BSCES NEWS

A MONTHLY PUBLICATION OF THE BOSTON SOCIETY OF CIVIL ENGINEERS SECTION/ASCE

VOL. 44 | NO. 6 | FEBRUARY 2020 EWRI Boston Chapter/Water & Environmental Solutions

UPCOMING EVENTS

Waterfront Facilities Assessment Workshop
March 12, 2020

Engineers and Land Surveyors Day at the State House *May 14, 2020*

FHWA-NHI 130110 Tunnel Safety Inspection
April 27 – May 1, 2020

FHWA-NHI-130078 Fracture Critical Inspection Techniques for Steel Bridges
June 2 – June 5, 2020

FHWA-NHI-130053 Bridge Inspection Refresher Training
September 29 – October 1, 2020

FHWA-NHI-130055 Safety Inspection of In-Service Bridges
November 30 – December 11, 2020

Further Details Inside

EQuIS™ Collect to EnviroInsite

by Mary Ann Parcher, Technical Writer and Corporate Editor, EarthSoft

Environmental remediation and compliance monitoring are time sensitive and dependent on quick access to reliable, actionable information. Data visualization is often the most appropriate means of decision support for day-to-day monitoring and site characterization. However, the time delay between data collection and data visualization is not conducive to time critical decision making. Legacy workflows include collecting field data on paper, scanning smudged documents into a computer, transcribing data into spreadsheets, and troubleshooting endless transcription errors. Boring logs, cross-sections, field observations, and water quality parameters that could have supported yesterday's decisions are generated days and weeks later, costing projects time and money.

EQuIS, EarthSoft's advanced environmental data management and decision support system, shortens the time between data collection and visualization by linking the field and office through the EQuIS Collect and EnviroInsite software applications. Environmental professionals now have near real time access to quality assured field data just minutes after it was collected. This equates to quicker response times, better management of field resources, improved accuracy in decision making, and ultimately cost savings to the project. EQuIS Collect provides field personnel with a mobile app supporting the collection and validation of any field data. Water quality parameters, risk assessment activities, lithology intervals, odor observations, XRF measurements, and more are recorded on smart forms, screened by in-form validation, verified by the EQuIS Data Processor (EDP), and committed to the EQuIS database within minutes of being collected. Upon committal, EQuIS EnviroInsite auto-generates reports such as boring logs and annotated maps to support quick decision making and two-way communication between the field and office (see figure 1 on following page). Reports that once could take weeks to generate are delivered to decision makers mere minutes after all data is collected in the field. There are a multitude of examples where this efficient communication could be useful, including the following two examples.

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President's Report

by Richard Maher, PE, Managing Associate, Perry Associates, LLC

Think safety. Please take some time today and think about workplace safety. Social media has made the awareness of serious workplace accidents instantaneous and, unfortunately, all too common. Our civil engineering industry needs to be constantly vigilant to identify the various levels of risks in our workplace.

Civil engineers are engaged in a diversified range of projects and work environments that carry a wide range of safety risks. Construction sites contain a high amount of risk for those who are onsite every day or visit infrequently. OSHA year 2018 statistics identified that 21.1% of private industry fatalities were in construction. Commonly, the following top four categories are known as the "Fatal Four:"

1. Falls (33.5%)
2. Struck by Object (11.1%)
3. Electrocutions (8.5%)
4. Caught-in/between (5.5%)

Construction sites contain many temporary conditions that change daily to achieve the project's final design. In order to adapt to unforeseen conditions during this constant state of change, we all must be diligent to ensure risks and go-no-go points are identified. These changing conditions may impact the final design by introducing construction loads that were not accounted for initially.

The infrequent visitor to a construction site has additional risks such as unfamiliarity with the site and transportation between the home office and the site. Transportation (car) accidents is another leading cause of workplace injury.

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EQuIS™ Collect to EnviroInsite

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Scenario 1:

Geologist is sent to the field with instructions from the project manager to drill a monitoring well and set a screen from 50–60 feet. As the field personnel are drilling, the geologist populates an EQuIS Collect smart form with lithology observations, the form auto-generates the appropriate USCS code, sends the code back to EQuIS in the office, and begins to construct a boring log in real time (see figure 2, below left). The smell of solvent is present at 30 feet, recorded in the form, transmitted to EQuIS, and received by the project manager. With this new information, the PM notifies the geologist and drillers to set the screen from 35–45 feet, saving time and money, and providing more appropriate data for future contaminant tracking and site characterization.

Scenario 2:

A severe weather event takes place onsite and damages several key data loggers, monitoring wells, and infield equipment. Depending on the severity level, personnel must be deployed to repair the damages in a timely manner and keep the site functioning. Using EQuIS Collect, several field technicians set out to observe the damage and rate severity levels from 1–5. Within hours, repair personnel have all necessary information and are equipped to respond to the most severe and time critical damages using a map-based severity level display (see figure 3, below right). EQuIS Collect results in better resource management, shortened response times, and more efficient emergency response planning.

Figure 1: *EQuIS Collect to EnviroInsite example with box plots, contours, time-series trend charts.*

Figure 2: *EQuIS Collect to boring log example.*

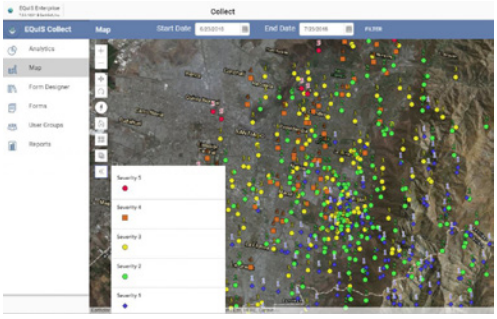

Figure 3: *Using EQuIS Collect to assess severity levels.*

Advancing the Standard for Design Storm Selection in New England

by Mitchell Heineman, PE, BCEE, D.WRE, CDM Smith, Boston

Since the 1970s, many stormwater design studies have used US Natural Resources Conservation Service (NRCS, formerly SCS) 24-hour rainfall distributions. In New England, the NRCS Type III distribution is often used as a synthetic design storm in conjunction with HEC-HMS, EPA SWMM, and other hydrologic modeling software. The Type III storm was a helpful standard when it was incorporated into NRCS' TR-55 software in 1986. However, its hyetograph, which nests intense short-duration rainfall within a large 24-hour storm, often yields unrealistic runoff in comparison with the intended level of service. The Type III hyetograph was designed for use along most of the Atlantic and Gulf coasts. While it was intended to represent a single average recurrence interval (ARI) at all durations using one standard hyetograph, its shape is not representative in many locations. Better options are available today for appropriately simulating stormwater runoff for infrastructure design.

The notion that the NRCS distributions are outdated is not original. The latest NRCS National Engineering Handbook (2019) recommends using newer approaches, and the use of continuous simulation to derive performance distributions has a long history (e.g. Strecker and Huber, 2008). However, the NRCS hyetograph is still commonly used in engineering practice despite its shortcomings.

Figure 1 shows the 10-year Type III hyetograph for Boston discretized to 15-minute increments. The storm's 5.10-inch total is obtained from NOAA Atlas 14 Volume 10 (Perica et al., 2019). The storm is centrally-weighted, with 40% of the rainfall (2.06 inches) falling between hour 11.5 and hour 12.5. As the 25-year, 1-hour rainfall depth for Boston is 2.04 inches, the Type III storm has a 25-year, 1-hour ARI!

Table 1 shows that the Type III hyetograph yields too much rainfall in comparison with Atlas 14 precipitation frequency estimates for watersheds with times of concentration from 30 minutes to 12 hours. Comparable results would be obtained elsewhere in New England.

