 14 West in Boone County, Missouri. (image courtesy of the Missouri State Land Survey)



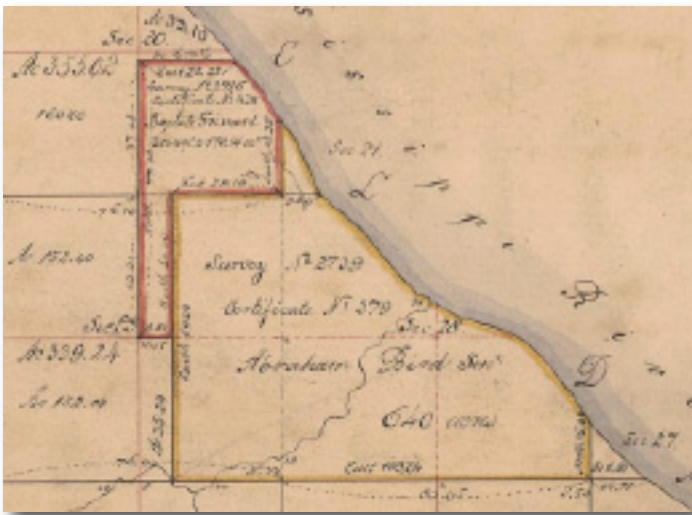
New Madrid Claims conforming to the sectional and quarter sectional lines, located in Township 52 North, Range 16 West in Howard County, Missouri. (image courtesy of the Missouri State Land Survey)

(continued on next page)

New Madrid Claims (continued)



New Madrid Claims in Township 44 North, Range 10 West in Callaway County, Missouri. New Madrid Claims are distinguished from other private claims by the wording “Certificate No.”, followed by the number of the location certificate issued by the recorder of land titles. (image courtesy of the Missouri State Land Survey)



New Madrid Claims in Township 57 North, Range 04 West in Marion County, Missouri. (image courtesy of the Missouri State Land Survey)

Another issue that arose concerned the manner in which location certificates were issued by the recorder of land titles. The original Act provided that those owning less than 160 acres could claim a quantity of land equal to or less than 160 acres. The recorder of land titles apparently

interpreted this as meaning one location certificate for 160 acres for each confirmed original claim so long as the total quantity permitted to be located did not exceed 640 acres, the maximum authorized by the 1815 Act. Thus, owners of small town lots of 1 or 2 arpents (i.e., 0.85 or 1.7 acres respectively) were issued a location certificate for 160 acres for each lot owned up to four location certificates. When patent certificates were issued and presented to the Commissioner of the General Land Office, the Commissioner acted on the advice of the U. S. Attorney General and refused to issue patents for locations made under a single original claimant that were based on location certificates issued for more than one town lot.

This issue was addressed by the passage of the Act of March 2, 1827, chapter 34, *An Act supplementary to “An act to perfect certain locations and sales of the public lands in Missouri,”* passed April the twenty-sixth, one thousand eight hundred and twenty-two (U. S. Statutes at Large, Volume 4, page 219). Those locations that were based on location certificates issued for lots and out lots in and adjoining the villages of New Madrid and Little Prairie were allowed to be perfected into grants, so long as the total did not exceed 640 acres.

Yet another issue that arose involved the right of pre-emption that had been previously granted by the Act of April 12, 1814, chapter 52, *An Act for the final adjustment of land titles in the State of Louisiana and territory of Missouri* (U.S. Statutes at Large, Volume 3, page 121). The fifth section of that Act permitted a person who had actually inhabited and cultivated and continued to inhabit and cultivate a tract of land in the territory of Missouri, not rightfully claimed by anyone else, to purchase the land under a right of pre-emption. Further, the Act of April 29, 1816, chapter 162, *An Act concerning pre-emption rights given in the purchase of lands to certain settlers in the state of Louisiana, and in the territory of Missouri and Illinois* (U. S. Statutes at Large, Volume 3, page 330), extended the right of pre-emption to adjoining fractional sections. The problem developed when a New Madrid claim was located adjoining a tract subject to pre-emption rights. The New Madrid location might then be taken by the pre-emption rights that extended to adjoining fractional sections, leaving the New Madrid claimant without relief.

To provide the necessary relief in such a case, Congress passed the Act of March 2, 1831, chapter 92, *An Act for the relief of certain holders of certificates issued in lieu of lands injured by earthquakes in Missouri* (U. S. Statutes at Large, Volume 4, page 482). New Madrid claimants that had located on lands subject to the right of pre-emption

were authorized to make a new location on those lands available for entry at private sale, provided that they relinquish all claim to the previous location. The Act set a time limit of eighteen months from the time of its passage to make the new location.

