

Engineering Excellence & Awards Gala

SEPTEMBER 30, 2021

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Engineering Excellence & Awards Gala

A Letter from our 2021 and 2022 Presidents





Welcome to the ACEC/MA 2020 and 2021 Engineering Excellence & Awards Gala

September 30, 2021

Each year we gather to celebrate and recognize engineering firms for projects that demonstrate innovation and excellence. Tonight culminates a process that began many months ago, from the initial call for entries last summer to the selection of finalists and Grand Conceptor by a distinguished panel of judges. This evening we recognize all the firms who took the time and investment to participate in the competition.

In addition, tonight's Gala also recognizes those who work tirelessly throughout the year to advance the goals and values of not only our organization, but also the industry. Therefore, we are excited to share with you the winners of the ACEC/MA Education Corporation scholarship, Young Professional Awards, and Community Service Award.

Again, welcome and thank you for joining us this evening and congratulations to all of the winners!

Sincerely,

Dennis J. Baker, PE, 2020-2021 ACEC/MA President

Scott A. Miller, PE 2021-2022 ACEC/MA President



Katelyn Gendron

Katelyn Gendron is in her junior year of undergraduate studies at Northeastern University, working towards a combined Bachelor's Degree in Civil Engineering and Master's Degree in Structural Engineer. While earning two degrees at once, Katelyn has also interned at several local engineering consulting firms

and found time to be active in the Northeastern University Sustainable Building Organization, Northeastern Club Running, and act as the Media Coordinator for ASCE. She also has been an active local race volunteer and performed numerous community service activities during her time at Northeastern. In her essay, Katelyn discusses the sense of responsibility entrusted to civil engineers and her hope to one day "make society better by being a sustainable designer, a steward of the earth". Her professor described her as "not afraid to take the lead on projects or listen to her classmates ideas," which will help her on her journey to becoming a good civil engineer and team player.



Matthew Schomacker

Matthew Schomacker is in his fourth year of undergraduate studies at Northeastern University, working towards a combined Bachelor's and Master's Degree in Civil Engineering. In addition to pursuing two degrees at once, Matthew has interned in the Track Departments of several local engineering

firms. He is also an active member of ITE as well as the Fall Secretary of ASCE. Somehow, Matthew also finds time to be a member of the Northeastern University Pep Band, all while remaining in the Honor's Program. His colleagues describe him as having "a positive attitude and ... not being afraid of new challenges." In his essay, Matthew described an experience during an internship when a Red Line train derailed and how the engineering and consulting communities came together "with the goal of improving service for the community."



Sarah Beckwith

Sarah Beckwith is sophomore at Harvard University working towards a Bachelor's Degree in Mechanical Engineering. At Harvard, she is involved with Engineers without Borders, serves as the Publicity Chair for the Harvard College Engineering Society, and Treasurer of the Harvard Women's Ultimate

Frisbee Team. Sarah also has served as a Board Member on the Mt. Washington Historical Society, where she grew up. During breaks from school, Sarah works in Great Barrington as a Land Surveying Intern, where her colleagues say she "constantly wanted to learn" and "never missed a day." In her essay, Sarah states that "Engineers push the boundaries of the future" and "make people's lives easier to live."



Taylor Labbe

Taylor is in her senior year at Northeastern University where she is pursuing a combined Bachelor's and Master's degree in Environmental Engineering. At Northeastern, she serves as an ABET Student Representative and has studied solid waste management in Sardinia, Italy through the

Dean's List Dialogue of Civilizations program. In addition to her studies, Taylor is active in NEWEA and a basketball and hockey cheerleader at Northeastern. She is also active in the community, volunteering to judge the Middle School Science Fair at Pioneer Charter School of Science with ASCE, and at the aid station at the Vermont 100, a 100 mile endurance race to benefit Vermont Adaptive Ski & Sport, an organization empowering people with disabilities through sports and recreation. During her time at Northeastern, she has interned at several local consulting firms, where her colleagues have referred to her as having "a good attitude about learning and engineering" and being a "critical team member". In her essay, Taylor writes that "through the balance between fundamental principles, passion for the work, and innate knowledge of their communities … engineers truly become the movers and shakers of the world."



Walee Attia

Walee Attia is in his junior year of undergraduate studies at Johns Hopkins University, working towards a Bachelor of Science in Biomedical Engineering. He is a member of the NCAA Varsity Men's Soccer team and participates in various community service activities and cultural events in both the Baltimore and

greater Boston area. Walee's interest in learning how to engineer practical solutions led him to pursue coursework and research opportunities in both biomedical engineering and computer science. He recently worked on a team-based design project applying imaging technology and a novel tissue flattening device to optimize Mohs surgery for skin cancer. His professor noted that Walee was performing very well on his part of the project and is "hard working, dependable, creative, and very good at getting things to work." Walee said this project helped him understand the need to be able to "toggle between a technical mindset and a big picture outlook on the most effective approach to implementation."



Jillian Brislin

Jillian Brislin is pursuing a combined Bachelor's and Master's Degree in Civil Engineering at Northeastern University with a structural concentration. With an anticipated May 2022 graduation date, Jillian has made the most of her college experience by participating in intramural sports and multiple ASCE

Concrete Canoe Construction competitions, most recently as team captain. She has also volunteered with various food organizations during each school year. In her essay, Jillian discussed how her internships and co-ops at three different civil engineering consulting firms taught her about the importance of "effective communication with clients, consideration for all types of people, and proactive measures to address large-scale challenges." It is this type of thinking matched with her former supervisor's praise of her ability to "apply already learned skills to new situations and adapt as needed" that will help Jillian succeed as an engineer.



Maeve Dineen

Maeve Dineen is in her senior year of undergraduate studies at The University of Maine, working towards a Bachelor of Science in Civil and Environmental Engineering. Over the last three years, Maeve has been an active member of the Society of Women Engineers, Spanish Club, American Society of

Civil Engineers, and club track team. She also volunteers in STEM outreach at The Challenger Learning Center of Maine and with the 4-H youth organization. Maeve's co-op experience helped her translate her coursework into real-world project and field experience and further solidified her passion for helping people and the environment. Her co-op supervisor described Maeve as an "intelligent, curious, and determined person." These three qualities and her desire to make the world a better place will serve Maeve well in her engineering career.



