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### SCHEDULE AT A GLANCE

#### FRIDAY, JULY 19

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00 p.m.–5:00 p.m.</td>
<td>Committee Meeting</td>
</tr>
</tbody>
</table>

#### SATURDAY, JULY 20

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 a.m.–5:00 p.m.</td>
<td>Registration</td>
</tr>
<tr>
<td>8:00 a.m.–5:00 p.m.</td>
<td>Committee Meetings</td>
</tr>
<tr>
<td>8:00 a.m.–5:00 p.m.</td>
<td>Pre-Conference Workshop</td>
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#### SUNDAY, JULY 21

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 a.m.–6:30 p.m.</td>
<td>Registration</td>
</tr>
<tr>
<td>7:00 a.m.–6:00 p.m.</td>
<td>Committee Meetings</td>
</tr>
<tr>
<td>8:00 a.m.–5:00 p.m.</td>
<td>Pre-Conference Workshops</td>
</tr>
<tr>
<td>10:00 a.m.–2:00 p.m.</td>
<td>Sporting Clays Tournament</td>
</tr>
<tr>
<td>2:00 p.m.–6:30 p.m.</td>
<td>Bookstore</td>
</tr>
<tr>
<td>5:30 p.m.–7:00 p.m.</td>
<td>Welcome Reception in Exhibit Hall</td>
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#### MONDAY, JULY 22

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 a.m.–4:30 p.m.</td>
<td>Registration and Bookstore</td>
</tr>
<tr>
<td>7:00 a.m.–8:00 a.m.</td>
<td>Committee Meeting</td>
</tr>
<tr>
<td>7:30 a.m.–9:00 a.m.</td>
<td>Welcome Breakfast and Keynote</td>
</tr>
<tr>
<td>9:00 a.m.–4:00 p.m.</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>9:00 a.m.–9:30 a.m.</td>
<td>Poster Presentation &amp; Viewing</td>
</tr>
<tr>
<td>9:00 a.m.–10:00 a.m.</td>
<td>Networking Break in Exhibit Hall</td>
</tr>
<tr>
<td>10:00 a.m.–11:30 a.m.</td>
<td>Concurrent Technical Sessions</td>
</tr>
<tr>
<td>11:30 a.m.–1:00 p.m.</td>
<td>Exhibit Hall Lunch</td>
</tr>
<tr>
<td>1:00 p.m.–2:30 p.m.</td>
<td>Concurrent Technical Sessions</td>
</tr>
<tr>
<td>2:30 p.m.–4:00 p.m.</td>
<td>Networking Break in Exhibit Hall</td>
</tr>
<tr>
<td>2:30 p.m.–3:00 p.m.</td>
<td>Poster Presentation and Viewing</td>
</tr>
<tr>
<td>4:00 p.m.–5:30 p.m.</td>
<td>Concurrent Technical Sessions</td>
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#### TUESDAY, JULY 23

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 a.m.–6:00 p.m.</td>
<td>Registration and Bookstore</td>
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<tr>
<td>7:00 a.m.–8:00 a.m.</td>
<td>Committee Meeting</td>
</tr>
<tr>
<td>8:00 a.m.–4:30 p.m.</td>
<td>Exhibit Hall</td>
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<tr>
<td>8:00 a.m.–9:00 a.m.</td>
<td>Continental Breakfast in Exhibit Hall</td>
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<tr>
<td>8:00 a.m.–9:00 a.m.</td>
<td>Diversity in Engineering Breakfast</td>
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<tr>
<td>9:00 a.m.–10:30 a.m.</td>
<td>Concurrent Technical Sessions</td>
</tr>
<tr>
<td>10:30 a.m.–11:30 a.m.</td>
<td>Networking Break in Exhibit Hall</td>
</tr>
<tr>
<td>10:30 a.m.–11:30 a.m.</td>
<td>Poster Presentation and Viewing</td>
</tr>
<tr>
<td>11:30 a.m.–1:00 p.m.</td>
<td>Awards Luncheon and Keynote</td>
</tr>
<tr>
<td>1:15 p.m.–1:45 p.m.</td>
<td>Bechtel Lecture</td>
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<tr>
<td>2:00 p.m.–3:30 p.m.</td>
<td>Concurrent Technical Sessions</td>
</tr>
<tr>
<td>3:30 p.m.–4:30 p.m.</td>
<td>Networking Break in Exhibit Hall</td>
</tr>
<tr>
<td>4:30 p.m.–5:30 p.m.</td>
<td>Concurrent Technical Sessions</td>
</tr>
<tr>
<td>6:30 p.m.–9:30 p.m.</td>
<td>Special Event (offsite) – Wildhorse Saloon</td>
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#### WEDNESDAY, JULY 24

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>7:00 a.m.–1:00 p.m.</td>
<td>Registration and Bookstore</td>
</tr>
<tr>
<td>7:30 a.m.–8:00 a.m.</td>
<td>Continental Breakfast</td>
</tr>
<tr>
<td>8:00 a.m.–9:30 a.m.</td>
<td>Concurrent Technical Sessions</td>
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<tr>
<td>10:00 a.m.–11:00 a.m.</td>
<td>Committee Meeting</td>
</tr>
<tr>
<td>9:30 a.m.–10:00 a.m.</td>
<td>Networking Break</td>
</tr>
<tr>
<td>10:00 a.m.–11:30 a.m.</td>
<td>Concurrent Technical Sessions</td>
</tr>
<tr>
<td>11:45 a.m.–1:00 p.m.</td>
<td>Wellness Lunch and Keynote</td>
</tr>
<tr>
<td>1:00 p.m.–3:00 p.m.</td>
<td>Technical Tours &amp; Top Golf Recreational Activity</td>
</tr>
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</table>
A Warm Welcome From the Conference Chairs

Welcome to the UESI Pipelines 2019 Conference in Nashville, Tennessee! The temp will not be the only thing blazing this summer. Nashville is famous for sizzling good BBQ, hot chicken, and our electrifying downtown Broadway! There’s plenty to do here in this top destination of the South!

For music lovers, there’s the Grand Ole Opry, The Country Music Hall of Fame and honky tonks and music venues practically everywhere – and Tuesday night we’ll be enjoying live music and line-dancing at the world famous Wildhorse Saloon!

If you’re a sports enthusiast, we have premium golf courses and great boating & water skiing lakes and rivers around town, or if you’re in the mood to catch a baseball game, the minor league affiliate of the Rangers, the Nashville Sounds, has home games during your visit.

Nashville is a Foodie’s paradise – meat and threes [look it up] everywhere and mac and cheese are the staple here – just like momma used to make! For those of you needing your cultural fix, Nashville has a replica of the Parthenon, President Andrew Jackson’s home, the historic Ryman Auditorium (original Grand Ole Opry), and antebellum plantations and museums for touring.

Don’t forget the main attraction – the technical content delivered at the Pipelines Conference is second to none in the industry. We have an outstanding lineup of paper presentations, workshops and vendor exhibits. And learning is in order along with all the fun – Nashville is known as the “Athens of the South” because it was the first southern city to have a public education system organized, and today the city is filled with institutions of higher learning.

We hope you packed seasonably comfortable clothing (boots, jeans and cowboy hats are a must – bless your heart!), or sensible shoes (if boots aren’t your thing), because we’re a great walking city. Bring your pocketbook and a healthy appetite for great food and for learning – this destination and conference will feed both – you’ll be full up. It’s shaping up to be a memorable conference and destination sprinkled with some southern hospitality and charm!

I look forward to seeing you there.

David Totman, M.ASCE
ASCE UESI President 2019
Director of Asset Management | Innovyze

Visit www.pipelinesconference.org | 3
PRE-CONFERENCE WORKSHOPS

SATURDAY, JULY 20

LARGE DIAMETER PIPELINE FORUM
8:00 a.m.–12:00 p.m. | Broadway 1 Ballroom

The Large Diameter Pipeline Owners Group is a consortium of large diameter pipeline owners that work together and discuss the operation, maintenance, and management of their large diameter pipe systems. The forum will discuss condition assessment, asset management, data management, transient issues, and rehabilitation strategies related to large diameter pipeline systems. Presenters will include owners, researchers, and consultants.

Session Panel: Consultant – Bob Card, P.E., Chief Pipe Engineer, LAN; Consultant – Rasko Ojdrovic, PhD, P.E., Senior Principal, Simpson Gumpertz & Heger; Consultant – John Galleher, P.E., Vice President, Pure Technologies; Research – Himan Jalali, PhD, Assistant Professor of Instruction, University of Texas Arlington; Owner – Mark Bushyager, P.E., Manager, Metropolitan Water District of Southern California; Owner – Jason Gehrig, P.E., Director of Infrastructure Engineering, Tarrant Regional Water District; Moderator – Nathan Faber, P.E., Operations and Maintenance Manager, Asset Management, San Diego County Water Authority

Registration Fee: Onsite: $245
Number of PDHs: 4 hrs

SUNDAY, JULY 21

EMERGENCY PREPAREDNESS
8:00 a.m.–12:00 p.m. | Midtown 1

In linear systems, emergencies come in many forms and often result following a natural disaster – earthquakes, hurricanes, floods or a sudden failure in the system due to age or changes in operating protocols. In water and wastewater systems, being prepared for the unexpected can mean the difference between maintaining or restoring service quickly and having a complete loss of service which will dramatically impact other emergency services.

This workshop will consist of presentations from agencies that have experienced events that disrupted service that could have easily resulted in extended down time. The presenters will share their experience and approach to prepare for the unexpected and how they managed through their events. The workshop will also identify what some agencies are doing to prepare for the unexpected.

There will be a panel discussion to answer questions related to designing for the unexpected, types of on-hand materials/spare parts, where to strategically place and maintain materials/equipment, emergency contracts and contacts, resource deployment, building resource networks, and other topics.

Workshop Lead: John R. Plattsmier, P.E., M.ASCE, Senior Vice President, HDR Engineering, Inc.

Presenters: Nathan Faber, P.E., Operations and Maintenance Manager, Asset Management, San Diego County Water Authority; Mathew Duffy, P.E., Assistant Engineering and Construction Manager, Tualatin Valley Water District; Chris Ciof, P.E., Manager, Water Distribution, Water Operations, District of Columbia Water and Sewer; Emran Rahaman, P.E., Assistant Public Works Director, Seminole Tribe of Florida Public Works; William Johnson, P.E., Emergency/Safety Manager, Seminole Tribe of Florida Public Works; Bret Berthold, P.E., Director of Operations, Metropolitan St. Lewis Sewer District; Therese Kline, P.E., Pipe Specialist, Michigan Department of Transportation; Todd King, P.E., Field Services Director, Great Lakes Water Authority; Michael Johnson, P.E., Professional Services Director, HDR Engineering.

