

2020 - 2021 Branch Board

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Congratulations 2020 Award Winners!

Congratulations to this year's ASCE North Jersey Branch Award Winners. On October 22, the Branch held an online event to recognize this year's honorees and was able to provide 1 PDH for presentations by the Project of the Year winners. Please join us in celebrating the accomplishments of our award winners. Biographies of our individual award winners, and summaries of the projects recognized below, are included on pgs 6-9 of the newsletter.



Civil Engineer of the Year

Lisa DiGerolamo, PE
PS&S



Government Engineer of the Year

Lamis Malak, PE
NJ Turnpike Authority



Young Civil Engineer of the Year

Jay Rana, PE
HNTB Corporation



Educator of the Year

Matthew Bandelt, Ph.D., PE
New Jersey Institute of Technology



Project of the Year

Washington Street Redesign
Owner: City of Hoboken
Designer: T&M Associates



Project of the Year - Honorable Mention

Bloomfield Ave Bridge (CR 506) over NJ Transit
Owner: NJ Department of Transportation
Facility Owner: NJ TRANSIT
Designer: Dewberry
Contractor: IEW

Read more on pgs 6-9

A Message from the President

Fellow North Jersey Branch Members,

Greetings, as your new Branch president. I have big shoes to fill with the excellent leadership and focus of our outgoing president, Laura Hazen. As I noted in my inaugural speech, none of us were expecting the challenges that 2020 has brought us, and we are all adapting to the times. I am grateful for the good attendance that we have had at our first two events of the fall, especially since we have had to move them from the typical networking event over dinner to the compressed timeframe of the lunch hour. The Board will continue to be flexible and adhere by all State regulations and guidelines, guidance from the national governance of ASCE, and best health practices. We are open to feedback and will continue to work to provide you PDH-accredited content while investigating networking opportunities and other events that can be held safely.

At our first event since March and our first virtual event ever, over 60 people registered for the Professional Issues Technical Group webinar on September 30, providing an update on Terminal 1 construction at Newark Liberty International Airport. We then had our annual Awards Ceremony on October 22, again with over 60 people registered. You will see the honorees listed in this newsletter. I wish that we could have had our usual dinner time and extended evening to fully celebrate all of our award winners, scholarship winners, and life members. This newsletter, at least, provides lasting recognition of their deserving accomplishments, and I hope that all of you who know these people in your professional or personal realms will reach out and offer your personal congratulations as well. Finally, our Utility Engineering and Surveying Institute held a GLWA Water Research Foundation Pilot Program webinar on November 4.

We will continue to hold our full technical calendar this year, and we have our fingers crossed that by the end of the season, we will be able to have in-person events again, culminating in our annual Construction Technical Group site visit that I know we all look forward to. We will see what we can do to replace our annual softball tournament that we were unable to hold in September. That event has traditionally been our scholarship fundraiser. Scholarships are vital to encouraging high school and college students to continue their studies in the realm of civil engineering. The winners are among the best and brightest who will represent our industry's future, so we will look to do whatever we can to continue to support the next generation of civil engineers. On that note, I will again remind and encourage our member companies to please purchase sponsorships for the 2020-2021 year. We are only able to deliver PDHs, professional events, and networking events thanks to your support.

In closing, I look forward to seeing you at our upcoming events by our technical groups and Institutes. I look forward to resuming our Structural Engineering Institute and Geotechnical Technical Group half-day seminars. I look forward to any and all opportunities to engaging our K-12 and college students in all that ASCE can offer. And, most of all, I look forward to networking with my peers and mentors in the North Jersey Branch. So I will repeat here that we continue to look for ways to improve how we deliver our resources and content this year, and please feel free to write to me with your suggestions and ideas. Be well.

Sincerely,
Steve Alpert, PE
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registration

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Upcoming Events

December 7, 2020: Water Resources and Environmental Technical Group (WETG) “Resilient Infrastructure”

Presented by Trygve Hoff, P.E., American Concrete Pipe Association
Monday, December 7, 2020, 12:00 pm, Online

2021 Technical Events

ASCE North Jersey Branch technical groups are continuing to plan virtual events into next year to provide relevant technical educational seminars. The information below indicates what technical group(s) will be hosting events. Look for future announcements via email and check our website as specific topics and dates are confirmed.

