

Track Focus	Condition Assessment 1	Condition Assessment 2	Construction and Rehabilitation 1	Construction and Rehabilitation 2	Multi-Discipline	Oil and Gas (yellow)/ Multi-Discipline (pink)	Planning and Design 1	Planning and Design 2	Planning and Design 3
	Monday, July 29, 2024 10:30AM- 12:00 PM MST								
Session Title	A1 - Large Diameter Assets	B1 - Lessons Learned - Large Utility Assessment	C1 - Rehabilitation Evaluation	D1 - Trenchless Considerations	E1 - AI/ML in Pipeline Projects	F1 - Oil and Gas - Construction Issues	G1 - Large Equipment/Operations	H1 - Seismic	I1 - Design Stories
Moderator	Christopher Haeckler	Steven Metzler	Garry Skipper	Jeff LeBlanc	Samantha Daigle	Scott Christensen	Aric Farnsworth	Kyle Couture	Charles Herckis
	37 - Holy Toledo! Condition Assessment and Asset Management of a WWII Era 78" Raw Water Steel Pipeline	41 - A Multi-prong Approach in Condition Assessment and Risk Analysis of Underground Utilities at GLWA's 1,700 MGD Water Resource Recovery Facility	257 - The City of Irving's Cottonwood Valley Golf Course Wastewater Improvements	125 - Underwater Tunnel Rehabilitation with Patented Diver Operated Vehicle	149 - AI-Influenced Condition Assessment Analyses for Toronto Trunk Sewers	53 - Programmatic Approaches to Assessing and Mitigating Risk to Pipelines from Geohazards	112 - Results from a Comprehensive 2022 Study of Water Main Performance in the USA and Canada	28 - The Theory and Practice of Designing and Constructing a Seismically Resilient 72-inch Diameter Pipeline that Crosses the Wasatch Fault Zone (WfZ)	187 - Transitioning Away From Collection System Concrete Structures
	Author: Robert Card		Authors: Ben Stephens, Robert Saucedo, Noah Perkins	Authors: Liam O'Brien, Shawn Drobny	Authors: Julian DiGiovanni, James Tustin, Marya Jetten, Mustafa Mufty	Authors: Jeff Budzich, Nancy (Qing) Lan	Author: Steven Barfuss	Authors: Michael McReynolds, Susan Spore, Scott Paxman, Rob Dawes	Authors: Vibhuti Pandey, Dusty Brannum, Brad Pierce, Bart Hubbard
	353 - Free-floating, Screening Level Visual Inspection of Large Sewers in Los Angeles, CA	64 - Development of a Framework and Business Processes for GLWA's Linear System Integrity Program	173 - Resurrecting an Abandoned Potable Water Pipeline System	129 - Pipe Bursting Proof of Use for Water Main Replacement: Insights from WSSC Water Pilot Project	218 - Improving Collection System Operations with Digital Solutions	62 - Investigation of Circumferential Soil Pressure Distribution on a Buried MDPE Pipe Bend	299 - Hydraulic Field and Lab Testing of PVC Pipe	181 - Buried Steel Water Pipelines in Geohazard Areas – A Basis For Design	228 - Securing Success: MICP Technology for Wichita's Botanica Gardens Pipeline Rehabilitation Project
	Authors: Gary Skipper, Mark Poppe	Authors: Susan Donally, Scott Jauch, Olivia Olszyn-Budry, Jody Caldwell	Author: William Brick	Authors: Yudu (Sonia) Wu, Thomas Payne, Keith Solomon	Author: Jennifer Baldwin	Authors: Abu Hena Muntakim, Chris Rossiter, Ashutosh Dhar, Ian Phiri	Authors: Jay Parvez, Aaron Horbovetz, Steven Barfuss	Authors: Spyros Karamanos, Brent Keil, Robert Card	Authors: Eric Hayes and Sia Davani
	320 - Top 10 Hurdles to Large Diameter Condition Assessment	81 - So, You Think You Can Inspect? The Saga of City-wide Inspections in the Nation's Capital	276 - DelDOT Large Diameter Metal Plate Arch Rehabilitation with Unreinforced Geopolymer Mortar	136 - The Pressures of Tunnel Grouting	269 - Professional Engineer's Responsibility using Artificial Intelligence Related to the Collection, Review and Interpretation of Background Record Information	207 - Pipeline Construction Through Sensitive Glaciomarine Clay	356 - Determine the Risk of Your Valves Before You Risk Your Valves... or Worse!	244 - Seismic Assessment of Jointed Thermoplastic Pipelines under Biaxial Loading	230 - Pipe is Old, Street is New, Valves are Borrowed, and the PVC is Blue