A total of 516 location certificates were issued by the recorder of land titles. One certificate was determined to have been issued erroneously and was nullified. Twenty-two (22) certificates failed to result in a patent of new location. These were either withdrawn and not relocated, were located, but rejected due to interference with an existing claim, or, simply, were not located at all. That left 493 certificates that resulted in a patent of new location. Twenty-two (22) of these locations were made in Arkansas, leaving 471 locations in Missouri. These are distributed by county as follows:

Howard County	120
Saint Louis County or City	61
Cooper County	60
Boone County	41
Callaway County	31
Saline County	27
Chariton County	21
Marion County	16
Cole County	11
New Madrid County	10
Pike County	10
Saint Charles County	10
Clay County	7
Lafayette County	7
Montgomery County	5
Cape Girardeau County	4
Scott County	4
Franklin County	3
Lincoln County	3
Ray County	3
Warren County	3
Jackson County	2
Mississippi County	2
Moniteau County	2
Osage County	2
Ralls County	2
Carroll County	1
Lewis County	1
Macon County	1
Perry County	1

It can easily be seen that the majority of these claims were located in counties adjoining the Missouri River, some as far west as present day Kansas City. By far the most popular destination was Howard County. In many of these counties, New Madrid claims are the only U. S. Surveys that occur there. Those claims that conform to

the sectional and quarter sectional lines are often easy to overlook on the General Land Office Township plat and are sometimes ignored altogether, preference being given to the designation by aliquot part of the section. New Madrid claims are easy to distinguish from other private claims on the GLO plat, however, because they include the wording, "Certificate No.," followed by the number of the location certificate issued by the recorder of land titles. No other variety of private claims includes this wording. (As a side note, those U. S. Surveys having the wording, "Decision No." are the private claims approved by the Second Board of Commissioners and confirmed by the Act of July 4, 1836, chapter 361, U. S. Statutes at Large, Volume 5, page 126.) It should be noted that the New Madrid claims are numbered in the General Series of U. S. Surveys. (See the article, "GLO Surveys of Town and Village Lots" in the December 2012 edition of *Missouri Surveyor* for more discussion on series of U. S. Surveys.)



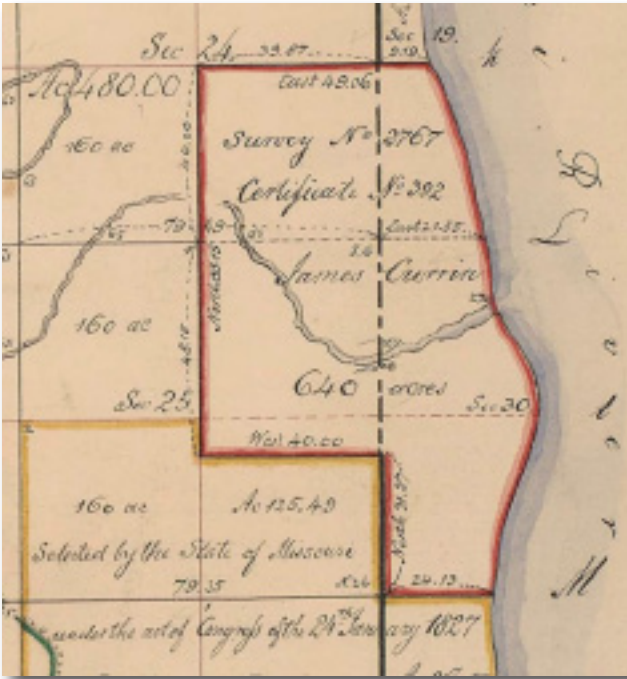
New Madrid Claim (Survey # 2851) in Township 31 North, Range 15 East in Cape Girardeau County, Missouri, conflicting with private claims confirmed by the Act of July 4, 1836, chapter 361. (image courtesy of the Missouri State Land Survey)



New Madrid Claims in Township 51 North, Range 32 West in Clay County, Missouri, being the most westerly located New Madrid Claims. (image courtesy of the Missouri State Land Survey)

(continued on next page)

New Madrid Claims (continued)



New Madrid Claim in Township 61 North, Range 05 West in Lewis County, Missouri, being the most northerly located New Madrid Claim. (image courtesy of the Missouri State Land Survey)



New Madrid Claim (Survey # 2938) in Township 22 North, Range 14 East in New Madrid County, Missouri, just north of the Town of New Madrid. (image courtesy of the Missouri State Land Survey)

This 1815 Act for the relief of those that suffered from the New Madrid earthquakes was a grand attempt by a benevolent and caring Federal Government to, in the words of then U. S. Attorney General William Wirt, “help the poor who had been rendered indigent by a visitation of God.” In the end, though, it provided yet another irresistible opportunity for enterprising and resourceful Americans to translate a government benevolence into personal gain.

