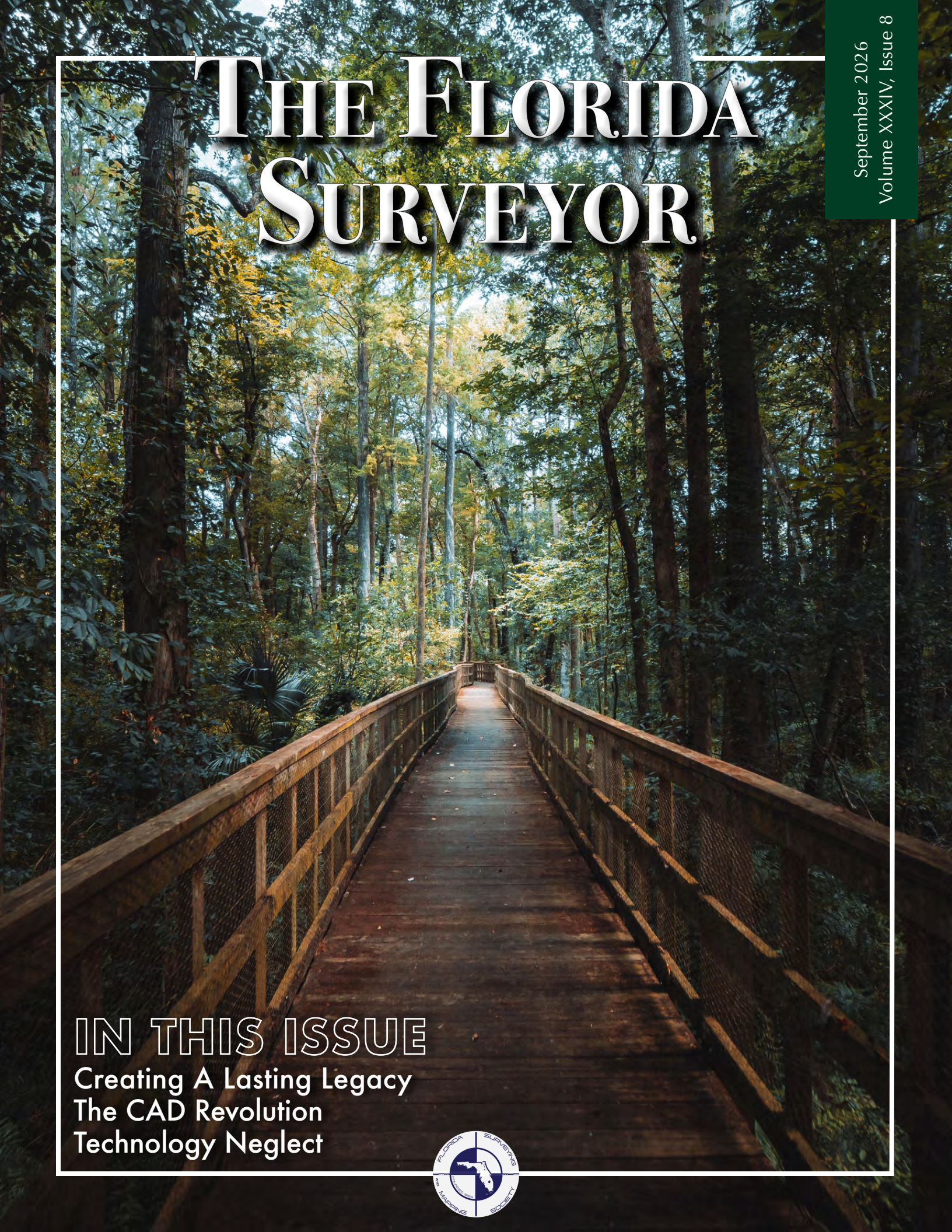


The Florida Surveyor

September 2026
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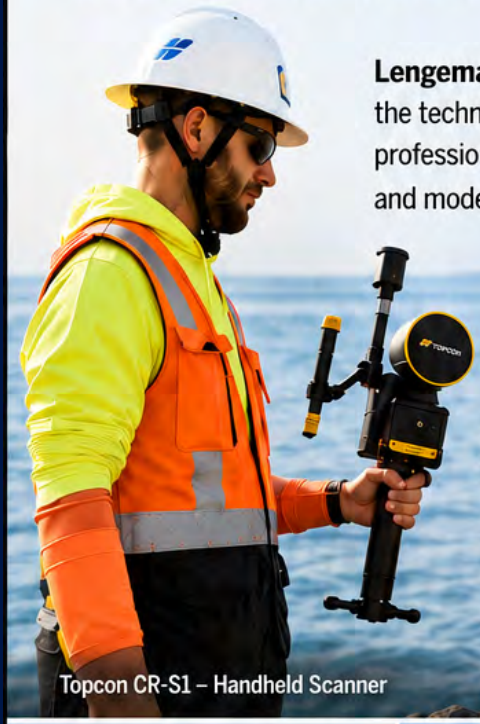
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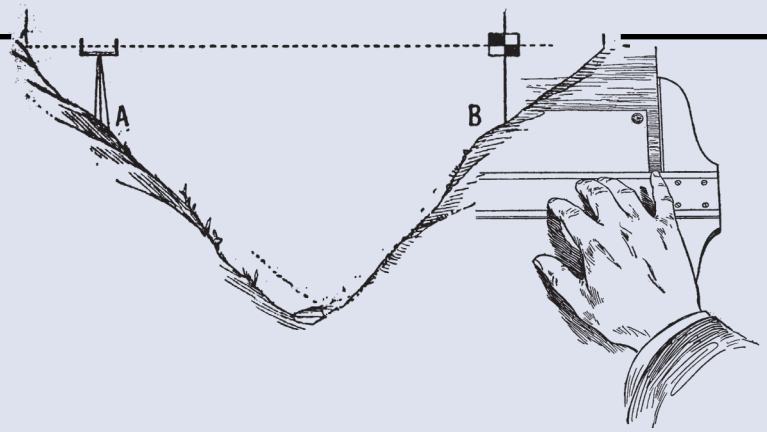
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The Florida Surveyor is the official publication of the Florida Surveying and Mapping Society, also known as FSMS. It is published monthly for the purpose of communicating with the professional surveying community and related professions who are members of FSMS. Our award winning publication informs members eleven months out of the year about national, state, and district events and accomplishments, as well as articles relevant to the surveying profession. In addition, continuing educational courses are also available.

PRESIDENT'S Message



President
Brion Yancy
(772) 475-7475
byancy@bowman.com

September 2026

Hello all,

Mr. Rick Pryce put together an amazing letter about the Historical Maps and Surveys Preservation project we are working on. Please be sure to take some time and read it. In October there will be a townhall to discuss this project and if you have any questions please feel free to let us know. Be on the lookout for the day and time.

This is also the time of the year we make moves to increase the membership for the society. If there is someone you know who is not member the rules of the contest will come out soon.

Are you on the hunt for an old monument?

See you soon,

Brion D. Yancy

Creating a lasting legacy

"Florida Surveying and Mapping Society Endowment for Historic Maps and Surveys Preservation"

Authors: Brian Murphy, Howard Ehmke, Katie Britt, and Rick Pryce
Editor: Lou Campanile, Jr.

Background

Over the last 20 years, many of the oldest and most respected surveying firms in Florida have disappeared – some by retirement or passing of the owner with no exit strategy and some by being bought out by larger, multidisciplinary firms. Their records were either put into storage and not fully integrated into the new firm, or else they may have been lost, discarded, or otherwise disposed of, whether through lack of storage space or a lack of understanding of their significance. The fact remains: these records are becoming increasingly difficult to find and use for the purpose of "following in the footsteps" of those who came before us.

Many individual surveyors and firms out there have a wealth of knowledge of the particular geographic area in which they work. Some have copies of surveys that they have used to perpetuate historical boundaries and solve boundary issues that date back to the early 20th century, and before. Some of those issues that, if one did not know existed, would cause one, as a Surveyor, to accidentally *create* problems that may affect private or public ownership even as one tried to solve them.

One would hope that, if asked by another professional, this historical information would be shared openly, insofar as wanting others to see how one made one's decisions would result in an agreement with one's results. While Surveyors in the Public sector do this as a matter of course, not everyone in the private sector has done so.

The goal of this proposal is to create a safe, accessible, and searchable repository for the historical survey records of those individual Florida Surveyors and Firms that came before us, creating a legacy honoring the surveyors whose footsteps we follow. This initiative, and the accompanying investment by FSMS, will help to initiate a process that will define how these records are collected, documented, and preserved for future generations.

Historical Records – Public Information

One of those Public Sector individuals who has been at the forefront of finding, collecting, documenting, and providing historical survey records to anyone in need is Howard Ehmke, PSM. Howard worked at South Florida Water Management District (SFWMD) for 47 years before going into private practice. His tenacity and due diligence in finding historical and useful survey records goes back decades, and anyone would be hard-pressed to put a number to the individual surveyors he has helped with these records. For years, he has maintained a weblink called "Map of the Week" http://www.mapoftheweek.net where he collaborated with other Surveyors to exhibit important historical documents, anecdotes, or other Survey information.



Howard's work in this area encompassed his entire career in the public sector regardless of which agency he was working with (SFWMD, FDEP, ACOE, etc.). At SFWMD he put together a spreadsheet that has web-links to all of the Publicly available different R/W maps and surveys for all of the Districts Canals & Levees. He has also put in hundreds of hours of personal time into reviewing all of the CCRs in all of the Townships of Florida, diligently forwarding errors or missing data to Stephen Hodges at FREAC - Florida Resources and Environmental Analysis Center - Geospatial Data Services at Florida State University to update the Labins website data. Last (but certainly not least), he has collected several terabytes of public survey data across the state—organized by Section, Township, and Range—and will be donating that as a cornerstone of this initiative.

Like with Howard, all of the Public Agencies (FDOT, FDEP, Water Management Districts, County and City Surveyors, etc.) that we rely on for Survey information have historical survey data: it is just a matter of knowing who to contact and what data is available.

Once this initiative gets off the ground, it will be able to expand to reference other survey information sites as well. Through this initiative and the proposed investment by FSMS, via an endowment at the University of Florida Foundation, the hope is to provide a permanent, secure place to store the wealth of available knowledge pertinent to all of us in the Surveying profession and also enhance the Geomatics program at UF for the foreseeable future.

With the creation and upfront funding of this endowment, with members of FSMS on the Advisory Committee, and with definitive goals set for the endowment, we can get this started as soon as January of 2027, and it will be self-funding from then on, supported by the work of the new cadastral and boundary law faculty position's extension program for historic boundary surveys.

Background FSMS "Historic Survey Records – Working Group"

In 2024, at the Joint North Central Florida / UF Geomatics Student Association meeting, in a discussion with Marla Horn, a senior student in the Geomatics program, Brian Murphy proposed she create a GIS of Historical Surveys for her Senior project. Her project was successful; and despite the small sampling of historical documents it involved, her project helped to show the need for this Group.

Brian, together with assistant director for Geomatics extension Katie Britt at UF, proposed the idea of having this project hosted by UF, which then advanced further at the FSMS Strategic Planning Meeting in March 2026, on discussions with Howard and Rick Pryce to work together to promote this in FSMS.

The following FSMS Board meeting in May, the idea was brought up as New Business with a request to move forward. Many sidebar conversations about collecting, documenting, preserving, and accessing historic survey records followed and we created the Historic Survey Records Working Group within the "Florida Surveying and Mapping Society" (FSMS). The group has since been meeting virtually on a monthly basis, and over time it has grown in size to include additional stakeholders from both the public and private sector, and with a geographical range across the state. We looked at many different scenarios and the requirements that would be involved with this type of operation, including equipment (scanners, printers, etc.), computer software, storage and retrieval capabilities, staff and/or volunteers needed, and preliminary costs.

After much debate, our group submitted a proposal to FSMS to utilize a portion of the FSMS General Reserves account, which has grown considerably over the last two decades, to create a new Endowment at the University of Florida (UF), which would be used to support this critical mission. This step also involved collaborating with the UF/IFAS School of Forest, Fisheries, and Geomatic Sciences and the UF Foundation to assist in defining what was needed to create an endowment, how it would work and how the funds could be used.

On September 2nd, 2026, a Special Board Meeting was convened by Executive Director, Rebecca Porter and our current President, Brion Yancy, where we discussed the proposal with the entire Board and—after considerable discussion—the following motion was put before the Board.

"The Historic Survey Preservation Working Group of FSMS, led by Rick Pryce, Howard Ehmke and Brian Murphy, with the assistance of Katie Britt (UF/IFAS Geomatics Extension) is working closely with the University of Florida, to create a GIS enabled repository/library of old historic surveys and related data, which will be used for the benefit of the public. We are hereby requesting FSMS to fund $316,000 to be contributed to the "Florida Surveying and Mapping Society Endowment for Historic Maps and Surveys Preservation" to be held and managed by the University of Florida Foundation. Spending for this endowment is directed by the UF School of Forest, Fisheries, and Geomatic Sciences which is advised and overseen by the UF Geomatics Program Advisory Committee, most of the members of which are also FSMS members. The proceeds of the $316,000 will be earmarked to be used for the purposes of paying for ongoing part-time staff support and data hosting in support of the proposed Historic Survey Preservation effort."

A decision was made to table the vote until the next official board meeting in November in order to have time for the Directors to bring this up at the Chapter meetings for the membership to learn more about the initiative, and to allow participation in a town hall discussion on the topic.

Draft Endowment Fund Language

The "Florida Surveying and Mapping Society Endowment for Historic Maps and Surveys Preservation" (the "Fund") supports the Geomatics program of the School of Forest, Fisheries, and Geomatic Sciences (SFFGS) through the preservation, stewardship, accessibility, and long-term conservation of historic maps, surveys, and related archival materials. In addition, the Fund may support related workforce development initiatives and educational activities that advance the surveying, mapping, geomatics, and cadastral professions. The Fund shall be used to support expenses associated with the Historic Maps and Surveys Preservation Initiative including but not limited to operational expenses required to locate, acquire, evaluate, preserve, or promote historic maps and surveys determined by the Director of SFFGS.

University of Florida's Role:

The proposed endowment will support operations for a long-term extension program run by the incoming cadastral and boundary survey faculty member currently posted by the UF/IFAS Geomatics program. The new faculty member will have a significant extension appointment, allowing this program to be a major focus of their work. The university's commitment to this faculty position includes up to 40% of the faculty member's time, meaning support for salary plus benefits, amounting to a significant annual financial commitment to this project. Additionally, the project will have access to the university's

infrastructure, including but not limited to servers and web hosting, IT support, additional Geomatics faculty and staff expertise, lab space, access to student employees (including access to potential Federal Work Study matching funds covering 75% of eligible student wages), and statewide infrastructure for map donations through UF Research and Education Centers and county offices around the state for donation logistics.

While the faculty member will manage the project and design the delivery interface with support from other Geomatics faculty members with relevant GIS expertise, scanning of historic surveys and related data entry will be a significant part of the project. This part of the process will be assisted with AI, but manually scanning documents and quality control of data entry will be a time-consuming task requiring additional assistance to operationalize the process. The fund will allow student employees to be hired as part of the program to process data donations, freeing up faculty time for program architecture, solicitation of donations, management of the delivery platform, collaboration across agencies to strengthen the program, and to research and publish relevant work.

Program Goals and Vision

Our goals and vision are to collect, document, preserve, and make accessible through a web-based platform, significant and important historical land survey records throughout the State of Florida before they are lost or destroyed.

Preservation Steps:

1) Record Acquisition : Identify and obtain historic survey records from retired (or retiring) professional surveyors and mappers, surveying firms undergoing ownership transition, government agencies, and more.

2) Digitization : Convert paper records into searchable digital formats through high-resolution scanning and electronic indexing. Records may include surveys, plats and maps, field books, and supporting documents.

3) Archival Preservation : Develop a system to ensure long-term preservation of both physical and digital records.

4) Accessibility : Provide access to preserved records through a structured and searchable repository for licensed surveyors, government agencies, and researchers. We also intend to have a GIS web map component to this effort.

Frequently Asked Questions

1. How does this benefit me, the surveyor?

- Preserving historical *private* and public land surveys tied to the Public Land Survey System (PLSS) in Florida is essential for protecting legal property rights, resolving boundary disputes, and maintaining historical environmental records. Historical private retracements of the Public Land Survey System (PLSS) must be preserved because they can serve *as irreplaceable evidence of fading physical boundaries and past surveyor intent.*
- *The economic impact of time saved at the research stage and in terms of field crew hours will be felt by any surveyor who accesses these records.*

2. **Why Donate Survey Records?**

- Leaving a legacy and having one's records permanently preserved and archived for future generations.
- Providing evidence for other surveyors of one's work and decisions on boundaries, especially in problem areas or rural areas where evidence is lacking or non-existent.

3. **Can donated surveys performed by me or my company be used to file a licensure complaint with BPSM?**

- Donating an unsealed copy of historical work does not create licensure exposure, because a copy is not a valid survey, as the signature is not original. Also, the donated surveys will not be sealed.

4. **Can I get a Tax deduction for donating my records?**

- For most donors, federal tax law limits the deduction to the cost of materials rather than the historical value of the records, since these are considered self-created business records. Donors whose records come through an estate or a documented business acquisition may have a stronger case for a fair-market-value deduction. Anyone considering a donation for tax purposes should consult their own tax advisor before relying on any deduction."