Registration Fee: Onsite: $245
Number of PDHs: 4 hrs

UTILITY MAPPING ASSET MANAGEMENT
1:00 p.m.–5:00 p.m. | Midtown 1

The success of many projects depends on the mitigation of risk. One of the largest risks to any type of project is the uncertainty associated with the existing underground utility environment. To address utility uncertainties, the American Society of Civil Engineers has published various publications that aid in the mitigation of these risks through standardizing the process for utility asset management. The presenters will discuss utility uncertainties and the ASCE publications that assist in developing a comprehensive asset management plan for utility owners.

Presenters: James Anspach, PG (r), F.ASCE, ASCE UESI President 2018; Global Senior Principal, CARDNO; Phil Meis, P.E., M.ASCE, Utility Mapping Services, Inc.; Corey Biddle, P.E., Utility Engineering Manager, CARDNO; John Campbell, P.E., M.ASCE

Registration Fee: Onsite: $245
Number of PDHs: 4 hrs

FILLING YOUR PROJECT MANAGEMENT TOOLKIT
1:00 p.m.–5:00 p.m. | Midtown 3

If you are responsible for large infrastructure programs, you know that effective Project and Program Management can have an enormous impact on your company’s bottom line. Based on real-world experience with Kansas City’s Smart Sewer Program and Baltimore Gas & Electric’s 1300 mile Gas Main Replacement Program, this highly interactive workshop is all about achieving successful program outcomes. We will explore ways to utilize existing technology, and develop new technology, to realize significant gains in project delivery and program management.

This workshop draws from best practices developed on two pipeline megaprojects. Kansas City provides wastewater collection and treatment for approximately 420 square miles and 2,800 miles of separate and combined sewers. KC’s Smart Sewer program uses the City’s asset data and information to identify components of the collection system that needed to be replaced, rehabilitated, cleaned, surveyed, or any combination thereof.

BGE’s STRIDE Gas Main Replacement Program is designed to modernize over 1,300 miles of aging natural gas mains, and over 100,000 service lines, which make up part of BGE’s gas distribution system. This $18+ billion program spans over 20 years, and involves replacing older cast iron and bare steel, lacking cathodic protection, with new high density polyethylene and coated steel gas main.

Primary Objectives:
Develop tool set for managing pipeline projects and programs; Discuss technology and existing solutions; Benchmarking across pipeline industry sectors on project/program management techniques; Consider differences between managing pipeline projects and IT development projects.

Presenters: Paul Sylvester, P.E., PMP, Project Manager, Burns & McDonnell; Jonathan Kadiushon, P.E., LEED AP, Sr. Project Manager, Burns & McDonnell; Julie McNiff, P.E., Senior Environmental Engineer, Burns & McDonnell; Brian Hiller, GIS Consulting Section Manager, Burns & McDonnell; Amanda Griffin, P.E., Industrial Engineer, Burns & McDonnell

Registration Fee: Onsite: $245
Number of PDHs: 4 hrs
SUNDAY, JULY 21

RECREATIONAL ACTIVITIES
10:00 a.m.–2:00 p.m.

Sporting Clays Tournament
Join us at the Nashville Gun Club as we reprise this Pipelines Conference tradition. Transportation, Nashville barbeque, and great company will be provided!

Sporting clays is a form of clay pigeon shooting often described as “golf with a shotgun”, because a typical course includes from 10 to 20 different shooting stations laid out over natural terrain. No two sporting clays courses are alike, and terrain and background have a lot to do with how targets are presented. Sporting clays simulate the unpredictability of live-quarry shooting, offering a great variety of trajectories, angles, speeds, elevations, distances, and target sizes. The courses are designed to simulate the hunting of ducks, pheasants, other upland birds, and even rabbits. Meet at 10:00 a.m. in front of the hotel for transportation to the venue.

Registration Fee: $85

SPECIAL EVENTS

WELCOME RECEPTION
5:30 p.m.–7:00 p.m. | Grand Ballroom and Foyer, Conference Street Level

Join your fellow attendees in opening the conference by enjoying food, drinks and viewing the exhibits!

Included in Full, Speaker, Moderator, Municipal, Student, and Monday Daily registration rates.

Additional tickets: $85

POSTER VIEWING
Broadway Ballroom, Conference Level 1

Posters available for viewing from Sunday, July 21 at 6:00 p.m. through Tuesday, July 23 at 4:30 p.m. Presenters will be available for questions on Monday, July 22 from 9:00 a.m.–9:30 a.m. and 2:30 p.m.–3:00 p.m. and Tuesday, July 23 from 10:30 a.m.–11:30 a.m.

MONDAY, JULY 22

WELCOME BREAKFAST, WELCOME, AND KEYNOTE PRESENTATION
7:30 a.m.–9:00 a.m. | Broadway Ballroom, Conference Level 1

Join us for the introductory event of the 2019 Pipelines Conference! Start the
7:30 a.m.–9:00 a.m. | Broadway Ballroom, Conference Level 1

PRESENTATION
WELCOME BREAKFAST, WELCOME, AND KEYNOTE
MONDAY, JULY 22

9:00 a.m.–10:00 a.m. | Grand Ballroom and Foyer, Conference Street Level

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POSTER PRESENTATIONS
11:30 a.m.–1:00 p.m. | Grand Ballroom and Foyer, Conference Street Level

ASCE Past President Kristina Swallow, P.E., ENV SP, FASCE is a program manager for the City of Las Vegas, and has more than twenty-years of professional practice in water resources, transportation, and land development. She leads a team of engineers responsible for delivering public works projects and planning the sanitary sewer collection system. Kristina has been active in ASCE for more than two decades, and has served on the Utility Engineering and Surveying Institute as a Board-appointed Governor before being elected as the 2018 ASCE President. Among many past roles, she served as Region 8 Director, Region 8 Governor, Educational Activities Committee Chairman, and on ASCE’s 150th Anniversary Steering Committee. She also worked for the Office of Senator Tom Udall as a legislative assistant on transportation issues from 2010–2012. Kristina received her Bachelor of Science Degree in Civil Engineering at the University of Arizona and her Master of Science in Civil and Environmental Engineering from the University of Nevada, Las Vegas. Kristina is a licensed professional engineer in Nevada.

Lionel Cartwright, Keynote Speaker
Lionel Cartwright’s career as a composer/recording artist has been an artistic navigation of tsunami sized paradigm shifts: from network to cable TV, the music business pre- and post-Internet, from mass media to social media. He’s had #1 hits, million-play songwriting awards, toured internationally, worked as a band leader/music director for TV, and composed over 100 scoring packages for television and film.

Lionel’s artist journey isn’t just a peek inside the music business. It’s real life, take away inspiration for negotiating the inescapable change we all face.

Employing self-penned hit songs as his narrative, relating first hand acquaintance with risk, vulnerability and perseverance, Lionel brings high octane encouragement to audiences facing the same challenges.

Included in Full, Speaker, Moderator, Municipal, Student, and Monday Daily registration rates.

Additional tickets: $55

EXHIBIT HALL LUNCH
9:00 a.m.–11:30 a.m. | See Page 11
Number of PDHs: 1.5 hrs

EXHIBIT HALL LUNCH
11:30 a.m.–1:00 p.m. | Grand Ballroom and Foyer, Conference Street Level

Enjoy lunch as you tour this year’s exhibit hall, meet exhibitors, and learn about the exciting new developments and products in the pipelines industry.

Included in Full, Speaker, Moderator, Municipal, Student and Monday Daily registration rates.

Additional tickets: $55

Sponsored by: Northwest Pipe Company

CONCURRENT TECHNICAL SESSIONS
1:00 p.m.–2:30 p.m. | See Page 12
Number of PDHs: 1.5 hrs

POSTER PRESENTATIONS
2:30 p.m.–3:00 p.m. | Broadway Ballroom Foyer, Conference Level 1
**NETWORKING BREAK**
2:30 p.m.–4:00 p.m. | Grand Ballroom and Foyer, Conference Street Level

**CONCURRENT TECHNICAL SESSIONS**
4:00 p.m.–5:30 p.m. | See Page 13
Number of PDHs: 1.5 hrs

**TUESDAY, JULY 23**

**EXHIBIT HALL OPEN**
8:00 a.m.–4:30 p.m. | Grand Ballroom and Foyer, Conference Street Level

**CONTINENTAL BREAKFAST**
8:00 a.m.–9:00 a.m. | Grand Ballroom and Foyer, Conference Street Level

**DIVERSITY IN ENGINEERING BREAKFAST**
8:00 a.m.–9:00 a.m. | Broadway Ballroom 1,
Conference Level 1

Breakfast will precede the Diversity in Engineering Forum and will provide an excellent opportunity for networking with colleagues from across the industry. Based upon the success of last year’s Women’s Forum, this year’s Forum will be on Diversity in Engineering and the Panel Discussion will feature a guided discussion covering a wide array of topics tailored for women, minorities and all those of diversity within the water and wastewater industry. Tips, stories and guidance on day-to-day interactions, how to manage challenging situations and achieving your career vision will be explored. The Panel will feature a group of esteemed members of the pipeline community that can speak directly to the topics to be covered. We invite and encourage all attending Pipelines to attend – from younger members to seasoned veterans – to join us for this groundbreaking morning session.

**CONCURRENT TECHNICAL SESSIONS**
9:00 a.m.–10:30 a.m. | See Page 14
Number of PDHs: 1.5 hrs

**NETWORKING BREAK**
10:30 a.m.–11:30 a.m. | Grand Ballroom and Foyer, Conference Street Level

**POSTER PRESENTATIONS**
10:30 a.m.–11:30 a.m. | Broadway Ballroom Foyer, conference Street Level

**AWARDS LUNCHEON AND KEYNOTE**
11:30 a.m.–1:00 p.m. | Broadway Ballroom Foyer, Conference Level 1

Please join us in celebrating the achievement by the winners of the 2019 Stephen D. Bechtel Pipeline Engineering Award and the ASCE Pipeline Division Award of Excellence. This annual awards luncheon will include a State of the Division address and conclude with a keynote speech by our guest of honor, Mr. George S. Hawkins, Esq.