(A complete list of source references can be found at www.atnhayseed.blogspot.com)

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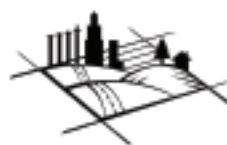


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Notes from National Geodetic Survey



Thursday, April 16, 2015

Geospatial Summit Prepares Users for 2022

NGS hosted a 2015 Geospatial Summit April 13-14 in Arlington, Virginia, to share updates on the 2022 release of new geodetic datums. NGS discussed the tools available to transition to the new datums and also shared strategies to enable the mapping and surveying communities to prepare for the 2022 release. Huge benefits are associated with the adoption of the new datums. The new vertical reference system alone is estimated to produce \$522 million in annual economic benefits to the nation, with approximately \$240 million saved from improved floodplain management. Surveyors, GIS professionals, federal, state, and local governments, and others shared comments, questions, and concerns regarding the effect the new datums will have on their work. NOS Acting Assistant Administrator Russell Callender provided comments at the event.

Thursday, April 23, 2015

Announcing New Geoid Model (GEOID12B) for Better Determination of Heights with Respect to Mean Sea Level

The National Geodetic Survey (NGS) has produced a new geoid model GEOID12B to replace the previous GEOID12A model. GEOID12B is identical to GEOID12A everywhere, except in Puerto Rico and the Virgin islands. GEOID12B supersedes previous models GEOID12 and GEOID12A.

NGS developed GEOID12B, a height transformation model for surveyors, engineers, and the scientific community involved in water flow and the determination of heights with respect to mean sea level. The geoid is a complex mathematical model used to measure surface

elevations with extreme accuracy. GEOID12B, available on NGS' website, is implemented in GPS manufacturer software. By providing a means for more accurate and efficient elevation determination, GEOID12B greatly assists those involved in floodplain management, coastal and emergency response, port operations, and river/stream flow monitoring. In combination with GPS technology, more accurate heights are now obtainable anywhere in the United States.

Friday, May 1, 2015

Followup on NOAAs National Geodetic Survey 2015 Geospatial Summit, April 13 - 14

The National Geodetic Survey (NGS), an office of the National Oceanic and Atmospheric Administration (NOAA), hosted a 2015 Geospatial Summit on April 13 and 14, 2015, to share updates and receive feedback on the planned 2022 release of new geodetic datums being developed to replace the North American Datum of 1983 (NAD 83) and the North American Vertical Datum of 1988 (NAVD 88). More than 220 in-person attendees participated, with more than 125 attendees participating via webinar.

2015 Geospatial Summit Presentations Online!

NOAA's National Geodetic Survey (NGS) hosted the **2015 Geospatial Summit on Improvements to the National Spatial Reference System** in conjunction with the National Society of Professional Surveyors in April 2015 at the Hilton Crystal City hotel in Arlington, VA. During the Summit, NGS discussed the planned retirement of the North American Datum of 1983 (NAD 83) and the North American Vertical Datum of 1988 (NAVD 88), how this will impact your mapping work, and what tools are planned to ease the transition to new, more accurate datums.

Presentations and other meeting materials are posted on this web site, click on the presentation titles. Video recordings of the Geospatial Summit webinar are available on the http://www.ngs.noaa.gov/corbin/class_description/Geospatial_Summit_videos.shtml. 🇺🇸

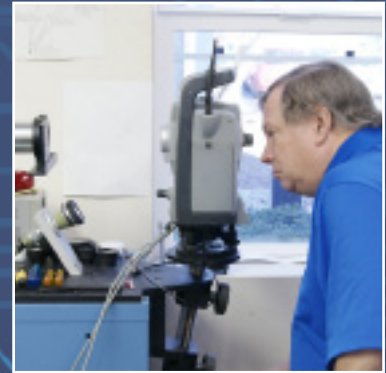
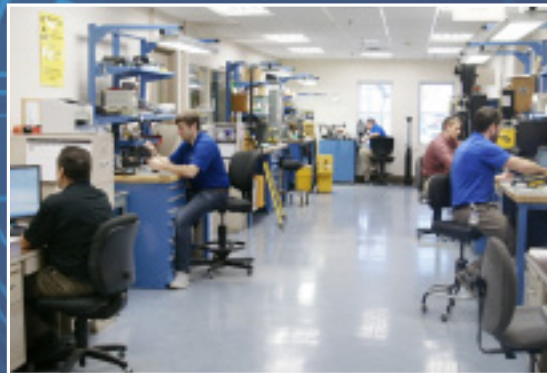