5. **What about records that are electronically signed/sealed?**

- Copies of electronically signed/sealed surveys are not valid by law. Only the electronic copy is valid.

6. **How do you plan on organizing the data from all of these potential records?**

- The faculty project lead will utilize AI to maximize program efficiency. A prototype has already been developed using AI to extract metadata has already been successfully tested and will be expanded to include metadata as directed by the program's web-based delivery architecture.

7. **Can we have a watermark placed on the scanned survey " For informational use only"?**

- Yes, we will create a watermark for data downloads from the platform.

8. **Explain simply, how does an endowment work? How does it generate revenue, etc.?**

- The money is put into a very conservative fund like other investments, and the principal is protected and cannot be touched. Only a portion of the earnings on the investment will be targeted for expenditures so that the funds can continue to grow over time. The expenditures identified in the Endowment will be administered by the school director and faculty member leading the project, whose extension program can be advised by the UF Geomatics Program Advisory Committee, FSMS members, and other stakeholders. This is a very safe investment.

9. **Why spend the $300k+ it takes to start the endowment? How are those funds going to be used?**

- The amount of $300k+ was chosen based on the returns that could be used each year for the anticipated expenditures. Starting the first full year of 2027, the spendable part of the earnings will be roughly $10,800 and will continue to grow each year as the endowment grows. The recurring spendable funds do not draw from the principal, and will be used to support the project, as directed by the cadastral and boundary law faculty's extension program of historic survey preservation, primarily covering operating expenses associated with hourly student wages for data scanning and metadata input, data hosting and storage, and costs associated with collecting data from donors around the state. There are additional up-front expenses for creating the endowment of $16k (a 5% gift fee) and equipment costs (printers, scanner, etc.) of $25k. These two amounts are the cost to FSMS to start the program and are the only part of the endowment that will be spent and not put towards permanent operating expenses as part of the spendable account generated from the permanently untouched endowment principal.

10. **Will the Website have a Disclaimer on the material that is accessible?**

- To protect survey data donors, a disclaimer will be used on the data repository website, which users will accept before use. After consulting with various legal experts, the proposed disclaimer reads as follows (subject to finalization after input from the faculty lead)**:** This website and database have been created for educational, historical, and informational purposes only. The contributors to this database and the former proprietors of the information within it **DO NOT** guarantee or warranty the accuracy of this information in any way, shape or form. All information provided within should be independently verified by a Florida licensed professional surveyor and mapper. "Use of this site implies tacit acceptance that the information, surveys, and documentation provided are made accessible for research and analysis, and informational purposes only". All information was provided voluntarily by others to assist the Surveyors & Mappers, and any student in a Geomatics program in the State of Florida by creating a repository of former surveys, monumentation, survey control, and other historical mapping information in Florida to be collected, documented, organized, and maintained for future generations.

Coming Soon!

A **Virtual Town Hall Meeting Webinar** is tentatively set for **October 12th, 2026**, so please plan accordingly. A Special Notification will be sent out to all members as to the **exact date, time, and associated weblink.**

Surveying Careers in Florida (Click Here to Learn More!)

Assistant Professor of Geomatics – Cadastral Principles – Land Title, Boundaries, & Surveys
Location: Gainesville, FL
Organization: University of Florida
Education Requirement: PhD

This is a 9 month tenure-accruing position that will be 60% teaching (College of Agricultural and Life Sciences) and 40% extension (Florida Cooperative Extension Service), available in the School of Forest Fisheries and Geomatics Sciences, Institute of Food and Agricultural Sciences, at the University of Florida. This assignment may change in accordance with the needs of the unit. Tenure will accrue in the School of Forest, Fisheries, and Geomatics Sciences (SFFGS). The faculty member will seek contract and grant funding actively to support their program.

Teaching duties will include designing and delivering undergraduate and graduate courses such as Cadastral Principles, Surveying and Mapping Practice, and Geodetic Surveying for Land Management. Instruction will combine classroom teaching with field components that use boundary-surveying techniques, parcel datasets, and the legal aspects of land administration. In addition, the professor will mentor students, supervise capstone projects and graduate theses, and support career development for those pursuing surveying or land-administration pathways. Ongoing contributions will include curriculum innovation, development of distance-education modules, and interdisciplinary teaching across the School of Forest, Fisheries, and Geomatics Sciences.

Extension duties will include creating and leading a statewide Extension program focused on cadastral systems, land tenure, and surveying geospatial infrastructure. This effort will involve delivering workshops, short courses, and hands-on training to local government agencies and private-sector stakeholders. The faculty will collaborate and support ongoing surveying workforce development efforts. The faculty will produce Extension publications, technical guides, and policy briefs, and provide technical expertise to initiatives such as map archiving and workforce-development projects. Securing extramural funding to sustain and expand Extension activities will also be a core responsibility.

2026-27 FSMS Officers



President-Elect

Earl Soeder
(954) 818-2610
earl.soeder@
duncan-parnell.com



Vice President

Eddie Suarez
(786) 865-3172
esuarez@longitudefl.com



Secretary

Nicholas DiGruttolo
(352) 328-4025
ndigrutt@gmail.com



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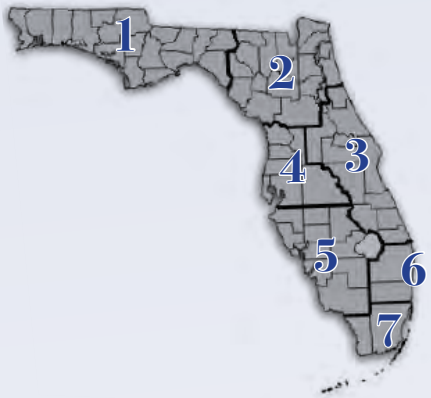
Bon Dewitt
(352) 682-6007
bon@ufl.edu



Immediate Past President

Robert N. Johnson
(772) 562-4191
rjohnson@ljasurvey.com

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Bay, Calhoun, Escambia, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Taylor, Wakulla, Walton, Washington

Chad Thurner
(850) 200-2441
chad.thurner@sam.biz

Angela Bailey
(850) 559-5039
bailey.angelakay@gmail.com

District 2 - Northeast

Alachua, Baker, Bradford, Clay, Columbia, Dixie, Duval, Gilchrist, Hamilton, Lafayette, Levy, Marion, Nassau, Putnam, Suwannee, St. Johns, Union

Pablo Ferrari
(904) 219-4054
pferrari@drmp.com

Hal Peters
(352) 304-9534
halpeters@yahoo.com

District 3 - East Central

Brevard, Flagler, Indian River, Lake, Okeechobee, Orange, Osceola, Seminole, Martin, St. Lucie, Volusia

Howard Ehmke
(772) 206-4650
howard.ehmke@bowman.com

Al Quickel
(352) 552-3756
alq.fsms@gmail.com

District 4 - West Central

Citrus, Hernando, Hillsborough, Pasco, Pinellas, Polk, Sumter

Scott Vannetta
(352) 796-9423 ext. 1031
svannetta@coastal-engineering.com

Tim Morris
(813) 506-4015
tmorris@civilsurv.com

District 5 - Southwest

Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Sarasota

Stephen Shawles
(239) 481-1331
sshawles@haleyward.com

Shane Christy
(941) 840-2809
schristy@georgefyoung.com

District 6 - Southeast

Broward, Palm Beach

Kevin Beck
(561) 229-0239
kbeckpsm@comcast.net

John Liptak
(786) 547-6340
johnliptak@icloud.com

District 7 - South

Miami-Dade, Monroe

Manny Vera, Jr.
(305) 221-6210
mverajr@mgvera.com

Jose Sanfiel
(305) 375-2657
psm5636@gmail.com

NSPS Director

Russell Hyatt
(941) 812-6460
russell@hyattsurvey.com

YSN Director

Justin Thomas
(352) 222-9561
jthomas88@ufl.edu

2026-27 Chapter Presidents

District 1

Panhandle
David Lee
dlee@baskervilledonovan.com

Gulf Coast
Jonathan Gibson
jgibson0102@gmail.com

Chipola
Jesse Snelgrove
jsnelgrove@snelgrovesurveying.com

Northwest FL
Pam Nobles
pam@dddsinc.com

District 2

FL Crown
Brandon Robbins
brndrbbns@netscape.net

North Central FL
David Smith
dsmith@CFB-inc.com

UF Geomatics
Reese Veerkamp
r.veerkamp@ufl.edu

District 3

Central FL
Eddie Munoz, Jr.
emunoz@southeastersurveying.com

Indian River
Marla Moore
mamoore@sfwmd.gov

Volusia
Anthony Sanzone
tsanzone1@gmail.com

District 4

Ridge
Jeff Ammerman
jammermann@chastainskillman.com

Tampa Bay
John Beland
jbeland@mckimcreed.com

District 5

Charlotte Harbor
Derek Miller
millersurveying@comcast.net

Collier-Lee
Jeff Stouten
jeff@planrightsurvey.com

Manasota
Collin Naaman
cnaaman@brittsurveying.com

District 6

Broward
Benjamin Hoyle
benjamin.hoyle@kci.com

Palm Beach
Tom Whidden
tom@whiddensurveying.com

FAU Geomatics
Rene Garza
rgarza2023@fau.edu

District 7

Miami-Dade
Eddie Suarez
esuarez@longitudefl.com

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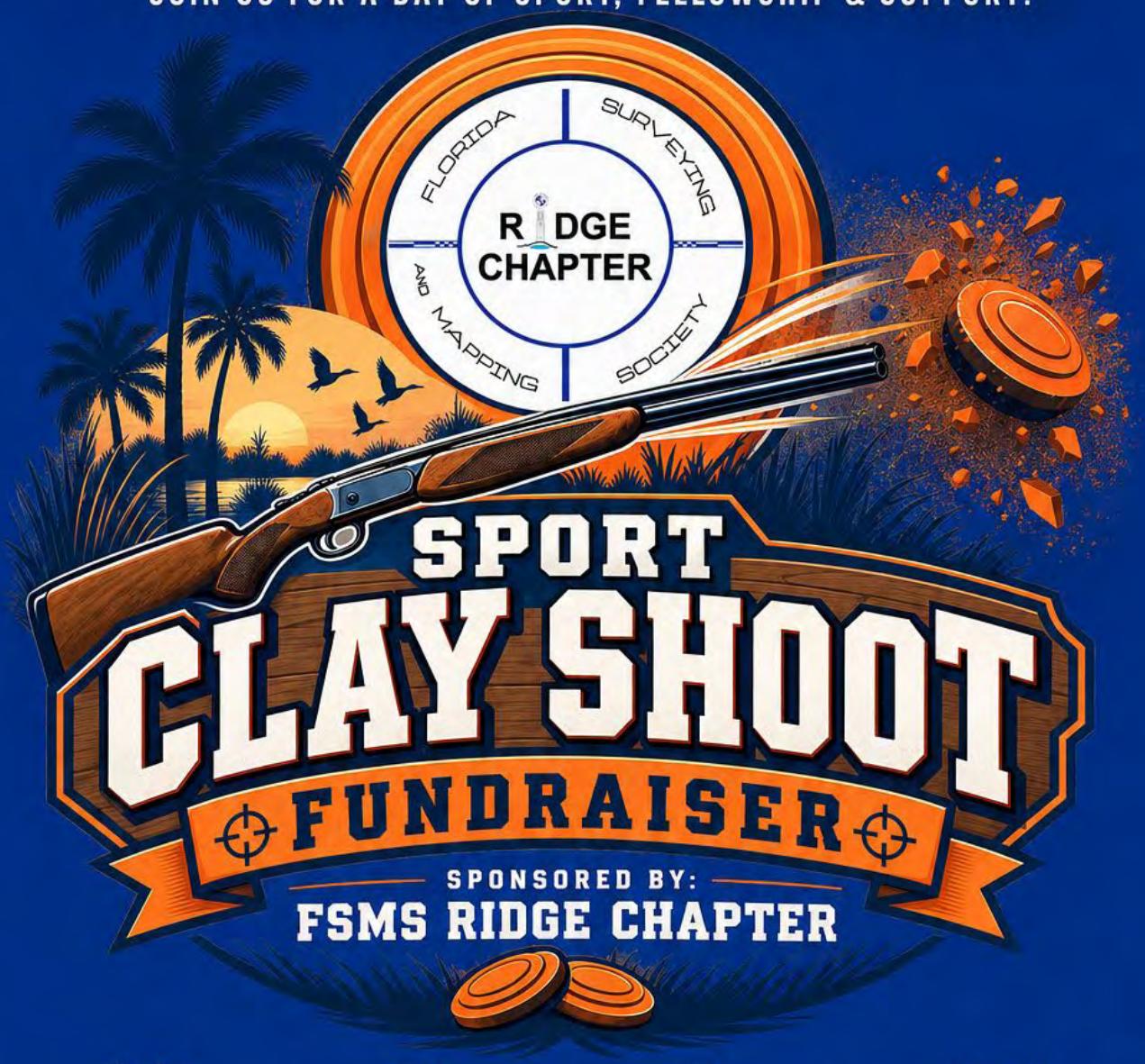
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FLORIDA SURVEYING AND MAPPING SOCIETY RIDGE CHAPTER

Around the State

Central Florida Chapter

A New Journey Begins for the Central Florida Chapter of FSMS!
On August 25th, 2026, the Central Florida Chapter of the Florida Surveying and Mapping Society (FSMS) marked an exciting milestone as we swore in our new officers and celebrated a meaningful leadership transition.

We take this moment to extend our deepest gratitude to our outgoing President Edwin Munoz, PSM for their outstanding dedication, vision, and tireless service to our chapter. Your leadership has left a lasting impact on our community and the surveying and mapping profession, and we are truly grateful for everything you have done. It has been an honor!

We also extend a warm and enthusiastic welcome to our incoming President Tim Jaskiewicz! We are excited about the fresh energy, ideas, and direction you bring to our chapter, and we have every confidence that your leadership will inspire and elevate our community to new heights.

A heartfelt congratulations to all of our newly sworn-in officers as well — we look forward to the great work ahead and the positive impact you will make on our profession and our members.

Special recognition to the FSMS Central Florida Chapter Officers and Associate Directors for their dedication and leadership in organizing this event: Tim Jaskiewicz - President, Ralph A. Nieto - Vice President, Alex Jenkins, PSM - President Elect, Marco Krieger - Secretary, Betty Morris, GISP - Treasurer, Allen Quickel, PSM - District 3 Director, Bill Rowe - Director, Chris LaBerge, PSM - Director, @Christy Graves - Director, @John Gray Associate Director, Dr. Youssef Omar Kaddoura - Associate Director, @Colton Locklin - Associate Director, Kenneth Dell SIT - Associate Director, Richard Allen, PSM, CFM - Scholarship/Recruiting/Valencia, Dolly Carwile, PSM - Webmaster.

Here is to a bright new journey — together!









Central Florida Chapter

Congratulations to Our Award Recipients!

The Central Florida Chapter FSMS of the Florida Surveying and Mapping Society (FSMS) proudly congratulates all of the award recipients recognized by Tim Jaskiewicz during our recent chapter meeting (8/25/2026) and awards ceremony.

We are honored to celebrate your hard work, dedication, and valuable contributions to the surveying and mapping profession and to our chapter. Your achievements are a reflection of the commitment and excellence that strengthen our professional community.

We truly appreciate your time and your continued impact across our profession.
A sincere thank you as well to everyone who participated and contributed.

Special recognition to the FSMS Central Florida Chapter Officers and Associate Directors for their dedication and leadership in organizing this event: Tim Jaskiewicz - President, Ralph A. Nieto - Vice President, Alex Jenkins, PSM - President Elect, Marco Krieger - Secretary, Betty Morris, GISP - Treasurer, Allen Quickel, PSM - District 3 Director, Bill Rowe - Director, Chris LaBerge, PSM - Director, @Christy Graves - Director, @John Gray - Associate Director, Dr. Youssef Omar Kaddoura - Associate Director, @ Colton Locklin - Associate Director, Kenneth Dell SIT - Associate Director, Richard Allen, PSM, CFM - Scholarship/Recruiting/Valencia, Dolly Carwile, PSM - Webmaster.



Manasota Chapter Surveyors from Pam Hyatt

Wow! What a meeting! We had a packed house with 29 in attendance. FSMS president Brion Yancy gave an encouraging speech on building relationships and volunteering. New officers were sworn in and we are gearing up for a great year ahead! Our next meeting will be Wednesday, October 7th.