	Authors: Chandler Carpenter, Osai Robinson	Authors: Pono Hanson, Jessica Shiao, Tatiana Baranova, Kaylin Kramer, Sohan Patel	Authors: Scott Naiva, Houston Brown, Jonathan Karam, Mike Munyon	Authors: Eric Engelskirchen, Brian Glenn	Author: Blaine Hunt	Authors: Daniel Ho, Patrick Komer, Keith Robinson	Authors: Ty Wall, Mike Lehrburger, Elizabeth O'Brien	Authors: Jessica Ramos, Brad Wham, Cory Ihnotic, Simon Abrahamse	Authors: Mitchell Bailey, Michael Lehrburger, Katherine Henske
	Monday, July 29, 2024 1:30 PM- 3:00 PM MST								
Session Title	A2 - Assessment of Penstocks and Water Mains	B2 - System Assessment Strategies	C2 - Trenchless Construction	D2 - Urban Construction	E2 - Sustainability and Trenchless Methods	F2 - Oil and Gas - Hydraulics and Risk Management	G2 - Hydraulics	H2 - Pipe Materials	I2 - System Evaluations
Moderator	Duane Strayer	Shaoqing Ge	Mike Lawson	Brent Keil	Bethel Abate	Collin Hayes	Jeffrey Allen	Urso Campos	Jeff Maier
	2 - Case Study of Pressure Pipe Condition Assessment Methods	22 - First Address Your Valves-Then Assess Your Pipe!	3 - Collaborative Procurement and Risk Management of Soft Ground Tunnels for the Integrated Pipeline Project in Texas	111 - Navigating a Watermain Replacement Project Through the Historic Capitol Hill Neighborhood	98 - York Durham Sewage System (YDSS) Forcemain Twinning Project	25 - Simplified Equation to Account for Macro Dynamic Effects Influencing Friction Factor in Large Diameter Cross-country Liquid Pipelines	20 - Clearing up the Clear Fork: Implementing a Unique Design Solution to Eliminate a Long-Standing Maintenance Challenge	15 - Replacing LADWP Aging Infrastructure – Design of the City Trunk Line North Project	110 - How City of Phoenix Overcame Challenges to Complete a Major System Resiliency Project
	Author: Matthew Johnson	Author: Britt Klein	Authors: Matt Gaughan, Charles Cameron, Shelly Hattan, Thomas Kwiatkowski, Coy Veach, Ed Weaver, Kurt Sanders, Robert Allen	Authors: Mark Reid, Francis Peters, Snehalata Masih	Authors: Brad Ryan, Yan Lan, Tyler Corcoran, Robert Ward, Susan Hansler, Adam Lachhman	Author: Luis Ortiz-Nunez	Authors: Josh Kercho, Liam Conlon	Authors: Adam Dornier, Lawrence Lin	Author: Juan Rosales Aguado
	86 - This Old Pipeline, the Assessment of a Century Old Steel Pipeline	26 - Lessons Learned from the 20-year Assessment/Renewal of the Homestake Transmission Pipeline	227 - Rust to Wealth, Rehabilitation of Steel Pipes Using Carbon Fiber Reinforced Polymer Method	309 - Valley Line West LRT – Drainage Relocation – Microtunnelling Construction Design and Impact	148 - Hitting the Mark: Crossing the Guadalupe River with the Second Vertical-Curved Microtunnel in the United States	193 - Generative Adversarial Network (GAN) Informed Burst Failure Risk Analysis of Oil and Gas Pipelines	233 - Hydraulic Modelling: What Do You Mean Our Interceptors Are Too Small?	139 - CIP Under Pressure: Rethinking Solutions to the CAVSARP System's High Head without Breaking the Bank	126 - Conducting a Sensitivity Analysis for the Southern Nevada Water Authority's Horizon Lateral Program