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**2019 Stephen D. Bechtel Pipeline Engineering Award**
Established by the ASCE Board of Direction in 1970, this award recognizes outstanding achievements in pipeline engineering. The Bechtel Foundation donated funds to support the award in honor of contributions made by Stephen D. Bechtel. The award is made annually to an ASCE member who has made a significant contribution to the advancement of pipeline engineering in research, planning, design, or construction. The 2019 Stephen D. Bechtel Award goes to Graham Bell.

**Graham E.C. Bell**
Dr. Graham E.C. Bell, P.E. is a Senior Vice President and Business Class Director for Condition Assessment and Rehabilitation of HDR Engineering, Inc. Graham received his Engineering degrees from the UCLA School of Engineering and Applied Sciences. Dr. Bell has more than 35 years of experience in design, construction and forensic evaluation of buried piping systems. Graham is a registered Professional Engineer in nine states and is also certified by NACE International as both a Corrosion and Cathodic Protection Specialist. Dr. Bell is a Fellow of both NACE International and ASCE.

**ASCE Pipeline Division Award of Excellence**
The ASCE Pipeline Division Award of Excellence was established in 1988 by the Pipeline Division. It is given to a Fellow, Member, or Associate Member of ASCE who is adjudged by the Executive Committee to have given outstanding continuous and conspicuous service to the profession, ASCE, and the Pipeline Division. Our honorees this year are John Segna and Sam Ariaratnam.

**John J. Segna**
John J. Segna, PE, BCEE, FASCE is a recipient of the 2019 Pipelines Division Award of Excellence for his service and leadership with the Pipeline Division since 2001. John served as the Director of UESI before retiring in December 2018. In 2014 as the Director of ASCE’s Committee on Technical Advancement, John was staff contact for the establishment of a task committee investigating the creation of UESI. In the fall of 2015, UESI was initiated and John became UESI’s first Director. John is a Registered Professional Engineer and a Board-Certified Environmental Engineer with over 40 years of experience in the public, private, academic and nonprofit sectors involving environmental engineering and project and program management. John attended Manhattan College in NYC, where he earned his Bachelor’s in Civil Engineering and a Master’s in Environmental Engineering. He also earned a Master’s in Business Administration from George Washington University. John held several management positions while employed by ASCE. They included Senior Manager for the Committee on Professional Practice, Director for the Technical Activities Committee and the Committee on Technical Activities and the Director of UESI. John currently volunteers for ASCE, UESI, ABET, Habitat for Humanity and is an active grandfather for his 1-year-old grandson.

**Samuel T. Ariaratnam**
Dr. Samuel T. Ariaratnam, Ph.D., P.E., P.Eng., FCAE is a Professor and Construction Engineering Program Chair in the Ira A. Fulton Schools of Engineering at Arizona State University with over 20 years of experience in trenchless engineering research and education. He received his B.A.Sc. in Civil Engineering from the University of Waterloo and his M.S. and Ph.D. from the University of Illinois at Urbana-Champaign. Dr. Ariaratnam has published over 300 technical papers and reports and is a coholder of five patents. He has received numerous awards including the 2012 North American Trenchless Technology Person of the Year. Additionally, Sam has received recognition from the American Society of Civil Engineers (ASCE), where he received the John O. Bickel Award and the Arthur M. Wellington Prize. Dr. Ariaratnam
George S. Hawkins, Esq. – Keynote Speaker
Prior to joining DC Water, Mr. Hawkins was Director of the District of Columbia Department of Energy and the Environment and served as Executive Director of several non-profit organizations in New Jersey, including the Watershed Institute, and previously held senior positions with the U.S. Environmental Protection Agency and the law firm Ropes & Gray.

Keynote Summary: Many lament that estimates of resource needs to upgrade the nation’s infrastructure measure in the hundreds of billions per year. For water utilities, however, these estimates are almost always incorrect – and not because the calculations are wrong, but because they are founded on cost estimates based on past practices. Today, tried and true approaches can enable utilities to improve services at lower cost – saving ratepayer funds and providing flexibility for new investments. George will highlight practical examples of approaches that achieve the Moonshot of a “better, faster, cheaper” outcome. He will then explore why these approaches have not been adopted more readily and conclude with practical steps any organization, large or small, can take to get on the road to achieving their innovation Moonshot.

Included in Full, Speaker, Moderator, Municipal, Guest, Student and Tuesday Daily registration rates.

Additional tickets: $65

Keynote Speaker: Johanna will talk about health at work, health at home and how to protect our families, common food allergens, how disease starts, ingredients in everyday products. She will give us some useful tips on resources and suggestions for eating while on the road, possibilities for upgrading work travel, and stress management.

Keynote Summary: Johanna Belsuzarri – Keynote Speaker
Johanna is the Founder of Local Latin, an international events firm dedicated to the Health & Wellness industry. Born in Peru, she lived in Argentina & Brazil and is fluent in English, Spanish and Portuguese. She has had the opportunity to work for Apple, as head of Latin America for their meetings and events department. She brings her expertise, love of Latin America, and global knowledge to each event.

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Keynote Summary: Many lament that estimates of resource needs to upgrade the nation’s infrastructure measure in the hundreds of billions per year. For water utilities, however, these estimates are almost always incorrect – and not because the calculations are wrong, but because they are founded on cost estimates based on past practices. Today, tried and true approaches can enable utilities to improve services at lower cost – saving ratepayer funds and providing flexibility for new investments. George will highlight practical examples of approaches that achieve the Moonshot of a “better, faster, cheaper” outcome. He will then explore why these approaches have not been adopted more readily and conclude with practical steps any organization, large or small, can take to get on the road to achieving their innovation Moonshot.

Included in Full, Speaker, Moderator, Municipal, Guest, Student and Tuesday Daily registration rates.

Additional tickets: $65

Keynote Speaker: Johanna will talk about health at work, health at home and how to protect our families, common food allergens, how disease starts, ingredients in everyday products. She will give us some useful tips on resources and suggestions for eating while on the road, possibilities for upgrading work travel, and stress management.

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West Park Equalization Facility

West Park Equalization Facility, completed in 2018, was a collaborative project between Metro Nashville Parks and Recreation and Nashville Metro Water Services. The project includes new recreation amenities to support the rapidly-developing adjacent communities, as well as updated wastewater system infrastructure to address sanitary sewer overflows and improve water quality in Richland Creek.

Through two phases of construction, the wastewater equalization facility now consists of a 45 million gallon per day, wet-weather pump station and two storage tanks totaling 31 million gallons. That is in addition to the West Park Pumping Station that sends flow to the wastewater treatment plant. The new storage tanks are utilized when sewer flows exceed the capacity of the existing West Park Pumping Station.

Due to the location of the facility within an existing Metro park, the project also delivered numerous new features for parks users, including a playground, a picnic pavilion, and ball fields, in addition to planting over 200 trees on the site. The numerous sustainable features incorporated into the design and construction earned the Envision Platinum Award from the Institute for Sustainable Infrastructure (ISI). This was the first joint wastewater and park project in the U.S. to receive an ISI Envision rating award.

CONFERENCE AGENDA

Tour both the equalization facility and the adjacent park to learn more about this collaborative project’s initiation, design, and construction challenges, as well as see how the park and facility are used by the surrounding community.

Registration Fee: Early Bird: $35 | Advance: $45 | Onsite: $50
Number of PDHs: 1 hr

RECREATIONAL ACTIVITY

1:00 p.m.–3:00 p.m.

Take one last opportunity to have fun and say goodbye to your friends before heading home! Nashville Topgolf is a sports entertainment complex that features an inclusive, high-tech golf game that everyone can enjoy. Paired with an outstanding food and beverage menu, climate-controlled hitting bays and music, every Topgolf has an energetic hum that you can feel right when you walk through the door. Transportation and bay reservations are provided.

Registration Fee: $50

Sponsored by: [Sponsor Logo]

Meet at 1:00 p.m. in front of the hotel for transportation to all tours and Top Golf venue.

MEETING SPACE
**CONFERENCE AGENDA**

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<th>TIME</th>
<th>MEETING ROOM</th>
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<tr>
<td>UESI Board of Governors</td>
<td>Friday, July 19</td>
<td>1:00 PM – 5:00 PM</td>
<td>Melrose (Conf. lower level 1)</td>
</tr>
<tr>
<td>Thrust Restraint Design for Buried Pipelines Task Committee</td>
<td>Saturday, July 20</td>
<td>8:00 AM – 5:00 PM</td>
<td>Melrose (Conf. lower level 1)</td>
</tr>
<tr>
<td>Pipe Bedding, Backfill, and Trench Shoring Systems Task Committee</td>
<td>8:30 AM – 12:30 PM</td>
<td>12 South 1 (Conf. lower level 1)</td>
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<tr>
<td>Pipeline Infrastructure Committee</td>
<td></td>
<td>11:00 AM – 4:00 PM</td>
<td>Midtown 1 (Conf. lower level 2)</td>
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<tr>
<td>Pipeline Location &amp; Installation Committee</td>
<td></td>
<td>1:00 PM – 3:00 PM</td>
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<tr>
<td>UESI Magazine Editorial Board</td>
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<td>3:00 PM – 5:00 PM</td>
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<tr>
<td>UESI Standards Division Executive Committee</td>
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<td>12 South 1 (Conf. lower level 1)</td>
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<tr>
<td>UESI Pipeline Division Executive Committee</td>
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<td>8:00 AM – 5:00 PM</td>
<td>Melrose (Conf. lower level 1)</td>
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<tr>
<td>Inspecting Pipeline Installation Task Committee</td>
<td>8:00 AM – 5:00 PM</td>
<td>12 South 2 (Conf. lower level 1)</td>
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<tr>
<td>Seismic Design of Buried Pipelines Task Committee</td>
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<tr>
<td>Utility Risk Division Executive Committee</td>
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<td>8:00 AM – 12:00 PM</td>
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<tr>
<td>Pressure Pipeline Design for Water and Wastewater Task Committee</td>
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<td>Utility Asset Management Division Executive Committee</td>
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<td>Lateral Rehabilitation Task Committee</td>
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<td>9:00 AM – 12:00 PM</td>
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<tr>
<td>Pipeline Journal Publications Committee</td>
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<td>9:00 AM – 12:00 PM</td>
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<tr>
<td>Trenchless Installation of Pipelines (TIPS) Committee</td>
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<td>Hydraulic Transient Analysis of Transmission Systems Task Committee</td>
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<tr>
<td>UESI Younger Membership Engagement Committee</td>
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<td>Direct Pipe &amp; Other Directional Microtunnel Install Methods Task Committee</td>
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<td>AWWA CIPP Standard Subcommittee</td>
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<td>7:00 AM – 8:00 AM</td>
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<td>Pipelines 2020 Conference Steering Committee</td>
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<td>10:00 AM – 11:00 AM</td>
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**Due to last minute requests, please double check meeting schedule updates as reflected in our live platforms:**


**POSTER PRESENTATIONS**

Posters will be available for viewing from Sunday, July 21 at 6:00 p.m. through Tuesday, July 23 at 4:30 p.m. Presenters will be available for questions on Monday, July 22 from 9:00 a.m. – 9:30 a.m. and 2:30 p.m. – 3:00 p.m. and Tuesday, July 23 from 10:30 a.m. – 11:30 a.m.