Northwest Florida Chapter

September 10th meeting:

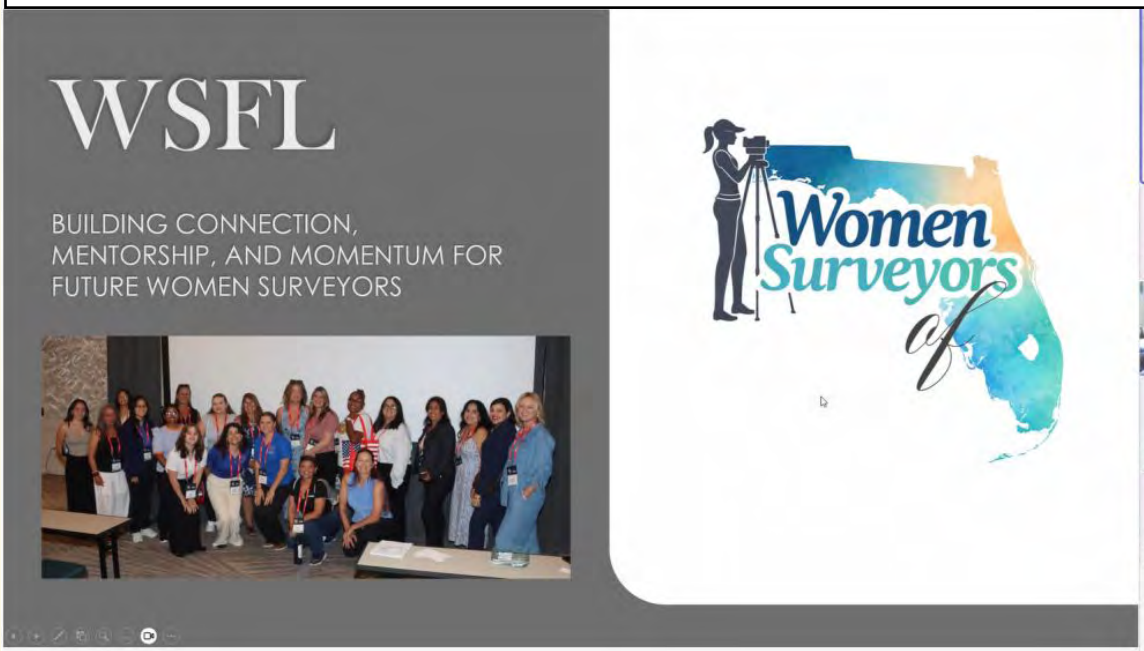
Thank you to all the members. In attendance (from R to L): Nick Campanile, Pam Nobles (Chapter President), Justin Evers, John A. Rooks III, Jonathan Nobles, Kevin Mears, and Allen Nobles.

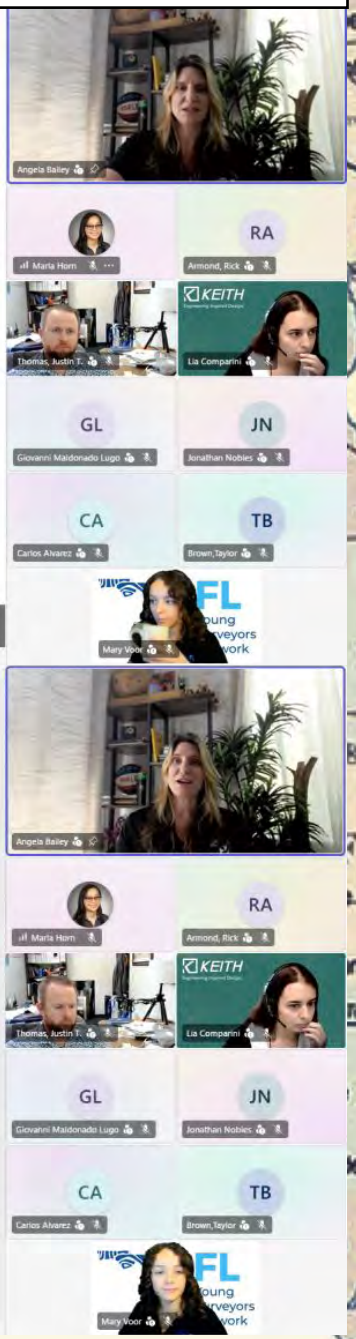


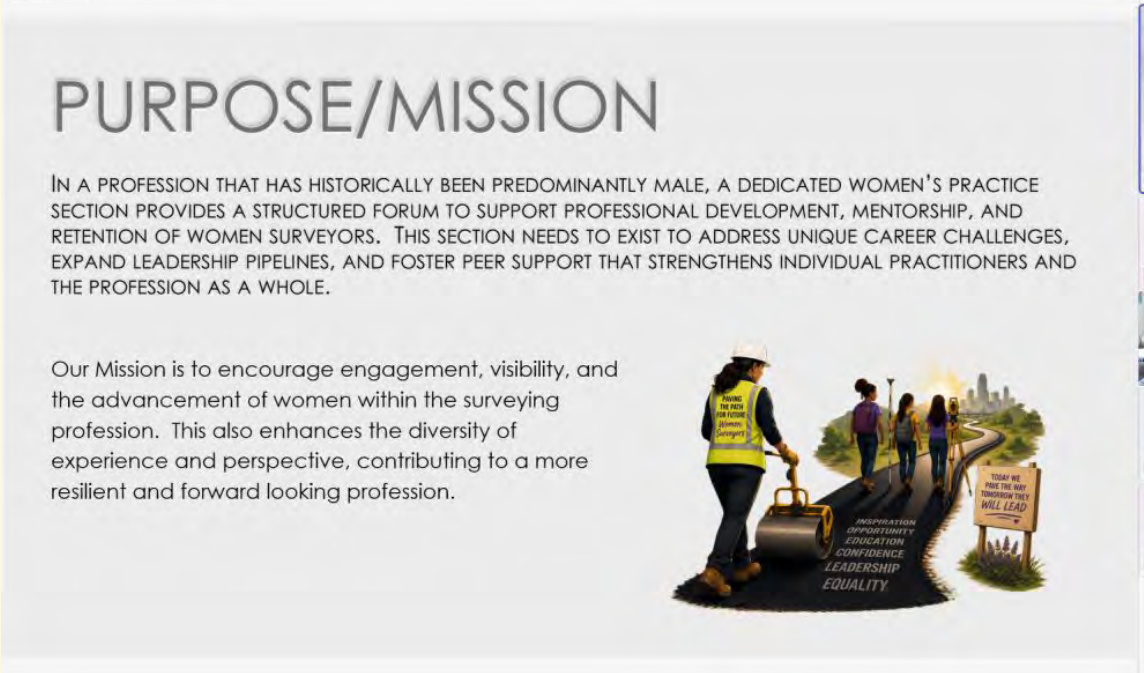
Florida Young Surveyors Network

Throwing it back to our August meeting from a couple of weeks ago, we'd like to give a HUGE thank you to our guest speaker, Angela Bailey, PSM, PLS, for taking the time to lead the discussion on the new Florida Surveying and Mapping Society Practice Session: **Women Surveyors of Florida (WSFL)**.

During the meeting, Angela touched on the central purpose of establishing WSFL, the goals of its membership, and setting the framework to support women surveyors across the state of Florida. We are wishing Angela and the WSFL membership the absolute best as the practice session continues to develop.

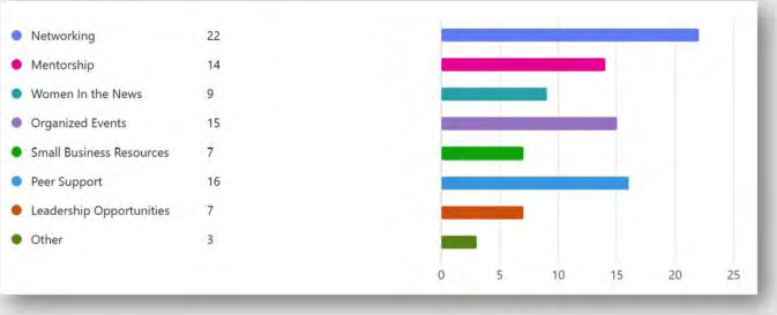




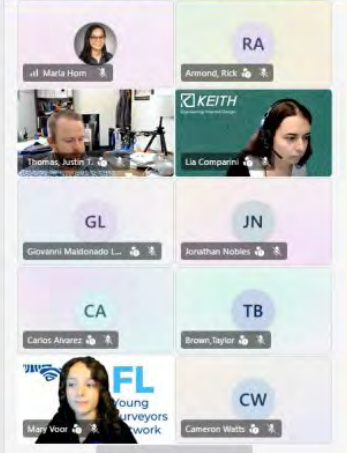


RESULTS OF POLL

1) Networking
2) Mentorship/Support
3) Organized Events



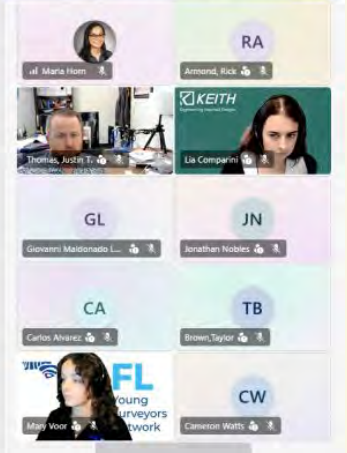




DISCUSSION TOPICS

Topic	Notes / Direction
Dues	Students may join at no cost. The proposed fee for all other members is $40. Motion to be presented at the next board meeting.
Special committees	Language to be prepared for a motion and presented at the next board meeting to amend the Bylaws for the creation of special committees.
Mentorship	Create paired mentors for students and young survey professionals. Create a platform for group mentorship to occur.
Scholarships and conference sponsorships	Explore opportunities that we can use to fund and support female scholarships and WSS | FSMS conference attendance.

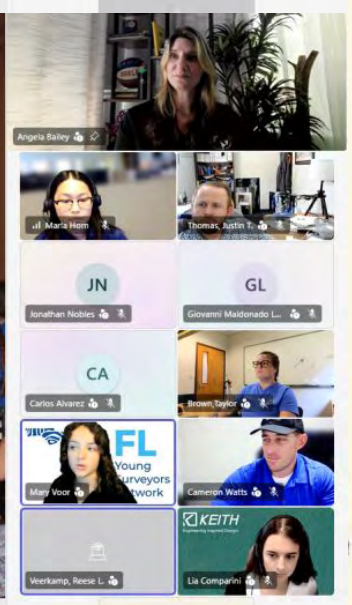


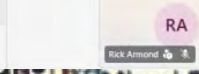


WHAT'S NEXT...

- Poll for Chat Platform
- Virtual meeting in October
- Social media Contributors
- WSFL store management
- Fundraising Efforts
- Documentation and responses
- Photo repository







Jim Sullivan, PSM, BPSM Board Member – Palm Beach Gardens

I had the opportunity to attend the 2026 NCEES Annual Meeting last week. It was a great opportunity to get a behind-the-scenes look at the examination processes that help shape our profession.

As a member of the Florida Board of Professional Surveyors and Mappers, I gained valuable insight into the development and administration of licensing examinations, as well as the tremendous effort that goes into ensuring candidates meet the competency standards necessary to protect the public.

Delegates considered and voted on dozens of rule and policy changes that will help shape the future of engineering and surveying licensure for years to come. It was rewarding to collaborate with board members and professionals from across the country who are committed to maintaining the high standards of our professions.

I'm thankful for BGE, Inc.'s support and
look forward to bringing these perspectives back to Florida and continuing to serve both the profession and the public.









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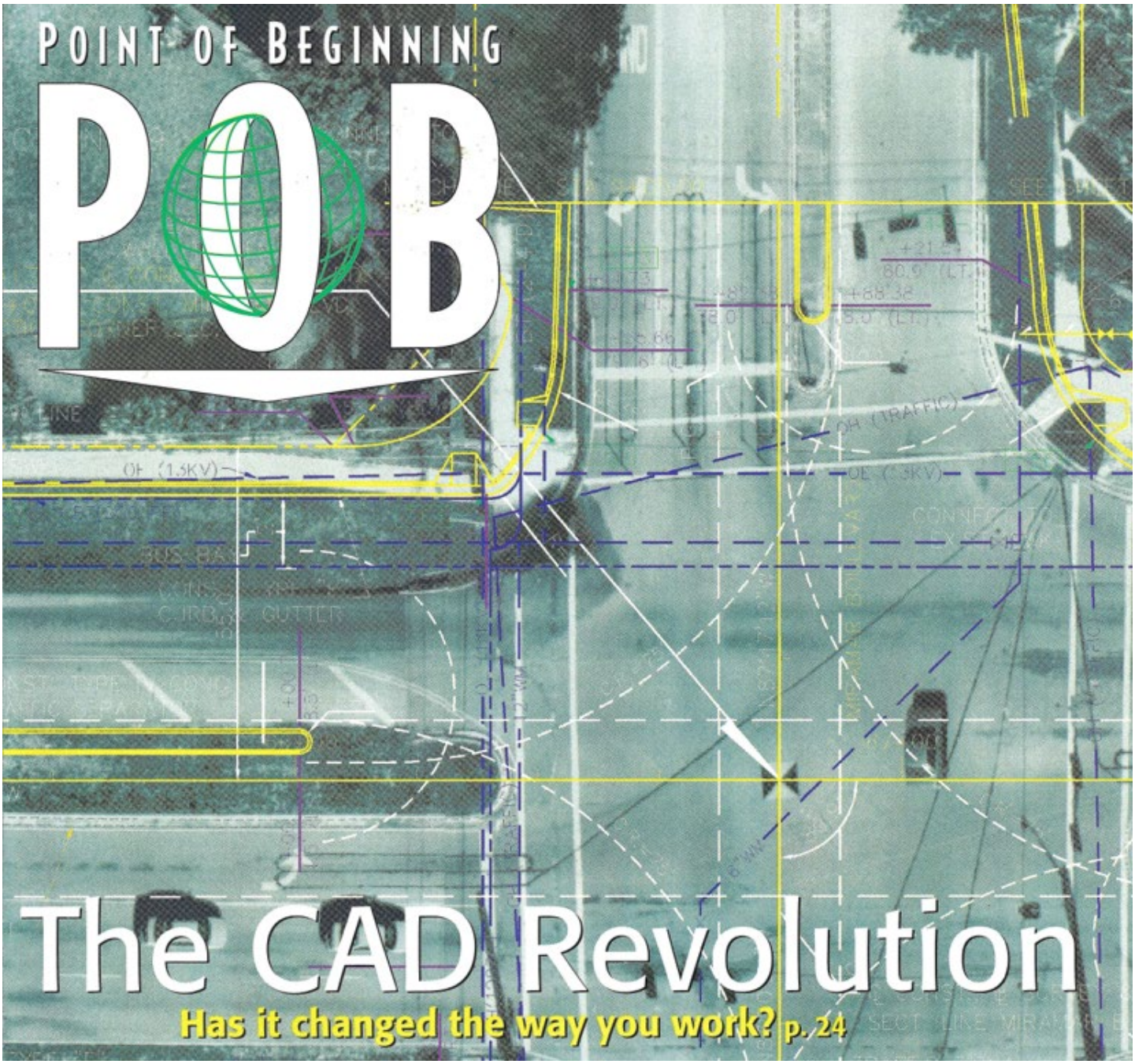
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The CAD Revolution

POB Magazine – September 1999

By **Richard D. Pryce, PSM, Christopher T. Niven & Darren Badore**



Have you ever heard a colleague or coworker refer to the wonderful capabilities of CAD? You know, one of those bright, enthusiastic people who are constantly reminding others of the almost legendary functions imbedded in this software suite? You may recognize this phenomenon when you hear phrases such as, "I can do that in CAD" or "[Insert your favorite brand of CAD] can do that."

The CAD Revolution

POB Magazine – September 1999

By **Richard D. Pryce, PSM, Christopher T. Niven & Darren Badore**

With such broad support from public and private sectors alike, you might expect some standardization for applications of CAD, particularly in spatial data professions such as surveying, planning, engineering and mapping. Ironically, it may be that the actual use of CAD within these disciplines has enabled a lack of applied standards and a separation from the vast knowledge accumulated in the disciplines of drafting and cartography. A quick examination of the past, present and future of CAD provides a better understanding of the software and its effect on drafting.

The Reliable Draftsperson

Before the introduction of computers and CAD into the design professions, the work management and production environments for many surveying and engineering companies influenced important aspects of the drawings. Although companies retained and used experts to develop surveys, engineering drawings and other plans, only draftsmen completed the production work, and all draftsmen remained under the watchful eye of a master draftsman. Rows or groups of meticulous draftsmen equipped with. visors, aprons and Leroy drafting sets defined the environment of professional operations.

As recently as 20 years ago, good manual draftsmen were seen as a tremendous benefit to surveying companies. Pride and professionalism surrounded the construction of each hand-drawn survey, sketch or drawing. A draftsperson's work held significant value; many considered their final product a work of art. Clients and survey professionals looked upon drawings as the signature of a company. While each draftsperson developed a unique personal style, drawing production still required an acceptance of standardization and methods developed over the years. The job of a draftsperson focused on making complicated survey drawings understandable to the client. A draftsperson, especially a master draftsman held a pivotal role in the company. Master draftsmen embodied many years of drafting skill, style and technique. Many design professionals believed that a draftsperson's career should be dedicated to learning the profession of drafting. Perceptions based on this belief affected the design industries as well. Mentoring programs placed a high degree of importance on mastering the skills of the profession in order to increase efficiency. Technology was only to be used to supplement a person's ability. The thought of technology being more capable than a draftsperson was inconceivable. People were seen as better, faster and more flexible than machines. Also, many managers believed their production operations were at a high level of accountability, efficiency and quality because of the master draftsman's stringent system of rules and standards.