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Affinis Corp.	8900 Indian Creek Parkway, Ste. 450	Overland Park, KS 66210	913-239-1100		www.affinis.us
Allstate Consultants, LLC	3312 Lemone Industrial Blvd.	Columbia, MO 65201	573-875-8799		
Amsinger Surveying, Inc.	101 S. Crittenden, Rm. B-3	Marshfield, MO 65706	417-859-5516	dennis@amsingersurveying.com	
Anderson Engineering Inc.	2045 W. Woodland	Springfield, MO 65807	417-866-2741	klambeth@aeincmo.com	www.aeincmo.com
Anderson Survey Company	203 NW Executive Way	Lee's Summit, MO 64063	816-246-5050	jsa@andersonsurvey.com	www.andersonsurvey.com
Bader Land Surveying, Inc.	16255 Sugar Bottom Road	Ste. Genevieve, MO 63670-8613	573-483-2777	baderts@brick.net	
Bartlett & West, Inc.	1719 Southridge Drive, Ste. 100	Jefferson City, MO 65109	573-634-3181		www.bartwest.com
Bax Engineering Co., Inc.	221 Point West Blvd.	St. Charles, MO 63301	636-928-5552	dbax@baxengineering.com	www.baxengineering.com
BHC Rhodes	7101 College Blvd., Ste. 400	Overland Park, KS 66210	913-371-5300		www.ibhc.com
Bowen Engineering & Surveying, Inc.	2121 Megan Drive	Cape Girardeau, MO 63701	573-339-5900	info@bowenengsurv.com	www.bowenengsurv.com
Buescher Frankenberg Associates, Inc.	103 Elm St.	Washington, MO 63090	636-239-4751	mail@bfaeng.com	www.bfaeng.com
Burdine & Associates, Inc.	1638 Jeffco Blvd.	Arnold, MO 63010	636-282-1600		
Cardinal Surveying & Mapping, Inc.	PO Box 278	Cottleville, MO 63338	636-922-1001	shelly@cardinalsurveying.com	www.cardinalsurveying.com
Central MO Professional Services, Inc	2500 E. McCarty	Jefferson City, MO 65101	573-634-3455	kbrickey@cmps-inc.com	www.cmps-inc.com
Cochran	530 A E. Independence Dr.	Union, MO 63084	636-584-0540	mail@cochraneng.com	www.cochraneng.com
Cochran	737 Rudder Road	Fenton, MO 63026	314-842-4033	tvaneer@cochraneng.com	www.cochraneng.com
Cochran	8 E. Main Street	Wentzville, MO 63385	636-332-4574	jpark@cochraneng.com	www.cochraneng.com
Cole & Associates, Inc.	401 S. 18th St, Ste. 200	St. Louis, MO 63103	314-984-9887	twesterman@coletx.com	
Doering Engineering, Inc.	5030 Griffin Road	St. Louis, MO 63128	314-487-6913	mdoering@doeringeng.com	www.doeringengineering.com
Engineering Solutions	50 SE 30th Street	Lee's Summit, MO 64082	816-623-9888	esinfo@es-kc.com	www.engineeringsolutionskc.com
George Butler Associates, Inc.	9801 Renner Blvd.	Lenexa, KS 66219-9745	913-492-0400		www.gbteam.com
Govero Land Services, Inc.	5929 Old State Rd.	Imperial, MO 63052	636-464-9380	glsland@goverolandservices.net	www.goverolandservices.com
Grimes Consulting Inc.	12300 Old Tesson Road, Ste. 300 D	St. Louis, MO 63128	314-849-6100		www.grimesconsulting.com
Harms, Inc.	PO Box 52	Eldon, MO 65026	573-392-3312	jharms@harmsinc.com	
HDR	3741 NE Troon Drive	Lee's Summit, MO 64064	816-347-1100		www.hdrinc.com
Integrity Engineering, Inc.	PO Box 700, 1714 E 10th Street	Rolla, MO 65402	573-341-2100	terris@integrityeng.com	www.integrityeng.com
Koehler Engineering & Land Surveying	194 Coker Lane	Cape Girardeau, MO 63701	573-335-3026	ckoehler@koehlerengineering.com	www.koehlerengineering.com
Marler Surveying Co., Inc.	11402 Gravois Rd., Ste. 200	St. Louis, MO 63126	314-729-1001	marler@marlersurveying.net	www.marlersurveying.com