Regan Kelly

Regan Kelly is pursuing a dual Bachelor's and Master's Degree in Civil Engineering at Northeastern University with a concentration in Structures. To prepare for her May 2022 graduation date, Regan has worked as a geotechnical and structural engineering co-op at two local consulting firms. During her most recent co-op,

her supervisor was "very impressed with Regan's grasp beyond the factual or obvious information, and her ability to think critically and formulate a plan for solving the problem at hand." These skills extend to her academic life as she is a member of the University Honors Program and Chi Epsilon and Tau Beta Pi engineering honor societies, and has won both the President's Award and Civil and Environmental Engineering Department Awards. In her essay, Regan discussed civil engineers' duty to serve the communities in which they operate and to "address infrastructure needs and challenges in a way that emphasizes safety, fairness, and quality." This mindset reinforces Regan's decision to pursue a career in civil engineering.



Eric Ohanian, PE Structural Engineer 2 Tighe & Bond

As a Structural Engineer, Eric has had the opportunity to work on various bridge and culvert replacement projects over the years. Throughout his career, he

has assisted numerous towns in receiving over \$3-million in grant funding for bridge rehabilitation projects. He has helped pioneer a cost-effective and innovative culvert inspection practice utilizing a submarine, which has saved communities approximately \$500,000 of unnecessary replacement costs. Eric also helped support the City of Quincy's emergency triage on the seawall protection system after devastating storm surges and flooding in March of 2018, providing around-the-clock emergency response efforts utilizing innovative GIS mapping technologies.

Eric is a member of numerous professional organization including Young Professionals in Transportation (YPT), American Public Works Association (APWA), Norfolk Bristol Middlesex Highway Association (NBM), and Essex County Highway Association (ECHA). He also is a Young Member Group Committee Member for Structural Engineers of Massachusetts (SEAMASS), Structural Engineers of New Hampshire (SENH), and Boston Society of Civil Engineers (BSCES).

His community volunteer activities include judging the DiscoverE New England Future City Competition as well as organizing volunteer efforts at the Greater Boston Food Bank, Westwood Food Pantry, Habitat for Humanity, the Friday Night Supper Program at Arlington Street Church in Boston, Adopt a Family campaign with Harbor Communities Overcoming Violence, and Regional Environmental Council Earth Day Cleanup in Quinsigamond State Park in Worcester.



Ryan Marshall, PE Senior Structural Engineer Stantec

Ryan is a structural engineer at Stantec, where he has had an opportunity to work on numerous incredible projects. He was an engineer on the

Kenneth F. Burns Memorial Bridge, performing finite-element models on complex components and designing the 30-foot tall steel "gateway sails" sculptures. Ryan also served as lead structural engineer on the Boston Marathon Memorial project on Boylston Street, designing the foundation for the granite markers and analyzing the bronze light sculptures. He also evaluated stresses throughout every inch of the sculpture's unique geometry, working closely with the sculptor to finalize the tapered-base design. Outside of the office, Ryan teaches an undergraduate engineering course at Tufts University that focuses on creating engineering drawings, BIM and 3D modeling and animations.

Ryan is active in several professional organizations including serving as a member of the Executive Committee and the External Affairs Subcommittee with the Boston Society of Civil Engineers Structural Engineering Institute (BSCES SEI). He also serves as a member of the Executive Committee for the Boston Society of Civil Engineers Construction Institute (BSCES CI).

Ryan's community volunteer activities include volunteering as a "Big Brother" through Big Brother Big Sisters of MA, Team Co-Captain for Canstruction, and advisor for Tufts University Steel Bridge Team. He has also volunteered at the Boston Rescue Mission and PlayWorks.



Jill Baumbach, PE Water Resources Engineer VHB

As a Water Resources Engineer and Project Manager at VHB, Jill Baumbach works with clients to develop innovative solutions to stormwater and floodplain

challenges. Recently, she led a team to find an innovative solution for the MBTA North Station Phosphorus Control project. Jill worked closely with the MBTA, regulators and various stakeholders to arrive at the use of sponge media as a pilot application, potentially paving the way to broaden the use of this method in other space constrained urban settings.

Internally at VHB, Jill co-led a grassroots effort to create the Emerging Professionals Group as a means for young employees to create connections across the company and share experiences. She continues to actively participate and mentor the new group leaders in hope that more young professionals at VHB will participate and see their careers flourish. Jill continues to grow herself professionally by participating in the New England Women in Energy & the Environment (NEWEE) and Environmental Business Council (EBC) events.

Jill consistently volunteers with VHB's charity organization VHB Cares and has participated in various career panels at her alma mater Bucknell University and at Boston University. One of her most significant and rewarding volunteer activities is working with the Girl Scouts. For the past three years, Jill has planned an annual Water Resources Engineering event. The event activities have focused on pollution, river clean ups, water filtration, and understanding stormwater BMP design elements. Jill's hope is that her commitment to these girls and the Girl Scouts organization will have lasting impacts on our industry and gender equity.



Daniel Roop, PE Project Manager Tighe & Bond

Daniel Roop is an Environmental Engineer and Project Manager at Tighe & Bond, where he assists communities in prioritizing risk-based capital

improvements for their water and wastewater infrastructure. In addition to working on a wide variety of projects, he has also helped over fifteen Massachusetts communities secure more than \$2M in total grant funding through MassDEP and the Mass Clean Water Trust Asset Management Grant Program. He has presented this work at several industry conferences and workshops, and champions asset management within the firm.

Daniel serves as Chair of the New England Water Environment Association (NEWEA) Asset Management Committee and past chair of the Committee Member Appreciation Committee. He is also active in the American Water Works Association (AWWA) as a Member of the Standards Committee on Biosolids and as a Young Professional Member of the New England Water Works Association (NEWWA).

He has participated in seven Pan-Mass Challenges, personally raising over \$40,000 for Dana Farber Cancer Institute and is now training for his second Boston Marathon to help support the Boston Sports Museum's Boston vs. Bullies anti-bullying program. Daniel is also a five-time Massachusetts Breast Cancer Coalition Against the Tide participant and donor. He deeply believes in the impact of charitable work and hopes his participation will inspire others to do the same, including his two young daughters.