Instruments of Change

Technological advances in computing hardware first created the opportunities for CAD to enter the professional design industries. Prior to these advances, computers had predominantly been mainframes. Mainframes were usually considered beyond the budget of many private sector companies and required a considerable amount of floor space and resources. Then, in the late 1970s, newer computers called mini-mainframe, and personal

computers (PCs) were introduced. Although still somewhat large compared to today's standards, these computers were viewed as powerful machines able to store, print and retrieve data with far less floor space and operating cost requirements than mainframes. Design professionals began to evaluate the cost effectiveness of purchasing computers and using CAD software for map, plan and drawing production.

Some of the first CAD programs for surveyors came out in the late 1970s. These programs relied upon the user's ability to apply the academic basics of drafting and mathematics. Initially, the linework elements of CAD files were unavailable for display on a computer monitor, and users were forced to produce hard copies in order to view file contents. Output from CAD consisted of a basic line drawing without text in a two-dimensional horizontal plane. Based upon the user's input of a series of directions and distances, the program calculated the x and y value of every point within a drawing by using coordinate geometry (COGO). Each coordinate pair was then given a unique point number in sequence (i.e., advance 1, 2, 3) and stored in a coordinate point table. After creating the point table, construction of linework elements required the combined use of point and figure tables.
Information within the figure table allowed a user to direct construction of linework. In essence, the figure table stored commands used to draw line elements to points contained within the point table. A curved line was created with three points: the two ends of the arc and the radius point. Initial acceptance of these programs by the broad spectrum of design professions was, at best, mixed. Greater applications of CAD would require increased capabilities for drawing construction and more flexibility for data input, output and manipulation.

Early Applications

As CAD programs advanced with displaying elements on monochrome monitors, users could specify different pen colors for color hard copies. Planners and engineers began to experiment with using CAD for smaller jobs. Color output and displaying linework on PC monitors certainly fueled CAD's acceptance in the design professions, but the various disciplines approached and applied the programs for very different reasons. While no one in the design professions leapt headlong into intensive CAD use, the surveying community noted some beneficial applications.

Using these early CAD programs allowed office staff to perform faster checking of field calculations, and to produce draft copies of the linework in drawings more rapidly. These copies of line drawings contained no text. Draftsmen often used light tables to place the draft copy of linework under the final copy for tracing. This process saved time for the draftsmen and still required their input for annotation, title blocks and other notes necessary for a complete drawing.

Although the stringent requirement to build point and figure tables hindered other design professions, it was precisely this detail that allowed surveyors to feel comfortable with CAD. The construction of point tables required a considerable level of manual calculation and traditional techniques. But the entire process was neither burdensome nor threatening because the CAD

drawings began by simply placing the results of accepted survey practices into point and then figure tables. In fact, using the CAD process proved to increase drawing production efficiency. Draftsmen were still seen as a necessary component, especially because of CAD's inability to produce drawings that were as attractive as those that were hand-drawn.

Surveyors did not embrace CAD whole-heartedly, though, because of their trust in the traditional drawing production system. People could be relied on to be flexible and produce quality products. After all, each survey drawing was different than the last; and although CAD could produce linework with limited text, CAD products still lacked the pleasing appearance and finesse of manual drafting. Many surveyors liked what they saw in CAD but needed proof that its drawings met accuracy and precision requirements. Surveyors stood ready to embrace efficiencies offered by CAD technology, but they wanted to maintain production quality and control.

Survey draftsmen were initially resistant to the adoption and use of CAD because they feared losing the individual style it had taken them years -to perfect. However, the professional surveying community continued to voice opinions about the potential benefits of this new technology. Unfortunately, no one had developed and publicly released a successful recipe to apply CAD to surveying.

A few architects experienced success with the early CAD programs, but most saw little use for software that focused on two dimensions (as the majority of programs did). In direct contrast to surveyors, architects and planners desired to apply a more artistic and informational approach to their initial use of CAD.

These professions explored the possibilities for CAD to assist the sharing of data and the efficient reproduction of standard details that could be copied and reused. The possibility to share data existed, and standard methods could be applied; however, neither process operated smoothly. The requirement to focus on creating a design with a table of x and y coordinate pairs restricted creative flow and imagination. Who really wanted to design a cross-sectional detail of a landscape plan using the point and figure table? CAD found some initial use in these design professions, but the larger and more detailed projects still required the draftsperson's skill.

Critical Changes in CAD, Perceptions and Use

Users throughout the design professions knew that CAD would need to develop additional capabilities before greater applications could be realized. In the early 1980s, the advances materialized. CAD packages became more complex and offered new features such as greater text flexibility, manipulation and automated dimensioning.

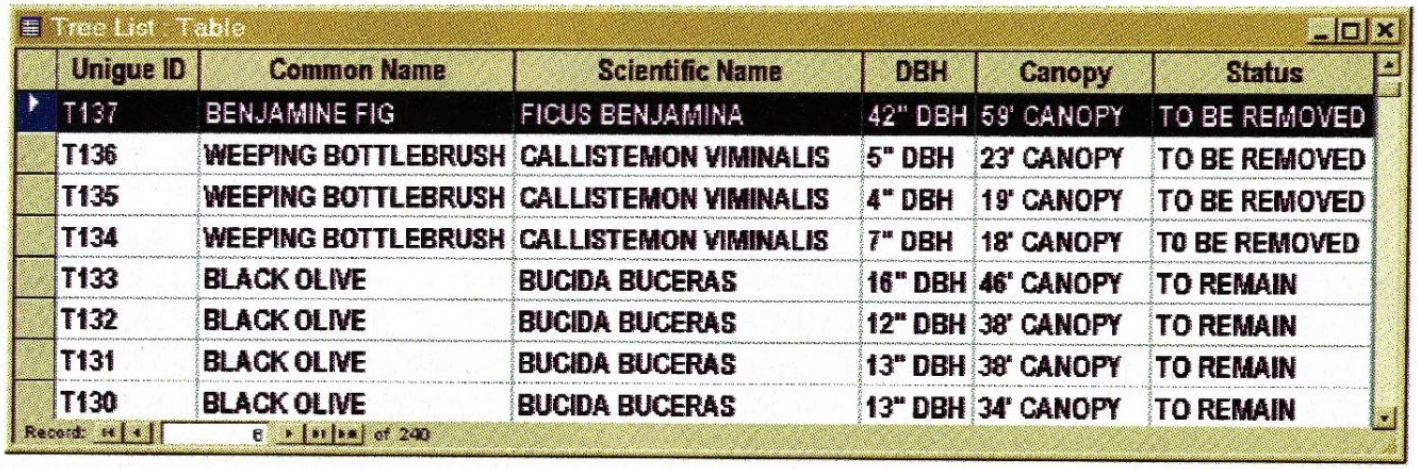
Automated dimensioning meant users could label linework automatically with actual dimensions (i.e., bearings and distances). This feature eliminated dimensioning errors associated with keyboard data entry. Other features, such as the creation and editing of blocks, polylines,

fillets, arrays and mirroring images, helped to change design professionals' perceptions and use of CAD. Additionally, the inclusion of the elevation of a point enabled users to visualize drawings in three dimensions.

During this time, a crucial development in the evolution of CAD occurred: the ability to bypass the point and figure table construction technique. The impact was tremendous. Surveyors, engineers and architects could now design, annotate text and generate linework graphically. These changes enabled CAD users to manipulate larger and more complex problems on the screen and resulted in a perception that using CAD would have a positive effect on the bottom line. Production managers became less focused on the performance of individuals using manual techniques and targeted the potential benefits of CAD.

CAD Today

Today's CAD programs represent an integrated suite of software offering an array of tools for surveying, planning, architecture, landscape architecture, engineering and other design areas. Recent advances in computer hardware have once again allowed more complex operations in CAD such as geodetic modeling, GPS and GIS data incorporation and image and database integration (See Figures 1 and 2).


Tree List : Table

Unigue ID	Common Name	Scientific Name	DBH	Canopy	Status
T137	BENJAMINE FIG	FICUS BENJAMINA	42" DBH	59' CANOPY	TO BE REMOVED
T136	WEEPING BOTTLEBRUSH	CALLISTEMON VIMINALIS	5" DBH	23' CANOPY	TO BE REMOVED
T135	WEEPING BOTTLEBRUSH	CALLISTEMON VIMINALIS	4" DBH	19' CANOPY	TO BE REMOVED
T134	WEEPING BOTTLEBRUSH	CALLISTEMON VIMINALIS	7" DBH	18' CANOPY	TO BE REMOVED
T133	BLACK OLIVE	BUCIDA BUCERAS	16" DBH	46' CANOPY	TO REMAIN
T132	BLACK OLIVE	BUCIDA BUCERAS	12" DBH	38' CANOPY	TO REMAIN
T131	BLACK OLIVE	BUCIDA BUCERAS	13" DBH	38' CANOPY	TO REMAIN
T130	BLACK OLIVE	BUCIDA BUCERAS	13" DBH	34' CANOPY	TO REMAIN

Record: 8 of 240

Figure 1. Advanced CAD suites such as AutoCAD with Softdesk now offer the ability to integrate relational databases and incorporate data from GIS and GPS sources. In the example above GPS field collection was used to gather information for a tree location project.

Surveyors can now use CAD in the office to verify calculations for field layout, visualize traverse adjustments or produce three-dimensional models of fill piles for volume computations.

Civil engineers, planners and architects currently make use of CAD's ability to read from databases and spread sheets for producing reports on pipe sizing, lift station calculations, real-time cut and fill estimates and complete job costing. Three-dimensional viewing of a complete building, subdivision or proposed park is also possible. Many firms encourage CAD users to learn

the more complex elements within CAD software suites to give them advantages over the competition.

The future of CAD appears to be tied closely to the use of relational databases and their integration with GIS. The use of CAD for visualization of a three-dimensional world is a reality now. Further enhancements in laser technology, GPS and data collection techniques mean surveyors and other professionals can look to an exciting and prosperous future.

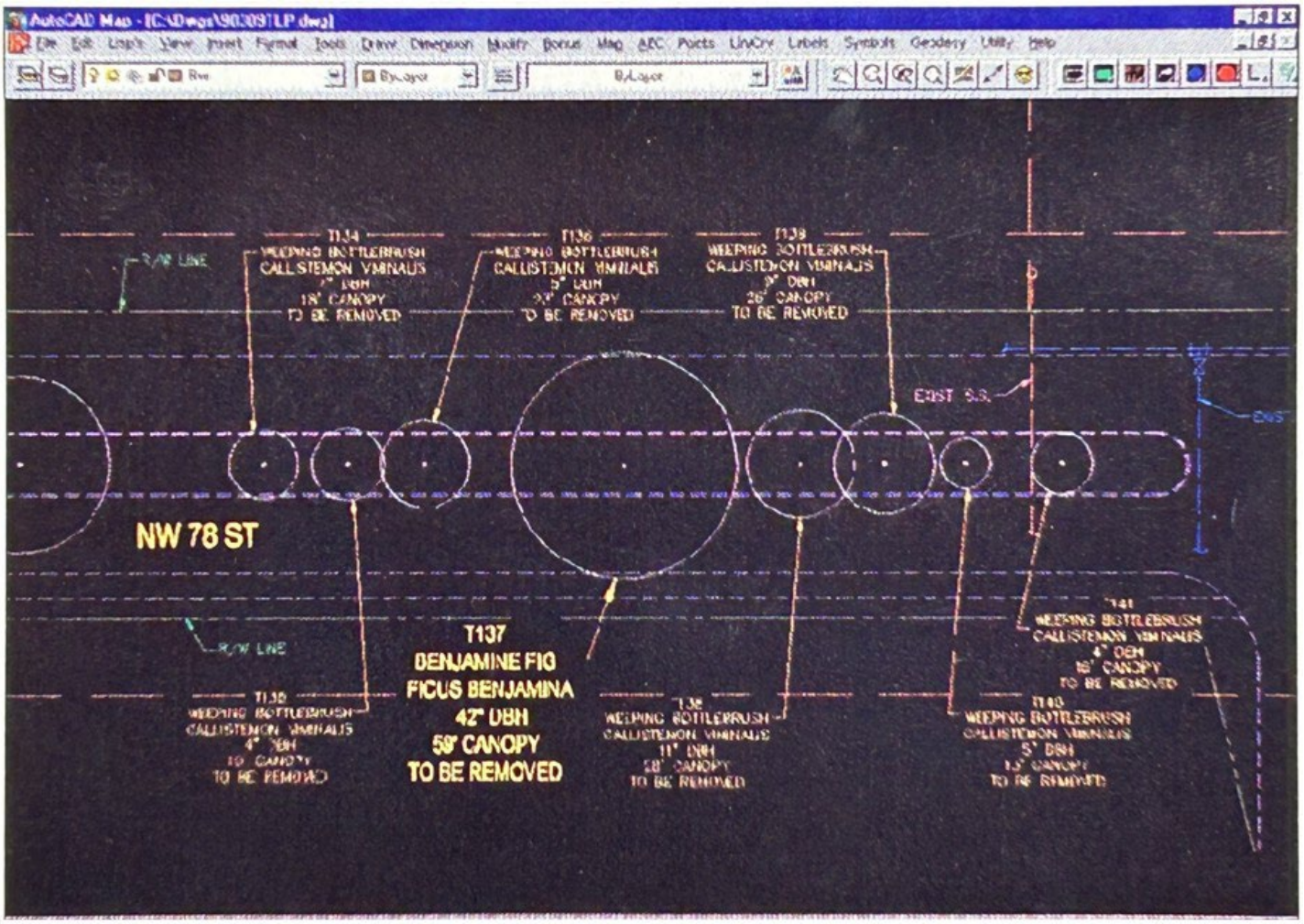


Figure 2. A GIS program transformed species specific information into tree areas and a database format suitable for import into AutoCAD. Trees (T137) can be seen in the display window while the GPS/GIS database can be queried and viewed simultaneously with the drawing.

The CAD Revolution

POB Magazine – September 1999

By **Richard D. Pryce, PSM, Christopher T. Niven & Darren Badore**

Consequences

CAD software has freed design professionals from the stringent standards they once faced using the draftsperson drawing production system. Almost every CAD user has the opportunity to choose from standard, specialty or custom CAD tools and act as a production center unto themselves.

This freedom from standardization, however, may be CAD's greatest drawback. The design production environment evolution has moved the emphasis of design from personal ability to software capability. There are few mentor programs or firm rules in place, and many CAD users are not exposed to all of the mathematical principals required to accurately employ the calculation routines it offers. The general expectation is that the software will fill in gaps in the user's knowledge. This is dangerous. The efficiency and flexibility CAD software can offer are only beneficial if applied correctly. Despite its tremendous functionality and complexity, CAD is still a tool that people use. As responsible professionals, we shouldn't be so enthralled with CAD's capabilities that we forget the necessity of a competent human being to the design equation.

The continued advancement of CAD's capabilities will no doubt drive changes in its application and the perceptions of people within the industry. While the design community moves forward, attention must be focused on potential impacts caused by increasing CAD capabilities. The incorporation of CAD into the design professions has been and will continue to be an evolving process.

Authors Update 2026

In the last 27 years the development of CAD has had huge impacts on Surveyors, Engineers, and other professions. Hand drafting has gone by the wayside except in the Artist's realm, but even that is fading too with the advent of Artificial Intelligence (AI).

The expansion and influence of Geographic Information Systems (GIS), and Three-Dimensional (3D) technologies such as LiDAR, Building Information Modeling (BIM), and the use of drones, have pushed our capabilities to new heights, and created more and more opportunities to enhance what we can do and the services that we can provide for our clients.

Today we can honestly say that we can actually do more with less people. However, that comes at a price when it comes to Surveying in particular. We may be able to collect an immense amount of data, more than we ever have in the past, and the software has become more and more intuitive and easier to use, but do we actually understand what it is doing, and can we explain it and prove the results. By just accepting the results of software without having the ability to understand and proof it by other methods actually makes you dumber and more susceptible to error and thus liability. Sometimes the old methods of checks and balances may seem unnecessary and redundant, but they have proved themselves over and over again to be reliable, so I suggest you seek them out and build them into your new workflow. If for nothing else but to sleep better at night!

2026 FSMS AWARD WINNERS

H.O. Peters Surveyor of the Year Award
Robert (Bob) Johnson

Jim Bennett Board Member of the Year Award
Angela Bailey

Life Member Recipient
Howard Ehmke

Fellow Member Recipients
Pablo Ferrari & Harold (Hal) Peters

Committee Chair of the Year Award
Brion Yancy

Young Surveyor of the Year Award
Marla Moore

Associate of the Year Award
Cheryll Mock

Professional Excellence Award
Dr. Youssef Kaddoura

Perry C. McGriff Outstanding Civic Contribution Award
Katie Britt

Steven Woods Exceptional Service Award
Nicholas Campanile

Chapter President of the Year Award
Johnny Beland - Tampa Bay

Small Chapter of the Year Award
Indian River

Large Chapter of the Year Award
Manasota

Taylor Brown Brings Diverse Experience to Bolster WFREC Geomatics

Authored By: Wes Wolfe

From Blogs.IFAS:
https://blogs.ifas.ufl.edu/ffgs/2026/08/25/taylor-brown-brings-diverse-experience-to-bolster-wfrec-geomatics/



WFREC Instructional Designer Taylor Brown

A key part of what makes UF/IFAS such a valuable resource for Floridians are the research and education centers located across our state. The West Florida Research and Education Center (WFREC) brought on Instructional Designer Taylor Brown over the summer, as she takes skills and lessons learned over her life and applies them to teaching others in geomatics.