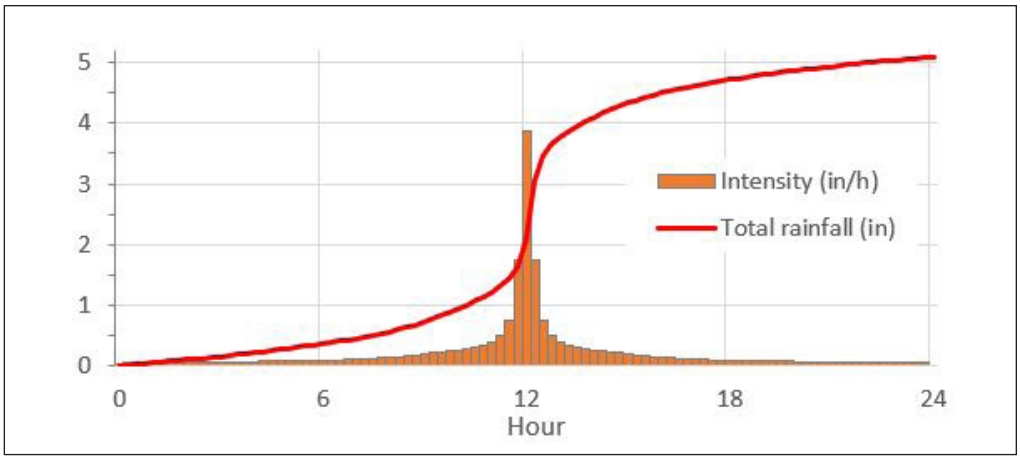

Figure 1: *10-year, 24-hour NRCS Type III hyetograph for Boston*

Today's large historic databases, updated statistical analyses, advanced computer power, owners' interests in planning infrastructure that performs at expected levels, and increased public scrutiny demand that engineers move beyond the five-decade old methodology inherent in the NRCS hyetographs. While it is now feasible to run long-term continuous simulations of historic rainfall or run multiple selected large events and determine level of service from performance across a range of storms, the design storm approach remains useful as it is easier to implement and explain. However, there are better ways engineers can serve their clients' needs instead of continuing to use NRCS hyetographs. Where a conservative approach is desirable, alternating block hyetographs matching Atlas 14 frequency statistics better represent design rainfall depths. An alternating block hyetograph places the maximum incremental precipitation at the center of the storm with remaining values arranged in descending order alternately to either side. Another practical and more accurate approach is to use selected historical hyetographs that best represent design levels.

Duration	Atlas 14 10-y rain (in)	NRCS Type III	
		Rain (in)	ARI (y)
5-min	0.58	0.36	2-yr
10-min	0.82	0.71	6-yr
15-min	0.96	0.90	8-yr
30-min	1.31	1.47	18-yr
1-hour	1.66	2.06	27-yr
2-hour	2.19	2.55	20-yr
3-hour	2.57	2.89	18-yr
6-hour	3.30	3.61	16-yr
12-hour	4.15	4.37	14-yr
24-hour	5.10	5.10	10-yr

Table 1: *10-year rainfall depths for Boston and NRCS Type III storm maxima*

Figure 2 shows an alternating block hyetograph at 15-minute intervals for Boston using Atlas 14 precipitation estimates along with the Type III cumulative hyetograph. The alternating block

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Advancing the Standard for Design Storm Selection in New England

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hyetograph outwardly resembles the Type III distribution but conforms with Atlas 14 at all durations. It is still conservative, as intense short-duration rainfall usually occurs in brief summer storms in July and August, while the greatest 24-hour totals are typically associated with hurricanes and nor'easters in September and October. Unlike the Type III shape however, this hyetograph does not overestimate depths relative to atlas ARIs.

Single design storms are the most straightforward approach for hydrologic modeling of collection systems, but do not guarantee that the selected hyetograph yields runoff rates that correspond with the intended ARI. More reliable results can be obtained through continuous simulation using a long-term precipitation record or simulating a suite of selected large storms and identifying level of service based on performance statistics over multiple storms. These more sophisticated methods entail much more work but yield limited benefit where a single design storm is deemed adequate. However, as a single design storm approach may lead to overdesign and excessive costs, an approach that requires a limited number of simulations but is not overly conservative can be worthwhile. One such approach is to simulate a small number of historic or synthetic storms that are more representative of actual storms than the Type III or 24-hour alternating block shapes described above.

Figure 3 shows depth-duration curves for three storms at Logan Airport superimposed on precipitation frequency estimates for Boston; Figure 4 shows corresponding hourly hyetographs. The August 6, 1967 thunderstorm lasted just five hours. It was close to a 10-year event at durations from 1 to 3 hours. Similarly, a 17-hour tropical storm on August 25, 1924 nearly matches the 10-y depths at 6 and 12 hours. The 39-hour nor'easter on December 11, 1992 was close to a 10-year event at 24 and 48 hours, but never exceeded 0.5 inches in a single hour. Depending on the time of concentration of a study area, each of these storms could produce 10-year runoff conditions. Assessing performance of a stormwater design for each of these events can yield sensible results for sizing infrastructure. A similar approach can be applied to designs for other ARIs.

While it is often preferable to design infrastructure conservatively to exceed the intended level of service, it is better to add safety factors based on engineering principles rather than using a methodology that yields inconsistent results. The NRCS Type III hyetograph is overly conservative. Applying a single design storm regardless of study area size is needlessly simplistic given the computing resources available for engineering studies today.