**Planning & Design**

- **534369** – Alternatives Analysis Leads to Over a Mile of 12-Foot Diameter Tunnel – Wendy M. Lundein, Greg Crews, Roel E. Huerta
- **600000** – Damping in Transient Pressurized Flows – Sahad Salim Elyass Khilqa, Mohamed Elkholy, Mohammed H. Al-Tofan, Juan M. Caicedo, M Hanif Chaudhry
- **535583** – Development of a National Sewer Inventory for Sewer Pipeline Assessment and Certification Program (PACP) Inspection Data – Hossein Khaledgian, Yangwei Shan, Phil Lewis
- **610000** – Blockage Detection in Liquid Pipelines – Mohammed H. Al-Tofan, Mohamed Elkholy, Sahad Salim Elyass Khilqa, Juan M. Caicedo, M Hanif Chaudhry
- **534504** – Assessment Protocols for Polymer Sprays on Concrete Maintenance Holes – Ian Moore, Neil Hoults, Jane Peter, Joshua Treitz
- **533099** – Geopolymer: What is It and How is it Best Used for Infrastructure Rehabilitation – Steve Henning, Mohamed Gamal

**Condition Assessment**

- **534504** – Assessment Protocols for Polymer Sprays on Concrete Maintenance Holes – Ian Moore, Neil Hoults, Jane Peter, Joshua Treitz
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**Construction and Rehabilitation**

- **534504** – Assessment Protocols for Polymer Sprays on Concrete Maintenance Holes – Ian Moore, Neil Hoults, Jane Peter, Joshua Treitz
- **533099** – Geopolymer: What is it and How is it Best Used for Infrastructure Rehabilitation – Steve Henning, Mohamed Gamal

**Multidiscipline**

- **535506** – GIS Web-Based Water Pipeline Data Visualization for Decision Support – Jayraj H. Patel, Sunil K. Sinha
- **536031** – Numerical Study on Impact of Excavations on Lifeline Facilities – Sedigheh Hasanpour Estabbanati, Reza Boushehri, Abbas Soroush, Omid Ghasemi-Fare
- **535629** – Risk Analysis for Pipeline Installation By Horizontal Directional Drilling – Amir Tabesh, Mohammad Najafi, Zahra Kohankar, Mohammadreza Malek Mohammadi, Farwa Sultan
- **535687** – Adding Additional Reinforcement to Improve the Structural Performance of Spray Applied Pipe Lining – Zahra Kohankar, Amin Darabnoush Tehrani, Jeffrey Syar, Mohammad Najafi, Norman Edward Kampbell
- **534157** – Buckling of Thin-Walled High Density Polyethylene Liners Encased in Rigid Pipes Under External Pressure and Thermal Effects – Zhaochao Li, Junxing Zheng, Quan Sun, Hantao He
- **535610** – Comparison of Environmental Impacts of Steel and Concrete Pressure Pipes – SeyedmohammadSaadegh Jalalediny Korky, Vasudeva Kaushik Nandyal, Mohammad Najafi

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Congratulations Dr. Graham Bell

Congratulations Graham for receiving the 2019 ASCE Stephen D. Bechtel Pipeline Engineering Award. We’re proud for all you do!

See our other experts during UESI Pipelines 2019

Mark S. Mihm, PE, ENV SP, MASCE
Conference Steering Committee
Technical Program Co-Chair

John Plattsmier, PE, MASCE
Michael Johnson, PE, CFM
Workshop: Emergency Preparedness
Sunday, July 21, 8:00-12:00pm

Susan Donnally, PE
Track C: Condition Assessment 1 - Pipeline Management
Monday, July 22, 10:00-11:30am

Scott Christensen, PE
Track E: Construction & Rehabilitation 1 - Rehab
Monday, July 22, 4:00-5:30pm

Keith Bushdiecker, PE
Track F: Construction & Rehabilitation 2 - Cured in Place Pipe
Tuesday, July 23, 2:00-3:30pm

Mike Gossett, PE, PMP, ENV SP
Track B: Planning & Design 2 - Routing
Tuesday, July 23, 4:30-5:30pm

John Plattsmier, PE, MASCE
Track C: Condition Assessment 1 - Design Considerations
Tuesday, July 23, 4:30-5:30pm

Christopher Haeckler, PE
Track D: Condition Assessment 2 - Quantitative Analysis
Wednesday, July 24, 8:00-9:30am
### TECHNICAL PROGRAM – MONDAY, JULY 22

7:30 a.m.–9:00 a.m. – Welcome Breakfast and Keynote Speaker

9:00 a.m.–10:00 a.m. – Networking Break in Exhibit Hall

10:00 a.m.–11:30 a.m. – Concurrent Technical Sessions

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<td>Development of a Prescriptive Approach for Water Main Seismic Design Guidelines</td>
<td>Speaker(s): William Heubach, Michael McReynolds, Sri Rajah</td>
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<td>535609</td>
<td>Finite Element Analysis of Steel Lap Welded Joint Behavior Under Severe Seismic Loading Conditions</td>
<td>Speaker(s): Gregory Sarvanis, Giannoula Chatzopoulou, Spyros Karamanos, Dimitris Fappas, Gregory Lucier, Brent Keil, Richard Mielle</td>
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<td>535709</td>
<td>Axial Connection Force Capacity Required for Buried Pipelines Subjected to Seismic Permanent Ground Displacement</td>
<td>Speaker(s): Brad Wham, Craig Davis, Sri Rajah</td>
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<td>Speaker(s): Grant Gartrell, Timothy Kuhns, Kerelyn Paris, Philip Ryan, Jason Matteo</td>
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<td>Speaker(s): Rosa Valdez, Jacqueline McMahen, David Bennett</td>
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<td>534829</td>
<td>Challenges with Designing a Potable Water Transmission Pipeline across the Navajo Reservation</td>
<td>Speaker(s): Hubert Quintana, Hilda Castillo Smith, Ryan Gladden</td>
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<td>Speaker(s): Jim Geisbush, Jennifer Jia, Jessica Torrey, Stephanie Prochaska</td>
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<td>Speaker(s): Jim O'Dowd</td>
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<td>Speaker(s): Todd King, Jody Caldwell, Bryan Wood, Susan Donnally, Dustin Park</td>
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<td>535467</td>
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<td>Condition Assessment and Repair Prioritization of a Large Diameter Pipeline System</td>
<td>Speaker(s): Andrew Williams, Kristen Peterson, Peter Nardini, Rasko Odjovic</td>
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<td>Speaker(s): Benjamin Turnage, Todd Bosso, Dave Hunniford</td>
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<td>Speaker(s): Victoria Pilko, Vicki Francis, Anna Pridmore, Gary Skipper, Ari Elden, Mark Geraghty, Rasko Odjovic, Dan Bunce</td>
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<tr>
<td>535677</td>
<td>How Cost Effectiveness is Machine Learning/AI Applied to Leak Detection and Pipe Replacement Prioritization?</td>
<td>Speaker(s): Greg Baird, Paul Carpenter, Becky Tamashaky</td>
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<th>TRACK H</th>
<th>UES</th>
<th>Matthew Duffy</th>
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<td>BROADWAY 1</td>
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<tr>
<td>SESSION H1</td>
<td>CSO – KEEPING THE OUT IN</td>
<td>SHELBIE JOHNSON</td>
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<tr>
<td>535631</td>
<td>CSS Control in the Derby City</td>
<td>Speaker(s): Kyle Novak, Kelley Florence, Jacob Mathis</td>
</tr>
<tr>
<td>537214</td>
<td>Success of the Rain-Derived Inflow and Infiltration Program in Portland, OR</td>
<td>Speaker(s): Tammy Cleys, Ian Besaw, David Collins, Henry Young</td>
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<tr>
<td>535507</td>
<td>Powering Pipeline Monitoring Sensors Using Locally Available Energy</td>
<td>Speaker(s): Kalyan Piratla, Harshit Shukla, Harsh Desai, Jacob Sorber</td>
</tr>
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Visit www.pipelinesconference.org | 11
11:30 a.m.–1:00 p.m. – Exhibit Hall Lunch
1:00 p.m.–2:30 p.m. – Concurrent Technical Sessions

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**SESSION A2**
OPTIMIZATION
AHMAD HABIBIAN
535005 – Optimization of Pump Parameters for Repowering an Existing Pipeline with Uncertain Evolution of Equivalent Roughness
Speaker(s): Maximiliano M. Sánchez, Maximiliano A. Oportus
535021 – Optimizing Chemical Main Bar Wrapped Water Transmission
Modeling to Optimize Pipe Assessment and Desktop Using Evidence-Based Condition Assessment and Mussel Cleaning via Design-Build Swabbing & Pigging Operation
Speaker(s): J WTP: Intake Fouling Assessment and Mussel Cleaning via Design-Build Swabbing & Pigging Operation
Speaker(s): Niall Robertson
535071 – Multi-sensor Inspection Technology: Better Data, Better Decisions
Speaker(s): Csaba Ékes
533697 – Pardee Tunnel Inspection and Condition Assessment
Speaker(s): Raffi Moughamian, Marshall McLeod
533088 – Toronto Water’s Island
Speaker(s): Maximiliano M. Sánchez, Maximiliano A. Oportus