Q: It looks like your path to an undergraduate degree was unusual — how did that unfold?

A: Initially, I attended college pursuing an English literature degree with the intent of teaching high school. However, my junior year I went through an extremely challenging personal experience that resulted in dropping out. At the time I had three skillsets; waiting tables, substitute teaching, and surveying. Surveying paid the best, so I spent the next six years working on transmission gas line construction in the Mid-Ohio Valley. After a covid-related layoff I figured if surveying was going to be the bit, then I needed to commit to going back to school for licensure.

I started back in the geomatics certificate program at UF as the most direct path to a pay bump while working as a party chief, then picked back up working on my bachelor's. Anthropology was the only program that I could transfer to that was quasi-logical for my profession but didn't put me in excess hours. So, I did that, two classes at a time, year-round at night, while digging up corners and swinging a machete during the

day. I really lucked out though; anthropology is an outstanding field of study and added some fantastic new layers to think about in my land surveying practice.

Q: How did your experience in the private sector prepare you for working in county government, and then UF?

A: As the result of a pretty circuitous surveying journey and a decade of traversing different types of work, projects, places, and people I think I was set up well to deal with the public and subsequently students. Regardless of the environment, everyone just wants to know you put your pants on one leg at a time just like them. Meeting people where they're at has been my most useful learned skillset.

Q: What led you back to UF as an instructor after starting out here for college?

A: The open geomatics specialist position at UF Milton was a hot topic amongst local surveyors for the entire duration of its existence. Local industry knew that the key to getting more local talent was going to be having a local education (option) available. I was just as keyed in, however, for a mildly more selfish reason in that I'd already decided to pursue a master's degree and was hopeful that UF would hire a crazy smart Ph.D. that I could slowly ingratiate myself with as a foot in the door to hopefully one day teach, because that was the original goal!

I didn't think at the time I was even qualified to apply, but a few colleagues encouraged me so I sent my resume expecting a "no thank you," and now we're here.

Q: What aspects of working at WFREC were easy to slide into?

A: This is my first experience in higher education, and coming from a poor-boy surveyor background, I was concerned that it would be challenging to connect with my new highbrow colleagues. However, nothing could be further from the truth! I was pleasantly surprised to find a group of insanely intelligent people that are completely committed to providing the best education they can for students. Everyone has been genuine and supportive which has made the transition that much easier.

Also, I love fun facts and working around people who are the source of fun facts is the best.

Q: Conversely, what's been challenging?

A: There's a lot of paperwork in the academia world. I'd gotten a taste of that sentiment working at Santa Rosa County, but it'll take a while to have a good understanding of all the rules, regulations, and procedures.

Q: What parts of WFREC do you enjoy most?

A: The time I have gotten to spend with students has been the most enjoyable for me. When you're in a production field role for a long time it's easy to be out in the field standing in a swamp boiling alive with the bugs and forget that that's the fun part. Students are still excited about the work, and that eagerness is infectious.

Additionally, as fifth-generation from the panhandle of Florida, I take deep pride in being able to support my local community in my role here at WFREC.

And as mentioned before, it's fun-fact city around here.

Author Profile

Wes Wolfe



Wes Wolfe is the communications specialist for the School of Forest, Fisheries, & Geomatics Sciences. A University of South Carolina alumnus, he arrived at UF following a 15-year career in print journalism and new media that includes receiving awards for his work from state press associations in Florida, Georgia, North Carolina, South Carolina, and Texas.



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The Real Cost of Not Upgrading: A 40-Year Perspective on Technology Neglect

Frank Conkling
Panda Consulting

https://www.pandaconsulting.com/logb/2026/3/2/the-real-cost-of-not-upgrading-a-40-year-perspective-on-technology-neglect

After four decades working with public agencies, utilities, engineering firms, and private organizations, I've seen a consistent pattern: technology neglect never fails quietly. It rarely collapses overnight. Instead, it erodes performance slowly, subtly, and predictably. And by the time leadership recognizes the depth of the problem, the cost to recover is exponentially higher than the cost of steady modernization would have been.

Organizations don't usually refuse to upgrade out of ignorance. They delay upgrades because budgets are tight, staff are busy, and "the system still works." I've heard that phrase thousands of times. The system still works, until it doesn't. And even before it fails outright, it quietly drags the organization backward.

Let me walk you through what really happens over time.

The Slow Decline of Operational Efficiency

When software and hardware age, performance degradation becomes normalized. Systems load more slowly. Reports take longer to generate. File transfers stall. Employees begin creating workarounds—manual spreadsheets, shadow databases, printed backups "just in case."

These compensations accumulate. Ten minutes lost here. Fifteen minutes lost there. Multiply that by 50 employees, then by 240 workdays a year. The financial impact becomes staggering.

The organization doesn't notice at first because the decline is incremental.



But over time, productivity drops while payroll costs remain constant. Leadership begins by asking why output hasn't increased. The answer is often buried in aging infrastructure.

Security Becomes a Ticking Clock

One of the most dangerous long-term effects is security exposure. Vendors eventually stop supporting older platforms. Security patches end. Updates stop. And yet, the organization continues to store critical data on those systems.

Guidelines from the National Institute of Standards and Technology clearly emphasize lifecycle management and timely patching as foundational to cybersecurity. Ignoring that guidance doesn't make the risk theoretical, it makes it inevitable.

In my career, I've seen organizations avoid a $50,000 upgrade only to spend $500,000 responding to a breach. Data recovery, legal review, public relations damage, and regulatory scrutiny—those costs are not abstract. They are real, measurable, and painful.

The tragedy is that most of them were preventable.

Vendor Support Disappears—And You're On Your Own

When organizations remain on outdated software, vendor support becomes increasingly limited. Eventually, you are told, “That version is no longer supported.” From that moment forward, every issue becomes more complicated and more expensive.

I’ve watched teams cling to legacy desktop environments long after modern platforms like ArcGIS Pro had become the industry standard. The longer they waited, the harder the transition became, not just technically, but culturally.

Staying behind isolates your workflows from innovation. It makes integration with new systems difficult. And it increases reliance on custom scripts and patches that only one or two people understand.

That is not stability. That is fragility disguised as familiarity.

Innnovation Quietly Stalls

Modern platforms bring automation, integration, cloud collaboration, and analytics capabilities that simply don’t exist in older systems. Organizations that refuse to upgrade don’t just miss new features, they miss new ways of thinking.

Over time, they stop asking, “What could we do better?” and start asking, “How do we keep this running?”

That shift in mindset is dangerous. It turns proactive organizations into reactive ones. Competitors who adopt modern tools streamline workflows, reduce costs, and deliver faster results. Meanwhile, the stagnant organization wonders why it’s falling behind.

Innovation doesn’t die dramatically. It fades gradually.

The Financial Myth of “Saving Money”

One of the biggest misconceptions I’ve encountered over 40 years is the belief that deferring upgrades saves money. It doesn’t.

Deferred upgrades create technical debt. And technical debt compounds.

Emergency replacements cost more. Consultants charge more to untangle legacy systems. Downtime becomes longer because parts are harder to find and expertise is rarer.

What could have been a scheduled, predictable capital expense turns into a crisis-driven operational expense.

The math is consistent: planned modernization costs less than emergency recovery.

The Human Impact: Stress, Frustration, and Burnout

Technology neglect affects people more than spreadsheets.

When employees fight their tools every day waiting on slow systems, redoing lost work or manually fixing preventable errors, it drains energy.

Morale declines. High performers become frustrated.

You can see it in meetings. People stop proposing improvements because they know the system can't support them. They stop experimenting because change feels risky in a fragile environment.

Over time, disengagement becomes cultural.

Professional Stagnation

When organizations don't invest in training alongside technology upgrades, they unintentionally leave their workforce behind.

Employees who are not trained on modern tools become less competitive in the broader job market. Their professional confidence erodes. Career mobility narrows.

This isn't just an HR issue—it's a leadership issue. Failing to train staff signals that development is not a priority.

Talented people notice.

Recruitment and Retention Challenges

The next generation of professionals expects modern tools. When candidates discover that an organization relies on outdated platforms and offers limited training, they reconsider.

Those who accept positions may leave within a few years for environments where they can grow. That turnover carries recruitment costs, onboarding costs, and lost institutional knowledge.

Modernization is not just about technology. It is about remaining an attractive place to work.

Knowledge Bottlenecks and Retirement Risks

One of the most overlooked risks is institutional dependency on a small number of employees who understand legacy systems.

I've seen organizations where one individual "knows how everything works." When that person retires, panic follows. Documentation is incomplete. Custom code is undocumented. Processes are tribal knowledge.

Modern systems, when implemented correctly, distribute knowledge and standardize workflows. Legacy systems often centralize knowledge in individuals.

That's a dangerous concentration of risk.

Interoperability Breakdowns

Today's operational environments require integration—cloud systems, APIs, data sharing across departments. Older systems struggle to communicate effectively with newer platforms.

The result is duplication, inconsistent datasets, and fragmented reporting. Decision-makers begin questioning data reliability, not because staff are careless, but because systems aren't aligned.

Data integrity suffers when infrastructure ages.

The Compounding Effect Over Time

What makes all of this especially dangerous is that none of it feels catastrophic at first. It feels manageable. It feels tolerable.

But these effects compound:
- Slight inefficiencies become standard practice
- Minor security gaps widen
- Small morale issues grow into cultural fatigue
- Training delays turn into capability gaps

After 10 or 15 years of deferred upgrades, the organization faces not one problem, but dozens that are interconnected and expensive to resolve.

Modernization at that stage becomes disruptive because the gap is so wide.

What Sustainable Organizations Do Differently

Organizations that remain resilient treat technology like infrastructure.

They establish:
- Hardware refresh cycles
- Software lifecycle policies
- Scheduled upgrade paths
- Continuous training programs
- Budget forecasting for modernization

They plan change rather than react to failure. They recognize that standing still in technology is not neutral, it is regression.

Final Thoughts From Experience

Over forty years, I've never seen organizations regret proactive modernization. I have seen many regret postponing it.

Upgrades are not about chasing trends. They are about maintaining capability, protecting data, supporting employees, and preserving competitiveness.

If leadership views technology as an expense, modernization will always feel painful.

If leadership views technology as infrastructure—the backbone of

operations—modernization becomes responsible stewardship.

The organizations that thrive over decades are not the ones that avoid change.

They are the ones who manage it deliberately, consistently, and with foresight.

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The Story of America: George Washington



NGS News



NGS Reaches Major Milestone with NSRS Modernization: Core Beta Products and Tools Made Available for Public Testing

Test the Tools to Access and Use the Modernized NSRS

NOAA's National Geodetic Survey (NGS) has reached an important milestone in the modernization of the National Spatial Reference System (NSRS) with the public beta release of its core supporting products and

tools. These beta products are now available through the NGS Beta website for stakeholder evaluation and feedback.

We encourage surveyors, engineers, GIS professionals, mapping agencies, software developers, researchers, and other members of the geospatial community to explore these tools, test them using real-world workflows, and provide feedback. Your input will help refine these products and improve their usability prior to their official release.

Please note: The products available on the NGS Beta website are preliminary releases for testing and evaluation only. They should not be used for operational or authoritative purposes.The descriptions below supersede previous updates or information shared in NSRS Modernization blueprint documents, plans, or presentations. These products and their status will be described on the **Track Our Progress webpage**.

1. The **Data Delivery System (DDS)** serves as the primary gateway for discovering, visualizing, and accessing geodetic data and products in the modernized NSRS. It integrates a modernized **NGS Map**, with two new products—**Geodetic Station Pages**, and **Geodetic Mark Pages**—into a consistent, API-driven experience for accessing geodetic control information and products. Geodetic Station Pages replace the current NOAA CORS Network (NCN) station pages and provide access to station metadata, reference epoch coordinates, updated CORS coordinate functions (CCFs), and related geodetic products. Geodetic Mark Pages replace the current ASCII datasheets with interactive pages that provide access to mark metadata, reference epoch coordinates, and related geodetic products.
2. **The NGS Coordinate Conversion and Transformation Tool (NCAT)** has been updated to support coordinate conversions and transformations involving both the current and modernized NSRS. NCAT supports horizontal coordinate transformations using NADCON, vertical datum transformations using VERTCON, coordinate conversions, and expanded geopotential calculations, including conversions between ellipsoid and orthometric heights. Additionally, support for international reference frames is available through 14-parameter Helmert transformations. Finally, support for estimating the changes of coordinates between two epochs has also been added.
3. **OPUS-Static** has been updated to process static Global Navigation Satellite System (GNSS) observations directly in the modernized NSRS

using multi-constellation data. Solutions are provided in any of the four 2022 terrestrial reference frames, as well as in the International Terrestrial Reference Frame of 2020 (ITRF2020), and includes State Plane Coordinate System of 2022 (SPCS2022) coordinates, where available, and orthometric heights referenced to the North American-Pacific Geopotential Datum of 2022 (NAPGD2022), where available. **OPUS-Share** functionality remains available during the beta testing period, allowing users to share solutions. Solutions shared through the beta system are temporary and will not be retained nor migrated to the operational system when beta testing concludes.

Over the coming weeks, NGS will hold a series of **public webinars** providing detailed information about each product and the impacts of NSRS modernization on geospatial workflows.

We encourage you to evaluate these beta products, compare them with your existing workflows, and submit comments, questions, or bug reports to ngs.feedback@noaa.gov. Community feedback is essential to ensuring the modernized NSRS and its supporting tools meet the needs of the geospatial community before their official release.

Products found on the NGS beta website are preliminary releases that are for testing and evaluation only; they are not final products nor do they contain any authoritative NGS data or tools. To provide feedback on any of the content on this site, please email ngs.feedback@noaa.gov.

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Forts, Ports, Canals, *and* Wars

An Uncommon History of Tallahassee & Surrounding Areas

by Dr. Joe Knetsch



William Dunnington Bloxham served two terms as governor

(State Library and Archives of Florida)

CHAPTER 14

More Popular Than His Party: A Life of William Dunnington Bloxham

Few governors of Florida have ever enjoyed the confidence and popularity of William Dunnington Bloxham. A man of remarkable capacity and graciousness, he prided himself on his integrity and work as a public servant. Bloxham, in an age of corrupt political machines and fixed elections, stood out as a leader in which the public could believe and trust. Bloxham served in three cabinet posts including the governorship, comptroller, and secretary of state's position. He also served his state as the Surveyor General and as a member of the legislature. Few men in the history of Florida have served their state in so many capacities and as competently as William D. Bloxham, Florida's only two term governor in an age when one could not succeed oneself in office.

Governor Bloxham's two terms came at very crucial times in the State's history. The first administration, 1881 to 1885, successfully relieved the State of its obligations to the bond holders of the Internal Improvement Fund issues whose interest had exceeded one million dollars. The Federal Court injunction that obligated Florida to pay off these bond holders prior to any release of lands for grants to railroads and other purposes is called the Vose injunction. Francis Vose and other investors in Florida's ante-bellum railroads and canals had taken much of their payments in bonds issued by the Trustees of the Internal Improvement Fund who guaranteed their repayment with interest. The Civil War wiped out the railroads and ended canal construction. The bonds represented a huge debt for a state economically devastated by the War's impact. The Trustees (that is, the Governor and Cabinet) had agreed to pay those debts that were accumulated under the legislative mandates given in the railroad's charters. As with many railroads in the United States at the time, this meant a grant to the railroads of alternate sections of Swamp and Overflowed lands as defined by the act of September 28, 1850. With a crippled economy, corrupt government under the Reconstruction governors and legislatures, and the threat of the State giving away such lands to speculators and other schemers, Vose and his companions had little choice

than to forestall any such moves by the means of the injunction. This was the economic crisis facing William D. Bloxham as he entered his first term.[1]

The solution hit upon by Governor Bloxham was to approach an investor who already had a contract to drain Florida's Swamp and Overflowed lands in the upper Kissimmee River basin, one Hamilton Disston, president of the Disston Saw Works of Tacony, Pennsylvania. Disston drainage contract, in contrast with the later purchase, called for his firm to drain the lands in the area of modern Osceola and Orange Counties and receive, in return, one-half of the lands reclaimed and made useful for growing a regular agricultural crop (the language of the Swamp and Overflowed Lands Act of 1850). Hamilton Disston's firm had not yet finished its second year of this contract when Bloxham made a trip to Philadelphia to see Disston at his offices on Walnut Street.[2] Disston had just returned from Arizona where he had liquidated his holdings in nine mines in and arournd Tombstone, including the highly successful Tombstone Milling and Mining Company mines, in which it was rumored at the time that he had taken home over a million dollars in profits.[3] Disston quickly agreed to form a new company to liquidate the debt of one million dollars in return for four million acres of Swamp and Overflowed lands. The Disston Purchase, as this transaction became known, was the most controversial act of Bloxham's political career.