January 2021	Tranportation Technical Group (TTG) Coastal, Ocean, Ports, Rivers Institute (COPRI)
February 2021	Structural Engineering Institute (SEI)
March 2021	Coastal, Ocean, Ports, Rivers Institute (COPRI) Geotechnical Technical Group (GTG) Full Day Seminar
April 2021	Water & Environmental Technical Group (WETG) Structural Engineering Institute (SEI) Half-Day Seminar
May 2021	Utility Engineering and Surveying Institute (UESI)
June 2021	Construction Technical Group (CTG)

Technical Group Event Highlights

The Port Authority of NY & NJ, Construction Update on Terminal 1 Redevelopment, Newark Liberty International Airport

ASCE North Jersey Branch Professional Issues Technical Group

On September 30, 2020, ASCE's North Jersey Branch Professional Issues Technical Group had a large turnout for a webinar presentation for a "Construction Update on Terminal 1 Redevelopment at Newark Liberty International Airport". The seminar was presented by Raul Leonardo, Engineer of Construction overseeing the construction program for the new terminal, frontage bridge & pedestrian bridge under the Terminal 1 Redevelopment Program: and Leonardo Iacoviello, Engineer of Construction for NJ airports and manages the Terminal 1 landside and airside supporting projects, along with state of good repair construction at EWR and TEB airports. The presentation included discussion of the \$2.7 billion Terminal One Redevelopment Program to modernize and replace Terminal A, provide associated roadway and airside improvements, and a new parking garage. The new terminal is slated to have a partial opening in 2021 with a full opening in 2022.



UESI Conducts Webinar on Great Lakes Water Authority

On November 4, 2020, and the Utility Engineering and Surveying Institute, New Jersey Chapter presented to the ASCE North Jersey Branch. The virtual event entitled Great Lakes Water Authority (GLWA) Water Research Foundation Tailored-Collaboration 5069 Kercheval Cast Iron Pipe Pilot: Innovative Methods for Renewal and Continuous Monitoring of Large Diameter Pipelines was presented by Dr. Graham E.C. Bell, PE, of Structural Technologies. Large diameter pipes (great than 48 inches) are a difficult part of a utilities pipe inventory for renewal. These large diameter pipes are typical critical to operations and urban growth has encroached and invaded the right of way making replacement expensive and some renewal methods disruptive. Great Lakes Water

Authority (GLWA) conducted a pilot pipeline renewal on approximately 200 LF of 48 Inch 1913 vintage Cast Iron Pipe on Kercheval Avenue between St Clair and Harding Streets in collaboration with Structural Technologies (ST), University of Tennessee, and the University of Michigan (UM). Strain gauge rosettes were installed in both the circumferential and longitudinal on the polymeric and cementitious renewal systems to measure the long-term structural performance of these systems. The presentation highlighted the AWWA C305 design and modelled finite element analysis of the renewal systems and the construction approach and practices.



REPORT CARD VOLUNTEERS NEEDED!

The ASCE New Jersey Section is looking for volunteers to get involved in researching, promoting, and preparing the next NJ Infrastructure Report Card. The most recent (2016) NJ Infrastructure Report Card is at <https://www.infrastructurereportcard.org/state-item/new-jersey/>. Volunteers can expect biweekly calls and coordination with ASCE and other volunteers/task leaders. Different roles are available.

Please contact Joseph Michiels, PE for more information or if you are interested in participating: jmichiels@blcompanies.com, (856) 485-8401.

Younger Member Group (YMG) Roundup

ASCE Student Chapter Outreach

Younger Member President, Elizabeth DeCarlo, was able to present at the NJIT Student Chapter “Welcome Meeting” to give the chapter members an overview of what ASCE can do for them. Several North Jersey Branch YMG volunteers also conducted resume review for NJIT before the career fair. This effort was led by NJIT Practitioner Advisor, Andres Gomez-Ortiz. One of the Younger Member Group’s many roles is to support the Student Chapters at New Jersey Institute of Technology (NJIT), Stevens Institute of Technology, and Fairleigh Dickinson University (FDU).

Practice PE/FE Exam

As in past years, YMG held a practice PE and FE Exam on Saturday October 10, 2020. Over 60 people participated, even though the event was not hosted in person this year. Hopefully things will be back to in person for the Spring; however, YMG will still plan to do the event, even if it is conducted virtually again.