2020 EEA Award Winning Lead Engineering Firms

Bronze Award



BETA Group, Inc. BSC Group, Inc. CDM Smith Green International Affiliates, Inc. Greenman-Pedersen, Inc. **HNTB** Corporation Howard Stein Hudson Kleinfelder Michael Baker International, Inc. Pare Corporation SMMA | Symmes Maini & McKee Associates STV Incorporated Tata & Howard, Inc Thornton Tomasetti Inc. Tighe & Bond, Inc. Woodard & Curran. Inc

Silver Award



Arup

BVH Integrated Services, P.C. Environmental Partners Group Jacobs Nitsch Engineering Stantec (2) STV Incorporated TranSystems Corporation WSP

Finalist



AKF Group Jacobs Simpson Gumpertz & Heger Inc Tighe & Bond, Inc. VHB

2021 EEA Award Winning Lead Engineering Firms

Bronze Award



AECOM Arup BETA Group, Inc. BSC Group, Inc. Environmental Partners Group Fitzemeyer & Tocci GEI Consultants Hoyle, Tanner & Associates Pond|Michael Baker International, Inc. TranSystems Corporation VHB Woodard & Curran

Silver Award



AECOM Environmental Partners Group Fuss & O'Neill Greenman-Pedersen, Inc. Nitsch Engineering Stantec Tighe & Bond, Inc.

Finalist



Arup Beals and Thomas Simpson Gumpertz & Heger Inc Stantec VHB



North Square Redevelopment Project Boston, MA BETA Group, Inc.

The City of Boston recognized the need to improve pedestrian accessibility, safety, and mobility within North Square, the City's oldest continuously occupied neighborhood, while being sensitive to some of the most significant historic and cultural sites in the country. The City teamed with BETA Group to complete the design. Through a collaborative design process and public outreach program, the project successfully implemented an improved layout for the Square that maximizes access to and through the Square for users of all abilities, is ADA compliant, improves safety through reduced interaction between pedestrians and vehicles, and incorporates public art.





EMD Serono's Sagamore Building Expansion Billerica, MA BSC Group, Inc.

First in the nation. Second in the world. EMD Serono's Sagamore Building in Billerica has earned the acclaimed WELL Gold certification and is poised to change the way we design buildings by placing people and wellness at the center of the design process. The 30,000 square-foot building expansion project more than doubles the site's existing office space and accomplishes a complete evolution of the site, while maintaining a unified campus experience. Once a production facility that was no longer meeting the client's needs, it is now the home of an innovative Class A research and development center.





Station Road Temporary Bridge Replacement Amherst, MA CDM Smith

CDM Smith provided design and construction support services for the temporary replacement of the Station Road Bridge, which was closed due to structural deficiencies, severing the primary link between Amherst Woods and the Town of Amherst, MA. CDM Smith conducted engineering analyses and developed a safe, cost-effective design. Our team attended public information meetings and coordinated with a local Temporary Bridge Committee to engage residents and ensure that their needs were met. Despite several complexities, including surrounding wetlands and the skew of existing bridge supports, the project was completed on an expedited schedule, restoring a critical connection between the two communities.





Transforming the Bridge and Causeway over Bush Pond Norfolk, MA Green International Affiliates, Inc.

Green faced many challenges on this project. The narrow causeway, immediately abutted by Bush Pond on both sides, needed to be widened to accommodate two traffic lanes and a separate pedestrian walkway. The bridge required major repair or replacement. Construction was limited to the confines of the roadway as there was no right-of-way and no filling of the pond allowed. The Town also wanted an aesthetically pleasing causeway consistent with the beauty of the surrounding area, although construction funds were limited. Green achieved these objectives with a creative design that improves public safety and protects the natural habitat.





Faunce Corner Road Reconstruction Dartmouth, MA Greenman-Pedersen, Inc.

The Faunce Corner Road Reconstruction project involved innovative design solutions that not only improved traffic flow in this highly congested area, but also enhanced safety and mobility to support the economic development for this region. The complexity of design on this \$20 million project was immense and included the design of the first traffic signal system in the State utilizing Adaptive Signal Control Technology; an innovative bridge design; roadway design that provided a widened bridge and roadway, a shared-use path, bicycle lanes, new stormwater BMPs; and development of a four-stage construction staging plan to minimize disruption to the public.





The Casey Arborway Project Jamaica Plain, MA HNTB Corporation

The Casey Arborway project transformed the Forest Hills neighborhood in Jamaica Plain by demolishing the structurally deficient overpass and adding a new at-grade parkway system, expanded transit hub, and new facilities for pedestrians and bicycles. These updates have reconnected the historic Frederick Law Olmsted-designed Emerald Necklace park system and enhanced the surrounding neighborhood, creating a renewed urban streetscape and integrating all users into this historic greenway.





Encore Boston Harbor Everett, MA Howard Stein Hudson

Howard Stein Hudson (HSH) planned and designed a menu of traffic mitigation solutions to combat the anxiety as to how traffic would move into, out of, and around Encore Boston Harbor. The \$2.4 billion resort allows for public enjoyment of the waterfront with paths that provide access to the harbor. HSH formed a true partnership amongst the local, state, and Encore team that allowed HSH's bold multimodal approach. As a result, traffic has been more than manageable with patrons taking advantage of bus shuttles, ferries, and bicycles, lessening impacts on the roads and ensuring public safety is never compromised.





Wollaston Station Improvements Quincy, MA Kleinfelder

The Wollaston Station Improvements project was vital to providing a universally accessible station for a community populated with elderly housing, day care facilities, and centers for independent living. The station was temporarily closed for 19 months to expedite construction and minimize disruption to commuters. Kleinfelder worked closely with the contractor and the MBTA to complete the project on schedule and budget, all while maintaining Red Line and Commuter Rail service throughout construction. Since its opening, the station has received great reviews and reconnecting the formerly severed surrounding communities through station access will likely spur future economic development in the area.





MBTA – Rail Transit Tunnel Inspection Manual Boston, MA Michael Baker International, Inc.