	Authors: Clinton McAdams, Arne Nervik	Authors: Randy Parks, Carl Bundschuh, Tom Hankins, Ronald Sanchez, Ted Hertfelder, Konnor Bursaw	Authors: Roza Fereidoonfar, Dallas Burke, Tim Benefiel, Parker Moore, Ben Stephens	Authors: Christopher Lamont, Alex Mather, Yang Bai	Authors: Robert Weinert, Ashley Heckman, Jesse Guerra, Michael Perry	Authors: Ram Krishna Mazumder, Gourav Modanwal, Yue Li	Authors: Annie Cashon, Ryan Brong, Corrie Kissner	Authors: Tess Degginger, Todd Crouthamel	Authors: Joshua Frank, Zachary Hills, Juan Rosales Aguado
	226 - City of Calgary's Long-time Feedermain Condition Assessment Program Shows This is Not Their First Rodeo	297 - Affecting the Grand Trifecta - Integration of Condition Assessment Program to Launch Multi-Billion Dollar CIP Updates	303 - When a River Runs Through It, You Need to Move It	261 - Threading a Needle Through the City: The City Of Frisco's Stewart Creek North Interceptor Phase 4	223 - NWIC Upper Plateau Separation Project: Reducing Flood Risk Through Innovative Storm Catchment Separation	133 - Detecting Leaks in Purged Pipelines	242 - Gravity Siphon Design Best Practices	273 - Your Pipe Lining has a New Cement - ASTM C595 Compared to ASTM C150	69 - A Comprehensive Analysis of PVC Pressure Pipelines' In-service Performance
	Authors: Josh Greenberg, Justin Hebner, Leo Huang	Authors: Nicole Conner, Tom Davies, Wes Pierce	Authors: Patrick Laidlaw, Dylan Brown, Juan Doron, Matthew Buffington, June Patton	Authors: Ben Stephens, Shawn Halle, Jack Blair, Parvathi Unnithan	Authors: Craig Pass, Andrew Wiens	Author: Cory Solyom	Authors: Marvin McDonald, Mike Gaudreau, Eymond Toupin	Authors: Darren Dunker, Jamie Farny	Author: Bob Walker

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	Monday, July 29, 2024 4:00 PM- 5:30 PM MST								
Session Title	A3 - PCCP Assessment	B3 - Can AI and Machine Learning Help	C3 - Horizontal Directional Drilling	D5 - Large Diameter Construction Challenges	E3 - Water and Sewer System Management	F3 - Challenging Projects and Lessons Learned	G3 - Alignment Evaluation	H3 - Pipe Joints	I3 - Municipal Utility Guidance
Moderator	Mitch Dabling	Madhuri Arjun	Christopher Lamont	Susaye Douglas	Jacob Wilson	Mark Reid	Ron Mick	Shah Rahman	Cindy Patton
	12 - Maintain Service Despite Wire Breaks: Condition Assessment of a Low Pressure PCCP System	168 - Leveraging AI, Cloud Technology and Advanced Analytics for Sewer Condition Assessment (SCA) and System Management	21 - 36-Inch Ductile Iron Pipe Horizontal Direction Drill Creek Crossing - Project Overview	34 - Trenchless Installation Calculations for High Density Polyethylene	7 - Focusing on Accuracy - Directional Drilling Along Florida's Oldest Causeway	205 - The City of Calgary's Nose Creek Sanitary Trunk Sewer - Phase B Contract 4	73 - Adding Objectivity to Alignment Studies – A Successful Recipe for 2 Case Study Examples	42 - Field-Welded Joint Strength Verification Tests For Bar-Wrapped Concrete Cylinder Pipe	71 - Giving Utility Companies a Seat at the Table: How Austin Water is Addressing Utility Conflicts and Relocations for Project Connect
	<i>Authors: Taylor Ahrensdorf, Cassandra Flores</i>	<i>Authors: Chris Macey, Rodger Weller</i>	<i>Author: Peter Armans</i>	<i>Authors: Alan Ambler, Dan Landry</i>	<i>Authors: Taylor Bomarito, Brian Dorwat, Joshua Farmer</i>	<i>Authors: Mark Draper, Zulfiqar Khowaja, Landon Evans</i>	<i>Authors: Shelby Warchesik, Kyle Sanderson, Walter Norwood, Jenifer Tatum, Geleany Morales - Carrero</i>	<i>Author: Henry Bardakjian</i>	<i>Authors: Stacey Gould, Kevin Koeller</i>