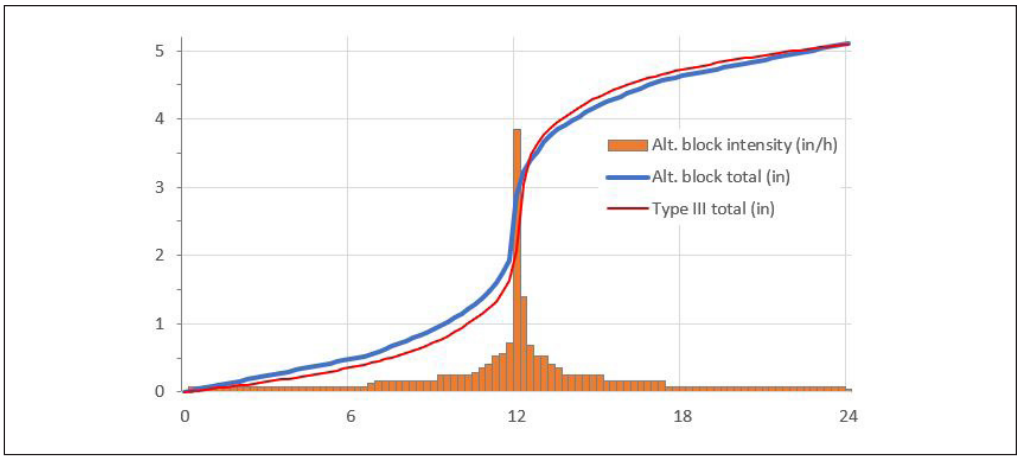

Figure 2: *10-year, 24-hour alternating block hyetograph for Boston*

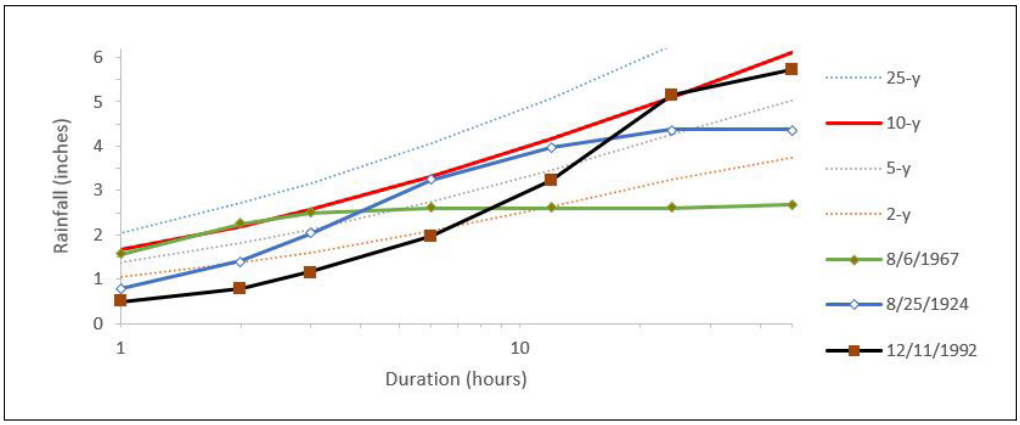

Figure 3: *Historic 10-Year Storm Depth-Duration Curves*

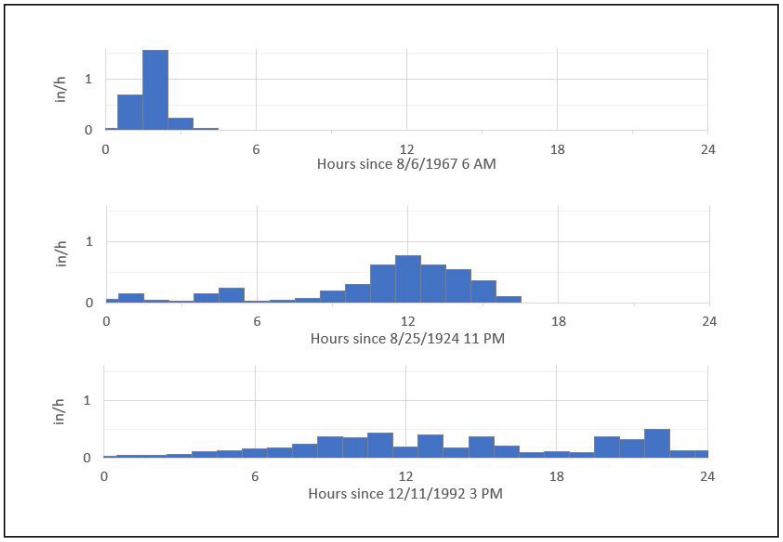

Figure 4: *Historic 10-Year Storms*

References for this article are at www.dynsystem.com/netstorm/DesignStorms.html

Boston Water and Sewer Commission Meets Major Milestone for Detection and Elimination of Illicit Discharges

by Amy M. Schofield, Project Manager, Boston Water & Sewer Commission

The Boston Water and Sewer Commission's (BWSC) storm drainage system consists of 670 miles of separate storm drains and 207 separate storm drain outfalls. Approximately 83 percent of the City of Boston is served by separate storm drains.

BWSC has been systemically investigating its storm drain system for illicit sanitary sewer discharges since the 1990s. Such discharges allow untreated wastewater to discharge to the storm drainage system and from there to receiving waters. In 2012, BWSC was issued a Consent Decree by the EPA. The Consent Decree established a deadline of August 23, 2019, by which BWSC was required to complete illicit detection and elimination (IDDE) investigations of its entire drainage system, which BWSC completed.

BWSC's methodology for illicit connection investigations generally consists of dry weather manhole inspections and dye testing of buildings. Manholes are inspected for evidence of dry weather flow. If flow is present in the manhole, it is tested for ammonia and surfactants using field test kits. Ammonia and surfactants are indicative of possible wastewater contamination in the drain. If no flow is observed, the manhole is sandbagged for a minimum of 48 hours during dry weather to capture any intermittent flows for testing. Using this method, stretches of contaminated storm drain are isolated for further investigation. Next, the buildings adjacent to the contaminated stretches of drain are dye tested while the downstream storm drain and sewer manholes are inspected for evidence of the injected dye. The appearance of dye in the storm drain indicates an illicit connection. Generally, there are three categories of illicit discharge:

Direct—this occurs when all the fixtures in the building connect to the same service line, which then connects to a storm drain in the public way. The BWSC has a contract for correcting direct illicit connections in the public way at no cost to the building owner.

Internal/Partial—this occurs when only one fixture, such as a washing machine or only a portion of a building, such as a single bathroom, connect to a drain within a building. Since these occur on private property, and the properties have a legal sewer connection, the owners are responsible for correcting the illicit connections. When these are found the owners are notified in writing that they must correct the illicit connection, typically within 60 days. If an owner does not comply, enforcement escalates as warranted until the correction is made. If the owner fails to correct the illicit connection by the final deadline water service may be terminated and/or the owner fined.

Dye in Both or "Inconclusive"—this occurs when dye appears in both the sewer and the storm drain during a dye test. Dye appearing in both the sewer and the drain may indicate a potential leaking sewer lateral, but the actual cause is unverified. To help determine the cause, the sewer and drain in the public way are televised to rule out any structural issues in the main pipes and the sewer lateral is tested. The lateral testing consists of temporarily plugging the sewer lateral from within the sewer system while placing dye in a fixture within the building. If dye appears in the drain while the sewer lateral is plugged, then the lateral is verified as leaking. Repair of a leaking lateral is the responsibility of the owner. As with the internal/partial connections, owners of leaking laterals are notified in writing that they are responsible for making repairs and they are typically given 60 days. If an owner does not comply, enforcement escalates as warranted until the correction is made. BWSC currently has a program under which owners are eligible for reimbursement up to $4,000 to help them pay for repairs to leaking sewer laterals. As with the internal/partial connections, if an owner fails to correct the illicit connection by the final deadline water service may be terminated and/or the owner fined.

In some cases, despite having dye tested all buildings adjacent to a contaminated stretch of drain, no illicit discharges are identified. These cases involve additional investigative measures such as repeat inspections and sandbagging of manholes to confirm findings; dye testing different fixtures in buildings already dye tested; dye testing previously untested buildings; and video inspecting sewers and drains to assess their structural integrity and determine if there are suspicious connections.

After an internal/partial correction or lateral repair is made, a post correction dye test of the building is performed to confirm that the illicit connection has been eliminated. After known illicit connections on a stretch of pipe have been eliminated a post correction inspection/sandbagging of the downstream manhole is performed to confirm that there is no longer any contamination in the storm drain.

At present, BWSC has identified and corrected over 1,800 illicit connections removing more than 850,000 gallons of sewage per day from the drainage system and receiving waters. Since 2000, BWSC has implemented five multi-year phases of IDDE investigations, at a cost of $9.5 million. Since 2012, BWSC's cost to correct illicit connections in the public way, test sewer laterals to verify that they were leaking to drains and reimburse owners to repair leaking laterals was

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Become a BSCESNews Contributor

Would you like to contribute to the newsletter of the oldest civil engineering society in the country? The BSCES Newsletter Editorial Board is seeking members who are willing to write articles for publication in *BSCESNews* or to join the Editorial Board.

Typically 400 to 900 words, *BSCESNews* featured articles are about technical topics or professional matters of interest to civil engineers. The April 2020 issue of the newsletter for example, will highlight the BSCES Younger Member Group and feature one or more articles on the theme of Outreach & Volunteerism.

Editorial Board members meet monthly via conference call to plan upcoming issues of the newsletter. They also solicit, write and/or review newsletter articles.

For more information on how you can become a *BSCESNews* contributor contact BSCES Newsletter Editorial Board Chair Sean Horan at Sean.Horan@gza.com or BSCES Association Manager Rich Keenan at rkeenan@engineers.org or at 617/305-4110.

President's Report

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Additional focus should be maintained while driving. Operating a vehicle is just that, and the moving vehicle is not an office. To address some of the vehicle-office issues, Massachusetts enacted a hands-free law which was effective as of February 23, 2020. The "law prohibits operators of motor vehicles from using any electronic device, including mobile telephones, unless the device is used in hands-free mode."

The writing of an engineering report may entail a low risk. But gathering data for the report may involve traveling to a location, access condition issues, and lockout/tagout that may carry a much higher risk. This is especially true if one is not adequately trained in safety and does not have the proper safety equipment.

Design engineers have many variables to consider when designing a structure. These structures are becoming more innovative and complex requiring a greater understanding of their behavior. A higher level of experience and attention needs to be given to analysis software calculations, variables, and safety factors both in the final design and temporary construction conditions. Now more than ever, design and construction engineers need to be working together to provide safe constructible solutions.

Accidents may impact only one person or many people, in addition to the first responders responsible for rescue and recovery. Consulting with experts, experienced veterans, and training can help identify risks and provide appropriate mitigating safety solutions.

The promotion of safety awareness cannot be understated as colleagues are our greatest asset and our families depend on us. Increasing safety awareness, supporting and recognizing injury-free workplaces and individuals, encouraging, education (not just a computer test, but real-world conditions and examples by industry veterans), and practicing safety can create a safety culture.

We can learn from our workplace experiences and relate them to our home life as well. Falls from ladders, chairs, tables, overreaching, etc., should be all preventable with proper planning. Just like at work, please practice good safety habits and use equipment within their intended purposes when at home.

It is essential that all project team members practice safe work habits. Accidents happen within fractions of a second. Remembering simple phases like think safety and see something, say something, may prevent an accident from occurring. We will then all be grateful. Have a safe day today.

This issue of *BSCESNews* is focused on the Environmental & Water Resources Boston Chapter and Water & Environmental Solutions. Be sure to read the page 7 featured group article written by Marc Gabriel from Nitsch Engineering.