Drawing on multiple sources, Michael Baker developed a unique, elementlevel inspection manual for transit and commuter rail tunnels in the Massachusetts Bay Transportation Authority's transit system. The manual details procedures for assessing universal aspects of transit tunnels, defines state of good repair and levels of deterioration and provides calculations for prioritizing maintenance and rehabilitation, allowing repairs to be quantified and prioritized repairs. Michael Baker also performed a 200-foot calibration inspection to set a foundation for qualifying future inspection teams, created start-up guidelines for the manual and, since the project was delivered under-budget, has offered to provide training to tunnel inspectors.





Moderna Clinical Development Manufacturing Facility Norwood, MA Pare Corporation

Pare provided structural assessment and design of the \$130 million Moderna Clinical Development Manufacturing Facility. The project involved a gut renovation of a former 200,000 sf Polaroid plant. Pare performed extensive field inspections/assessments to determine the existing building's structural capacity and to develop a 3D REVIT model. This model guided the design team in fitting the existing building to the programming requirements of Moderna. Much of Pare's design is an independent structural system that extends through the existing building to new foundations. This system supports six Pare-designed rooftop platforms totaling 33,000 sf and supporting 26 air handling units weighing 270 tons.





NAASR Headquarters

Belmont, MA SMMA | Symmes Maini & McKee Associates

The new NAASR Vartan Gregorian Armenian Center protects its renowned library of ancient and rare texts to preserve a culture. Driven by the domestic and foreign challenges facing Armenians from the Diaspora, the project goals establish a cultural hub of global activity to pass down to future generations. The 15,000 sf headquarters incorporates specialized engineering systems to ensure the safety of its most precious archives while aesthetically remaining rooted in deep observation and imagination: detailed Armenian designs and craft are incorporated throughout, encouraging visitors to engage with their cultural identity and history at every turn.





Plan for Accessible Transit Infrastructure (PATI) Boston, MA STV Incorporated

As part of an ongoing effort to provide barrier-free access to bus and rail passengers, the MBTA selected STV and Geonetics to develop a comprehensive Plan for Accessible Transit Infrastructure (PATI), to increase accessibility for disabled passengers.

Geonetics created an intuitive software program that was used across the city's intricate bus and rail systems. STV then used the data gathered to build a framework that prioritized the upgrades in the MBTA's 20-year improvement plan.

The findings detailed in the PATI report, completed under budget, will facilitate accessibility upgrades that address transportation barriers faced by Boston's disabled passengers.





Home Farm Water Treatment Plant Shrewsbury, MA Tata & Howard, Inc.

Tata & Howard, Inc. provided lead engineering services for the design and construction administration of the new 7.0 mgd Home Farm Water Treatment Plant in Shrewsbury, MA. The new plant, which replaced an aging facility built in 1989, provides the Town with the ability to treat more water, remove elevated levels of manganese, and produce stable water quality. The project reached Substantial Completion on schedule and was completed within budget. The plant is the largest biological pressure filtration facility in the northeast United States.





Peabody Essex Museum Expansion and Renovation Salem, MA Thornton Tomasetti Inc.

The Peabody Essex Museum Renovation provides a new gallery wing and a south-facing Asian Garden, as well as renovations to the existing Asian Export Art Wing and East India Marine Hall. The 40,000 sf expansion features dedicated gallery space, a light-filled atrium and a group entrance. There is also a new 5,000 sf garden, with unique water features and plantings, that offers an inviting space to sit and relax and contemplate. Rising three stories and adding a handsome façade to the Essex Street pedestrian way, the new wing enhances the older sections of the museum while providing space dedicated to presenting the museum's extensive collection.





East Main Street Water Treatment Plant Middleborough, MA Tighe & Bond, Inc.

The East Main Street Water Treatment Plant is a sustainable and economic success that reduces the levels of iron contaminants in the Town of Middleborough's drinking water supply. Tighe & Bond's innovative design and application of a biological filtration is helping set a new industry standard to address drinking water treatment. With the completion of this project, Tighe & Bond has now designed three out of the four operating biological water treatment plants in New England. The continued use of biological treatment will help fulfill a need in the waterworks industry to provide more sustainable alternative solutions for water treatment.





Quincy Town Brook Relocation Quincy, Massachusetts Woodard & Curran, Inc.

The Town Brook relocation unlocks the potential redevelopment of 14 acres of underutilized land in downtown Quincy. It includes new green infrastructure that improves water quality and helps restore spawning habitat for native fish species. To accomplish this, Quincy established a unique public-private partnership that allowed significant infrastructure upgrades to be completed by a private developer. City program manager, Woodard & Curran, then collaborated with the developer to design and construct the infrastructure on the same site as the construction of a 150+ unit apartment building. Ultimately, the project advances Quincy's ambitious downtown revitalization efforts and economic development.





Northeastern University ISEC Pedestrian Bridge Boston, MA Arup

Spanning five MBTA/Amtrak rail lines, Northeastern University's new pedestrian bridge provides a link between the two halves of the campus, the Interdisciplinary Science and Engineering Complex, and the neighborhoods of Fenway and Roxbury. The bridge's curved, asymmetric form required careful engineering design and is realized through two parapet barriers that flank the structure. These barriers lean 10 degrees outwards and use overlapping panels of solid specialty steel plate, which mask railroad infrastructure and direct views outwards and upwards. The specialty steel's corrosion resistance means the bridge will not require repeated painting, resulting in lower operational expenses and few disruptions in rail service.





UMass Boston Utility Corridor & Roadway Relocation Project Boston, MA BVH Integrated Services, P.C.

The University of Massachusetts Boston, the City's only public university, was an insular, car-centric commuter campus built on a former landfill. Seven agencies, ten years, 13 subconsultants, 24 miles of utilities, 800+ trees, and 972 meetings later, it's well on its way to becoming the walkable, green, high-performing campus envisioned by the University's 25-year master plan — not to mention a popular destination for the surrounding community, thanks to new public access through campus to the city's 47-mile Harbor Walk.