	232 - Trust the Process: Great Lake Water Authority's Progressive Management Approach to Distressed Prestressed Concrete Cylinder Pipe	248 - UM Closed-Form Solution App: An Analytical Framework and Predictive Tool for the Capacity Estimation of Pre-stressed Concrete Cylinder Pipe (PCCP) with Broken Wires	154 - Precision Directional Drilling of Gravity Sewer in a Constrained Right of Way as a Construction Cost-Saving Initiative	138 - A Case Study of Bad, to Worse, to Success: Emergency Investigation and Trenchless Repair of a 48-inch Diameter Sanitary Sewer Interceptor Crossing at Interstate I-49	32 - Multi-Agency Collaboration in Mitigating SSO Risk in Creek Crossing	263 - Common Situations and Issues in Large Diameter Pipeline Projects	102 - Pipeline Alignment Scoring Considerations	163 - Case Study of Enhanced HRDIP Pipeline Design and Construction for Fault Crossing Location	142 - Making a Solid Choice: Tunnel Crossing Optimization Under the Credit River
	<i>Authors: Scott Jauch, Glenn Edgemon, Jeff Giddings, Graham Bell, Jerrod Wade, John Norton, Olivia Olszyn-Budry, Rasko Ojdrovic, Chris Elenbaas, Filip Buniewicz</i>	<i>Authors: Wentao Wang, John Norton, Jerome Lynch, Todd King, Alan Bair, Curt Wolf, Graham Bell</i>	<i>Author: Alan Garri</i>	<i>Authors: Corey Granderson, Matthew Richie, Mike Larsen, Murat Engindeniz</i>	<i>Authors: Shikui-Steve Bian, Tim Bako, Renni Zhao, Louis Arguello</i>	<i>Author: Gary Savanyu</i>	<i>Author: Paul Ambrose</i>	<i>Authors: Takaaki Kagawa, Takeshi Hara</i>	<i>Authors: Sarah Hobo, Steve Fradkin, Jonathan Harvey</i>
	6 - Strategic Approach in the Assessment of Watermains Using Indirect and Direct Methods	274 - Leveraging an Aggressive Inspection Program and Predictive Modeling to Develop an LSL Inventory for Jackson	302 - Saunderson Waterline - Large Diameter HDD Installation	1 - North Charleston Sewer District's Force Main Rehabilitation Program	134 - Kingstown Port Modernization – Working Around a Crumbling Sanitary Sewer Outfall	296 - Community Impacts of Trenchless Work: Fairbank Silverthorn Storm Trunk Sewer System Case Study	260 - The Road Not Taken – A Look at Route Studies for Pipeline Alignments	313 - Innovative Pipeline Design Solves the Problem of Seismic Reliability on a Constrained Urban Site at San Francisco's New State-of-the-Art Headworks	146 - The Pipeline Less Traveled By: Resolving Design Challenges Along a Trail Through Critical Wetland Areas
	<i>Authors: Khalid Kaddoura, Rabia Mady</i>	<i>Authors: Brendan O'Brien, Ian Robinson, Meredith Degner, Patrick Brown</i>	<i>Authors: Christopher Lamont, Mason Ross, Jason Lueke</i>	<i>Author: James Reigart, Phillip Sexton</i>	<i>Authors: Dave Clarke, Tracy Anderson, Michael Georgalas</i>	<i>Authors: Marya Jetten, John Kinnear, Prapan Dave, Bashir Ahmed</i>	<i>Authors: Samantha O' Farrell, Grant Mistry, Christine Ellenberger</i>	<i>Authors: Dadik, Luke Prinsloo, Jignesh Desai</i>	<i>Authors: Peter Brask, Mike Gossett, Chris Olsen</i>
	Tuesday, July 20, 2024 9:00 AM- 10:30 AM MST								
Session Title	A4 - Antique Pipe Assessment	B4 - Monitoring, Analysis, and Modeling	C4 - Cured-in-Place-Pipe	D4 - Innovative/Alternative Solutions	E4 - Diversity in Engineering Breakfast and Panel Discussion	F4 - Sewer Transformation and Oil and Gas Monitoring	G4 - Program Management Lessons Learned	H4 - System Engineering	I4 - Field Conditions
Moderator	Kerilyn Paris	Jaime Ordonez	Adam Braun	Nicholas Kallmyer	Anna Pridmore	Heshnee Maistry	Bob Walker	Matt Gallaheer	David Tantalean