**SESSION B2**
TRENCHLESS
CHRISTINE ELLENBERGER
535228 – Challenging 72-inch
Duel Pipe Relocations Through Nob Hill for San Diego County Water Authority
Speaker(s): Robert Card, Brent Fountain
534137 – Certa-Lok: A Restrained Joint Pipe System for Trenchless Applications
Speaker(s): Rowena Patenaude
535591 – Tunneling the Largest
Water Line for the City of Houston
Speaker(s): Michael Salinas, Michael Lugo, Venus Price, Kevin Tran
535675 – Optimal Operational Decisions
Technology: Better Data, Better
Operation
Build Swabbing & Pigging
and Mussel Cleaning via Design-Build Swabbing & Pigging Operation
Speaker(s): Niall Robertson
535071 – Multi-sensor Inspection Technology: Better Data, Better Decisions
Speaker(s): Csaba Ékes
533697 – Pardee Tunnel Inspection and Condition Assessment
Speaker(s): Raffi Moughamian, Marshall McLeod
533088 – Toronto Water’s Island
Speaker(s): Maximiliano M. Sánchez, Maximiliano A. Oportus

**SESSION C2**
TUNNELS AND PENSTOCKS
MURAT ENGINDENIZ
533088 – Toronto Water’s Island
WTP: Intake Fouling Assessment and Mussel Cleaning via Design-Build Swabbing & Pigging Operation
Speaker(s): Niall Robertson
535071 – Multi-sensor Inspection Technology: Better Data, Better Decisions
Speaker(s): Csaba Ékes
533697 – Pardee Tunnel Inspection and Condition Assessment
Speaker(s): Raffi Moughamian, Marshall McLeod
533088 – Toronto Water’s Island
Speaker(s): Maximiliano M. Sánchez, Maximiliano A. Oportus

**SESSION D2**
PCCP
ALI ALAVINASAB
534837 – Ultrasonic Measurements for Condition Assessment of PCCP
Speaker(s): Salvador Villalobos, Paul Fisk, Richard Stark
535696 – Assessment and Repair of Coastal Water Authority’s
60-inch PCCP Pipeline along Independence Parkway
Speaker(s): Gregory Henry, Greg Olinger
535556 – Breathing 20-Years of Life into Expired PCCP Segments – How a Regional Medical Center
Was Able to Save Their Pipeline
Speaker(s): Amber Wagner, Brian Winberger

**SESSION E2**
PLANNING
MUHAMMAD MUDASSAR
534077 – 2-Layer Polyethylene Extruded Factory Applied Pipe Corrosion Coating
Speaker(s): Samuel Thomas, Dennis Dechant
533313 – To Buy or Not to Buy: Deciding Whether to Pre-Purchase Pipe
Speaker(s): Eric Engelskirchen, Scott Maughn, David Burkhardt
533566 – Sanitary Conveyance and Treatment Improvements: Western Regional: Progressive Design-Build Project
Speaker(s): Larry Gaddis, Clint Wilson, Renee Miller, Galen Mahoney
5329483 – DC Water New Jersey
B Street 10 to 18 Foot Diameter Trunk Sewer Rehabilitation with Geopolymer During Live Dry Weather Flow
Speaker(s): Scott Naiva, Steve Bian, Tim Bako
534785 – Analysis of Microtunnel Data Confirms Geostrata for a Curved Microtunnel in the City of Brantford
Speaker(s): Troy Bauman, Matthew Walsh, Paul Headland
532440 – Tunnels Under Howard County - Construction of 36-inch Bar Wrapped Water Transmission Main
Speaker(s): Paul DiMarco, Chelsea Pearce, Louis Ragazzino
535659 – Strain Demands on Buried Pipelines from Earthquake-Induced Ground Movements
Speaker(s): Craig Davis, Sri Rajah, Brad Wham, Bill Heubach
534299 – Tractive Force–A Key to Non-Cohesive Solids Transport in Gravity Flow Drainage Pipes
Speaker(s): LaVere Merritt, Kevin Entfinger
535317 – Which Pipe First?
Using Evidence-Based Condition Assessment and Desktop Modeling to Optimize Pipe Replacement
Speaker(s): Nimarta Gill, Jay Shah
535110 – Water Pipeline Infrastructure Systems Understanding for Performance Analysis
Speaker(s): Anmol Vishwakarma, Sunil Sinha
534452 – DCWATER At Work: Optimal Risk Management of Construction Close to Buried Linear Assets
Speaker(s): Steve Bian, Brian McDermott
535272 – 72-Inch Wastewater Point Repair Rehabilitation in Dallas, Texas
Speaker(s): Marty Paris, Ashlyn Morgan

**SESSION F2**
TRENCHLESS
BRENT HAUSER
5329483 – DC Water New Jersey
B Street 10 to 18 Foot Diameter Trunk Sewer Rehabilitation with Geopolymer During Live Dry Weather Flow
Speaker(s): Scott Naiva, Steve Bian, Tim Bako
534785 – Analysis of Microtunnel Data Confirms Geostrata for a Curved Microtunnel in the City of Brantford
Speaker(s): Troy Bauman, Matthew Walsh, Paul Headland
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Speaker(s): Paul DiMarco, Chelsea Pearce, Louis Ragazzino
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534452 – DCWATER At Work: Optimal Risk Management of Construction Close to Buried Linear Assets
Speaker(s): Steve Bian, Brian McDermott
535272 – 72-Inch Wastewater Point Repair Rehabilitation in Dallas, Texas
Speaker(s): Marty Paris, Ashlyn Morgan

**SESSION G2**
SEISMIC – SOIL PIPE INTERACTION
RICH MIELKE
535659 – Strain Demands on Buried Pipelines from Earthquake-Induced Ground Movements
Speaker(s): Craig Davis, Sri Rajah, Brad Wham, Bill Heubach
534299 – Tractive Force–A Key to Non-Cohesive Solids Transport in Gravity Flow Drainage Pipes
Speaker(s): LaVere Merritt, Kevin Entfinger
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534452 – DCWATER At Work: Optimal Risk Management of Construction Close to Buried Linear Assets
Speaker(s): Steve Bian, Brian McDermott
535272 – 72-Inch Wastewater Point Repair Rehabilitation in Dallas, Texas
Speaker(s): Marty Paris, Ashlyn Morgan

**SESSION H2**
The Whole Picture
JEFF BLAKELY
535510 – Water Pipeline Infrastructure Systems Understanding for Performance Analysis
Speaker(s): Anmol Vishwakarma, Sunil Sinha
534452 – DCWATER At Work: Optimal Risk Management of Construction Close to Buried Linear Assets
Speaker(s): Steve Bian, Brian McDermott
535272 – 72-Inch Wastewater Point Repair Rehabilitation in Dallas, Texas
Speaker(s): Marty Paris, Ashlyn Morgan
## TECHNICAL PROGRAM – MONDAY, JULY 22

### TRACK A
Planning & Design 1  
Félix Pulido  
**MIDTOWN 2**

- **SESSION A3**  
  PIPE MATERIALS  
  FELIPE PULIDO  
  535697 – Scarborough Trunk Watermain: Design Challenges and Pipe Material Selection  
  Speaker(s): Muhammad Mudassar, Albert Segura, Neville Morrison, Mahbub Tavana  
  535592 – A Case Study of a Failed Welded Joint  
  Speaker(s): Benjamin McCray  
  533722 – Understanding Pigging as a Means of Improving Pipeline Construction, Quality Control and Sustainable Operations  
  Speaker(s): Charles Hercks

### TRACK B
Planning & Design 2  
Jeffrey Shoaf  
**MIDTOWN 3**

- **SESSION B3**  
  AERIAL CROSSING  
  ROBERT WALKER  
  535336 – Bridging the Gap: Galveston Causeway 8,500 LF Aerial Water Line  
  Speaker(s): Jared Barber, James Johnson, Alan Hutson, Daniel Christodoss  
  535698 – Crossing That Bridge Later: Installing a Critical Water Pipeline Over an Existing Bridge Without Modifications  
  Speaker(s): William Brick, Youra Tilden  
  535612 – Early Environmental Planning for Pipeline Projects can Save a Lot of Green  
  Speaker(s): Christine Ellenberger, Grant Misterly, Scott Trigg

### TRACK C
Condition Assessment 1  
Roberts McMullin  
**EDGEHILL**

### TRACK D
Condition Assessment 2  
Mark Poppe  
**SYLVAN PARK**

### TRACK E
Construction & Rehabilitation 1  
Duane Strayer  
**BROADWAY 3**

### TRACK F
Construction & Rehabilitation 2  
Jerry Snead  
**BROADWAY 2**

### TRACK G
UES  
Matthew Duffy  
**MIDTOWN 1**

### TRACK H
Multidiscipline  
Kyle Couture  
**BROADWAY 1**

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**SESSION A4**

**PLASTIC PIPE**

- **Speaker(s):** Steve Ferry, Tom Marti

- **Title:** 536273 – Investigation of AWWA C900 Temperature Coefficients/Thermal Over-rating Factors of Current-Vintage PVC Pipe

**SESSION B4**

**LIFE CYCLE**

- **Speaker(s):** Berk Uslu, Sunil Sinha, Walter Graf

- **Title:** 535340 – Remaining Life Analysis for Wastewater and Force Main Pipes for Long Term Life Cycle Cost Decision Support

**SESSION C4**

**ASSET MANAGEMENT**

- **Speaker(s):** Erin McKenna-Streyle, Grant McDaniel

- **Title:** 534985 – Executing an Asset Management Plan for Large Diameter PCCP

---

**SESSION E**

**Construction & Rehabilitation 1**

- **Speaker(s):** Duane Strayer

- **Title:** 535729 – Challenges Associated with the Construction of a 40 mile Regional Water Transmission Pipeline and the Associated Pump Station Facility

**SESSION F**

**Construction & Rehabilitation 2**

- **Speaker(s):** Jerry Sneed

- **Title:** 535133 – A New Regional Wastewater System: 16 Communities $325M, & 90 Miles of Force Main

**SESSION G**

**UES**

- **Speaker(s):** Matthew Duffy

- **Title:** 534063 – Opportunistic Watermain Inspection and Sampling Protocol

**SESSION H**

**Multidiscipline**

- **Speaker(s):** Kyle Couture

- **Title:** 535596 – Life Cycle Cost Analysis for Decision Making in Collection System Rehabilitation

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**PANEL DISCUSSION**

**Title:** 535552 – Soil-Pipe Interaction Characterization for Seismically-Induced Longitudinal Permanent Ground Displacements

- **Speaker(s):** Sri Rajah

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**Panel**

Guided discussion covering a wide array of topics tailored for women, minorities and all those of diversity within the water and wastewater industry. Tips, stories and guidance on day-to-day interactions, how to manage challenging situations and achieving your career vision will be explored.

