

Palm Beach Branch QUARTERLY

2023 | Q3

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PRESIDENT'S MESSAGE:

Hello ASCE Palm Beach Branch,

This will be my last message as Branch President as elections are right around the corner and I'll be moving into the Past President position. This year the Board worked hard to hold continuing education, social, and volunteer events for all of our members, and I am confident that the Branch will continue to provide those opportunities for you to stay involved.

In the last months, we had great speakers talk to us about generative AI in civil engineering, geosynthetic concrete composite mats and a comprehensive Flood Level of Service study for Miami-Dade County. Our members were very engaged during these presentations and asked many questions.

In July, Branch members participated in the annual ASCE Florida Conference in Orlando, FL and our annual Bowl-A-Thon. We held our annual Bowl-A-Thon to raise funds for the FAU Concrete Canoe Team. Thanks to all the bowlers and our Gold and Silver sponsors: Chen Moore and Associates, Kimley Horn, Stantec, Scalar, Engenuity Group and UES, we raised over \$1,500!

The Branch also led multiple K-12 STEM activities at Rohi's Readery. For the August activity we talked about rain and created a rain cloud in a jar using shaving cream and food coloring. Jim Sullivan from BGE led the September STEM activity where participants were able to build a gum drop dome.

Please lookout for upcoming luncheons, social events and volunteering. Let us know which activity you can help out with!

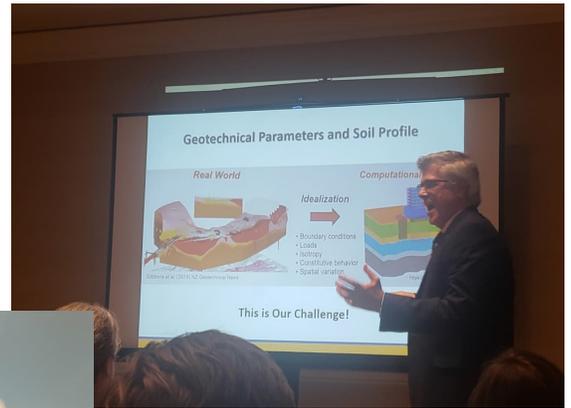
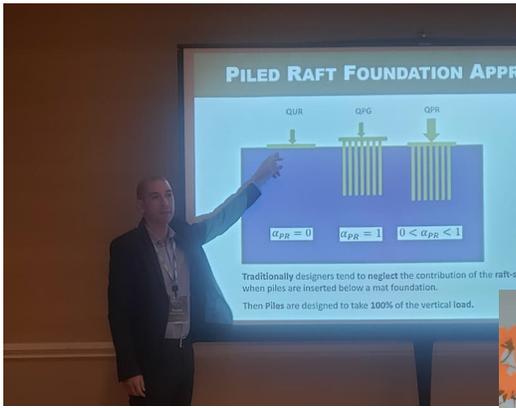
Sincerely,



Phoebe Cuevas Molina, PE
President, ASCE Palm Beach Branch

2023 ASCE FLORIDA CONFERENCE

ASCE Florida hosted this year's conference in Orlando, FL. Branch President Phoebe Cuevas Molina from Erdman Anthony, Branch Vice-President Justin Tagle from Chen Moore and Associates, and several Branch members attended the conference. Branch member Raydel Lorenzo Reinaldo from Pennoni gave a geotechnical presentation titled Piled Raft Foundations. Branch and Life Member José Gómez from PSI Intertek also gave a geotechnical presentation. His presentation was on deep vault excavations. Our Branch Vice-President Justin Tagle presented 'Flood Protection Level of Service for Miami-Dade County' for the water resources track attendees. Our middle school and high school 2023 Bridge Competition winners participated in the ASCE Bridge Florida design competition.



BOWL-A-THON 2023

Our yearly Bowl-A-Thon is a fundraiser for the FAU Concrete Canoe Team. This year's event was held at Penny Lanes in Delray Beach, FL on July 22nd, 2023. We all had a great time bowling, enjoying some food and drinks and participating in the raffle. The winning bowling team was from Kimley-Horn. Thank you to our Gold Sponsors: Chen Moore and Associates, Kimley-Horn, Stantec and Scalar, and our Silver Sponsors: Engenuity Group and UES. This year we raised over \$1,500!



BOWL-A-THON 2023



MONTHLY LUNCHEONS: LOCATION REMINDER

We are holding our monthly luncheons in person at the SWA Multi-purpose building, on the second Tuesday of the month. Please see below for how to enter from High Ridge Rd. We look forward to seeing you at our next luncheon!