Midland Surveying, Inc.	501 N. Market	Maryville, MO 64468	660-582-8633	tryhayes@midlandsurvey.com	www.midlandsurvey.com
Migar Enterprises, Inc.	PO Box 528	Grandview, MO 64030	816-966-0839		
Minnick Surveying, LLC	7905 Big Bend Blvd., Ste. 101	Webster Groves, MO 63119	314-721-9500	info@minnicksurveying.com	www.minnicksurveying.com
Musler Engineering Co.	32 Portwest Court	St. Charles, MO 63303	636-916-0444	rich@muslereng.com	www.muslereng.com
Nelson Surveying, LLC	P.O. Box 482	Bolivar, MO 65613	417-326-2777	johnrmnelson@yahoo.com	
Olsson Associates	7301 W. 133rd St., Ste. 200	Overland Park, KS 66213	913-381-1170	eward@oaconsulting.com	www.oaconsulting.com
Pellin Surveying, LLC	6408 Highway AJ	Washington, MO 63090	636-583-7777	pellinsurveying@gmail.com	www.pellinsurveying.com
Phoenix Engineering & Surveying, LLC	3855 S. Northern Blvd	Independence, MO 64052	816-743-9000	wes@phoenix-llc.com	www.phoenix-llc.com
Pickett, Ray & Silver, Inc	22 Richmond Center Court	St. Peters, MO 63376	636-397-1211	dkornia@prs3.com	www.prs3.com
Pitzman's Co. of Surveyors & Engineers	2725 Sutton Blvd.	St. Louis, MO 63143	314-781-5665		
Poepping, Stone, Bach & Associates	801 Broadway, Ste. 224	Hannibal, MO 63401	573-406-0541	psba@psba.com	www.psba.com
Powell and Associates, LLC	901 NW Vesper Street	Blue Springs, MO 64015	816-228-7070	info@powellsurveying.com	www.powellsurveying.com
Riggs & Associates, Inc.	102 W. Trish Knight St., PO Box 71	West Plains, MO 65775	417-256-8125	ralphr@riggslandsurveying.com	www.riggslandsurveying.com
Robert S. Shotts, Inc.	267 East Third Street	Lebanon, MO 65536	417-588-7877	bob@shottisinc.com	www.shottisinc.com
Schlagel & Associates, PA	14920 W. 107th St.	Lenexa, KS 66215	913-492-5158		www.schlagelassociates.com
Schmitz, King & Associates, Inc.	18900 West 158th St., Ste. G	Olathe, KS 66062	913-397-6080	dave@schmitzking.com	www.schmitzking.com
Schultz Surveying and Engineering, Inc.	4482 Highway PP	Poplar Bluff, MO 63901	573-686-0806	sjschultz@sseeng.com	www.schultzengineering.com
Shafer, Kline & Warren, Inc.	1700 Swift Ave., Ste. 100	N. Kansas City, MO 64116-3821	816-756-0444	graham@skw-inc.com	www.skw-inc.com
Shaffer & Hines, Inc.	PO Box 493	Nixa, MO 65714	417-725-4663	chines@shafferhines.com	
St. Charles Engineering & Surveying, Inc.	801 S. Fifth St., Ste. 202	St. Charles, MO 63301	636-947-0607		www.stcharleseng.com
Taliaferro & Browne, Inc	1020 E. 8th St.	Kansas City, MO 64106	816-283-3456		www.tb-engr.com
The Sterling Company	5055 New Baumgartner Road	St. Louis, MO 63129	314-487-0440	ggower@sterling-eng-sur.com	www.sterling-eng-sur.com
Thouvenot, Wade & Moerchen, Inc.	4940 Old Collinsville Road	Swansea, IL 62226	618-624-4488	dtwente@twm-inc.com	www.twm-inc.com
Tri-State Engineering, Inc.	702 S. Main St.	Joplin, MO 64802	417-781-0643	slewis@tristate-engineering.com	www.tristate-engineering.com
Whitehead Consultants Inc.	114 N. Main St.	Clinton, MO 64735	660-885-8311	mtaylor@wcieng.com	
Zahner & Associates, Inc.	200 Zahner Place	Perryville, MO 63775	573-547-1771	zahner@zahnerinc.com	www.zahnerinc.com



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