I'd like to once again thank our Society Sponsors especially EarthSoft, Inc., which is sponsor of this February newsletter. I would encourage you to read EarthSoft's page 1 article which was written by Mary Ann Parcher and is entitled, "EQuIS™ Collect to EnviroInsite."

Detection and Elimination of Illicit Discharges

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over $5 million. These costs do not include costs to obtain permits and pay for police details.

Despite having completed IDDE investigations of its entire storm drain system, outfall screening performed in 2019 indicated that discharges from many of BWSC's outfalls still contain elevated levels of bacterial contamination. In 2020, BWSC will embark on a sixth phase of IDDE investigations aimed at identifying the remaining illicit sanitary discharges to the storm drain system. Given that BWSC has already completed IDDE investigations of its entire storm drain system it is believed that most of the direct illicit connections have already been identified and corrected. What remains may be those that are more difficult to pinpoint, such as internal/partial illicit connections in large buildings (that will require more internal dye tests); laterals that leak only under certain conditions, (such as only during high groundwater conditions); and in-system defects (such as sewer mains that are leaking sewage into the drainage system). It is anticipated that the next phase of IDDE investigation will involve trial and testing of some new and alternative investigative tools and methods. BWSC expects to solicit a Request for Proposals from qualified firms to implement the next IDDE program phase in early 2020.

Featured Group

ASCE Environmental and Water Resources Institute Boston Chapter Group Update

by Marc Gabriel, PE, Project Manager, Nitsch Engineering

The ASCE Environmental and Water Resources Institute's (EWRI's) mission is to "provide for the technical, educational and professional needs of its members, and to serve the public in the use, conservation, and protection of natural resources and in the enhancement of human well-being." The EWRI Boston Chapter aims to fulfill this mission by engaging members throughout the Commonwealth of Massachusetts in a wide range of water resources and environmental engineering subjects. The EWRI Boston Chapter hosts several events throughout the year including lectures, workshops, tours, and social/networking activities.

The chapter kicked off 2020 with a few new additions to our executive committee! We want to thank Vice Chair Denise Prussen and Secretary Maria Franko, who join Chair Marc Gabriel and Past Chair Katie Swanson. We also started to Tweet! Please follow us at @BSCES_EWRI for updates.

The EWRI Boston Chapter committee continues to meet monthly to discuss events such as the "Winter Networking Night" that EWRI hosted on February 13, 2020 at the Dorchester Brewing Company. We all enjoyed good food and drink while being able to mingle with fellow colleagues in the environmental and water resources industries. Stay tuned for similar events in the future!

We are excited to announce a save the date for the upcoming annual John R. Freeman Fund Lecture, scheduled for Tuesday, April 14th at Northeastern University. This year's lecture will feature John Sullivan, chief engineer for the Boston Water and Sewer Commission (BWSC), president of the National Association of Clean Water Agencies (NACWA), and one of the northeast's most esteemed engineers. BWSC owns, maintains and operates New England's oldest and largest water, sewer and stormwater systems. The Freeman Lecture maintains a long tradition of being held at no cost to attendees, with the focus on fostering interest in water resources engineering for students and young professionals. Please keep a look out for an event flier with registration information to be coming soon, and plan to invite a student or guest interested in hydraulics and environmental engineering to attend with you!

We also have a busy spring lineup consisting of a spring networking event as well as the biennial Thomas R. Camp Lecture on recent developments or proposed or completed research in the environmental engineering field. Please keep a look out for announcements on locations and dates of these events. Additional information about upcoming events can be found on the BSCES website.

All of these activities would not be possible without the dedication and support from our active EWRI committee members, who serve on a volunteer basis. We're always looking for new members to help run events and to bring new ideas to the table. If you're interested in getting involved with the EWRI Boston Chapter, please contact me at ewri@bsces.org for more information.

From the Desk of the BSCES Legislative Fellow

by Heather M. Ford, 2019–2020 BSCES Legislative Fellow

On any random day, as I sit down to write this article, the most "Recent and Popular Bills" (defined by the Statehouse website itself) include topics worthy of watching for civil engineers such as transportation and climate change. These will generate conversation, and maybe work, for our profession.

One initiative where both transportation and climate merge is the Transportation Climate Initiative that Governor Baker is advancing. To re-cap: Massachusetts is part of the multi-state Transportation and Climate Initiative (TCI) which is a regional collaboration of 13 Northeast and Mid-Atlantic states, working together since 2010 (10 years!) to improve transportation, develop the clean energy economy, and reduce emissions from transportation. It's a BIG Initiative that will impact 72 million people; this means that it will be an effort to get it done which will include many states and many opinions. TCI was advanced because transportation is the largest source of carbon pollution. Numerous workshops were held in Massachusetts throughout 2019 which culminated in a draft regional policy proposal released this past December 2019. Comments are due by February 28, 2020. If you are interested, a December 17th webinar and slide deck are available for public consumption on the topic.

The Governor expects to develop a Memorandum of Understanding (MOU) with the participating states but now some participating states are pulling out or questioning the pact. Where this goes is tied to Massachusetts transportation funding decisions that are unclear at the moment. Many groups, inside and outside the Legislature, have put forth ideas on how to fund transportation projects (infrastructure and investing in cleaner vehicles) in the future: gas taxes, congestion pricing, tolls, carbon tax, or, under TCI, cap and trade emissions trading. The current Legislative complaint, among others, is that TCI is done outside the Legislature, it is not a bill that is controlled by our representatives. Of course, this is good or bad depending on your point of view. There are an equal number of positive and negative refrains on this topic—where do you stand?

Some free general publications for the political junkies amongst us include subscribing to *CommonWealth* and signing up for *The Daily Download*, a "daily download on political and public policy." It gives a snappy and somewhat neutral balance on the happenings around the Commonwealth. It dumps into your email midmorning each day. Then there is the *MASSterList*, which touts itself is "your go-to source for Massachusetts political news and commentary." Every day it has short one liners on various topics and does give links to more details, sometimes to pay publications. Finally, if you want the meat of the political bills, then go onto the Statehouse website and search for the topics of interest. All of these are available for free to view and will give you a flavor of the political happenings here in Massachusetts. Happy reading!

Remembering Frank De Paola

by Anne Edelson, Senior Writer, AECOM

A dedicated and respected engineer, Francis "Frank" De Paola, former director of the construction unit for the Massachusetts Water Resources Agency (MWRA); highway administrator for the Massachusetts Department of Transportation (MassDOT), acting secretary and chief executive officer of MassDOT and general manager of the Massachusetts Bay Transit Authority (MBTA), is remembered throughout the industry with admiration and respect for his commitment to his work, gracious and unflappable personality and above all, for his love for his family.

Frank, who passed away in December, possessed that rare combination of people and technical skills that enabled him to untangle the region's most intractable infrastructure issues.

"Frank was a fine engineer and an even finer person. He knew how to break down complex issues so we could get to the roots of problems and determine how to solve them," said Fred Laskey, MWRA executive director, who worked with Frank for more than a decade and remained a life-long friend. "Frank treated everyone with respect, from the workers digging a pipeline to federal judges and state officials. He had a way of putting people at ease and had a great sense of humor. He really knew how to bring out the best in people."

Frank spent 30 years working for the public good through such municipal agencies as the Boston Water & Sewer Commission (BWSC), MWRA and MassDOT. A Brockton, Massachusetts, native, Frank's public sector career began in1984 as senior design engineer for the BWSC and culminated in 2015 when he was named chief operating officer of MassDOT and MBTA general manager. Along the way he served across the transportation and water agencies, advancing to unit director, deputy director and director of construction for the MWRA's capital engineering and construction division as well as assistant manager for design and construction at the MBTA.

"As an engineer Frank was instrumental in leading and implementing so many projects throughout Massachusetts. He left quite a legacy," added Laskey. "He touched all aspects of our infrastructure, working tirelessly to see improvements through. If you drive on our highways, take the T or drink water, you have been impacted by a project that Frank led and implemented."

Through these endeavors, Frank left an indelible mark on the Commonwealth of Massachusetts. A versatile engineer, over the years he led capital projects totaling billions of dollars that impacted and improved tens of thousands of lives including the Boston Harbor Clean-up and MetroWest Water Supply Tunnel. He also played a vital role in delivering covered water storage tanks to protect the Commonwealth's drinking water.