Much of the opposition to the purchase came from backers of former governor George Drew, who was bitter over losing the nomination to Bloxham in 1880. Of course, the Republican press, what was left of it would be opposed to this for political purposes, even though Hamilton Disston was a stalwart of the Republican Party of Pennsylvania and the second largest contributor to its campaigns in the Keystone State.[4] Certain railroad interests, and other investors, were also critical of the purchase until they understood its potential benefits to their interests. Most of the recorded criticisms came in the form of who was to benefit and get the lands and just how "cheaply" Disston got his deal. Those ignorant of the meaning of the Swamp and Overflowed Lands Act still, to this day, condemn the sale. The reality is much different, and the opponents then and now usually have a particular political ax to grind.

Briefly stated, the Swamp and Overflowed Lands Act reads that the fifty percent or more of a surveyable section of land must be of a swampy nature or overflowed enough at ordinary times to prevent the production of a regular agricultural crop without the necessity of dikes, levees, or drains. Technically, forty-nine percent of the property could be high and dry hammock lands! The proviso in the contract with Disston also called for a period of eighteen months for settlers already in place to apply for their lands at the government price ($1.25/acre). Lands already settled by squatters or more legitimate settlers were totaled and lands in lieu of these were awarded to the company, wherever such lands could be located. There are a large number of checks on the selection of such lands by the State to preclude much of the land not being of the nature described in the act.[5] Both State and Federal inspectors and the hiring of other professional/ county surveyors to check the lands chosen by the selecting agents assured proper land selection. As a final check to the nature of the lands, the adjacent land owners or potential buyers could challenge the State's selection within sixty days of the notice of selection being published in the local papers. No other state instituted and carried out such in-depth checking of Swamp and Overflowed lands regardless of the diatribes of the Wilkerson Calls and other alleged progressive politicians.

The arrangement between the State and Hamilton Disston and the land companies he established to market the property worked out well for both parties. For Disston, the immediate sale (within the first four months) of half of the purchase to Sir Edward James Reed and a consortium of European investors for $600,000 made a quick $100,000 profit, which went a long way toward paying for the dredging and maintenance of the canals created by the Disston companies. Sales of land to sugar interests, the settlement of the Pinellas Peninsula, the establishment of numerous towns, especially those along the routes of railroads where the company received half of rhe town lots, brought unknown wealth to the Disston land companies. For the State, the opening up of the Swamp and Overflowed lands to be granted to railroads was a God-send for the State's development. Without the grants of these lands to the railroads, it is doubtful that the business interests of Flagler, Plant, Chipley, and others would have been attracted to Florida at that time. This opening up of the State's interior led to the famous citrus boom of the 1880s and early 1890s, the rapid development of the rich phosphate deposits

of the Withlacoochee and Peace River valleys, and the further growth of Florida's seemingly inexhaustible forests. Governor William D. Bloxham should be remembered for this grand contribution to the State's growth and development.[6]

Such a major player on the development scene came from far different roots than urbanites like Disston, Flagler, and Henry Plant. William D. Bloxham came from the planter elite of Middle Florida. The family was not the wealthiest in the area, but given the sustained roots in Virginia and the ties of Great-Grandfather James to President Washington's Mount Vernon, the family had respectability. William Bloxham, the son of James, the grandfather of Governor Bloxham (who had the same name as his father), came to Florida in 1825. As a prospering young planter, William became well known in the community and could count among his friends and acquaintances most of the early leadership of Territorial Florida, including the sometimes quirky Achille Murat. The Count's wife, Katherine Willis Gray, a noted beauty of the day, would become and remain a close friend of the Bloxhams until her passing. William D. was the son of William Bloxham and Martha Williams, daughter of a former Georgia planter, Captain Drury Williams. His birthday, July 9, 1835, came just prior to the outbreak of the Second Seminole War in December of that year. Father William had recently purchased his first 160 acre parcel northeasterly of the then limits of Tallahassee near Chaires Station. When Grandfather Williams died after the legislative session of 1839, one of the executors of his estate was his friend, Greene Chaires. By July, friend Chaires had his own major tragedy, the attack on his plantation by the Seminoles who burned it and killed his wife and two children. The war had struck too near the homestead of the Bloxhams, and son William was rushed to safer quarters nearer to town.[7]

The rough and tumble frontier town of Tallahassee did not have sufficient educational facilities to satisfy the needs of a rising planter, and after some apparent tutoring by traveling educators, he was sent to the Brownwood Institute in LaGrange, Georgia.[8] After preliminary schooling at Brownwood, young William was sent to the College of William and Mary to study law. He attended this renowned institution from 1853-55 and graduated in two years with a degree in law, a profession he never practiced. After the "Grand Tour" of Europe, young William D. returned to Leon

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County and assisted his father in managing their growing plantation lands. By 1856, he was getting his feet wet in local and state politics and attended the Democratic Convention in Madison, helping Madison Starke Perry achieve the governor's seat. He was joined in this convention by other Leon Countians, including Greene Chaires, J.B. Galbraith, Charles Dyke (who was to become his life-long friend and political ally), S. J. Houston, and Peter B. Brokaw, among others. Later that same year, he married the lovely Mary Davis, the daughter of a retired physician from Lynchburg, Virginia. The young couple soon had a son, also named William but known to everyone as Willie. Tragically, Willie was never to fully develop his mental capacities, but that did not deter his playfulness and a strong friendship grew between young Willie and his nearby companion, James B.Whitfield, later to be one of the finest Supreme Court Justices to ever grace the Florida bench.[9]

1859 was an important time for Florida and Bloxham. In that year he was made a Master Mason in the Jackson Lodge No. 1, the State's oldest Masonic Lodge.[10] Bloxham's influence also had much to do with the settlement of the Georgia-Florida boundary dispute that was surveyed by his friend, Benjamin Whitner, Jr., under a contract with Benjamin Whitner, Sr. According to Judge Whitfield, this "gave him a prominence in State affairs that continued throughout the years of his long and useful life."[11] His lovely wife, in the meantime, became very active in St. John's Episcopal Church, where she earned a reputation for selflessness and dedication. (The couple is buried in the St. John's Cemetery under the grand obelisk at the front, near the gate.) But the times were troublesome and the State soon voted to follow its fellow southern states out of the Union in 1861. Governor Madison Starke Perry, a South Carolinian by birth and thinking, led the State out of the Union after attending the succession convention in Charleston. Florida was the third state to leave the Union.

William D. Bloxham was not going to be left out of this fight but, unfortunately, his health was an issue and after serving only 23 days in Captain R. B. Milton's company, he was discharged from duty for chronic disease of the lungs.[12] When Leon County representative J.B. Galbraith was elevated ro the Attorney Generalship in early 1862, the Leon County Commission elected Bloxham to the legislature without a dissenting vote. By April of that year, young Bloxham, still only 26 at the time, was elected

Captain of a new unit, Company C of the Fifth Florida Infantry, serving under Colonel George Washington Scott. (The company was originally called the "Trapier Guards.") Bloxham served until February 11, 1863, when his term expired. The War had taken its toll on him and he returned to Tallahassee an exhausted and spent soldier. In one sense he may have been "one of the lucky ones" in that his unit went on to suffer heavy casualties at Chancellorsville and later at Gettysburg. However, he came home to difficult times and the almost immediate death of his father.[13] His only compensation, besides the comforts of home, was the birth of his beloved daughter, Martha (better known as Mattie) in December of 1864.

After the war ended and occupation began, Bloxham led by example and began a school, at his expense, for the freedmen on his plantation. One of the tutors hired to teach these new citizens was John Wallace, the author of *Carpet-Bag Rule in Florida*. As the violence against African-Americans began to rise in the later 1860s, Bloxham was in the forefront of condemning these extreme actions. Whitfield says that his condemnations of this violence were "classics of persuasive eloquence," and supposed to have had an impact on those who heard them. Unfortunately for Florida, those numbers were small.

Bloxham continued to be very active in Democratic politics of the day. His popularity was such that in 1870, under the rules of the newly adopted constitution, he was selected to run as the candidate for Lieutenant Governor. In one of the most controversial elections in Florida's colorful history, his election was overturned by the canvassing board. This board was placed under an injunction by Judge Pleasants W. White, of Quincy, and Bloxham's election by 64 votes was allowed to stand. In an odd scene almost out of the Keystone Cops, Judge White was arrested by the U.S. Marshal and jailed on a charge of violating Federal Election laws. The canvassing board met again and awarded the office to Samuel T. Day, the Republican candidate. Bloxham's career in politics received a life-long shot in the arm as the man deprived of office by a corrupt, Reconstruction, Republican canvassing board backed up by the might of a Republican controlled Federal machinery. Two years later he was nominated in a no-win race for the governorship. Like the loyal soldier he was, Bloxham put Party above self and suffered the defeat at the hands of Ossian Hart, one of the few native-born Floridians of rank in the Republican Party of the day.[14]

Forts, Ports, Canals, and Wars

During the trying times of the 1870s, Bloxham did everything his party could ask of him. He campaigned vigorously for each candidate from governor to county commission. Bloxham served on many community boards and was one of the incorporators of the Florida Agricultural College (not to be confused with FAMU). He was one of many Leon Countians to support the State Agricultural Fairs and expending state funds to send representatives to regional and national agricultural expositions. At nearly every opportunity, Bloxham attempted to promote his home state. When the election of 1876 came around, Bloxham and his allies had built up enough support to begin the overthrow of the Radical Reconstruction regime in Florida. In that election he strongly supported George Drew for Governor of Florida. When Drew won, he appointed Bloxham Secretary of State, an office that bears little resemblance to today's official of the same title.

By 1880, Bloxham had served his party well and was greatly deserving of the nomination for governor. Few in the state would refuse him the honor, but because of a misunderstanding (to put it mildly), Governor Drew felt that he had been betrayed. It was a signal of division in the regular Democratic ranks. For four years, the former governor stewed over the alleged slight, and when the next election came around, after a nearly brilliant term in office, Bloxham found himself facing a divided party again. At the next convention, he helped to remove himself and Drew from consideration, and the convention nominated Edward Perry for the office.[15] Thus a strong William D. Bloxham left office in 1884 with head held high and a willingness to serve once more in other capacities.

The new national administration of Grover Cleveland did not offer the former governor who had done so much to bring Florida back into the Democratic ranks much in the way of recognition. Many Florida Democrats felt the offer of a minor diplomatic post was an insult to the State and Bloxham wisely refused to go to South America as Counsul-General to the Republic of Bolivia. Instead he took the position as Surveyor General of Florida, which paid more but put him in direct touch with the Federal bureaucracy and the General Land Office (GLO). Bloxham began his tour in 1885 and had a steep learning curve to handle the job properly. This was also the time that Senator Wilkinson Call began his attacks on the Disston Purchase and the "land-grab" by the big railroads and settlement companies.

Although few have recognized this for what it was, it represents an indirect attack on Bloxham and those he helped to recruit to the state to further its development. Call was not above grabbing land himself, especially lands taken as homesteads by the freedmen. The former governor soon learned the ropes of the new position and again demonstrated a superior ability to manage his assigned responsibilities. The Surveyor-Generalship ended in 1888 and Bloxham briefly retired to his lands and the care of his wife, Mary. By this time they had lost both the playful Willie and the talented and popular Mattie (who died at the age of 19 while attending boarding school in 1883). His retirement did not last long.

Governor Francis Fleming, who helped to rejuvenate the moribund Florida Historical Society, tapped the ex-governor's administrative abilities to be the new Comptroller in 1890, succeeding W. D. Barnes who had accepted a judgeship. So efficient and honorable did he handle this delicate position that he was easily elected to the post in the next election in 1892. While in this post, he shifted the burden of paying for criminal prosecutions from the State to the county in which the crime was committed. He also pushed strongly for the payment of Confederate pensions by the State. These changes were instituted without a special enactment of the legislature, which would have made it part of the "organic law" of the State, but through administrative fiat. In the distribution of these pensions he was very frugal and their impact on the State budget was negligible. By 1896, the State was ready for another efficient administration and Bloxham was nominated unanimously. In 1896, nomination was tantamount to election for the Democratic nominee.[16]

Bloxham did have to meet one new problem in addition to reforming the convict lease system, attempting to slow down the lynching of African-Americans and establishing a new railroad commission. The one new problem was preparing the state, if anyone could, for the onslaught resulting from the coming war with Spain. As the titular head of the militia (read National Guard), Florida's weekend warriors held their last encampments before the war in Tallahassee. The local boys performed most of their duties well and the drills were often spectacular. However, one of the most poignant signs of trouble came with the sanitation report of the professional officers assigned to evaluate the troops' performance in camps like this throughout

the nation. In the last three encampments, Florida's soldiers scored miserably. Latrines were not maintained, water became contaminated, drinking water was not boiled, locations for the drinking water and cooking water were downhill from the "sinks," and generally the areas of troop encampments were not policed. Also, Florida's troops were not organized in divisions, so when the call came for a division of Florida troops to report to Tampa for possible active duty, eight of the twenty companies had to be let go to return home. The Naval Militia was also only recently organized an had no active craft of its own upon which to operate. The supply problems of the militia were in a mess with few units having enough tentage, few, if any cots and blankets, no uniform weapons (mostly those left over from the Civil War), and no regular provisioning system in place. Florida, like the rest of the nation, was in no way prepared to take on the Spanish Army in Cuba or anywhere else at this stage.

Governor Bloxham needed all of his energy to handle these and many other problems. The most annoying problem was the constant requests for appointments and reassignments. He also had to worry about the possible eruption of fighting in the streets of Tampa between Cuban partisans an Spaniards, many of whom owned cigar works employing Cuban and other cigar makers.[17] Bloxham was beset by demand for weapons to defend Florida's port cities, like Apalachicola and Miami where Fort Brickell was later established.[18] The sometimes bruised egos of would be commanders and their "forced" resignations did not assist the governor in his management of the State's war effort. Visiting dignitaries, like the fly through by Theodore Roosevelt and his Rough Riders, drew away some attention to the job at hand too. Although Florida's state and city governments tried their feeble best to assist the national war effort, too little appeared to be done, if the reporting of the day is to be believed. The high incidents of typhoid fever became a national scandal. The troops and the pampered reporters of the New York papers left a generally unfavorable impression about Florida. Added to all of this was the quick end of the war and the almost daily demands for the Army to be disbanded and mustered out of service. That this was a national, not a state issue seems to have been lost on many, and Bloxham received some criticism for his handling of these affairs. Yet, somehow, he got the state through this very traumatic time and back on track.

When Bloxham left office for the last time, he left the State in good financial shape, had delivered honest government, and had kept the State on even keel during the trying times of the Spanish-American War. He had not accomplished many reforms, and those that did pass were minor and not long lasting. Bloxham, even with his sympathies for African-Americans, did not buck the trends of the day in the matter of disenfranchisement. He did nothing to halt the institution of the restrictive measures that denied African-Americans their electoral and other rights. Segregation was the law of the day and he did little to change or challenge it. The 1890s were the times of the greatest number of lynchings of African-Americans in U. S. history. Although Bloxham was an outspoken critic of the violence against blacks, he could do little to halt the trend towards greater violence.

His last years were saddened in March of 1904 when his rock, Mary, suffered a paralytic stroke that sent her to her grave. All of Tallahassee was saddened by this event as she was one of the most hospitable and genuinely loving first ladies in Florida's long history. With no children and missing a wife, the last years would have been very lonely indeed, had he not continued the tradition of visiting the old Virginia home nearly every year and taking in the healthy springs. In the spring of 1907, the six foot, 175 pound, grey-haired ex-governor met someone who would spend the rest of his days with him. In that year he met and courted the lovely widow, Mrs. Gertrude Norvelle from Henderson, Texas. They were a nearly perfect couple despite their age difference. On September 19, 1907, Governor Bloxham married his new sweetheart in Salem, Virginia, at the home of the bride's cousin. On their return to Tallahassee, the couple was given a warm welcome by nearly everyone in the community. They enjoyed bridge parties, teas, and other rather mundane affairs of the community and took pride in their home. The Governor only enjoyed this brief bliss for four years and closed his eyes for the last time on the Ides of March, 1911.[19]

ENDNOTES:

1. See Kenneth R. Johnson. "The Administration of William Dunnington Bloxham, 1881-1885." M.A. Thesis, Florida State University, 1959. 49-75. This is a good, basic discussion of the problem. A reading of the Minutes of the Trustees of the Internal Improvement Fund, Volumes 2 and 3 give the official version of the injunction and actions of the Trustees, of which Bloxham was the head. Ruby Leach

Carson's underappreciated Doctoral dissertation, "William Dunnington Bloxham, Florida's Two-Term Governor," University of Florida, 1945, gives one of the best assessments of these transactions and Bloxham's pivotal role in them. The previous standard account is found in J.E. Dovell's, "The Railroads and Public Lands of Florida, 1879-1905." *Florida Historical Quarterly*. Vol. 34 (January, 1956): 236-258. Most later historians have built upon these basic works, mistakes or new information notwithstanding.