- **Speaker(s):** Babas Marquis, Kristina Swallow, Elizabeth Blackwelder, Jorge Rodriguez, Kylie Pelzer, P.E.
### TRACK A
**Planning & Design 1**
Felipe Pulido  
**MIDTOWN 2**

#### SESSION A5
**TRANSIENT**  
JEFF LEBLANC  
542654 – Rigid versus Flexible Pipe Material Surge Response: A Case Study for a Raw Water Pipeline  
**Speaker(s):** Bryan Singh, Djordje Radulich  
535559 – Proven Surge Control Devices for Transmission Pipelines  
**Speaker(s):** Rebecca Peters, Thomas Hill  
535452 – Role of Transient Pressure Monitoring in Sustainable Management of Water Distribution Systems  
**Speaker(s):** Christopher Duckworth, Craig Daly, Sepideh Yazdekhasti

### TRACK B
**Planning & Design 2**  
Jeffrey Shoaf  
**MIDTOWN 3**

#### SESSION B5
**TRENCHLESS**  
JASON LUEKE  
534854 – Direct Pipe®: Installation Force Evaluation of Recent Direct Pipe® Installations  
**Speaker(s):** Andrew Sparks, Robert Hotz  
535024 – HDD Design for Construction Ocean Outfall  
**Speaker(s):** D.C. Camp, Sharron Lynn, Kelvin George, Nick Strater, Brian Dorwart  
535528 – Taming the Multi-Stakeholder Hydra: Permitting, Design and Tunneling a Sewer Across Dulles International Airport and the Metrorail Silverline  
**Speaker(s):** Robert Belk, Josh Farmer

### TRACK C
**Condition Assessment 1**
Roberts McMullin  
**EDGEHILL**

#### SESSION C5
**PROACTIVE APPROACHES**  
JAMES STEELE  
535451 – Not Failing on My Watch  
**Speaker(s):** Paul Acosta, Peter Nardini, Anna Pridmore, Rasko Ojudrovic  
534358 – Effective Condition Assessment: WSSC’s Industry Leading PCCP Management Program  
**Speaker(s):** Arturo Acevado, Karem Carpio, Anna Wells  
535098 – Design-Build Project Administration: Case Studies From Water Utilities in the U.S. Southwest/Pacific Region  
**Speaker(s):** Jeffrey Feghaly, Mourir El Asmar, Samuel Ariaratnam

### TRACK D
**Condition Assessment 2**  
Mark Poppe  
**SYLVAN PARK**

#### SESSION D5
**INSPECTION AND ASSESSMENT APPROACHES**  
SRI RAJAH  
533482 – Reliability Assessment of Corroded Water Distribution Infrastructure  
**Speaker(s):** Ram Krishna Mazumder, Abdullahi M. Salman, Yue Li, Xiong Yu  
535000 – City of Baton Rouge: Integration of Condition Assessment Information Systems  
**Speaker(s):** Gerardo Boquin, Courtney Kennedy  
538923 – Opportunistic Pipeline Condition Assessment – More Bang For Your Capital Buck!!!  
**Speaker(s):** Jason Stegemann, Aditya Ramamurthy

### TRACK E
**Construction & Rehabilitation 1**  
Duane Strayer  
**BROADWAY 3**

#### SESSION E5
**PLANNING**  
JAIME ORDONEZ  
535433 – Corrosion Protection of Ductile Iron Pipe for a Large Diameter Transmission Main Project  
**Speaker(s):** Tyler Bolen, John Overstreet, Jeff Slaughter  
535138 – Development of Large Diameter Earthquake Resistant Ductile Iron Pipe  
**Speaker(s):** Keita Oda, Ryunosuke Tanaka, Shozi Kishi  
535199 – Overcoming Design and Construction Challenges in a Former Military Base  
**Speaker(s):** Jon Marshall, Michael Wegley

### TRACK F
**Construction & Rehabilitation 2**  
Jerry Snead  
**BROADWAY 2**

#### SESSION F5
**CURED IN PLACE PIPE**  
KEITH BUSHDIECKER  
535699 – Rehabilitation of 75-Year Old Cast Iron Water Line in Historic District  
**Speaker(s):** Gregory Henry, Anh Hunter  
535641 – Development of a Renewed Approach to Internal Reinstatement of Services in CIPP Lined Water Mains  
**Speaker(s):** George Bontus, Richard Baxter, Steven McKeefry  
534923 – North Charleston Sewer District’s (NCSD) Ashley Interceptor Rehabilitation: Phase 8 by Cured-in-Place (CIPP) Methodology  
**Speaker(s):** James Reigart, Jarred Jones

### TRACK G
**UES**  
Matthew Duffy  
**MIDTOWN 1**

#### SESSION G5
**CONSTRUCTION – VALUE, CHALLENGES, AND GEOHAZARDS, OH MY!**  
SCOTT GIBSON  
535070 – High Density Polyethylene (HDPE) Electrofusion Fitting Installation Challenges  
**Speaker(s):** Krista Moita, Marisa Boyce, Raffi Moughamian, Marshall McLeod  
533363 – Innovative Solution to Large Ground Displacement Using Steel Pipe for Crossing Fault  
**Speaker(s):** Hayato Nakazono, Nobuhiro Hasegawa, Brad P. Wham, Thomas D. O’Rourke, Blake Brad  
535304 – Value Engineering Advances the Booming Oil & Gas Industry  
**Speaker(s):** Ryan Kennerly, Kyle Krueger, John Sedbrook

### TRACK H
**Multidiscipline**  
Kyle Couture  
**UES**  
**BROADWAY 1**

#### SESSION H5
**CORROSION**  
MIKE LEHRBURGER  
535601 – Case Study: Using a Risk-based Model to Take the Guesswork Out of Corrosion Protection  
**Speaker(s):** Sean Lammers  
534870 – Utilizing Satellite Leak Detection in a Mid-size Utility  
**Speaker(s):** Jim O’Dowd  
535598 – Extending the Life of Metallic Pipes - Designing CP Systems in Houston  
**Speaker(s):** Benjamin McCray, Ryan Byrd

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### TECHNICAL PROGRAM – TUESDAY, JULY 23

3:30 p.m.–4:30 p.m. – Networking Break in Exhibit Hall

4:30 p.m.–5:30 p.m. – Concurrent Technical Sessions

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#### SESSION A6 SEWERS

534742 – Utilizing Sewer Flow Monitoring and Depth Sensors in a Mid-size Utility

**Speaker(s):** Jim O’Dowd

534133 – Siphons Galore: Crossing under a lake, a hill, and a highway: Designing Inverted Siphons for King County’s Mercer Enati Project

**Speaker(s):** Benjamin Nelson, James Chae, Sibel Yildiz

#### SESSION B6 ROUTING


**Speaker(s):** Mike Gossit, Alexis Woodrow, Katie Angel

535450 – Route Selection Based on a Weighted Ranking Analysis

**Speaker(s):** George Triebel, Todd Crouthamel

#### SESSION C6 DESIGN CONSIDERATIONS

535216 – AWWA Standards and Manuals: A Guide for Proper Use and Reference When Writing Specifications

**Speaker(s):** John Bambei, John Plattsmier

534636 – That’s Confusing!!: Suggestions for Preparing Concise Design Guidelines for Pipeline Projects

**Speaker(s):** Roger Beieler

#### SESSION D6 CRITICAL WATER SUPPLY PIPELINES

535500 – Comprehensive Condition Assessment of a Critical Pipeline

**Speaker(s):** Bryan Livingston, Cary Duchene, Bill Malach

534604 – Condition Assessment of Portland (Oregon) Water Bureau’s Three Primary Supply Mains

**Speaker(s):** Jeremiah Hess

#### SESSION E6 CONSTRUCTION CASE STUDY

542548 – Dig Indy Tunnel System Pleasant Run PR02-DV-1

**Speaker(s):** Jeff Glover, Maceo Lewis, Nick Maynard

535391 – Replacement of Raw Water Transmission Line with Fused Pipe System Provides Stable Water Supply to Historical Town

**Speaker(s):** Scott Hay, Alan Plumlee, Saul Hernandez, Shawn Garcia

#### SESSION F6 PIPE BURSTING

535664 – Impact of Microtunnel Boring Machine Advance Rate for Pipeline Construction Projects

**Speaker(s):** Ramtin Serajianenhani, Saeed Janbaz, Mohammad Najaf, Seyedmohammadasadegh Jalaleldiny Korky, Mohammadreza Malek Mohammad

525200 – Pipe Bursting Success in a Developed Neighborhood

**Speaker(s):** Jeffrey Tarantino, Brian Martinez, Nelson Schlater

#### SESSION G6 CATHODIC PROTECTION – RUST ME!

533294 – Using Cathodic Protection (CP) Retrofits to Extend Useful Water Main Life for Cast and Ductile Iron Mains

**Speaker(s):** Chris Macy, Matthew Coleman, James Davidson

535181 – A Study of Life Extension of Two Prestressed Concrete Cylinder Pipelines

**Speaker(s):** Mehdi Zarghamene, Courtney Jolbert, Jason Gehrig, Mohammadreza Gargari

#### TRACK E

Construction & Rehabilitation 1

Duane Strayer

BROADWAY 3

#### TRACK F

Construction & Rehabilitation 2

Jerry Sneed

BROADWAY 2

#### TRACK G

UES

Matthew Duffy

MIDTOWN 1

#### TRACK H

Multidiscipline

Kyle Couture

BROADWAY 1

**ETHICS SESSION**

This session reviews the ethical principles that guide professional engineers, and provides a sampling of real-life case studies that illustrate the importance of honoring ethical principles in the practice of engineering.