	167 - Planning and Design to Rehabilitate the Semielliptical Joint Outfall A Unit 3C Trunk Sewer	57 - Cracking the Code: Modelling Ultrasonic Wall Loss Data to Predict Cast Iron Pipe Failure	97 - Investigate-Design-Build Solves Suspected Leak in a 72-inch PCCP Transmission Main under the Trinity River in Dallas, TX	61 - Collaborative Delivery and Innovation Pass the Test of an At-Risk Wastewater Interceptor Rehabilitation Challenge	343 - Diversity in Engineering Networking Breakfast and Panel Discussion	8 - 'Un-Piggable' Main Oil Crude Trunk Line Due to Peculiar Polymerized Deposition Made 'Piggable' by Online Treatment Using Cutting-Edge Chemistry as a Cost-Effective Approach	229 - Southern Nevada Water Authority Stage II Reliability Upgrades Project: Providing Reliability to Central Las Vegas Water Supply Through a New Interconnect Pipeline	160 - Southern Nevada Water Authority Stage II Reliability Upgrades Project: 90 MGD Monthill Pumping Station Transient Analysis	16 - Geophysics: Non-invasive Techniques to Characterize Subsurface Geologic Conditions and Potential Hazards Along Proposed Pipeline Alignments
	<i>Authors: Leonel Juarez, Rosann Paracuelles, Seema Shah- Fairbank</i>	<i>Authors: Ikram Efaz, Boyu Liu, Massod Hajai, Ashan McNealy, Peter Gaskamp</i>	<i>Authors: Richard Bailey, Luis Bodington, Erick Steitle, Mike Larsen, Murat Engindeniz</i>	<i>Authors: Christopher Garrett, Getachew Milsew, Jessica Shiao, Kenrick St. Louis, Shikui-Steve Bian</i>	<i>Author: Anna Pridmore</i>	<i>Authors: Gurunathan Munainni, Kumanan Sanmugam, Arvindkumar Goyal, Shamsheer Ahmed, Juma Ali, Sulaiman Al Ghailani</i>	<i>Authors: Gordon Thelin, Joseph Ortiz, Jonathan Tull</i>	<i>Authors: Michael Georgalas, Jonathan Tull</i>	<i>Author: Eric Cross</i>
	191 - A Ten-Year Check-in on the Condition and Performance of a Challenging Repair of a Damaged Penstock using a CFRP Liner	137 - How to Use Condition Assessment Data to Improve Force Main and Lift Station Design and Operation	324 - Environmental Impacts of Emissions from Cured-in-Place Pipe Lining: Analytical Assessment and Control Methods	158 - Advancements in Trenchless Technology: San Diego's First Aqueduct Treated Water Tunnels Rehabilitation- Progressive Design Build Project	343 - Diversity in Engineering Networking Breakfast and Panel Discussion	124 - Advanced Permanent Remote Pig Tracking	246 - Optimizing Valve Management: Integrating Valve Criticality Analysis and Condition Data for a Comprehensive Valve Management Program	184 - When Old Answers Do Not Work Any More: A New Surge Approach to an Existing 100-mile Large Diameter Raw Water System	58 - A Route Study to Reduce Expenses and Reduce Groundwater Usage
	<i>Authors: Matthew Richie, Scott Newton, Rasko Ojdrovic</i>	<i>Authors: Sunakshi Hada, Edward Carpenetti, Bethany McDonald</i>	<i>Authors: Mohammad Najafi, Salar Bevilinezhad, Vinayak Kaushal, Paria Hamidzadeh</i>	<i>Authors: Ali Alavi, Gregory Raines, Nita Kazi, Russell Snow</i>	<i>Author: Anna Pridmore</i>	<i>Author: Cory Solyom</i>	<i>Authors: Sepideh Yazdekhesti, Greta Vladeanu, Sewelo Keleagetse, Kris Carter</i>	<i>Authors: Rami Issa, John Hare</i>	<i>Authors: John Rush, Rafael Ortega, Rajinder Singh</i>
	220 - Inspection of 40 Year-old Tunnel under a Railroad Line to Reuse for Installation of New 90-inch Water Carrier Pipe	197 - Moving Memphis Forward Through Advancing Wastewater Management and Comprehensive Sewer Water Quality Monitoring	340 - Pivoting between Different Trenchless Rehabilitation Solutions due to Differing Site Conditions	363 - Thinking Outside the Circle: Novel Use of Non-Circular Pipe for Dallas' Shallow Large Interceptor Sewers	343 - Diversity in Engineering Networking Breakfast and Panel Discussion	156 - Integrated Infrastructure Transformation: Leveraging Multi-Departmental Goals for Efficient Urban Improvements	185 - Joliet Alternative Water Source Program: Formation of a New Regional Water Provider	254 - Preventing Catastrophic Failure: Optimize Your Aeration Design.	301 - Chemical Resistance of Synthetic Fiber-Reinforced Concrete Pipes in Highly Corrosive Environments