Frank joined MassDOT as the assistant general manager for design and construction for MBTA in 2009; however, his renowned leadership abilities led then-secretary Jeffrey Mullan to bring Frank to MassHighways in 2011 in a bid to restore public confidence and safety after a lighting fixture fell in Boston's Central Artery tunnel. Frank remained at the division through the completion of Mullan's term and continued at the agency working as highway administrator during Richard Davey's three-year tenure as secretary. Frank was named acting MassDOT secretary after Davey stepped down.

While he was slated to stay on as highway administrator following Stephanie Pollack's appointment as Secretary of Transportation, a series of record-setting blizzards in 2015 necessitated Frank's return to the MBTA to get the transit system moving once again. He became interim general manager of the MBTA in March 2015.

Frank's dedication to the transit system influenced Secretary Pollack to formalize his position. She named him MBTA general manager just a few months later. "I knew Frank was the right man for the job when I stopped in his office (for the umpteenth time) and he was online tracking down rail-borne snow removal equipment even though at the time he had no formal role at the T," Pollack said in an email released last December. "During that most challenging time, Frank kept spirits up at the MBTA while methodically working through the process of digging out."

After becoming general manager on a permanent basis, Frank conceived and executed a comprehensive winter resiliency program for the MBTA, saw the Government Station project through to completion and began the process of expanding the T's capital delivery program, all while working closely with Deputy General Manager Jeff Gonneville to improve the system's performance. Frank chose to retire as general manager after his one-year contract expired in June 2015 in order to focus on his health. And in 2016, with his health improving he took a leadership position in Boston for global

infrastructure firm, AECOM, a position he held through the end of his life.

"We were excited to have Frank join our team," said John Cardoni, AECOM's Northeast region executive. "His leadership capabilities, knowledge of the Commonwealth, engineering skills and ability to go above and beyond made him an invaluable asset to the firm. He is missed as a colleague and as a friend by all of us at AECOM and throughout the industry."

At AECOM many of the team members who had known Frank as a client had the pleasure of getting to know him as a colleague.

"I first met Frank in 2009 while I was a project manager at AECOM. At the time he was the assistant general manager for design and construction at the MBTA. But I didn't really get to know him until seven years later when we were working at the same office at AECOM," said Dave Ryan, transportation business lead for the firm's Northeast region and Frank's supervisor at the firm. "Frank was dedicated to the work. When he first started, he would repeatedly say to me, 'Hey listen I could do more.' And I would answer 'Frank you've been here for only a couple of months let's get acclimated and let the work develop.' Six months later he was going full throttle and enjoying it."

Another long-time colleague, Tom Tilas, vice president of government relations at AECOM, remembered Frank as the consummate professional who had an innate understanding of people from all walks of life.

"Frank and I were colleagues in the industry for over 30 years. I sat on both sides of the table with him. Most recently I had the luxury of sitting next to him at the AECOM offices in Boston," said Tilas. "He was a fierce guardian of

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Remembering Frank De Paola

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the public. Everyone I know in the business enjoyed working for and with Frank. He was a common guy with incredible technical and leadership ability. Everyone felt comfortable around him, from Federal judges, governors and mayors, to guys working on a pipeline or roadway project. His ability to be technically and politically adept was remarkable. He was a model for how a professional should conduct themselves in our industry."

Steve Maloney, project accountant at AECOM's Boston office, got to know Frank by riding the commuter rail as both arrived at the firm in 2016. Maloney recalled those commutes as a time for discussing work, but more importantly, sharing family news and events.

"Frank and I lived one town over from each other and would spend our commute talking, sometimes about work but more often about our families or sports or other interests. His family was his heart and soul. He adored his wife Donna and his daughters, Kristen and Kathryn, were everything to him. Everything he did was for them. They mattered to him above everything else," said Maloney. "He was just the nicest guy I have ever known, and he is very much missed."

Frank remained at AECOM and continued working up to two weeks before he passed away joining, a group of former Massachusetts Transportation Secretaries for a panel discussion to mark the tenth anniversary of MassDOT's founding. News of his death inspired tributes from colleagues, clients and Massachusetts government officials, notably these comments from Massachusetts governor Charlie Barker.

"He was a total straight shooter. He always told you what he thought. He was very committed to the work that he did," said Baker who recalled working with Frank through the Weld and Cellucci administrations. "He had a certain sort of center of gravity that he lived his life by. I think what everyone would say about Frank is that he handled his cancer the same way he handled everything else in his life, with a certain kind of quiet dignity and grace that was consistent with almost everything that he did."

Frank De Paola made an indelible mark on the Commonwealth of Massachusetts. He will be remembered as the hallmark of dedication and professionalism and his improvements will benefit residents for generations to come. Thank you, Frank for all that you did for the people of Massachusetts and for your colleagues. You will be missed.

Recent News and Updates

BSCES Awards Nominations Deadline is March 6

Do you know a worthy award recipient? If so, then download, complete and submit the 2020 BSCES Employer Recognition and/or Section Awards nomination forms contained in this newsletter by the Friday, March 6, 2020 submission deadline. The Large and Small Employer Recognition Awards are given to those organizations who exhibit exemplary support of ASCE and BSCES. The BSCES Section Awards are given to individuals who have made significant contributions to the civil engineering profession and their communities. Please see the awards nomination forms for further details.

Are You Getting the Most from Your ASCE Membership?

You may be surprised to discover how much ASCE has to offer that will help your career grow and make you more technically proficient. When you joined ASCE, you became part of the largest professional civil engineering network in the world. As a part of this community, you have access to our industry's most comprehensive communication, networking, and learning resources. Most of these resources are either absolutely free or significantly discounted. During 2019, ASCE launched some new member benefits. If you haven't already checked them out, you can do so by clicking here.

Take Advantage of ASCE's Mentor Match

Mentor Match is a tool that brings together mentors and mentees to develop workplace and technical abilities, find a proper work/life balance, resolve dilemmas and in the process perhaps even become friends.

BSCES Remembers Honorary Member and BSCES Past President Howard Simpson

Howard Simpson, a founder and first president of Simpson Gumpertz & Heger (SGH), died on 23 January 2020. Dr. Simpson established SGH in 1956 along with Frank Heger and Werner Gumpertz. His expertise in structural engineering and mechanics as applied to precision structures—such as radars, antennas, and radio and optical telescopes—and development of computer models of significant structures led SGH to quickly become one of the leading firms for solving complex engineering problems in structural mechanics. Dr. Simpson's brilliant and business-minded outlook strongly contributed to the company's success during his tenure as SGH's first chief executive officer (CEO) from 1983 to 1995 and as the head of the firm's Engineering Mechanics division until 1989. Dr. Simpson remained very active in his profession throughout his career, serving as a member and leader of many professional associations. He served as BSCES president in 1978 and was also named a BSCES Honorary Member.

Local Firm News

- CDM Smith, a 5,000-employee engineering and construction firm based in Boston, has acquired Bioscope Environmental, an environmental engineering firm that is focused on mining. Bioscope will change its name and join CDM Smith's West Perth, Australia office.
- TRC Companies, a 4,800-employee engineering consulting and construction management firm based in Lowell, Massachusetts, has purchased Environmental Partners Inc., an environmental assessment, remediation, and engineering firm based in Issaquah, Washington.
- Langan, an 1,100-employee engineering and environmental services firm with 33 offices throughout the United States and abroad, has opened a new office in Boston. The office located at 888 Boylston Street, will be led by managing principal John David Plante, P.E., M. ASCE.

SEND US YOUR NEWS! Looking to strengthen the community that is BSCES, the BSCES Executive Committee and Newsletter Editorial Board has decided to expand the content of this *BSCESNews* Recent News and Updates column by including more member news. Have you recently been recognized for a professional accomplishment, passed the Professional Engineer Exam, received a promotion, or changed employers? If so, send your news items to BSCES Association Manager, Rich Keenan, rkeenan@bsces.org.

Upcoming Events

For more information and to register for events, please visit www.bsces.org

To register online for an event at the BSCES member rate you must login using your BSCES assigned username and password. If you do not know your BSCES member login information, call 617/227-5551.