Mock Interviews at Fairleigh Dickinson University

On Wednesday, November 4th, volunteers from our Younger Member Board presented and helped students of Fairleigh Dickinson University ASCE Student Chapter with tips and possible interview questions from prospective employers. This was in preparation for their Campus Interviews in January. Good luck to the students in their interviews!

Upcoming YMG Events:

Virtual Trivia Night – November 19

Time and Virtual Platform: TBD

Virtual Open Meeting/Happy Hour January 2021 (final date TBD)

All Members welcome to join the online platform to meet and network with the YMG Board and learn more about getting involved.

K-12 Outreach Program

As a board, YMG is also working on providing virtual outreach to K-12 grades. Please contact YMG if you would like to get involved, or have a school to suggest for an outreach event. Email the ASCE North Jersey Branch Younger Member Group at: ymg@ascenjb.org

2020 North Jersey Branch Award Winners



Educator of the Year: Matthew Bandelt, Ph.D., PE

Matthew J. Bandelt, Ph.D., PE, is an Assistant Professor and Associate Chair of Graduate Studies in the department of Civil and Environmental Engineering at New Jersey Institute of Technology. Prior to joining NJIT, he received his doctoral degree from Stanford University where he was a National Science Foundation graduate research fellow, and his bachelors and masters degrees from Villanova University. Dr. Bandelt has expertise in the areas of experimental testing and numerical simulation of novel concrete materials and structural components under mechanical loading and durability

conditioning. He teaches undergraduate and graduate courses in the areas of mechanics, structural analysis, and design. Dr. Bandelt's research has been funded by the National Science Foundation, the New Jersey Department of Transportation, the Federal Highway Administration, the United States Department of Transportation, and the Center for Advanced Infrastructure and Transportation. He is a peer reviewer for numerous scholarly journals in the field of structural engineering and concrete materials, and is an active voting member of numerous committees of the American Concrete Institute.



Young Engineer of the Year: Jay Rana, PE

Jay Rana is a licensed professional engineer within the Structures Department of HNTB Corporation's New Jersey office. With over 5 years of experience, Jay is well-versed in the design and construction services of complex bridges, retaining wall systems, tolling gantries, and other civil structures. He has worked on a variety of projects within the northeast corridor involving an assortment of notable clients such as the NJDOT, NJTA, RIDOT, PANYNJ, AMTRAK, and NYSDOT.

As a young engineer, Jay Rana has made it a priority to deliver technical excellence. He is diligent in his management of tasks and is willing to put in the time and effort to get the work done to everyone's satisfaction. Additionally, Jay manages to keep the big picture of the project in mind; knowing what is important to the project's success is certainly one of his strong suits.

In addition to his achievements at work, Jay also exemplifies himself as a strong leader within professional groups – specifically within ASCE's North Jersey Branch. Jay has served the Treasurer of the YMG during the 2017-2018 and 2018-2019 years and the President of the YMG during the 2019-2020 year. Throughout his tenure as President of the NJB YMG, he has maintained an open mind and encouraged others to bring in their own ideas on every topic. Jay recognizes that what we do isn't just about him or his fellow engineers, it is about bettering our society as a whole. This dedication and leadership guided the ASCE NJB YMG to be nationally recognized at the 2020 Eastern Region Younger Member Council event where the group received the Outstanding Younger Member Group Project award for their K-12 Outreach program. This program reached out to over a dozen different schools and locales to not just inform the youth of what civil engineers do, but to inspire them to also one day help better our society.



Government Engineer of the Year: Lamis Malak, PE

Lamis began her career at the New Jersey Turnpike Authority in 2006. Prior to the New Jersey Turnpike Authority, Lamis was a design consultant for 12 years working on New Jersey Department of Transportation, New Jersey Turnpike Authority and County design projects.

In 2015, she was promoted to her current position of Supervising Engineer of the Engineering Department - Highway Design Section and oversees staff managing all highway related design assignments, the pavement restoration and resurfacing program and the repairs of major culverts on both the Garden State Parkway and New Jersey Turnpike. During this time, she and her Design Section team have improved the management of the pavement restoration and resurfacing program through the development and deployment of a Pavement Management System. Additionally, the culvert repair program is performing NBIS level inspections on these assets that is used to rank the culverts and prioritize repairs.