2. The best account of the drainage contract and the origins of che purchase is still, T. Frederick Davis, "The Disston Land Purchase." *Florida Historical Quarterly*. Vol. 1 (January, 1939): 200-218.
3. Mining Records for Pima and Cochise Counties Arizona, Arizona State Archives, Phoenix, Arizona. William Breckenridge, in his classic account of the era in Tombstone, *Helldorado*, noted chat Disston's partner, former Arizona Governor, Anson P. K. Safford, took over $300,000 in profit out from this deal. The average of around $20,000 per month was shipped from Tombstone to Philadelphia according to the letter books of Richard Gird, the mining engineer for that company found in the University of Arizona Library, Special Collections, Tuscon, Arizona. If Safford, one of the smaller share holders took out the figure given by Breckenridge, Disston's share surely topped the million dollar mark.
4. Joe Knetsch. "Hamilton Disston and the Development of Florida," in *Faces on the Frontier: Florida Surveyors and Developers in the 19th Century*. Cocoa, Florida: Florida Historical Society Press, 2005. 185- 206.
5. Trustees Minutes. Volume 3, 188.
6. For a good brief discussion of these related developments see William B. Stronge. *The Sunshine Economy: An Economic History of Florida Since the Civil War*. Gainesville: University Press of Florida, 2008. 27-54.
7. Carson. 1-21. Also see, J.B. Whitfield. "William Dunnington Bloxham." A paper read before the Tallahassee Historical Society, April 1934. *In Journal of the Senate: State of Florida: Twenty-fourth Regular Session, April 2nd to May 31st, 1935*. 30.
8. Whitfield is uncertain as to his educational background but Dr. Carson is certain on his attendance at this institution. Carson 21-24.
9. Ibid. 28-29.
10. Ibid. 29.
11. Whitfield. 30.
12. Carson. 30.
13. Carson 31-34 and Whitfield 31.
14. William T. Cash. *History of the Democratic Party in Florida*. Tallahassee: Florida Democratic Historical Foundation, 1936. 63-65. Also See Canter Brown, Jr. *Ossian, Bingley Hart: Florida's Loyalist Reconstruction Governor*. Baton Rouge: Louisiana State University Press, 1997. 238-270.
15. Edward C. Williamson. *Florida Politics in the Gilded Age, 1877-1893*. Gainesville: University of Florida Press, 1976. 67-143. Williamson gives a standard account of

the politics of the age but it is in need of revision since more information is now available.

16. Whitfield. 35-36. Carson and Williamson also have extensive discussions of this period.
17. Florida State Archives. Record Group 101. Series 578, Carton 15, File 7. Letter of April 16, 1898. Peter 0. Knight to Bloxham.
18. Florida State Archives. Record Group 101, Series 578, Carton 15, File 7. Letter of April 8, 1898. Governor's office to Judge Griggs. Also see Arva Moore Parks's "Fort Brickell", file copy at the South Florida History Museum.
19. Carson. 352-373.

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Dr. Joe Knetsch is the author of over two hundred articles and sixteen books, most of them concerning the state of Florida's historty. Three of these books involve the Seminole Wars and their impact on Florida's development. He is also a frequent reviewer of books on military history for the ***Journal of America's Military Past*** and authored regular articles for ***Professional Surveyor Magazine*** for over a decade. For twenty-eight years he served as the historian for the Division of State Lands in the Florida Department of Environmental Protection. Dr. Knetsch lives in Tallahassee with his wife Linda and is now retired.


FLORIDA
ALABAMA
MISSISSIPPI
MOBILE
TO NEW ORLEANS
TO MONTGOMERY
BIRMINGHAM
MONTGOMERY
CENTURY
BLACKWATER RIVER STATE FOREST
HIGHEST POINT IN FLORIDA
EL 345
CRESTVIEW
GRACEVILLE
CHIPLEY
PONCE DE LEON SPRINGS STATE REC AREA
DE FUNIAK SPRINGS
FALLING WATERS STATE REC AREA
PERDIDO
UNIV OF W. FLA
MILTON
PENSACOLA
ELGIN AIR FORCE BASE
VALPARAISO
INDIAN TEMPLE MOUND
NICEVILLE
FREEPORT
EDEN STATE GARDENS
WASHINGTON COUNTY KENNEL CLUB
EBRO
CHOCTAWHATCHEE BAY
FAIRHOPE
WARRINGTON
US NAVAL AVIATION MUS
PENSACOLA GREYHOUND TRACK
INTRACOASTAL WATERWAY
FT BARRANCAS
NAS
PENSACOLA BAY
SANTA ROSA ISLAND
NAVARRE BEACH
PENSACOLA BEACH
PENSACOLA LIGHTHOUSE
GULF BREEZE
FORT PICKENS
PERDIDO KEY STATE REC AREA
GULF ISLANDS NATIONAL SEASHORE
DAUPHIN IS
GULF SHORES
FORT WALTON BEACH
DESTIN
GRAYTON BEACH STATE REC AREA
SEASIDE
PANAMA CITY BEACH
MIRACLE STRIP AMUSEMENT PARK
SHIPWRECK ISLAND
ST ANDREWS STATE REC AREA
PANAMA CITY
TYNDALL AIR FORCE BASE
LYNN HAVEN
YOUNGSTOWN
CEDAR GROVE
SPRINGFIELD
CALLAWAY
DEAD LK
APALACHICOLA NATIONAL FOREST
APALACHICOLA
PORT ST JOE
HISTORIC DISTRICT
ST JOSEPH BAY
ST JOSEPH STATE PARK
CAPE SAN BLAS LIGHTHOUSE
EASTPOINT
ST VINCENT ISLAND
ST VINCENT NATL WILDLIFE REFUGE
APALACHICOLA BAY
CAPE ST GEORGE
CAPE ST GEORGE LIGHTHOUSE
ST GEORGE IS STATE PK
GULF OF MEXICO
TAMPA
"Buccaneers"
ST PETERSBURG
"Orioles", "Tampa Bay Lightning"
CLEARWATER
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REDINGTON BEACH
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SUNSHINE SKYWAY BRIDGE
EGMONT KEY LIGHTHOUSE
FORT DE SOTO
STOUFFER VINOY RESORT
HISTORIC
AIRPORT
LONGBOAT KEY
DE SOTO NATL MEM
MOTE MARINE AQUARIUM
SALVADOR DALI MUS
FLA MUS E BISHOP PLANETARIUM
THE PIER
MACDILL AIR FORCE BASE
SARASOTA
"White Sox"
BRADENTO
"Pirates"
MARIE SELBY BOTANICAL GDNS
SIESTA KEY
GAMBLE PLANTATION STATE HIST SITE
PARRISH
MANATEE VILLAGE HISTORICAL PK
SARASOTA JUNGLE GDNS
JOHN AND MABLE RINGLING MUSEUM OF ART
SARASOTA-BRADENTON AIRPORT
LK MANATEE STATE REC AREA
CASEY KEY
VENICE
ENGLEWOOD
MANASOTA KEY
MYAKKA RIVER STATE PK
NORTH PORT
WAUCHULA
SOLFO SPRINGS
PAYNES CK STATE HISTORIC SITE
ARCADIA
PUNTA GORDA
CHARLOTTE HARBOR
PINE IS
STUMP PASS
GASPARILLA IS
GASPARILLA IS LIGHTHOUSE
BOCA GRANDE LIGHTHOUSE
CAYO COSTA STATE PK
BABCOCK
WILDERNESS ADVENTURES
FISHERMAN
LOGGERHEAD KEY
DRY TORTUGAS
FORT JEFFERSON NATIONAL MONUMENT
MARQUESAS KEYS
KEY WEST NATIONAL WILDLIFE REFUGE
GULF OF MEXICO
KEY WEST LIGHTHOUSE MUS
AUDUBON HOUSE & GDNS
MEL FISHER MARITIME MUS
FT ZACHARY TAYLOR
KEY WEST AQUARIUM
MALLORY SQ PIER
CITY HALL
KEY WEST
CONCH TOUR TRAIN
WRECKERS MUS
HEMINGWAY HOUSE
SOUTHERNMOST PT
EL CHICO
E MARTELLO MUSEUM
KEY WEST NAVAL AIR STN
GREAT WHITE HERON NATL WILDLIFE REFUGE
BAT TOWER
PERKY
SUGARLOAF KEY
SUMMERLAND KEY
FLA KEYS NATL WILDLIFE REFUGE HDQTRS
BIG PINE KEY
NATL KEY DEER REFUGE
NO NAME KEY
BAHIA HONDA STATE PARK
BAHIA HONDA KEY
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ISLAMORADA
ALLIGATOR REEF LIGHTHOUSE
PLANTATION
TAVERNIER
KEY LARGO
KEY LARGO NATIONAL MARINE SANCTUARY
JOHN PENNEKAMP CORAL REEF STATE PARK
STRAITS OF FLORIDA
AFRICAN QUEEN
KEY LARGO RANGER STN
INTRACOASTAL WATERWAY
CROCODILE LK NATL WILDLIFE REFUGE
BISCAYNE NATIONAL PARK
CARYSFORT REEF LIGHTHOUSE
BOCA CHITA KEY
FOWEY ROCKS LIGHTHOUSE
CAPE FLORIDA LIGHTHOUSE
KEY BISCAYNE
VIRGINIA KEY
FISHER IS
BISCAYNE BAY
FLORIDA BAY
EVERGLADES NATIONAL PARK
FLAMINGO VISITOR CTR
WEST LK
LONG PINE KEY
ROYAL PALM VISITOR CENTER
PARROT JUNGLE & GARDENS
FAIRCHILD TROPICAL GARDEN
MIAMI MUS OF SCIENCE & SPACE TRANSIT PLANETARIUM
BILL BAGGS CAPE FLORIDA STATE REC AREA
MIAMI SEAQUARIUM
CHEKIKA STATE REC AREA
TEMPORARY MAIN VISITOR CTR
CORAL CASTLE
HOMESTEAD
MIAMI METROZOO
SHARK VALLEY INFORMATION CENTER
OBSERVATION TOWER
LOOP RD
OASIS RANGER STATION
PA-HAY-OKEE OVERLOOK
CAPE SABLE
WHITEWATER BAY
PONCE DE LEON BAY
FLAMINGO
MIAMI
"Florida Panthers", "Florida Marlins", "Miami Heat"
BISCAYNE BAY
BILTMORE HOTEL
UNIV OF MIAMI
MIAMI INTL AIRPORT
MIAMI INTL AIRPORT
ORANGE BOWL
FLORIDA'S TURNPIKE
CALDER RACE COURSE
FLAMINGO GARDENS
JOE ROBBIE STADIUM
"Miami Dolphins"
HIALEAH
HIALEAH PARK RACE TRACK
NORTH MIAMI
MONASTERY OF ST BERNARDS DE CLAIRVAUX
HOLLYWOOD DOG TRACK
FT LAUDERDALE
HOLLYWOOD
FREEDOM TWR
BAYSIDE MARKETPLACE
BARRY UNIV
FLORIDA INTL UNIV
GULF STREAM RACEWAY
BAYFRONT PARK
SURFSIDE
BAL HARBOUR
BOARDWALK
ART DECO DISTRICT
MIAMI BEACH
EVERGLADES PARKWAY
SAWGRASS RECREATION PK
MICCOSUKEE INDIAN RESERVATION
BIG CYPRESS NATIONAL PRESERVE
BIG CYPRESS SEMINOLE INDIAN RESERVATION
OKALOOSKEE
EVERGLADES CITY
CARNESTOWN
COPELAND
JEROME
IMMOKALEE
MILES CITY
CLEWISTON
LAKE HARBOR
BEAN CITY
LA BELLE
LAKE OKEECHOBEE
MOORE HAVEN
PALMDALE
BRIGHTON SEMINOLE INDIAN RESERVATION
FAKAHATCHEE STRAND STATE PRESERVE
CAPE ROMANO
TEN THOUSAND ISLANDS
GULF COAST VISITOR CTR
MARCO ISLAND
NAPLES
DOCTOR'S PASS
TIN CITY
COLLIER AUTOMOTIVE MUSEUM
COLLIER COUNTY MUSEUM
COLLIER-SEMINOLE STATE PARK
VILLAGE OF VENETIAN BAY
NAPLES GREYHOUND TRACK
BONITA SPRINGS
KORESHAN STATE HISTORIC SITE
ESTERO
LOVERS KEY STATE REC AREA
VANDERBILT BEACH
FT MYERS BEACH
SANIBEL IS LIGHTHOUSE
DARLING NAT'L WILDLIFE REFUGE
SANIBEL ISLAND
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Florida Surveying and Mapping Society

Florida Surveying and Mapping Continuing Education Provider
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- ☐ Basics of Real Property #10501
- ☐ Digital Signatures for Surveyors #8491 Updated Course
- ☐ Easements and Rights of Ways #9945
- ☐ Introduction to Photogrammetry #7887
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- ☐ Chapter 177, Platting (Plat Law) #6970
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- ☐ Elevation Certificates and the Community Rating System #10628
- ☐ Ethics for the Design Professional #8620
- ☐ Florida Surveying and Mapping Laws #10630
- ☐ Geographic Information Systems (GIS) #7107
- ☐ History of Surveying #7108
- ☐ Identification of Native and Non-Native Trees in Florida #7874
- ☐ Land Tenure and Cadastral Systems #7829
- ☐ Map Projections and Coordinate Datums #10626
- ☐ Practical Geometry for Surveyors #7109
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FSMS Correspondence Courses

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MAILED					
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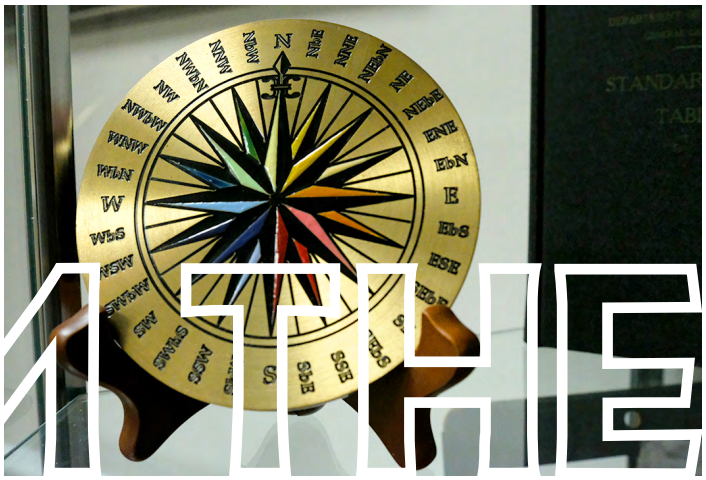
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BOUNDARIES AND LANDMARKS

A PRACTICAL MANUAL

BY

A. C. MULFORD

NEW YORK

D. VAN NOSTRAND COMPANY

25 Park Place

1912

Boundaries and Landmarks

Chapter XIII.

RE-RUNNING OLD HIGHWAY RECORDS

The actual process of "running out" an old road record is even more difficult in practice than it is in theory. No actual rules can be given, but some general suggestions may be helpful. It will readily be seen that in the case of a road several miles in length, even though the starting point can be exactly found, an error of one minute in the direction of the first course will produce an enormous departure at the end of the run. When one also takes into consideration that the original survey was probably run with a compass and that no attempt was made in most cases to read more closely than quarter degrees, it will be seen that all hope of exact re-location by instrumental methods only must be abandoned at once.

If the surveyor has been so fortunate as to be able to locate the starting point and compute the variation of the compass, what is the next step after running and marking the first course? Shall the succeeding courses be run by the needle or shall they be located by turning off deflection angles? Theoretically it seems to me that the former is the better method, since by it one may probably put oneself more nearly under the conditions under which the original surveyor worked. In actual practice it has been found that better results have been obtained by turning off the deflection angles. Let the second course, then, be turned off and run according to the record and the end of it marked. The succeeding courses are to be run in the same manner until the next landmark is reached, unless there is good reason to believe that the work is going seriously wrong. It is very seldom, however, that the newly surveyed line is found to have exactly the same relations to the landmarks that the record demands. If the error of direction is large perhaps the simplest way is to make some effort to approximate the angular correction necessary, after which the courses

may be re-run. It should be borne in mind that during all this process most careful account should be taken of all things that may help to throw light on the problem. Marks on trees along the sides of the road, the position of ancient lines of possession, the testimony of adjoiners and the descriptions contained in their deeds are all possible valuable sources of information which must not be slighted.

It sometimes happens that both ends of some important course are described with such detail with reference to their direction and distance from the corners of buildings still standing that it is possible to locate this course immediately. When this condition exists the first running of the courses will probably approximate closely to the original line of survey. Yet even in this case the final location of the line must in all probability be based on common-sense conclusions drawn from a study of all the evidence obtainable.

The surveyor will be aided in reaching these conclusions by remembering the three following generalities which are well substantiated by fact.

1. That the original record, while an invaluable general guide, is only approximately accurate.

2. That in old roads the record was originally made in accordance with the main lines of possession then existing, and that such lines of possession as were at variance with the newly recorded road were probably moved into their proper position at an early date.

3. That the stations of the original survey — the points where the course changed — were very frequently exactly at those points where the road was intersected by the cross fences between adjoining properties.

The previous suggestions apply more especially to finding the *approximate* position of the line of the old record. When this approximate position has been found — a position for the line where

it agrees fairly well with the record and the sum total of the evidence obtainable. The following method has been found to be excellent for getting it into its final and most nearly accurate location. Mark each station with a stake if possible — if not, with a spike well driven down — and take sufficient ties to every station so that its exact location can be found again without fail. Make an accurate traverse of the courses thus marked and determine carefully the direction and distance from the most convenient stations to every landmark which can be identified and to every point whose position must be known. These notes should then be plotted in the office on a large sheet of paper on which should also be drawn two rectangular axes — one running north and south and one east and west — conveniently placed. Next every coordinate point in the survey with reference to these axes should be computed and properly noted on the drawing. The next thing is to determine by careful study how far and in what direction the surveyed line must be moved in order to bring it as nearly as possible into the same relation with the landmarks as that shown by the record. Valuable suggestions are often obtained by plotting both the new survey and the old record on separate pieces of tracing paper and superimposing them.