Odors to Ocean Breezes Newburyport, MA Environmental Partners Group

The Newburyport economy relies on its marketability as a riverfront and coastal destination for historic, cultural, entertainment, and recreation attractions. Despite the amenities Newburyport offers, wastewater odors had been a longstanding problem. The public demanded a quick, reliable, and comprehensive resolution, and the City promised to deliver. The solution was a unique integrated approach, combining multiple approaches to odor prevention and control, and coordinating capital improvements with process upgrades. Environmental Partners applied source control with a new biofilter technology where there was no room for error. Since the project's completion, zero odor complaints have been lodged.





Encore Boston Harbor Everett, MA Jacobs

Encore Boston Harbor is a unique gaming and resort venue. As a result of the engineering process, it is a leading sustainable solution, potentially LEED Platinum, creating demands half that of comparable facilities. The facility includes 4MW of Emergency Generators, 4 MW of batteries, and 688 kW solar PV all integrated into the switchgear to provide the facility with exceptional resiliency and peak load shaving capabilities. The Wynn Team, Jacobs, and Suffolk Construction collaborated to build 3.1 million sf in 32 months, a five-star resort transforming a hazardous wasteland to a vibrant community asset.





Children's Wharf, Martin's Park Boston, MA Nitsch Engineering

Children's Wharf, Martin's Park presented several engineering challenges, including highly compressible soils, interface with a seawall, and a playship that is located directly over the Massachusetts Bay Transportation Authority (MBTA) Silver Line tunnel. To overcome these design challenges, Nitsch Engineering worked closely with the geotechnical engineer and design team to implement solutions that minimized settlement, minimized impacts to the seawall, and mitigated loads above the MBTA Silver Line tunnel. This included incorporating geofoam and a variety of types of piles. The high-profile project brings a space for children into the Seaport, encouraging our community's future welfare and healing our past.





Hatchery Pipeline and Hydroelectric Project Belchertown, MA Stantec

The Hatchery Pipeline and Hydroelectric Project brought a new, more reliable, energy efficient supply of water to the McLaughlin Hatchery. The gravity-fed pipeline required coordination with multiple state agencies, and significant environmental considerations including protecting the endangered wood turtle. Under various schedule constraints, most of the on-site work at the Hatchery was performed between June and October, and roadwork off-site from the Hatchery was performed between April and November. As an additional benefit, a hydropower turbine was added to utilize the power within the flowing water, delivering cost and energy savings to the owner.




Woods Memorial Bridge Replacement Everett/Medford, MA Stantec

The Woods Memorial Bridge project replaced two functionally obsolete and structurally deficient bridges on a heavily traveled corridor through Everett and Medford, MA. The Route 16 Revere Beach Parkway Corridor, a major connector roadway between I-93, Route 1, and Route 1A north of Boston, hosts more than 73,000 vehicles per day. The bridge is identified as a significant contributing feature of the Parkway, and was voted a topten bridge by *Road and Bridge Magazine* (2019). It was important to get historical requirements, functionality, and low impacts to the public to intersect on this project showing commitment to all aspects of design.





Fanny Appleton Pedestrian Bridge Boston, MA STV Incorporated

The 14-foot-wide Fanny Appleton Pedestrian Bridge runs between Charles Circle and the Esplanade in Boston. The curvilinear, ribbon-like steel bridge consists of 550 feet of continuous girders supported by a signature tubular arch span that gracefully branches to a scenic overlook plaza and curved stairs. Its distinctive appearance is created by a steel fascia plate along the entire length of the concrete deck reveal. With no center piers, it appears to float over Storrow Drive. The team addressed fabrication, constructability, and vibration challenges with cost-effective design modifications that were consistent with its unique architectural features. The modern structure beautifully complements its surroundings.





Design-Build Replacement of Route 2 over I-95 Lexington, MA TranSystems Corporation

TranSystems was the lead designer for the design-build replacement of the bridges carrying Route 2 over I-95, and drainage and safety improvements along two miles of I-95. This interchange serves 67,000 vehicles daily and abuts the Cambridge water supply, therefore mitigation of traffic and environmental impacts was a major requirement. The bridge design accelerated construction with precast, modular, concrete abutments, the first use of this technique by MassDOT, avoiding more invasive deep foundations and facilitating work through the winter. TranSystems' design also improved the Route 2 lane configuration to better manage traffic flow for the thousands who travel this interchange daily.





Joan & Edgar Booth Theatre Complex at Boston University Brookline, MA WSP

A new signature structure at Boston University, the Joan & Edgar Booth Theatre Complex unifies the theatre arts program, providing a modern facility for learning and artistic collaboration. Adjacent to other buildings, a fast-track schedule, deep foundation system requirements, and stakeholder involvement concerns were addressed through careful planning, teamwork, and innovation. Structural engineering was key to implementing the design and open concept black box theatre. The welcoming glass front leans forward inviting viewers in and concrete screen elements resemble a stage. With the lobby's wood back wall, like a curtain waiting to rise on Act One, Booth Theatre is audience-ready.



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Millersville University Welcome Center Millersville, PA AKF Group

Lombardo Welcome Center is helping Millersville University achieve carbon neutrality by 2040 and is a showcase of sustainability for students, staff, and the more than 10,000 prospective students that visit the University annually. The first Zero Energy Certified building in Pennsylvania, Lombardo Welcome Center achieved net positive energy in its first year. It currently generates over 150% of its annual energy usage, making it one of the top five most positive energy buildings in the country. While most building systems were designed to be "invisible," a solar PV array serves as a physical reminder of the building's purpose, further encouraging energy-conscious behavior.



I-95/I-93 (Route 128) Transportation Improvements Project Needham/Wellesley, MA Jacobs

This project was the last and most complex phase of a 20-year effort by MassDOT to widen the I-95 corridor to four travel lanes and two full shoulders in each direction from Wellesley to Canton. This final 3.5-mile segment in Wellesley and Needham included modifications to two interchanges, construction of a new interchange, two C-D roads, two auxiliary lanes from Route 9 and Highland Avenue, four bridges, and widening a historic bridge. Over 11,000 feet of retaining walls and 10,000 feet of noise barriers were also built. The new Kendrick Street interchange is a catalyst for future regional economic development.



Emerson College Little Building Boston, MA Simpson Gumpertz & Heger Inc.