**Speaker(s):** Tara Hoke

Pipeline Engineering – Concepts in Harmony | 16
**TECHNICAL PROGRAM – WEDNESDAY, JULY 24**

7:30 a.m.–8:00 a.m. – Continental Breakfast

8:00 a.m.–9:30 a.m. – Concurrent Technical Sessions

| TRACK A | Planning & Design 1  
Felipe Pulido  
MIDTOWN 2 | TRACK B | Planning & Design 2  
Jeffrey Shoaf  
MIDTOWN 3 | TRACK C | Condition Assessment 1  
Roberts McMullin  
EDGEHILL | TRACK D | Condition Assessment 2  
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PLANNING  
RICHARD NICHOLS  
534246 – Preparing for the Unexpected During Design and Construction  
**Speaker(s):** Sierra McCreary, Timothy Weaver  
535385 – Balancing Present and Future Needs  
**Speaker(s):** Nathan Boyd, Thomas Dumm  
535432 – The Conveyance of Ideas to Facilitate Pipeline Design and Delivery  
**Speaker(s):** Matthew Alcock, Noel Guercio |
| **SESSION B7**  |
LININGS  
CHARLES MARSH  
535661 – Development of a Framework for Design and Installation of a New Lining Material for Water Pipeline Renewal  
**Speaker(s):** Mohammadreza Malek Mohammadi, Homing Ni, Mohammad Najafi, Seyedmohammadseadegh Jalalediny Korky, Ramtin SerajianTehrani  
534291 – Design of Sprayed Cementitious Liners within Corrugated Steel Pipes  
**Speaker(s):** Ian Moore  
534096 – One Liner to Rule Them All: King County Interbay 48-inch Sewer Forcemain Rehabilitation Story  
**Speaker(s):** Steve Lindsey, Roy Nickel, Jeff Schmidt, Matthew Tooley |
| **SESSION C7**  |
MODELING AND RISK APPROACHES  
ADAM BRAUN  
535044 – Pojoaque Basin Regional Water System Modeling and Challenges  
**Speaker(s):** Eric Smith, Steve Shumaker, Sri Rajah, Leonel Almanzar, Chris Ott, Julia Chivington-Buck, Juan Samaniego, Jerry Edwards, Fabian Montana, James Kim  
535279 – Distribution Pipe Measurement to Inform Pipe Replacement Plans  
**Speaker(s):** Chad Millner, David Hutton, Michael Livermore, Paul Murray  
535656 – Condition Prediction of Sanitary Sewer Pipes  
**Speaker(s):** Mohammadreza Malek Mohammadi, Mohammad Najafi, Amir Tabesh, Jamie Riley, Jessica Gruber |
| **SESSION D7**  |
QUANTITATIVE ANALYSIS  
CHRISTOPHER HAECKLER  
526807 – Developing a Capacity-Demand Assessment Methodology for Pipeline Components Using Elastic-Plastic Load Factors  
**Speaker(s):** Kenny Farrow, Ken Zhang  
535541 – A Framework for Statistical Analysis of Water Pipeline Field Performance Data  
**Speaker(s):** Hao Xu, Sunil Sinha  
535617 – Quantifying Level of Service Interruption from Water Main Breaks as Consequence of Failure  
**Speaker(s):** Karl Ivan San Luis, Craig Daly, Amin Ganjidoost |
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Construction & Rehabilitation 1  
Duane Strayer  
BROADWAY 3 | **TRACK F**  |
Construction & Rehabilitation 2  
Jerry Sneed  
BROADWAY 2 |
| **SESSION E7**  |
PANEL SESSION  
GEORGE HAWKINS  
PANEL  
Developing a Sustainable Approach to Water Transmission and Distribution Asset Management: A Discussion on the Proactive Steps to a Successful Program |
| **SESSION F7**  |
LARGE DIAMETER REHAB  
WENDY LUNDEEN  
535316 – Rehabilitation of a Critical High-Pressure Transmission Main Underneath and in the Vicinity of a Major Highway  
**Speaker(s):** Murat Engindeniz, Roman Olbzejta, Sara Mathis, Kristen Peterson  
535688 – Aromatic Polyurethane Coating’s Long Term Corrosion Protection Capability after Two Years of Extended Above Ground Exposure  
**Speaker(s):** Stuart Croll, Brent D. Keil  
535036 – Extending the Life of a 35-Year Old Critical Water Supply System under Severe Time and Environmental Restrictions  
**Speaker(s):** Andrew Beck, David Burkhart, Angela Pflanz, Elizabeth Blackwelder |
| **SESSION G7**  |
PIPES – LEAKS AND RETROITS  
SANJAY TEWARI  
535483 – A 60-year History of the Efficacy of Polyethylene Encasement of an Iron Pipe Installation in an Aggressive Soil Environment  
**Speaker(s):** Dirk Barrios, Lewis Horn  
535572 – Characterization of Graphene Reinforced Epoxy Coatings for Internal Surface of Oil and Gas Pipelines  
**Speaker(s):** Xingyu Wang, Xiaoning Qi, Zhibin Lin, Dante Battocchi, Mingli Li  
535310 – Transmission Main Leak Monitoring to Reduce Risk and Non-Revenue Water  
**Speaker(s):** Paul Murray, Waseem Khan |
| **SESSION H7**  |
MANAGING YOUR ASSETS  
GREG BAIRD  
525454 – Mains, Trains, and Automobiles: Utilizing Fort Worth’s Risk Assessment Data to Drive Sanitary Sewer Rehabilitation  
**Speaker(s):** Josh Kercho, Liam Conlon |
| **TRACK G**  |
UES  
Matthew Duffy  
MIDTOWN 1 | **TRACK H**  |
Multidiscipline  
Kyle Couture  
BROADWAY 1 |
| **SESSION G**  |
PANEL DISCUSSION  
535268 – Applying Risk Management Principles and Innovative Technologies to Effectively Manage Water Infrastructure  
**Speaker(s):** Sunil Sinha, Ahmad Habibian, Devan Thomas, Matt Carter, Jian Zhang |
### TECHNICAL PROGRAM – WEDNESDAY, JULY 24

10:00 a.m.–11:30 a.m. – Concurrent Technical Sessions

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#### SESSION A8
**PIPE MATERIALS**  
ALAN SWARTZ

- **535184** – AWWA C305: A New Standard for CFRP Renewal and Strengthening of PCCP  
  **Speaker(s):** Mehdi Zarghamee

- **535114** – Designing an Economical FRP System for Pipeline Rehabilitation  
  **Speaker(s):** Firat Sever, Mo Ehsani

- **534937** – Thin-Walled Synthetic Fiber Reinforced Concrete Pipe Performance Under Cyclic Loading  
  **Speaker(s):** Fouad AL Rikabi, Shad Sargand, Issam Khoury, John Kurdisaf, Safiya Ahmed, Husam Hussein

#### SESSION B8
**MODELING**  
RICARDO VIEIRA

- **535620** – Shifting to a Monetized Quantitative Approach for Risk Analysis Using Property Damages  
  **Speaker(s):** Karl Ivan San Luis, Craig Daly, Amin Ganjidoost

- **535493** – A Novel Water Pipeline Asset Management Scheme Using Hydraulic Monitoring Data  
  **Speaker(s):** Kalyan Piratla, Ahmad Momeni

- **534866** – Utilizing District Metered Area Water Loss Analysis in a Mid-size Utility  
  **Speaker(s):** Jim O’Dowd

#### TRACK E
**Construction & Rehabilitation 1**  
Duane Strayer  
**BROADWAY 3**

#### SESSION E8
**HDD/INSPECTION**  
JAVAN REYNOLDS

- **532037** – 24-inch Force Main by HDD for Dallas Water Utilities  
  **Speaker(s):** James Bryan, Marty Paris

- **524086** – 12-inch Water Line Horizontal Directional Drill Across Hunting Bayou Using Cartridge Method  
  **Speaker(s):** Christine Kirby, Eric I. Hernandez, Anh H. Hunter, Samson D’Silva

- **526746** – Pipeline Ovality Assessment at Low Internal Pressures  
  **Speaker(s):** Kenny Farrow, Dale Kakoschke

#### SESSION F8
**LARGE DIAMETER PROBLEMS**  
ERIC SCHEY

- **535577** – Thorny Details of the Rose Canyon Trunk Sewer Rehabilitation  
  **Speaker(s):** Casey Raines, Greg Watambe

- **535568** – A Modern Solution for an Old Problem: Utilizing both CIPP and CFRP for Aerial Pipeline Rehabilitation  
  **Speaker(s):** Amber Wagner, Tim Peterie

- **535683** – Case Study from Trenchless Rehabilitation of 60-Inch Sludge Transfer Main at East Side Water Treatment Plant  
  **Speaker(s):** Wayne Barton, Rick Zohnie, Farwa Sultan, Amir Tabesh, Mohammad Najafi, Soeed Rezaei

#### TRACK F
**Construction & Rehabilitation 2**  
Jerry Snead  
**BROADWAY 2**

#### SESSION G8
**UNIFIED APPROACH TO THRUST RESTRAINT DESIGN**  
STEPHEN SHUMAKER

- **535663** – Unified Approach to Thrust Restraint Design  
  **Speaker(s):** Stephen Shumaker, Sri Rajah, Henry Bardakjian, Randall Conner, Martin McCabe

#### TRACK G
**UES**  
Matthew Duffy  
**MIDTOWN 1**

#### SESSION H8
**ASSET FORTITUDE**  
JENNIFER HARRISON

- **535521** – What is Pipeline Resilience?  
  **Speaker(s):** Maury Gaston

- **535100** – Concrete Pipe Leak Injection Repair Without Service Interruption  
  **Speaker(s):** Tao Peng, Phil Drooks

- **534606** – Application of GIS/Geomatics to Areas Affected by Subsiding Land and Rising Sea: Simulation of Risks and Identification of At-Risk Infrastructure  
  **Speaker(s):** Sanjay Tewari, Francis Manning, Wesley Palmer

11:45 a.m.–1:00 p.m. – Wellness Lunch and Keynote
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Please do not mail registration forms through the U.S. Postal Service AFTER Saturday, June 15, 2019 in order to ensure your registration is processed by the Tuesday, June 25, 2019 deadline. After this date, registrations must be secured with a credit card. If you are paying by credit card, please register online or download the PDF registration form and submit it onsite along with your full credit card payment.

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EXHIBITS
Grand Ballroom and Foyer, Conf. Street Level

SATURDAY, JULY 20
Decorator Move-in 9:00 a.m.–5:00 p.m.

SUNDAY, JULY 21
Exhibitor Move-in 8:00 a.m.–4:00 p.m.
Welcome Reception 5:30 p.m.–7:00 p.m.

MONDAY, JULY 22
Exhibit Hours 9:00 a.m.–4:00 p.m.
Morning Networking Break 9:00 a.m.–10:00 a.m.
Lunch 11:30 a.m.–1:00 p.m.
Afternoon Networking Break 2:30 p.m.–4:00 p.m.

TUESDAY, JULY 23
Exhibit Hours 8:00 a.m.–4:30 p.m.
Continental Breakfast 8:00 a.m.–9:00 a.m.
Morning Networking Break 10:30 a.m.–11:30 a.m.
Afternoon Networking Break 2:30 p.m.–4:00 p.m.
Move-Out Hours 4:30 p.m.–8:30 p.m.