HARNESSING THE POWER OF GENERATIVE AI

Dr. Aneesh Goly, President of Smart Structures, spoke about the transformative world of generative Artificial Intelligence (AI) and its wide-reaching implications for the architectural, engineering, and construction (AEC) industry. Dr. Goly discussed how generative AI technologies such as text generation, image manipulation, and code generation are reshaping our approach to AEC projects. Practical applications of generative AI enable professionals to streamline workflows, enhance creativity, and optimize decision-making. We viewed the features and capabilities of cutting-edge platforms and tools, such as SmartCompose.AI, Hypar Explore, and Spacemaker AI, which empower professionals to generate multi-modal content, automate repetitive tasks, and unlock new design possibilities. Dr. Goly also discussed best practices for responsible AI implementation, and the importance of collaboration and knowledge sharing in driving innovation and ensuring the ethical use of these powerful technologies.



Speaker Bio: Dr. Aneesh Goly is a seasoned professional and thought leader at the intersection of Civil Engineering, Smart Infrastructure, and Artificial Intelligence (AI). With a Ph.D. in Civil Engineering, he has extensively applied his academic insights to transform traditional civil engineering practices with technology, resulting in smarter, more resilient, and sustainable infrastructural systems. Dr. Goly's innovative work has centered on leveraging technology for generative design, predictive maintenance, and structural health monitoring, which has significantly contributed to the creation of intelligent infrastructure systems. His passion and commitment towards smart infrastructure and AI have led him to be a pioneer in the field, guiding his teams towards creating solutions that define the future of smart cities. As a thought leader, he is frequently sought after for his keen insights and visionary outlook. His work continues to inspire a new generation of engineers to envision a future where smart infrastructure and AI converge to create sustainable, efficient, and resilient infrastructure.

BUILD TO LAST: INNOVATIONS IN HARD ARMOR FOR EROSION CONTROL & CONTAINMENT USING GEOSYNTHETIC CONCRETE COMPOSITE MATS (GCCMS)

Melanie Fuhrman from Concrete Canvas presented a revolutionary new technology that is included in the classification of materials called Geosynthetic Cementitious Composite Mats (GCCMs). It is a thin, flexible, concrete filled, geosynthetic that hardens upon hydration. Essentially, it is concrete on a roll. Benefits of GCCMs include rapid and easy installation, lower project costs, and it is eco-friendly when compared to traditional construction methods like CIP concrete, shotcrete, concrete filled mattresses and others. The CC product is intended for use in Channel lining, Slope protection, Bund lining, weed suppression, and many other applications. Ms. Fuhrman also shared testing and ASTM standards associated with this category of materials, reviewed installation guidelines, and shared multiple case studies.



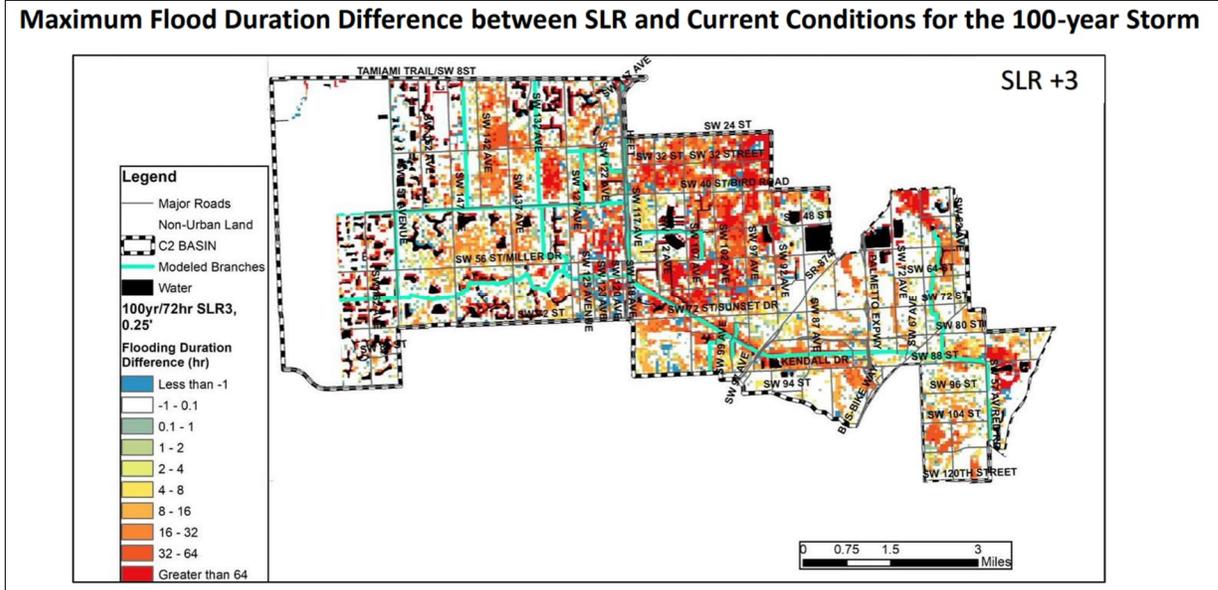
Speaker Bio: Melanie Fuhrman has been in the geosynthetic and erosion control business for over 25 years. She holds a Bachelor of Science degree from Virginia Tech in Civil Engineering and a Master of Business from Liberty University. She began her work as a stormwater engineer at Anderson & Associates in Blacksburg, VA before moving into the construction industry as a project manager and then later working with clients in education of total site management for erosion control. Currently, she is the General Manager for Concrete Canvas USA. Melanie is a board member of the Mid-Atlantic International Erosion Control Association, chapter and President of the non-profit organization Team T for Leukemia Awareness. Melanie also has served as a mentor for women in the STEM program at her local community college.