During her career at the New Jersey Turnpike Authority, Lamis managed numerous capital improvement projects including the Widening of the Garden State Parkway from Interchange 36 to 80, Garden State Parkway Interchange 163 Improvements, Garden State Parkway Interchanges 41 and 44 Improvements, and New Jersey Turnpike Interchange 17 Implementation of One-Way Tolls.

Lamis is a member of the American Society of Civil Engineers and held positions on both the North Jersey Branch and New Jersey Section boards. She is a member of the American Society of Highway Engineers and occasionally volunteers on the Professional Engineer Exam Transportation Committee of the National Council of Examiners for Engineers and Surveyors. Lamis is a graduate of Rutgers University College of Engineering and a licensed Professional Engineer in New Jersey.



Civil Engineer of the Year: Lisa DiGerolamo, PE

Lisa A. DiGerolamo is a Vice President at Paulus Sokolowski and Sartor, LLC in the Land Development Division. She has been involved in the industry for 34 years with a focus on stormwater management, and site development for public and private projects. She has been with PS&S since 1996 as the engineer and project manager for a wide variety of projects within the region including residential commercial, industrial, public and science/technology based. Prior to working for PS&S she was with Maguire Group as highway engineer with an emphasis on stormwater management and permitting.

She is a graduate of Stevens Institute of Technology in Hoboken New Jersey and received a Masters Degree in Business Administration from Montclair State University.

As a Vice President and project Manager for PS&S she is responsible for all aspects of project development including client relationships, concept development through detailed design, jurisdictional agency approvals, public presentations and through the construction phase. These areas of expertise include navigating local and state regulations such as the NJDEP, local municipal ordinances and County regulations, design calculations and hydrologic/hydraulic engineering modeling, utility coordination and relocations, cost estimates, planning board hearings at the local and County level, review of submittals and contractor coordination during construction administration phase of projects. Some notable projects include The Sawmill River Daylighting in Yonkers, NY, iPark at Edgewater in Edgewater, NJ, Great Notch in Woodland Park and Clifton NJ, Allegro Senior Living in Harrington Park, NJ, Clark Commons in Clark, NJ, Novartis Pharmaceutical ongoing campus improvements East Hanover NJ, Merck Pharmaceuticals on going campus improvements in Kenilworth NJ, Lakeside at North Haledon in North Haledon NJ, Bowcraft Residential Development and Stream Daylighting in Scotch Plains, NJ and Greenwood Lake Turnpike Realignment in Milford, NJ.

Project of the Year - Honorable Mention: Bloomfield Avenue (CR 506) Bridge Restoration

Owner: NJ Department of Transportation

Facility Owner: NJ TRANSIT

Designer: Dewberry

Contractor: IEW

The NJDOT's rehabilitation of the Bloomfield Avenue (CR 506) Bridge restored the structural integrity of the bridge while maintaining railroad operations, vehicular and pedestrian traffic, and utility services. Originally built circa 1911, the bridge is located on the Montclair-Glen Ridge border and abuts Glenfield Middle School, historic Glenfield Park, Montclair's Fire Department Headquarters, commercial businesses, and NJT's Bay Street Station. The bridge carries 30,000 vehicles per day and provides a curb-to-curb width of 50 feet, accommodating four lanes of traffic (two in each direction). Since Bloomfield Avenue crosses NJT's tracks at a 60° skew, the superstructure along the centerline of the track is 150-feet-wide.



The physical site constraints, skew, non-redundant structural framing of the original concrete T-beam superstructure, the connection of NJT's catenary and communication systems, and the presence of critical PSE&G lines, complicated the rehabilitation. Our solution used prefabricated superstructure (Inverset™) units to improve vertical clearance over the tracks, improve the quality of the completed product, and reduce the duration of track outages and construction. To facilitate the staged replacement, we designed a strong-back girder to temporarily support the loads imposed on the portion of the superstructure that remained in service. As a contributing element to an eligible historic district, the new concrete parapets and ornamental railing complement the architecture of the original bridge.