Having determined upon the amount which the new line must be moved in order to bring it into its proper relation to the landmarks, compute new coordinates for each of its stations in the new position. It is then a simple matter to compute the direction and distance for each station from the stake left in the road to the point which the station must finally occupy. It should be noted that the principle of coordinates is of universal application. By far the greater part of the old road records describe the survey of the center line and the distance from the center line of the side lines. The coordinates of these center-line stations, either approximate or real, being known, it is manifestly easy to compute the distance and direction to any point on the outer boundaries of the road and also to determine the relation of any point on these lines to any building or obstruction, the position of which is in question. Familiarity with this method of computation cannot be too strenuously urged.

While the great majority of country-road records give the description by the center line, there are a few which describe one of the side lines instead. These are most easily handled by computing from the record of the side line what the center line would be and then running out this center line. You undoubtedly will find that in all cases it is thoroughly profitable to plot the old record with all its landmarks on paper before going into the field. It frequently happens that past masters of highways were not past masters of the English language, and many old records are exceedingly complicated and confused in their wording. If the interpretation is carefully worked out step by step and transferred to paper in actual lines and points the meaning usually becomes perfectly clear. A blueprint of this drawing is a most useful thing when it comes to the actual outdoor work.

It sometimes happens that in searching the records for the description of a particular road it is difficult to identify that record when found. If, then, the record believed to be the correct one be plotted on paper and the resulting map be compared with the map of the desired road as shown on the State Atlas Sheets or some other reliable chart, it is usually very easy to decide whether further search is necessary.•

Past Presidents



1956 - 1957
H.O. Peters



1957 - 1958
Harry C. Schwebke



1958 - 1959
John P. Goggin



1959 - 1960
R.H. Jones



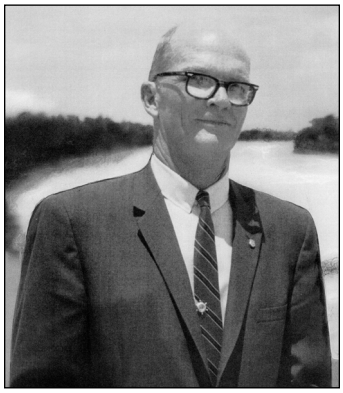
1960 - 1961
Hugh A. Binyon



1961 - 1962
Russell H. DeGrove



1962 - 1963
Perry C. McGriff



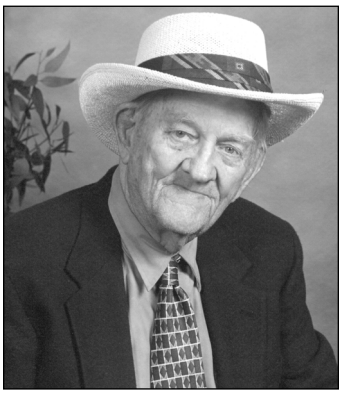
1963 - 1964
Carl E. Johnson



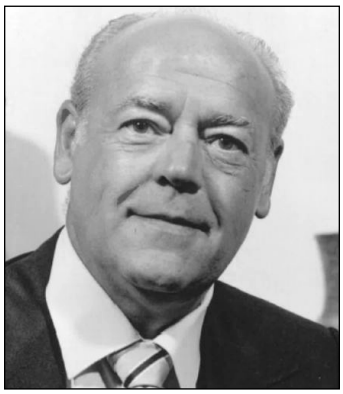
1964 - 1965
James A. Thigpenn, III



1965 - 1966
Harold A. Schuler, Jr.



1966 - 1967
Shields E. Clark



1967 - 1968
Maurice E. Berry

Past Presidents



1968 - 1969
William C. Hart



1969 - 1970
Frank R. Shilling, Jr.



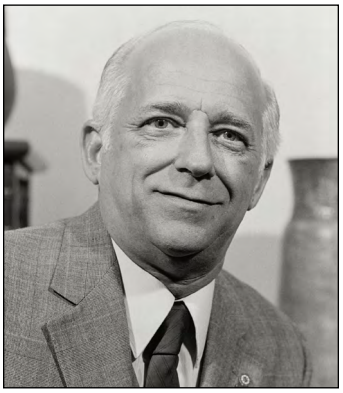
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William V. Keith



1971 - 1972
James M. King



1972 - 1973
Broward P. Davis



1973 - 1974
E.R. (Ed) Brownell



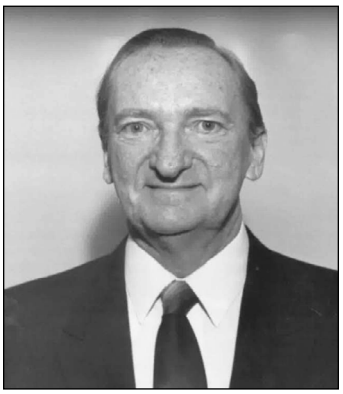
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E.W. (Gene) Stoner



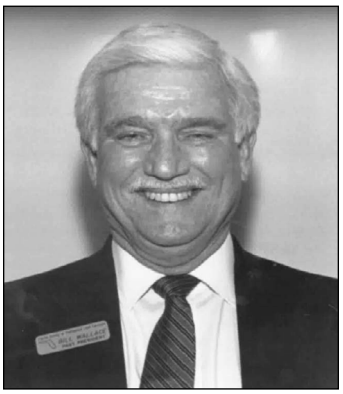
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Lewis H. Kent



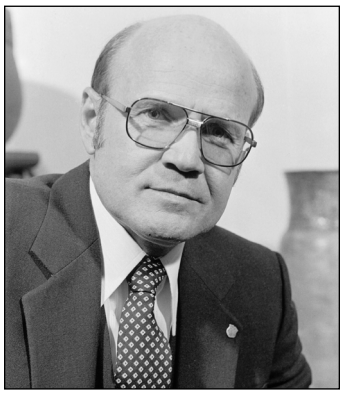
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Robert S. Harris



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Paul T. O'Hargan

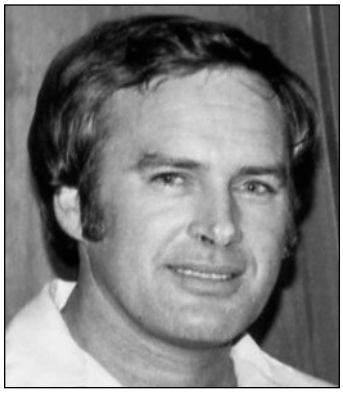


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William G. Wallace, Jr.



1979 -1980
Robert W. Wigglesworth

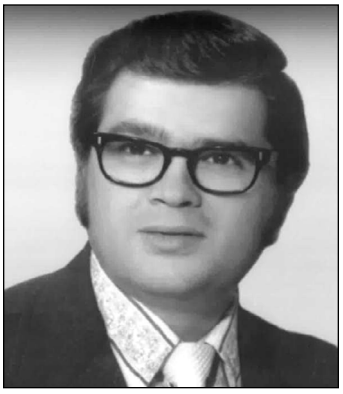
Past Presidents



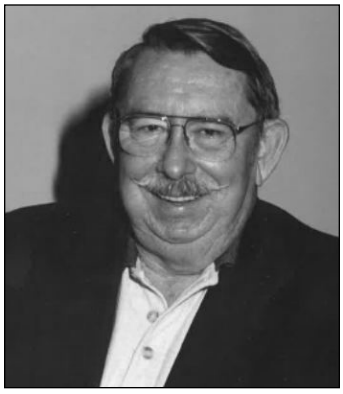
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Ben P. Blackburn



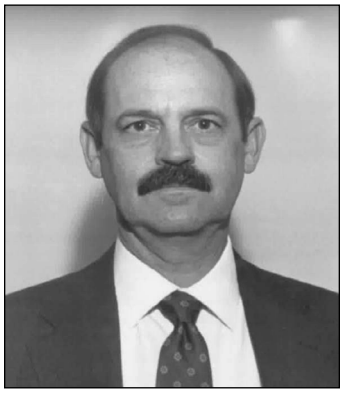
1981 - 1982
William B. Thompson, III



1982 - 1983
John R. Gargis



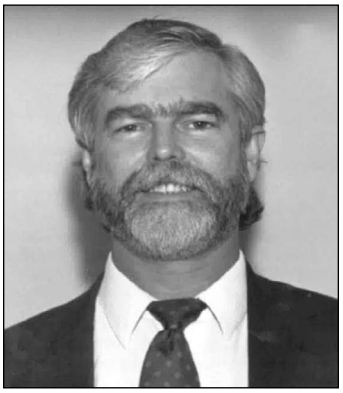
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Robert A. Bannerman



1984 - 1985
Buell H. Harper



1985 - 1986
H. Bruce Durden



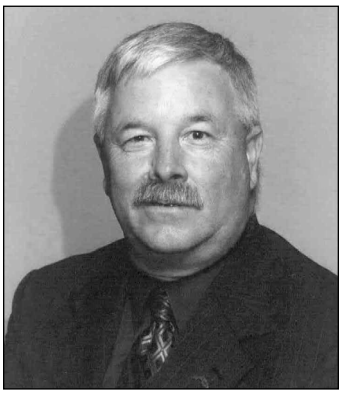
1986 - 1987
Jan L. Skipper



1987 - 1988
Stephen M. Woods



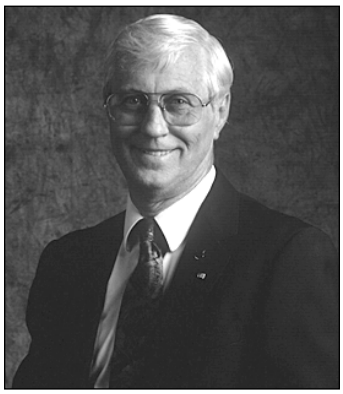
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Stephen G. Vrabel



1989 - 1990
W. Lamar Evers

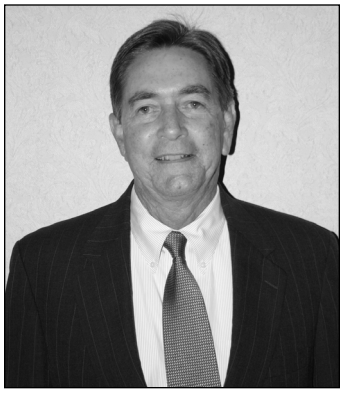


1990 - 1991
Joseph S. Boggs



1991 - 1992
Robert L. Graham

Past Presidents



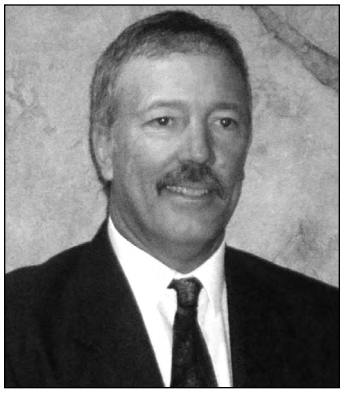
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Nicholas D. Miller



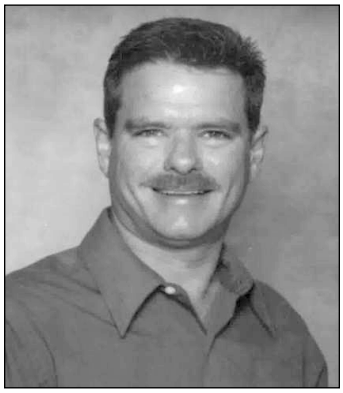
1993 - 1994
Loren E. Mercer



1994 - 1995
Kent Green



1994 - 1995
Robert D. Cross



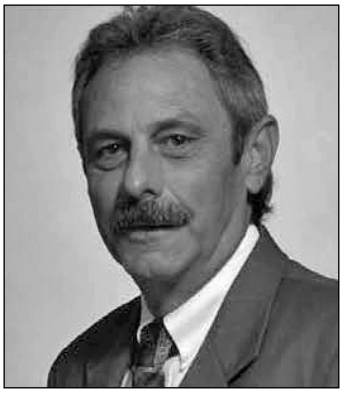
1995 - 1996
Thomas L. Conner



1996 - 1997
Gordon R. Niles, Jr.



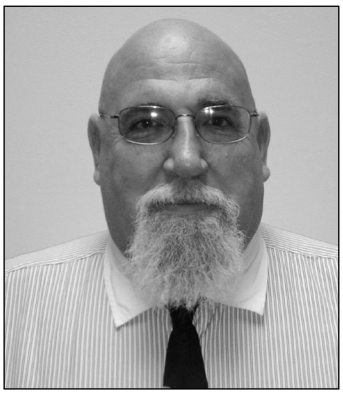
1997 - 1998
Dennis E. Blankenship



1998 - 1999
W. Lanier Mathews, II



1999 - 2000
Jack Breed



2000 - 2001
Arthur A. Mastronicola



2001 - 2002
Michael H. Maxwell



2002 - 2003
John M. Clyatt

Past Presidents



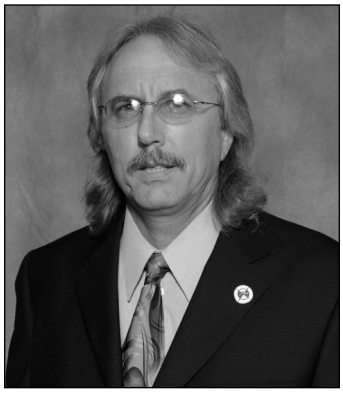
2003 - 2004
David W. Schryver



2004 - 2005
Stephen M. Gordon



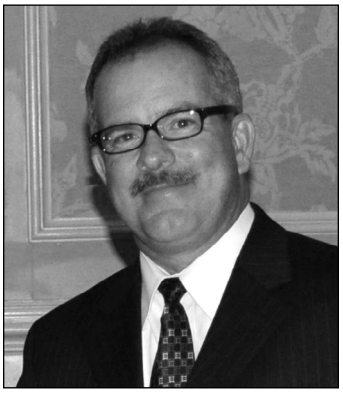
2005 - 2006
Richard G. Powell



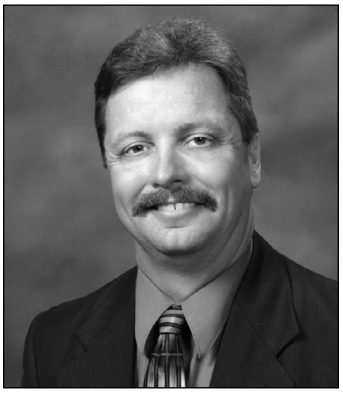
2006 - 2007
Michael J. Whitling



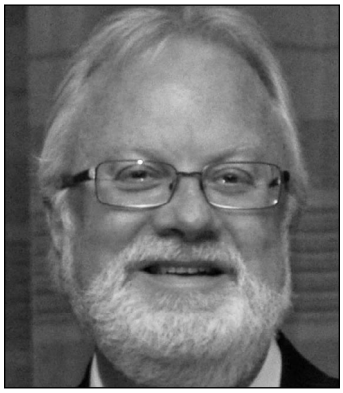
2007 - 2008
Robert W. Jackson, Jr.



2008 - 2009
Pablo Ferrari



2009 - 2010
Steve Stinson



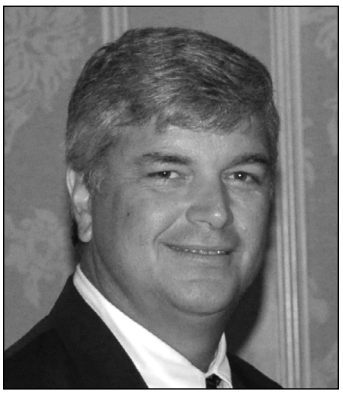
2010 - 2011
Dan Ferrans



2011 - 2012
Jeremiah Slaymaker



2012 - 2013
Ken Glass



2013 - 2014
Russell Hyatt

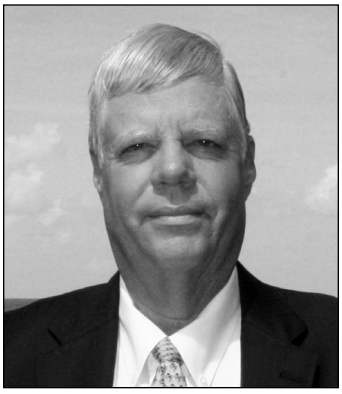


2014 - 2015
William Rowe

Past Presidents



2015 - 2016
Dale Bradshaw



2016 - 2017
Lou Campanile, Jr.



2017 - 2018
Robert Strayer, Jr.



2018 - 2019
Dianne Collins



2019 - 2020
Don Elder



2020 - 2021
Hal Peters



2021 - 2022
Lou Campanile, Jr.



2022 - 2024
Howard Ehmke



2024 - 2025
Richard Pryce

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director@fsms.org



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Cathy Campanile
seminolecc84@gmail.com

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- Basics of Real Property
- Map Projections and Coordinate Datums
- Elevation Certificates and the Community Rating System
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