FLOOD PROTECTION LEVEL OF SERVICE FOR MIAMI-DADE COUNTY

Justin Tagle and Brent Whitfield from Chen Moore discussed how the South Florida Water Management District is conducting a system-wide review of the regional water management infrastructure to determine the flood protection level of service (FPLOS) being provided by existing infrastructure under current and future conditions. The FPLOS describes the amount of protection provided by the water management facilities within a watershed considering sea level rise (SLR), future development, and known water management issues in each watershed. Notably, the SLR scenarios will also consider associated changes in groundwater levels and land-use changes.

This project involves preparing a FPLOS analysis for the roughly 200 square mile area in central Miami-Dade County defined as the C2, C3W, C4, C5 and C6 watersheds. This effort involves developing a calibrated and validated hydrologic and hydraulic (H&H) model of the subject watersheds. The subject region includes a significant extent of flood protection infrastructure including an extensive primary canal network with District owned and operated control structures throughout the highly managed system.

Maximum Flood Duration Difference between SLR and Current Conditions for the 100-year Storm



Speaker Bio: Justin Tagle currently works as a Project Engineer at Chen Moore and Associates. He earned his B.S. and M.S. in Civil Engineering from the University of Florida (UF) and is currently pursuing his PhD from Florida Atlantic University. During his time at UF he won the Outstanding Service and Leadership award from the UF College of Civil and Environmental Engineering. Since graduation, Justin has volunteered at Path to College, mentoring high achieving, low-income high schoolers around Palm Beach County. He also serves as the Vice President for the ASCE Palm Beach Branch and the Social Media Chair for Florida ASCE State Section. At Chen Moore and Associates Justin works on various hydraulic and hydrologic models, stormwater design, and utility design and construction.

Speaker Bio: Brent Whitfield has been a pillar of the Florida engineering community for many years. He has served as president of the ASCE Palm Beach Branch from 2016 to 2017, Vice President for District I for ASCE Florida Section, and is the current Legislative Breakfast chair for the ASCE Palm Beach Branch. Under his leadership, the ASCE Palm Beach Branch won the ASCE Florida Branch of the Year award in 2016, and he personally won the ASCE Florida Engineer of the Year award in 2018.



Separate from society involvement, Mr. Whitfield has been a licensed civil engineer in the State of Florida and has over 15 years of professional experience and has worked for a variety of public sector clients including several municipalities, utilities, airports and the SFWMD. He currently serves as the Director of Water Resources for Chen Moore and Associates in the West Palm Beach office.

2023 ENGINEERS IN GOVERNMENT NIGHT



Denise Palmatier, P.E.
Engineer of the Year



Vijay Mishra, P.E.
Government Engineer
of the Year



Nitesh Goli, E.I.
Young Engineer of the
Year



STA-3/4 Cell 1A, 2A, and 3A
Inflow Energy Dissipators
Project of the Year



Clematis Streetscapes
Sustainable Project of the
Year



Engenuity Group, Inc.
Employer of the Year



2023 EIGN Award Winners

YOUNG MEMBER LEADERS PRESENTATIONS

**We are looking for presenters for our future
Young Member Leaders Presentation Series!
Interested in presenting?**

**Javi Marrero
Javieris.Marrero@kimley-horn.com**



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CITY OF LAKE WORTH BEACH

JOB POSTING

ENGINEER – WATER UTILITY

City of Lake Worth Beach Florida, Lake Worth Beach, FL, US

This is a Full-Time, Exempt position with an annual salary of \$82,000.00 - \$110,000.00. The individual in this position will work at the Water Treatment Plant located at 301 College Street, Lake Worth Beach, FL 33460.

In addition, this position offers:

- Vacation and Sick Leave Accruals
- 14 Paid Holidays
- City of Lake Worth Beach Medical Benefits that include Life Insurance, Dental and Vision coverage Retirement Plan

SUMMARY:

As a Licensed Professional Engineer (PE), the employee will perform independent professional and technical engineering work requiring application of standard engineering principles and procedures independently, perform complex engineering work requiring application of standard techniques, procedures, and criteria in carrying out a sequence of related engineering tasks. Exercise judgment in decision making related to the selection of engineering techniques, alternatives, procedures, and criteria. Thorough knowledge of engineering principles, procedures, and practices applied in planning, location, design, construction, and operation in water, wastewater and stormwater, as well as appropriate industry standards (e.g., environmental, state and county permitting, etc) and regulatory requirements.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

Reviews plans for contracted improvement projects by consulting engineering firms.