Extensive teamwork and coordination with stakeholders included NJT, NJDEP, Montclair, Glen Ridge, Essex County, PSE&G, local businesses, and residents. NJDOT successfully negotiated the unprecedented, temporary closure of the abutting car wash eliminating the need for any right-of-way acquisition. Also, NJT implemented a temporary bus service from its Bay Street Station, on a specific number of weekends, affording the contractor full outages during which the catenaries were de-energized and train operations were suspended.

ASCE National Convention

Four members of the ASCE North Jersey Branch Board attended the 2020 ASCE National Convention on October 28-30, held for the first time in an all-virtual format due to COVID-19 restrictions. Day 1 featured an opening session about disruptive technologies, a panel on diversity and inclusion, celebration and induction of ASCE's Distinguished Members, and breakout technical sessions. One breakout session of note involved the Community Engineering Corps, which partners with nonprofits, towns, and other community organizations to provide the engineering design resources for projects such as rain gardens, park cleanup, and other community improvements on a pro bono basis. Another session focused on the use of Artificial Intelligence (AI) and how there is always a place for the human factor. More information and volunteer opportunities for engineers and students at any level is at <https://www.communityengineeringcorps.org>. Day 1 closed with a discussion on how to educate and empower our students as the future generation of civil engineers.

Day 2 then opened with the annual membership meeting and society awards. There were further technical breakout sessions throughout the afternoon, followed by networking happy hours. Finally, Day 3 included more technical sessions and closing remarks with a focus on the current political environment and how infrastructure funding is a bipartisan issue in critical need of action. Though networking is more difficult in these times, the National Convention again provided valuable tips and connections for the Board to use going forward.

Project of the Year: Washington Street Redesign

Owner: City of Hoboken

Designer: T&M Associates

Washington Street is a historic, vibrant corridor within the City of Hoboken which brings together residents, business owners and visitors. Once named by the American Planning Association among the nation's "10 Great Streets," the decades had taken their toll on the busy thoroughfare. Traffic signals were outdated resulting in increased collisions and dangerous conditions for pedestrians. The roadway, featuring two lanes of opposing traffic, had no accommodations for bicycles, and was frequently throttled by deliveries and trash pickups. Double-parking and reduced pedestrian sight-distances added further complications. Superstorm Sandy and other major rainstorms were a painful reminder to the city that the aging sewer system was overtaxed. The century old water infrastructure was contending with water main breaks and storm flooding, and critical facilities lacked emergency backup power.



In 2015 the City of Hoboken, in conjunction with T&M Associates and the New Jersey Department of Transportation, moved forward with a plan to modernize Washington Street and make it safer and more accessible for all users. T&M Associates was engaged to perform the streets redesign which led to the acquisition of additional contracts for construction administration, inspection and observation services. Project requirements encompassed the reconfiguration of 15 blocks spanning from Observer Highway to 14th Street with the integration of complete street designs to improve overall mobility and visual enhancement.



Creating a busy corridor that offered safe, convenient and comfortable travel and access for all users and abilities was no easy task. T&M worked closely with city officials, businesses, and residents over a two-year period to find and incorporate solutions to problems which included high-visibility crosswalks, 14 state-of-the-art ADA-compliant traffic signals armed with GPS timers, pedestrian countdown indicators and signal preemption features to facilitate emergency vehicles. Dedicated loading zones and color-coded bus stops were installed to decrease congestion and back-in parallel parking spaces and bike lanes with green, high-visibility pavement improved safety.

In addition to traffic improvements T&M oversaw the installation of one of the country's first municipal electrical microgrids used to supply redundant power to critical facilities. A fiber optic spine was installed to enhance internet connectivity. To improve water quality and reduce service interruptions 9,000 linear feet of water mains, 530 water services and 31 fire hydrants were replaced and 2,300-LF of new drainage pipe, and 58 new drainage inlets and manholes were installed. The antiquated water distribution system was upgraded to include new lateral service connections for all residences and businesses along the street. "Green" enhancements included the installation of 15 rain gardens where collected stormwater is used to beautify the streetscape rather than burden the sewers.

Throughout the life of this extensive revitalization project the busy corridor of Washington Street remained open to vehicles and pedestrians with minimal delays and interruptions for vehicles, transit, pedestrians and bicyclists. Last July the project was successfully completed. Washington Street is now a safe, modern and attractive streetscape with reduced traffic congestion, greater mobility options and an overall boost to the community's vitality.

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