Situated on a busy corner facing Boston Common, Emerson College's Little Building needed a renovation to upgrade the student dormitory and address the failing facade. The team collaborated with the city's Landmarks Commission to develop a plan for salvaging the 12-story structure and replicating the facade with modern materials to match the original aesthetic, while improving thermal performance and occupant comfort. With this project, Emerson College was able to revitalize an important campus building, allowing students and the surrounding community to benefit from this project for years to come.





Transformation of Mt. Tom Coal-Fire Power Plant Into State's Largest Community Solar and Energy Storage Facility Holyoke, MA Tighe & Bond, Inc.

Tighe & Bond's innovative application of engineering and environmental consulting services and collaboration with other organizations allowed for the transformation of ENGIE North America's Mt. Tom properties. This project has set an example of how to successfully remediate former fossil fuel power generation sites and preserve vegetated areas and protect the associated wildlife while also incorporating clean energy and energy storage to benefit surrounding communities. The success of this project has enabled ENGIE to create the largest utility-scale energy storage installation in Massachusetts and position the balance of the Mt. Tom properties for continued clean industrial/commercial/energy redevelopment.



Rehabilitation of MBTA's Franklin Line over East Street Westwood, MA VHB

The 'can opener bridge' presented a danger to pedestrians, roadway, and rail traffic. The timing for construction funding required the design team to accelerate the design process without sacrificing on the quality of the project. The need for uninterrupted commuter rail traffic required accelerated construction be used throughout the project. Work was concentrated during off-peak and weekend time to facilitate the continued access for traffic below and on the bridge. With proper planning, extensive teamwork between the Owner, Designer, Contractor, and Town, this high-profile bridge project was successfully completed on schedule and under budget.





Forest Hills Canopy Replacement Boston, MA AECOM

The Forest Hills Station Canopies are an example of architecture and structural design working as one. The fresh, clean sleek canopy shapes are functional and inviting to the riding public. They blend into the neighborhood without detracting from the iconic adjacent existing station.

The structural design utilizes curved pipes in a way that efficiently handles the design loads while detailed for construction simplicity. The translucent panels provide natural light to the covered area below without exceeding the structural load design of the varied existing foundation support types.





Mass. DOER Energy Resilience Study Boston, MA Arup

The Massachusetts Department of Energy Resources (DOER) established key initiatives aiming at enhancing energy resiliency through the deployment of clean energy technologies and strategies protecting communities from energy service interruptions during severe weather events. Arup was selected as DOER's consultant to perform a study identifying opportunities where clean energy technologies could be used to increase the energy resilience at twelve critical care facilities around the Commonwealth, thereby reducing the likelihood of prolonged outages during extreme weather events. The study's approach looked at both resiliency and clean energy, providing operational redundancy and moving away from fossil fuels and reducing GHG emissions.

	Systems Resilience Summary							
Systems	Elect	trical	HV					
Resilience Average	Normal Power	Backup Power	Heating	Cooling	Misc. Systems			
1.4	1.5	1.3	2.2	0	2.0			
1.3	1.8	1	2	0	1.8			
0.7	1.8	0	0	0	1.5			
1.4	2	1.5	2	0	2.0			
1.4	1.5	1.5	2.2	0	2.0			
1.6	2	1.8	2	0	2.2			
2.0	2	1.8	2.2	1.8	2.0			
2.2	1.5	2.8	2.4	2.3	2.2			
2.2	1.8	2.5	2.4	2	2.3			
2.0	1.5	2.3	2	1.8	2.2			
1.8	1.5	2	1.6	2	1.8			
1.8	2.3	2.3	2.2	0	2.0			
1.6	1.7	1.7	1.9	0.8	2.0			

re System			
0	1	2	3
vorst			-> best

	Operational Resilience									
Operational Resilience Average	Emergency Mgmt. Plan	Staff Accessibility	Staff Accommodations	Operational Redundancy/ Access to Nearby Facilities	Foodservice	Pharmacy/ Drug Storage	Flooding Risk	Sensitivity to Extreme Heat or Cold	Sensitivity to Extreme Wind	Seismic Risk
1.8	2	2	1	2	3	2	2	1	2	1
2.1	3	1	2	3	3	2	2	1	2	2
1.7	2	2	3	2	0	2	2	1	1	2
1.4	0	2	1	2	0	2	2	1	2	2
1.8	2	2	1	2	2	2	2	1	2	2
1.6	2	2	1	2	2	2	2	1	1	1
1.7	2	2	1	2	1	2	2	1	2	2
2.1	2	3	2	3	3	2	2	2	1	1
2.1	2	3	2	2	3	3	2	2	1	1
1.8	2	2	1	2	2	2	2	1	2	2
2.1	2	3	2	2	3	2	2	2	1	2
1.8	2	2	1	2	2	2	2	1	2	2
1.8	1.9	2.2	1.5	2.2	2.0	2.1	2.0	1.3	1.6	1.7



Commonwealth Ave. Revitalization Boston, MA BETA Group, Inc.

The City of Boston recognizes that great street design is about connecting people to destinations, services, opportunities, and each other. Commonwealth Avenue lacked the orderly and safe accommodation of the multi-modal demands on the roadway. The resulting improvements transform the visual environment and extend the City's network of bike, pedestrian, transit, vehicular amenities, and opportunity for uninterrupted access to destinations via safe, comfortable, convenient streets. The project responds directly to the Boston 2030 Vision Plan. It achieves transportation equity, improves safety and reliability, and significantly increases the effectiveness and use of public transit, walking, and biking.





Downtown Hudson Rotary and Streetscape Hudson, MA BSC Group, Inc.

As a former industrial town known for shoe manufacturing, Hudson faced many familiar challenges: reduced foot traffic, inadequate parking, and competition from nearby commercial centers. Using its distinctive, signature rotary as a centerpiece for large-scale Complete Streets reconstruction, the Town leveraged a variety of funding sources to create a vibrant, functional downtown that accommodates pedestrians, bicyclists, and vehicles alike. Today, Hudson is celebrated by Boston Magazine as a "culinary mecca for entrepreneurial restaurateurs priced out of Boston." Individual elements, like traffic improvements, pedestrian amenities, and linkages to community resources, combine to transform downtown Hudson into a premier Metrowest destination.