Waterfront Facilities Assessment Workshop

Sponsored by the Coasts, Oceans, Ports, and Rivers Institute Boston Chapter

Thursday, March 12, 2020
GZA Corporate Headquarters, Norwood, MA
7:30 AM – 1:30 PM

Noah J. Elwood, PE, President, Appledore Marine Engineering, LLC
Bryan N. Jones, PE, DPE, NE Ports & Maritime Lead, HDR Engineering, Inc.
Matthew J. Page, PE, Senior Project Manager, GZA
Charlie M. Roberts, PE, DPE, President, Childs Engineering Corporation

The goal of the workshop will be to provide best-of-industry guidance on the inspection and rehabilitation of waterfront infrastructure with a focus on understanding the basic modes of degradation of various materials in the marine environment and the methods to assess, mitigate and rehabilitate waterfront infrastructure.

Please see the Insert at the end of this month's newsletter for further details.

Engineers and Land Surveyors Day at the State House

Sponsored by the Government Affairs & Professional Practice Committee

Thursday, May 14, 2020
Massachusetts State House, Boston, MA
9:00 AM – 11:45 AM

On Thursday, May 14, 2020, BSCES, ACEC/MA, and MALSCE members gather at the Massachusetts State House for the annual Engineers and Land Surveyors Day at the State House along with leaders from other engineering and design-related associations. Meetings are arranged with members' Massachusetts state representatives and state senators based on where members live and vote.

Please click here for further details.

TAKE AN NHI COURSE IN 2020!

The National Highway Institute is celebrating their 50th year in operation by offering reduced attendee fees on a number of their courses offered during 2020. The BSCES Program Committee is taking advantage of this one-time opportunity by scheduling the following four NHI courses, which are being offer with reduced registration fees.

FHWA-NHI-130110 Tunnel Safety Inspection

Sponsored by the Program Committee

Monday, April 27 – Friday, May 1, 2020
AECOM, Boston, MA
8:00 AM - 4:30 PM

This five-day course is highly interactive and builds upon participants' prior knowledge of tunnel and/or bridge inspection. The course covers the entire breadth of knowledge necessary to manage or execute a successful tunnel inspection based on the National Tunnel Inspection Standards (NTIS), Tunnel Operations, Maintenance, Inspection and Evaluation (TOMIE) Manual and Specifications for the National Tunnel Inventory (SNTI). During the course, the instructor will lead participants through a series of case studies and a virtual tunnel inspection. Please note that to take this course, participants must show that they have passed one of the following pre-requisite courses: FHWA-NHI-130054, Engineering Concepts for Bridge Inspectors; FHWA-NHI-130101, Introduction to Safety Inspection of In-Service Bridges; or FHWA-NHI-130101A, Prerequisite Assessment for Safety Inspection of In-Service Bridges.

Please see the Insert at the end of this month's newsletter for further details.

FHWA-NHI-130078 Fracture Critical Inspection Techniques for Steel Bridges

Sponsored by the Program Committee

Tuesday, June 2 – Friday, June 5, 2020
AECOM, Boston, MA
8:00 AM - 4:30 PM

This course curriculum examines current practices, while addressing new and emerging technologies available to bridge inspectors. In addition, the course features classroom training; hands-on workshops for popular types of nondestructive evaluation (NDE) equipment; and a case study detailing the preparation of an inspection plan of a fracture critical bridge.

Please see the Insert at the end of this month's newsletter for further details.

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Register Today!

Thursday April 2, 2020
31st Annual Francis M. Keville Dinner
Revere Hotel Boston Common, Boston, MA
5:00 PM Reception; 6:30 PM Dinner

Sponsored by the Construction Institute Boston Chapter and The Transportation & Development Institute Boston Chapter

KEYNOTE SPEAKER: Kathleen Theoharides, Massachusetts Secretary of Energy and Environment

Please see the Insert at the end of this month's newsletter for further details.

Upcoming Events (continued from page 10)

FHWA-NHI-130053 Bridge Inspection Refresher Training

Sponsored by the Program Committee

Tuesday, Sept. 29 – Thursday, Oct. 1, 2020
AECOM, Boston, MA
8:00 AM – 4:30 PM

The major goals of this course are to refresh the skills of practicing bridge inspectors in fundamental visual inspection techniques; review the background knowledge necessary to understand how bridges function; communicate issues of national significance relative to the nations' bridge infrastructures; re-establish proper condition and appraisal rating practices; and review the professional obligations of bridge inspectors. This course is based on the "Bridge Inspector's Reference Manual," 2002 (updated 2006), with reference to the AASHTO Manual as defined by the National Bridge Inspection Standards regulation.

Please see the Insert at the end of this month's newsletter for further details.

FHWA-NHI-130055 Safety Inspection of In-Service Bridges

Sponsored by the Program Committee

Monday, Nov. 30 – Friday, Dec. 11, 2020
Hilton Garden Inn Worcester, Worcester, MA
8:00 AM – 4:30 PM

This two-week course is based on the 2015 FHWA "Bridge Inspector's Reference Manual" (BIRM) and provides training on the safety inspection of in-service highway bridges. Satisfactory completion of this course will fulfill the training requirements of the National Bridge Inspection Standards (NBIS) for a comprehensive training course. This course is not geared towards fracture critical, underwater, or complex structures. All participants must show that they passed either of the following pre-requisite courses: FHWA-NHI-130101, Introduction to Safety Inspection of In-Service Bridges or FHWA-NHI-130054 Engineering Concepts for Bridge Inspectors.

Please see the Insert at the end of this month's newsletter for further details.

ASCE Webinars

Are you planning to take an ASCE webinar? Sign up with the code WEBBOSSEC and 20% of your registration fee will be donated to the Boston Society of Civil Engineers Section/ASCE.

For a full listing of ASCE Webinars, click here.

Upcoming ASCE and Technical Institute Conferences

Register for one of these upcoming ASCE and Technical Institute Conferences today!

ASCE Week Orlando 2020
March 22–27, 2020, Orlando, FL

Structures Congress 2020
April 5–8, 2020, St. Louis, MO

World Environmental & Water Resources Congress 2020
May 17–21, 2020, Henderson, NV

Suggest a Seminar Topic

Is there an engineering topic that you would like BSCES to feature in an upcoming seminar? If so, members of the BSCES Program Committee would like to hear from you.

Charged with developing technical training programs that address members' professional development needs, the Program Committee oversees the Society's National Highway Institute training, spring and fall Professional Engineer Refresher Courses and other topical workshops. If you have a technical topic that you would the like the Program Committee to consider, send your suggestion to BSCES Program Committee Chair Jeff Lewis at jlewis@garofaloassociates.com or BSCES Association Manager Rich Keenan at rkeenan@engineers.org.

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Waterfront Facilities Assessment Workshop

Instructors: Noah J. Elwood, P.E. *(President, Appledore Marine Engineering, LLC),* **Bryan N. Jones, P.E., D.PE** *(NE Ports & Maritime Lead, HDR Engineering, Inc.),* **Matthew J. Page, P.E.** *(Senior Project Manager, GZA), and* **Charlie M. Roberts, P.E., D.PE** *(President, Childs Engineering Corp.)*

Thursday, March 12, 2020

GZA Corporate Headquarters – Main Conference Room
249 Vanderbilt Avenue, Norwood, MA 02062
7:30 am - 8:00 am Registration
8:00 am - 1:30 pm Workshop (Breakfast / Box Lunch Provided)

Based on the efforts of the COPRI Ports & Harbors Committee's work in publishing the ASCE-COPRI Manual of Practice for Waterfront Facilities Inspection and Assessment and its soon-to-be-published companion manual on waterfront facility rehabilitation, this half-day workshop is a condensed version of the full-day course recently presented at the Ports 2019 Conference in Pittsburgh, PA. The goal of the workshop will be to provide best-of-industry guidance on the inspection and rehabilitation of waterfront infrastructure with a focus on understanding the basic modes of degradation of various materials in the marine environment and the methods to assess, mitigate and rehabilitate waterfront infrastructure..

The four-hour workshop is designed to help facility operators, owners, and engineers:

- Identify material properties and modes of degradation in the marine environment
- Apply recommended inspection and assessment practices
- Identify appropriate specialized techniques for evaluation
- Examine approaches for analysis, preservation, and repair
- Use waterfront industry "lessons learned" to avoid pitfalls

Registration Deadline: Friday, March 6, 2020

$90 Members, $115 Non-Members
$75 Public Sector Members, $90 Public Sector Non-Members
$30 Senior Members (65+), Students

Information/Registration:

Register to attend this meeting and pay by credit card online at http://bit.ly/COPRIWorkshop. To register online for an event at the BSCES member rate you must login using your BSCES assigned username and password. If you do not know your BSCES member login information call 617/227-5551. You can also register for this event by mail or email. To do so, download and complete a BSCES Event Registration Form and follow the submission instructions. Cancellations received after Friday, March 6, 2020 and no-shows will be billed.