- Prepares engineering analyses of some difficulty and prepares specifications, process studies, research investigations, and reports.
- Coordinates new utility service and installations with developers, engineers and property owners.
- Responds to utility availability requests and easement consent form requests
- Reviews site plan submittals for water, sewer and drainage compliance, and attends Site Plan Review Committee meetings and development pre-application meetings.
- Reviews building and right of way permits for water, sewer and drainage compliance.
- Coordinates utility conflicts with other agencies, including Palm Beach County, FPU, AT&T and other municipalities as well as other City of Lake Worth Beach Departments.
- Coordinates compliance of current water use permit and future water use plan with South Florida Water Management District.
- Maintains Water and Sewer Approved Products List, and evaluates submittals from vendors for consideration.
- Coordinates all system changes and improvements with GIS department, and updates water and sewer utilities information and projects for website.
- Assists with development of department policies, procedures and design standards
- Evaluates Water Production, Water Treatment, Water Distribution, Regional Sewer, Local Sewer Collection, Local Sewer Pumping, Stormwater Collection and Stormwater Treatment systems for adequacy and long term goals and objectives.
- Inspects construction work in progress to determine whether proper materials, safety provisions and workmanship are used and compliance with plans and specifications.
- Assists with the development and implementation of the Water Utility Emergency Management Plan and serves as essential staff.
- Personal contacts include other engineering personnel, customers, contractors, and suppliers requiring the cultivation and maintenance of effective business relationships.

CITY OF LAKE WORTH BEACH

JOB POSTINGS

(cont'd)

- Assists in representing organization interests to a variety of outside groups.
- Assists in preparing departmental budget estimates by assembling and preparing data, reports, and cost estimates.
- Performs other duties as assigned.
- Administratively manage small to medium sized capital improvement design and construction projects for water, sewer and stormwater infrastructure.
- Maintain the water utilities hydraulic water, sewer and stormwater models.
Requires negotiating skills and diplomacy.

Complexity and Magnitude of Assignments

Perform assignments, which involve design plans, investigations, process studies, specifications, surveys, structures, or equipment with increasingly more complex features and aspects.

Written and Verbal Communication Skills

Write effective letters and reports, responses to regulatory agencies with associated documentation and complete basic forms. Independently research and prepare reports. Be capable of persuasive written and verbal arguments. Speak effectively in one-on-one situations and to small groups.

Continuing Education and Development

Maintain currency in assigned engineering discipline, regulatory and other related knowledge by reviewing industry standards and innovations.

EDUCATION AND EXPERIENCE:

Bachelor of Science in Civil, Environmental, Mechanical or Chemical Engineering degree from an Accreditation Board for Engineering and Technology (ABET) accredited educational institution. Minimum 5 years applicable engineering work experience.

COMPUTER SKILLS:

Apply basic computer skills (Microsoft Office Suite) and ability to produce the following: AutoCad Drawings, Basic GIS Maps, PowerPoint Presentations, Technical Reports, Letters/ Public Notices, Excel spreadsheets of varying complexity.

CERTIFICATIONS AND LICENSES:

Valid Florida driver's license

PE: Professional Engineer license in the State of Florida.

FEMA NIMS Certifications in 100, 200, 300, 400, 700 and 800 (may be completed at start of employment)

Apply online: www.lakeworthbeachfl.gov click on "Jobs"

CHEN MOORE AND ASSOCIATES



CAREER OPPORTUNITIES



Chen Moore and Associates, Inc. (CMA) has employment opportunities for civil engineering staff in our West Palm Beach office. Candidates should be able to efficiently plan and organize workload, demonstrate success working with a team of professionals, a commitment to quality, good communication skills, and a positive work ethic. The engineer(s) will work in the design team for a variety of infrastructure improvement projects.



NOW HIRING

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- Senior Civil Engineer/Project Manager

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INTERESTED OR NEED MORE INFORMATION?
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2022-2023 PALM BEACH BRANCH BOARD



Pictured left to right: Tzufit Boyle (ASCE Florida Section Past President) Phoebe Cuevas Molina (President), Justin Tagle (Vice President), Kaitlin Townsend (Treasurer), and Cristina Caceres (Secretary).

2022-2023 Branch Officers

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Please verify/update your
mailing/email
information with

ASCE National
Headquarters

at

1-800-548-2723 (ASCE)

or

[http://www.asce.org/
membership](http://www.asce.org/membership)

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