The Rescue of Dedham Street Newton, MA Environmental Partners Group

Dedham Street in Newton serves as a major connection hub for residents and commuters, commercial routes, and the MBTA bus system, as it connects major travel routes to and from Route 9, I-95/128, Brookline, and Chestnut Hill. With traffic volumes of 2,500 vehicles per hour, this corridor experienced major congestion that was further complicated by an adjacent fire station and college campus. Through an extensive public process and the appropriate combination of the latest technology and traffic treatments, Environmental Partners resolved the gridlock congestion along Dedham Street and provided a more livable street for residents, with minimal impacts to abutters.





Hitchiner Manufacturing Plant No. 5 Building Milford, NH Fitzemeyer & Tocci

Hitchiner® Manufacturing Co., Inc. is the premier industrial manufacturer and supplier of various casting-based assemblies and components that are needed for automotive, aerospace and other industries around the world. The growing demand of their high-tech, proprietary manufacturing services resulted in the need for a brand new, state-of-the-art manufacturing facility to be designed by Fitzemeyer & Tocci and constructed at their main campus in Milford, New Hampshire. The building design needed to strike the perfect balance between energy efficiency, operability and cost effectiveness; while being able to be a show piece for the Milford campus and prospective Clients.





North American Aggregates Perth Amboy, NJ GEI Consultants

The design and construction of the North American Aggregates offshore material handling platforms represent the best of what our industry can deliver when the owner, constructor, and designer work collaboratively and regard each other as true partners while working together to achieve the project goals. This unique project involved a complex combination of crane, ship berthing/mooring, and sand transfer loads, and was built using current state-of-practice techniques for marine construction. The project was delivered on time and on budget, and the platforms are now functioning precisely as the team envisioned when work began during the concept development phase.





UMass Central Campus Utilities Amherst, MA Hoyle, Tanner & Associates

The University of Massachusetts-Amherst hired Hoyle, Tanner as Prime for engineering services to evaluate infrastructure on approximately 10 acres at the heart of the campus. The University relied on their proven expert team to deliver data-driven recommendations and designs to include schematic, preliminary/final design, and construction administration for landscaping, area lighting, electrical upgrades, steam upgrades, water upgrades, pedestrian improvements, parking garage membrane replacement and ADA accessibility review within the project area. The Team of over 10 firms was able to effectively complete the fast-paced project on time and on budget, while students continued to move safely through the construction site.





Jacksonville Regional Transportation Center Jacksonville, FL Pond|Michael Baker International

Connections are at the heart of the groundbreaking Jacksonville Regional Transportation Center at LaVilla (JRTC). Designed by the Pond|Michael Baker International JV for the Jacksonville Transportation Authority (JTA), transit-oriented development (TOD) strategies were used to improve transportation, reduce traffic and spur economic activity in the region. The facility integrates local and regional bus networks, taxis, rental car services, an elevated rail system and space for future services into one cutting-edge facility. The JRTC features complete-street connections to the LaVilla neighborhood, a grand staircase point of entry and an elevated urban plaza for mixed-use retail opportunities and scenic views.





Gallivan Blvd. and Morton St. Improvements Boston, MA TranSystems Corporation

TranSystems was responsible for development and evaluation of alternatives and final design of improvements to roadway safety and traffic operations along the Morton Street corridor in the Mattapan neighborhood of Boston. A robust public process helped guide selection of a preferred alternative. The project included reconfiguration of the Morton Street intersections with Gallivan Boulevard and West Selden Street including installation of new traffic signals at both locations, coordination of four signalized intersections, and upgrading sidewalks and driveways to meet ADA requirements. Consistent with the Complete Streets policy the project featured safe, accessible pedestrian paths and bicycle lanes throughout the corridor.





Dorothy Pond Dredging Millbury, MA VHB

Sediment accumulation and impairments, including phosphorus from various sources, had degraded the water quality and wildlife habitat and all but eliminated recreation opportunities in the cove portion of Dorothy Pond. VHB worked with MassDOT to develop innovative dredging and water quality improvements to restore water quality, circulation, and enhance fish and wildlife habitat.

As a result of this project, Dorothy Pond has shown significant water quality improvements. The project is a model for balancing development and infrastructure needs with environmental stewardship. VHB's contributions to this project provided critical improvement to the water quality of this valuable environmental asset.





UNH Water Treatment Plant Durham, NH Woodard & Curran

The University of New Hampshire hired design-build project team Woodard & Curran and Waterline Industries to design and construct a new water treatment plant to replace its antiquated, 85-year-old facility. The new plant, designed to treat up to two-million gallons of water per day from three unique raw water sources, utilizes an efficient, zero-liquid discharge treatment process to deliver quality water to the university's campus and town of Durham, New Hampshire.





Terminal B Optimization East Boston, MA AECOM

The Terminal B Optimization project is a showcase for the power of design and engineering excellence. Travelers' experience is defined by creative engineering, because the structural "tree" columns are so memorable, and the dynamic electrochromic glazing ensures a comfortable environment. Behind the scenes, innovative engineering allows the building to limit environmental impacts through implementation of sustainable systems. During the project's construction, clever engineering enabled complex phasing to be executed, allowing the terminal to maintain continuous operation through the entirety of construction. From start to finish and beyond, Terminal B exemplifies project success through innovative design, collaboration and engineering excellence.





Fast-Tracked PFAS Treatment - Proactive Treatment Measures for Drinking Water Contaminants Barnstable, MA Environmental Partners Group

Per- and polyfluoroalkyl substances (PFAS) are man-made chemicals that have been identified as an emerging contaminant in drinking water, posing negative health effects at low concentrations. EP has been helping the Town of Barnstable install carbon filtration equipment to treat PFAS at its water supplies sites since 2015, making it one of the first systems to install such treatment in the State. As knowledge of the harmful effects of PFAS has increased, regulations have become more stringent. To proactively meet these evolving regulations, EP designed, publicly bid, and provided construction administration services for the installation of additional PFAS treatment equipment.