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This presentation provides (4.5 PDHs) Professional Development Hours (PDH)

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VHB
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WSP USA

31st Annual Francis M. Keville Scholarship Dinner

Keynote Speaker:

Kathleen Theoharides
Massachusetts Secretary of Energy and Environment

Thursday April 2, 2020

Revere Hotel, Grand Master Ballroom
200 Stuart Street, Boston, MA 02116
5:30 PM Reception; 6:30 PM Dinner

Registration Deadline: (Friday, March 27, 2020)

$100 Members
$135 Non-Members
$1,000 Table of 10

Information/Registration:

Register to attend this meeting and pay by credit card online at http://bit.ly/31Keville. To register online for an event at the BSCES member rate you must login using your BSCES assigned username and password. If you do not know your BSCES member login information call 617/227-5551. You can also register for this event by mail or email. To do so, download and complete a BSCES Event Registration Form and follow the submission instructions. Cancellations received after March 27, 2020 and no-shows will be billed.

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NHI

FHWA-NHI-130110
Tunnel Safety Inspection

Monday, April 27, 2020 – Friday, May 1, 2020

AECOM, 1 Federal Street, 8th Floor, Boston, MA
Monday through Friday, 8:00AM – 4:30PM

This five-day course is highly interactive and builds upon participants' prior knowledge of tunnel and/or bridge inspection. The course covers the entire breadth of knowledge necessary to manage or execute a successful tunnel inspection based on the National Tunnel Inspection Standards (NTIS), Tunnel Operations, Maintenance, Inspection and Evaluation (TOMIE) Manual and Specifications for the National Tunnel Inventory (SNTI). During the course, the instructor will lead participants through a series of case studies, concluding with a virtual tunnel inspection that takes place in a computer-simulated, 3D environment.

Please note: To take this course, participants must show that they have passed one of the following pre-requisite courses: FHWA-NHI-130054, *Engineering Concepts for Bridge Inspectors;* FHWA-NHI-130055, *Safety Inspection of In-service Bridges,* FHWA-NHI-130101, *Introduction to Safety Inspection of In-Service Bridges*; or FHWA-NHI-130101A, *Prerequisite Assessment for Safety Inspection of In-Service Bridges*. A FHWA/NHI certification of completion with the participant name on it will be required to be presented to BSCES preferably at time of registration or no later than Friday, April 3, 2020. Please forward your prerequisite certificate in the form of a PDF document to bscesreg@engineers.org. Please visit the NHI website at www.nhi.fhwa.dot.gov or contact them at 703/235-0500 for additional information on the prerequisite course requirements.

Registration Deadline: Friday, April 3, 2020

Registration Fees: $1,200 Members, $1,400 Non-Members

Registration fee includes course materials, continental breakfast, breaks, and lunch.

Information/Registration:

Attendance for this program is limited to 30 participants. Individuals who attempt to register after the course is closed will be added to a waiting list.

Reservations will be accepted on a first-come first-serve paid reservation basis. Payment must be received with registration to secure a slot. Register to attend this course and pay by credit card online at http://bit.ly/TunnelSafety2020. To register online for an event at the BSCES member rate you must login using your BSCES assigned username and password. If you do not know your login information, call 617/227-5551. You can also register for this event by mail or email. To do so, download and complete a BSCES Event Registration Form and follow the submission instructions. Cancellations or no shows after Friday, April 3, 2020 will be billed, including those that do so due to failure to take one of the prerequisite courses.

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FHWA - NHI - 130078:
Fracture Critical Inspection Techniques for Steel Bridges
Tuesday, June 2, 2020 – Friday, June 5, 2020

AECOM, 1 Federal Street, 8th Floor, Boston, MA
Tuesday through Thursday, 8:00AM – 4:30PM
Friday, 8:00 AM – 2:00 PM

This training examines current practices, while addressing new and emerging technologies available to bridge inspectors. In addition, the course features classroom training; hands-on workshops for popular types of nondestructive evaluation (NDE) equipment; and a case study.

The first day of the training focuses on the concept of fracture critical members (FCMs), FCM identification, failure mechanics, fatigue in metal, and an overview of NDE methods. Day two includes demonstration sessions and hands-on applications of NDE techniques for dye penetrant, magnetic particle testing, Eddy current testing, and ultrasonic testing. Days three and four emphasize inspection procedures and reporting for common FCMs, including problematic details, I-girders, floor beams, trusses, box girders, pin and hanger assemblies, arch ties, eyebars, and cross girders/pier caps. The course will conclude with a case study detailing the preparation of an inspection plan of a fracture critical bridge.

Please note: Prior to taking this course, participants should have completed NHI course 130055, Safety Inspection of In-Service Bridges, or possess equivalent field experience relative to bridges. Participants also should have a thorough understanding of bridge mechanics and bridge safety inspection procedures as required by the National Bridge Inspection Standards. Please visit the NHI website at www.nhi.fhwa.dot.gov or contact them at 703/235-0500 for additional information on the prerequisite course requirements.

Registration Deadline: Friday, May 1, 2020

Registration Fees: $850 Members, $1,050 Non-Members
Registration fee includes course materials, continental breakfast, breaks, and lunch.

Information/Registration:

Attendance for this program is limited to 30 participants. Individuals who attempt to register after the course is closed will be added to a waiting list. Reservations will be accepted on a first-come first-serve paid reservation basis. Register to attend this course and pay by credit card online at http://bit.ly/FractureCritical2020. To register online for an event at the BSCES member rate you must login using your BSCES assigned username and password. If you do not know your login information, call 617/227-5551. You can also register for this event by mail or email. To do so, download and complete a BSCES Event Registration Form and follow the submission instructions. Please note that cancellations or no shows received after May 1, 2020 will be billed.

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NHI

FHWA-NHI-130053

Bridge Inspection Refresher Training

Tuesday, September 29, 2020 – Thursday, October 1, 2020

AECOM, 1 Federal Street, 8th Floor, Boston, MA
Tuesday through Thursday, 8:00AM – 4:30PM

The major goals of this course are to refresh the skills of practicing bridge inspectors in fundamental visual inspection techniques; review the background knowledge necessary to understand how bridges function; communicate issues of national significance relative to the nations' bridge infrastructures; re-establish proper condition and appraisal rating practices; and review the professional obligations of bridge inspectors. This course is based on the "Bridge Inspector's Reference Manual," 2002 (updated 2006), with reference to the AASHTO Manual as defined by the National Bridge Inspection Standards regulation.

Core course topics include inspector qualifications and duties, bridge mechanics, record keeping and documentation, fatigue and fracture in steel bridges, traffic safety features, safety, National Bridge Inventory (NBI) component ratings, superstructure type identification, inspection techniques and case studies for decks, superstructures, bearings, substructures, channels and culverts, and a mock bridge inspection classroom exercise. Optional topics include inspection of truss gusset plates, adjacent box beams, and post-tensioning tendons.

Registration Deadline: Tuesday, September 1, 2020

Registration Fees: $900 Members, $1,100 Non-Members

Registration fee includes course materials, continental breakfast, breaks, and lunch

Information/Registration:

Attendance for this program is limited to 30 participants. Individuals who attempt to register after the course is closed will be added to a waiting list.

Reservations will be accepted on a first-come first-serve paid reservation basis. Payment must be received with registration to secure a slot. Register to attend this course and pay by credit card online at http://bit.ly/BridgeInspectionRefresher2020. To register online for an event at the BSCES member rate you must login using your BSCES assigned username and password. If you do not know your login information call 617/227-5551. You can also register for this event by mail or email. To do so, download and complete a BSCES Event Registration Form and follow the submission instructions. Cancellations or no shows after September 1, 2020 will be billed.