ON-SITE REGISTRATION
Conference Event Hub Street Level
Saturday, July 20 7:00 a.m.–5:00 p.m.
Sunday, July 21 7:00 a.m.–6:30 p.m.
Monday, July 22 7:00 a.m.–4:30 p.m.
Tuesday, July 23 7:00 a.m.–6:00 p.m.
Wednesday, July 24 7:00 a.m.–1:00 p.m.

EXHIBIT HALL FLOOR PLAN

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Jacobs’ speakers presenting at the following sessions:

- One Liner to Rule Them All – King County Interbay 43” Sewer Force Main Rehabilitation Story
  Matt Tooley, Jeff Schmidt, Steve Lindsey

- Siphons Galore: Crossing under a Lake, a Hill, and a Highway: Designing Inverted Siphons for King County’s Mercer Enatai Project
  Ben Nelson, James Chae

- That’s Confusing!! – Suggestions for Preparing Concise Design Guidelines for Pipeline Projects
  Roger Beleler

- Managing a Multitude of Large Diameter Pipeline Route Alternatives in an Urban Area
  Kerilyn Paris, Philip Ryan, Jason Matteo

- Early Environmental Planning for Pipeline Projects can Save a Lot of Green
  Christine Ellenberger, Grant Mistry

- City of Baton Rouge: Integration of Condition Assessment Information Systems
  Gerry Boqin, Courtnei Kennedy

- South Florida Aging Infrastructure: Force Main Condition Assessment and Renewal
  Jennifer Baldwin, Daniel Buonadonna, Walt Schwarz

- Challenges and Lessons Learned of Commissioning Large Diameter Watermains
  Eric Wildschut

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www.ndtcorporation.com  
NDT Corporation provides nondestructive and geophysical testing services for engineering projects. Results of our testing are used for condition assessment of bridges, pipelines, buildings and foundations. (Booth #215)

NW PIPE  
www.nwpipe.com  
Northwest Pipe is the only nationwide ISO certified manufacturer of large diameter steel pipe and fittings for the water and wastewater markets. (Booth #400)

PICA  
www.picacorp.com  
PICA was incorporated in 2009 with the intent of providing InLine Inspection services for the municipal water market, the municipal wastewater market and the power generation market (namely, nuclear). PICA developed the SeeSnake and Chimera line of tools which are supported by an electromagnetic technology called Remote Field Testing (RFT). The tools are for use in ferrous pipelines and they have successfully inspected many different industries. (Booth #212/214)

PIPEMATIC BY QUAKEWRAP  
www.PIPEmatic.com  
PipeMatic® by QuakeWrap is the world’s most innovative solution for pipe repair and strengthening using fiber reinforced polymer (FRP) systems. Developed by FRP pioneer Prof. Mo Ehsani, PipeMatic® has evolved into technologies designed specifically to answer today’s infrastructure renewal needs. (Booth #310)

THE PLASTICS PIPE INSTITUTE, INC.  
www.plasticpipe.org  
The Plastics Pipe Institute (PPI) is the major trade association representing the Municipal and Industrial Division and high-performance PE4710 for water, wastewater, trenchless and open cut construction. (Booth #200)

PURE TECHNOLOGIES  
www.puretechltd.com  
Pure Technologies is a world leader in the development and application of innovative technologies for inspection, monitoring and management of pipeline infrastructure. (Booth #500/502)

RAEDLINGER PRIMUS LINE INC.  
www.primusline.com  
Primus Line is the manufacturer of a unique system for trenchless pressure pipe rehabilitation. PRIMUS LINE® products enable the cost effective trenchless rehabilitation of pressure pipelines for different media, such as water, oil and gas. (Booth #408)

RELINE AMERICA  
www.relineamerica.com  
ReLine America® is the manufacturer of Alphaliner®. Alphaliner is a fiberglass reinforced pipe liner cured using ultra violet light and is made in the USA. (Booth #308)

RJN GROUP  
www.rjngroup.com  
RJN Group is a professional engineering and consulting firm focused on bringing clarity to underground municipal infrastructure through engineering assessment, planning, and design. (Booth #210)

RAEDLINGER PRIMUS LINE INC.  
www.primusline.com  
Primus Line is the manufacturer of a unique system for trenchless pressure pipe rehabilitation. PRIMUS LINE® products enable the cost effective trenchless rehabilitation of pressure pipelines for different media, such as water, oil and gas. (Booth #408)

Sak Construction  
www.sakcon.com  
Sak delivers and installs the most advanced, field-proven products to solve your most challenging pipe rehabilitation and large-diameter tunneling boring needs. (Booth #313)

SEAL FOR LIFE INDUSTRIES  
www.sealforlife.com  
Seal For Life Industries (SFL) offers the largest diversified products in the market. Providing corrosion prevention, sealing and insulation solutions. (Booth #315)
SEWERVUE TECHNOLOGY
www.sewervue.com
SewerVUE’s pipeline inspection technology uses LiDAR, sonar, and pipe penetrating radar to quantify wall thickness, ovality, and sediment volume in non-ferrous water and wastewater pipes. (Booth #407)

SIMPSON GUMPertz & HeGEn INC
www.sgh.com
SGH is a national engineering firm with more than 25 years’ experience in condition assessment, structural evaluation, failure risk analysis, failure investigation, and repair of pipelines. (Booth #610)

SKS WATERWORKS
www.aathread.com
Representatives for AA Thread, Boxlok, Spec Rubber, PermoxCTF™, Blue Patriot Fab, D&M Coatings, and Conshield, based in Tampa Florida with National Coverage. We serve customers with solutions. (Booth #309)

STARK PIPELINE SERVICES
www.starkpipservices.com
Stark Pipeline Services provides crane, transportation, NORM survey and decontamination, tracking, and pipeline survey services. Stark has been in the pipeline industry for over 15 years. (Booth #304)

STRUCTURAL TECHNOLOGIES
www.structuralltechnologies.com
Structural Technologies, a Structural Group company, develops and integrates specialized products with engineering services to improve, protect and enhance water and wastewater pipelines. Our unique product systems provide structural strengthening for the restoration or renewal of concrete, metallic and polymer-based large diameter pipelines. Our repair options include state-of-the-art materials which provide engineered value through short construction windows with little to no disruption to traffic patterns or operations. (Booth #600/602)

Product systems include:
- V-Wrap™ Carbon Fiber – trenchless, fully structural, internally applied composite utilized for 30-inch diameter and above concrete, metallic and polymer-based pipelines
- StrongPIPE® Hybrid/FRP – trenchless, fully structural, internally applied hybrid system for extended runs of 42-inch diameter and above concrete and metallic pipelines
- XPT™ External Post-Tensioning – semi-structural, externally applied tendon repair system for 48-inches diameter and above pre-stressed concrete cylinder pipe (PCCP)

TEAM
www.teaminc.com
TEAM™ is the leading provider of specialized industrial solutions aimed at minimizing costly downtime and maximizing equipment performance using unique inspection, heat treating, maintenance, repair, and asset integrity management services. (Booth #406)

THOMPSON PIPE GROUP
www.flowtitepipe.com
Thompson Pipe Group engineers, manufactures, and delivers corrosion-resistant Flowtite® FRP for pressure and waste water applications along with our core concrete pipe and box businesses. Durable and cost efficient, learn why contractors are demanding and more owners and engineers are specifying Flowtite® at www.flowtitepipe.com. (Booth #707/708)

TRENTON CORPORATION
www.trentoncorp.com
Since 1949, Trenton Corporation has provided excellent anticorrosion coating systems for a variety of environments. (Booth #409)

TT TECHNOLOGIES INC
www.tttechnologies.com
TT Technologies is a leading manufacturer of trenchless technology equipment for pipeline installation with Pipe Rammers, HDD Assist/Extraction equipment, Pipe Bursting and Pipe Cracking Systems. (Booth #612)

UNDERGROUND CONSTRUCTION
www.ucononline.com
Underground Construction is the market leader for in-depth coverage of the North American underground infrastructure industry. Articles include case studies, equipment reports, market analysis, revealing surveys and substantive editorial coverage of issues and regulations. Edited for decision makers, it provides up-to-date, essential industry information. (Booth #105)

UNI-BELL PVC PIPE ASSOCIATION
www.uni-bell.org
To promote the use of longer-life, lower-maintenance, corrosion-proof PVC piping materials for real sustainability, strength and longterm asset management in water and wastewater systems. (Booth #303)

U.S. PIPE, A FORTERRA COMPANY
www.uspipe.com
U.S. Pipe, a Forterra Company, is the leading supplier of Ductile Iron Pipe, Concrete Pressure Pipe, Welded Steel Pipe, and Fabricated items. (Booth #509)

UTILITY MAPPING SERVICES, INC.
www.umsi.us
Utility Mapping Services, Inc.’s experts in utility engineering, utility infrastructure data management, Lidar, and 3-D-BIM applications provide industry leading solutions for complex utility engineering projects. (Booth #509)

VALMATIC
www.valmatic.com
ValMatic Valve & Mfg. Corp. is a leading manufacturer of check valves, quarter turn shut-off valves and air valves for water/wastewater, industrial and building markets. Valve types include Tilted Disc®, Dual Disc®, Swing®-Flex®, Surgebuster®, Silent Check Valves, Eccentric Plug Valves, AWWA Butterfly Valves, Air Valves, Foot Valves, VaultSafe® products, Ener-C® AWWA Rubber Seated Ball Valves, Smart Control Systems, and QuadroSphere® Trunnion Mounted Ball Valves. (Booth #506)

VICTAULIC
www.victaulic.com
Vicautic is the leading producer of mechanical pipe joining solutions. We build technologies and provide engineering services that address the most complex piping challenges faced by engineers, site owners, contractors and distributors. Engineered with confidence, our solutions put people to work faster, while increasing safety, ensuring reliability and maximizing efficiency. (Booth #605/608)

VORTEX COMPANIES
www.vortexcompanies.com
The Vortex Companies is a turnkey trenchless solution provider serving the water, sewer, and industrial marketplace. Vortex offerings include CCTV inspection, turnkey bypass, pipe bursting, large diameter structural pipe relining, advanced sewer repair materials, trenchless robotic systems, and pipe and drain tools. (Booth #512)

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Early Bird Deadline: May 27, 2020
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