Six Corners Roundabout Springfield, MA Fuss & O'Neill

As part of the City's efforts to rebuild the Six Corners neighborhood after the 2011 tornado, Fuss & O'Neill partnered with the City of Springfield to develop intersection improvements at this heavily traveled intersection in the heart of Springfield. The six-legged intersection was plagued with long delays, high accident rates, and unsafe pedestrian accommodations. Fuss & O'Neill worked with the City to develop a series of potential roundabout design options for the intersection. The design balanced complex geometry challenges to meet the City's integrated goal of improved traffic circulation, improved safety, and creating a public space connecting the neighborhood.





Route 146 Interchange Reconstruction Millbury, MA Greenman-Pedersen, Inc.

The interchange reconstruction of Route 146 at West Main Street was a complex project that implemented innovative solutions to satisfy the project need as identified by both MassDOT and the public. A great deal of public interest and a clear sense of concern with the appropriateness and effectiveness of the roundabouts were raised. With construction complete and the efficient and safe operations evident at the roundabouts, the true success of this project is measured by the trust earned by the engineering community; we are a profession whose primary interest is the safety of the public with whom we serve.





Christian Science Plaza Boston, MA Nitsch Engineering

Nitsch Engineering provided civil engineering and land surveying services for the revitalization of the historically significant The First Church of Christ, Scientist plaza, which encompasses approximately 10 acres in Boston's Back Bay and has protected Landmark status by the Boston Landmarks Commission. The Church wanted to embed their mission into the site's redesign: be less wasteful, be conscious of history, and be welcoming to all. The project team uncovered decades-old drainage and plumbing techniques and identified long-term ineffectual water use. Nitsch then prioritized environmental sustainability in their restoration and repair of the plaza to better serve the Church's community.





Ride App Congestion Relief East Boston, MA Stantec

The Ride App Congestion Relief Project at Logan International Airport serves as a national model for airports managing the recent influx of ride share traffic by providing a consolidated facility that safely and efficiently processes ride share activity, while reducing airport roadway traffic volume and deadheading ride share drivers in the airport tunnels and adjacent communities. By diverting this traffic into a central location, the project enables the major roadway construction project between Terminals B and C, as well as the reconstruction of Terminal C arrival and departure curbside areas, with minimal impacts to airport operations and the traveling public.





Memorial Beach Water Treatment Plant Webster, MA Tighe & Bond, Inc.

The Town of Webster's Memorial Beach Water Treatment Plant uses an economic and sustainable filtration system to mitigate elevated levels of iron and manganese in the groundwater and provide clean, safe drinking water. Tighe & Bond Inc.'s design used GreensandPlus[™] filtration with the unique addition of a water recycling system and repurposing an existing pump station facility to provide a cost-effective long-term solution to water quality issues. With the plant located between Webster Lake and a walking track, the facility was designed to be aesthetically pleasing to the area and constructed with minimal impacts to the town's largest recreational area.



2021 EEA Finalist Award Winner Lowell Judicial Center

Lowell, MA Arup

Located within the Lowell National Historic Park, the new, 255,000 sf Justice Center forms the cornerstone of Lowell's Hamilton Canal District development master plan. The building is home to 16 new courtrooms with state-of-the-art security and technology features. Original ZNE energy targets were somewhat cost prohibitive, so the focus shifted towards designing a low energy consumption building. The courthouse is designed to only use 40% the energy of a typical facility due to the many sustainability features including a tight building envelope, coupled with daylight-maximizing glazing, chilled beams and displacement ventilation, and, photo-voltaic panels. The project is certified LEED Platinum.



Cambridge Crossing Cambridge and Somerville, MA Beals and Thomas

The Cambridge Crossing Roadway and Infrastructure Project provides the vital street and utility systems necessary to serve the 45-acre mixed-use, transit-oriented development at the intersection of Cambridge, Boston, and Somerville. The Project Team was able to overcome the complex environmental remediation, geotechnical, sewerage, and stormwater challenges to create sustainable, pedestrian- and bicycle-friendly parks and infrastructure that are the central hub of the Cambridge Crossing development. Through the successful coordination between the owner, consultants, contractors, and other stakeholders, the site that was once a former abandoned rail yard will be transformed into an attractive, new mixed-use neighborhood.



Maine Medical Center Portland, ME Simpson Gumpertz & Heger

With a two-story vertical addition to the Coulombe Family Tower, Maine Medical Center (MMC) continues their mission of expanding and modernizing the hospital. The addition, which houses the Susan Donnell Konkel Pavilion for Surgical Oncology and Marshall L. and Susan Gibson Pavilion for Medical Oncology, allows MMC to advance cancer care and adapt to evolving health care needs. The project team also helped MMC solve a critical challenge: relocating the heliport. The Linda and Diana Bean Sisters Heliport, can simultaneously support two helicopters and helps MMC expedite the time to emergency patient care.



Wachusett Pumping Station Marlborough, MA Stantec

Stantec completed design and construction engineering services for the Wachusett Aqueduct Pumping Station, a critical piece of infrastructure for the Massachusetts Water Resources Authority. The pumping station provides a redundant water supply from Wachusett Reservoir to the Carroll Water Treatment Plant, the only source of supply for 2.5 million people in the Metro-Boston area. The pumping station houses seven 700 horsepower pumps that can deliver up to 240 million gallons per day in case of failure of the Cosgrove Tunnel. The project was designed to meet Net-Zero energy goals, including geothermal and solar technologies that meet building energy needs.



2021 EEA Finalist Award Winner Kelley Square Improvements

Kelley Square Improvements Worcester, MA VHB

Kelley Square consistently ranked as one of the highest crash locations in Massachusetts, providing little to no traffic control, delineation, or meaningful bike or pedestrian accommodation. VHB delivered a Hybrid Roundabout, a first of its kind in Massachusetts, joining 7 intersecting roadways into a cohesive whole, better defining traffic patterns and establishing traffic calming measures for 40,000 motorists a day, while creating an enhanced bicycle and pedestrian environment to improve non-motorized mobility and safety and enhance local business accessibility.



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Michael Socci Owner, MAS Building & Bridge, Inc.

Katie Lannan State House News Service

Joseph F. McDonough, PE

Facilities Director, Town of Wellesley

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Founder, West Faulkner

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