Program Committee

FHWA-NHI-130055
Safety Inspection of In-Service Bridges
Monday, November 30, 2020 – Friday, December 11, 2020

Hilton Garden Inn Worcester, 35 Major Taylor Boulevard, Worcester, MA
Monday through Friday, 8:00 AM – 4:30 PM

This 10-day course is based on the 2015 FHWA "Bridge Inspector's Reference Manual" (BIRM) and provides training on the safety inspection of in-service highway bridges. Satisfactory completion of this course will fulfill the training requirements of the National Bridge Inspection Standards (NBIS) for a comprehensive training course. This course is not geared towards fracture critical, underwater, or complex structures. Mid-term and final examinations based on course content will be administered to participants.

Please note: To take this course participants must show that they have passed one of the following pre-requisite courses: FHWA-NHI-130054 *Engineering Concepts for Bridge Inspectors*; FHWA-NHI-130101, *Introduction to Safety Inspection of In-Service Bridges*; or FHWA-NHI-130101a *Prerequisite Assessment for Safety Inspection of In-Service Bridges*. A FHWA/NHI certification of completion with the participant name on it will be required to be presented to BSCES preferably at time of registration or no later than Friday, September 25, 2020. Please forward your prerequisite certificate in the form of a PDF document to bsces@engineers.org.

Registration Deadline: Friday, September 25, 2020

Registration Fees: $2,000 Members, $2,200 Non-Members

Registration fee includes course materials, continental breakfast, breaks, and lunch

Information/Registration:

Attendance for this program is limited to 30 participants. Individuals who attempt to register after the course is closed will be added to a waiting list.

Reservations will be accepted on a first-come first-serve paid reservation basis. Payment must be received with registration to secure a slot. Register to attend this course and pay by credit card online at http://bit.ly/SafetyInspectionBridges2020. To register online for an event at the BSCES member rate you must login using your BSCES assigned username and password. If you do not know your login information call 617/227-5551. You can also register for this event by mail or email. To do so, download and complete a BSCES Event Registration Form and follow the submission instructions. Cancellations or no shows after September 25, 2020 will be billed.

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2020 Employer Recognition Awards

The Boston Society of Civil Engineers Section of the American Society of Civil Engineers Awards Committee invites you to nominate an organization to receive the Small Employer Recognition Award or the Large Employer Recognition Award. Please see the following awards description for nomination instructions. To be eligible to receive this award your award nomination must be received by the BSCES Awards Committee no later than Friday, March 27, 2020.

As a means of fostering the members of the civil engineering profession, the Boston Society of Civil Engineers Section/ASCE has established an award to recognize those employers who commit to providing exceptional opportunities to their engineers. Special recognition will go to those organizations who exhibit exemplary support as evidenced by:

1. Encouraging technical and professional growth through continuing education, training, mentoring, project experience, participation in development of technical papers or presentations, and other means.
2. Tackling staff quality-of-life issues in the modern workplace.
3. Contributing to the community to make a positive impact.
4. Encouraging active participation in professional societies such as ASCE/BSCES.

Members who want an organization to be considered for recognition should provide a letter demonstrating the firm's commitment to its engineers. Firms nominated shall be actively participating in BSCES via sponsorship, employee membership, contributions to the newsletter, etc. Letters shall include the total number of employees in the firm, number of BSCES members, and cite specific examples of its employees being actively involved in BSCES.

The awards committee will review the nominations and select an exemplary small employer and a large employer in the Section. Organizations with less than 50 employees are eligible for the Small Employer Award. Awards will be presented at the 171st BSCES Annual Awards Dinner in June. Successful recipients will be considered for endorsement as potential (future) applicants for the ASCE Employer Recognition Award. No organization will be eligible to receive the award in consecutive years.

Complete and return this nomination form and attachment to the BSCES Awards Committee no later than Friday, March 27, 2020 to be eligible for the award.

Name of Organization: _____

Nominator/Title: _____
Address: _____
Telephone: _____ Email: _____
Signature: _____ Date: _____

Organization: _____
Contact Person: _____
Title: _____
Office Address: _____ Website: _____
Telephone: _____ Email: _____

Please attach a brief (no more than two pages) narrative describing why the organization meets the criteria described in this nomination form.

Please complete this form and the additional pages and return it via email, fax, or mail to bsces@engineers.org, 617/227-6783, or BSCES Awards Committee, Boston Society of Civil Engineers Section/ASCE, The Engineering Center, One Walnut Street, Boston, MA 02108-3616, respectively. For questions, contact BSCES Awards Committee Chair Christopher Hersey at 617/590-5546 or Vice.President2@BSCES.org.

Thank you for your continued support of ASCE and BSCES.

Boston Society of Civil Engineers Section
American Society of Civil Engineers

2020 Individual Section Awards

Each year, BSCES presents awards to deserving individuals in the Section or in the community who are nominated by their peers in recognition of their service. Here is your opportunity to nominate a co-worker, friend, or someone who you think deserves special recognition. Please see the following awards descriptions and nomination instructions.

The Nominations Deadline is Friday, March 27, 2020. The Awards Committee will review all nominations and present a list of candidates for selection by the Board of Government. Awards will be presented at the 171st BSCES Annual Awards Dinner in June.

I would like to nominate _____ For the:

_____ CITIZEN ENGINEER AWARD: This award is presented to a BSCES member or registered professional engineer for outstanding public involvement in local or national legislation, education (at any level), non-profit volunteer organizations, community activities, or similar activities improving the image of ASCE, BSCES and the civil engineering profession.

_____ HORNE/GAYNOR PUBLIC SERVICE AWARD: This award is presented to a BSCES member or registered professional engineer for unpaid public service in a municipal, state or federal-elected or appointed post for philanthropic activities in the public interest.

_____ GOVERNMENT CIVIL ENGINEER AWARD: This award is presented to a BSCES member who is serving as a paid public sector engineer at a federal, state, or municipal agency, department, or authority in Massachusetts.

_____ CLEMENS HERSCHEL AWARD: This award recognizes an individual who has published a paper, not necessarily published in the BSCES Journal, that has been useful, commendable, and worthy of grateful acknowledgment. If nominating for the Clemens Herschel Award, please attach the name of the paper and names of all authors, if co-authored.

_____ JOURNALISM AWARD: This award is presented to a journalist or other author who has published one or more articles, papers, books, social media blogs, or film for a non-technical audience that raises awareness of the contributions of the civil engineering profession.

_____ PRE-COLLEGE EDUCATOR AWARD: This award is presented to a member of the K-12 educational community who integrates engineering topics, particularly civil engineering, in a manner that benefits the profession and may promote students to pursue an engineering career. The Public Awareness & Outreach Committee reviews these nominations and recommends the recipient to the Board.

_____ COLLEGE EDUCATOR AWARD: This award is presented to a member of the academic community who inspires and encourages civil engineering students through exceptional teaching and mentorship. Educators empower students to realize full potential and exemplify the profession in their classroom. Candidates shall be actively teaching in a classroom setting at a college or university in New England.

_____ YOUNGER MEMBER AWARD: This award is intended to recognize a BSCES member, 35 years of age or younger on February 1 in the year of the award, who has made an outstanding contribution to BSCES and/or the civil engineering profession.

_____ ENGINEER OF THE YEAR AWARD: This award is presented to a BSCES member, with 15 years or more professional experience, who has exhibited extraordinary leadership in the form of managerial leadership, technical excellence, professional integrity, and mentorship of other engineers.

_____ PROJECT OF THE YEAR AWARD: This award is presented to a BSCES member and her/his project team who has served in a major role on an innovative, challenging, unique, and/or complex project located in the Commonwealth of Massachusetts. The majority of the work should have been completed by engineers located within Massachusetts.

To submit a nomination, complete this form and return it by the nomination deadline via email, fax, or mail to bsces@engineers.org, 617/227-6783, or BSCES Awards Committee, Boston Society of Civil Engineers Section/ASCE, The Engineering Center, One Walnut Street, Boston, MA 02108-3616, respectively.

Name and Company Address of Nominee(s)*:

_____

_____

_____

Is this a re-nomination? Yes _____ No _____

**Please attach a brief (no more than one page) explanation of the candidate's qualifications for nomination.*

Your Name: _____ Daytime Telephone: _____ Email: _____

NOTE: *If you nominated someone last year who was not selected, you may re-nominate the individual(s).*

QUESTIONS: *Contact BSCES Awards Committee Chair Christopher Hersey at 617/590-5546 or Vice.President2@BSCES.org.*