	<i>Authors: Elizabeth Blackwelder, Courtney Jalbert, Jason Gehrig, Beau Uran, Mike McCure</i>	<i>Authors: John Abrera, Tasha King-Davis</i>	<i>Author: Steve Soldati</i>	<i>Author: Michael Hagen, Joselito Felipe</i>	<i>Author: Anna Pridmore</i>	<i>Authors: Keith Gardner, Daniel Amelin</i>	<i>Authors: Darren Fox, Noel Guercio</i>	<i>Author: Luke Prinsloo</i>	<i>Authors: Maziar Mahdavi, Alu Abolmaali, Amin Tehrani</i>

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	Tuesday, July 20, 2024 2:00 PM- 3:30 PM MST								
Session Title	A5 - Technology in Pipe Assessment	B5 - PCCP and HGL Modeling	C5 - Trenchless Technologies	D5 - Construction Planning	E5 - Innovations in Water and Wastewater Pipeline Lining	F5 - Oil and Gas and Wastewater Corrosion	G5 - Standards	H5 - Sanitary Sewer	I5 - Detective Work
Moderator	Purnima Praturi	Susanne Lockhart	Rich Mielke	Hunter Hanson	Eelhard Meneses	Olena Lytvyn	Jenifer Tatum	Alan Garri	Joselito Felipe
	49 - Applied Research Turns Wire Breaks into Innovation Opportunity for GLWA	59 - Innovative Approach to Estimate Prestressed Concrete Cylinder Pipe (PCCP) Remaining Useful Life	36 - Use of Trenchless Technology for Stormwater Pipe Rehabilitation	235 - Confronting the Complexities of Large-Diameter Sewer Rehabilitation in a Highly Urbanized Setting	237 - A Framework for the Robust Design of Laboratory Tests for Spray-applied Pipe Liners Using the Taguchi Optimization Method	114 - Lessons Learnt from Using Vortex Flow Insert for H2S Sewer Corrosion & Odor Prevention	204 - Preparing Clear and Concise Specifications for Pipeline Projects	47 - Under a Creek and Through the Woods,...and a Golf Course, Dog Park, Baseball Fields,...and Trail System	45 - New Finding in Cast Iron Pipe Wall Defects Using Free Swimming Ultrasonic Thickness Testing Technology
	Authors: Graham Bell, John Norton, Todd King, Jerrod Wade, Michael Higgins, Robert King, Mike Hooper, Arun Thankarajah, Sebastien Perrier	Authors: Rabia Mady, Phalid Kaddoura	Authors: Amir Tabesh, Rodrigo Vizcaino, Linda Young, Samruddhi (Sam) Jagtap	Authors: Stefani Harrison, Irene McSweeney	Authors: Diego Calderon, Kawalpreet Kaur, Mohammed Najafi, Sanaz Ghalambor, Brandon Caldwell	Authors: Olugbenga Ibikunle, Omobolanle Kojeku	Authors: Roger Beiler, Isaac D'Auria	Authors: Amanda Voss, Carlos Ramos, George Farah	Authors: Dustin Park, Jesi Lay, Peter Gaskamp
	144 - Multi-Sensor Autonomous Inspection Device for Condition Assessment	332 - Bringing Multiple Assessment Methods to Bear to Manage a 1970s PCCP Transmission Main Susceptible to Continuing Wire Breakage	66 - Installing Tapping and Plugging Fittings on Concrete Cylinder Pipe for Effective Pipeline Modification and Repair	243 - Utilizing Existing Resources: Rehabilitation of 72" Steel Lock-Bar Pipe	286 - An Emergency Design Approach for Immediate Rehabilitation of Four Miles of Critical 20-inch Water Transmission Main	121 - Corrosion Management at SaskEnergy, 84 Semi-Deep Wells for Impressed Current CP Systems	109 - Evaluating the Effects of Host Pipe Shape on CIPP Thicknesses using MOP 145 Design Methods	78 - Repairing History – DC Water's Experience Designing Rehabilitation of a 150-year Old Sewer	76 - Longest Canadian PipeDiver Inspection (18.6km Electromagnetic Inspection for the City of Winnipeg)
	Author: Timothy Andrews	Authors: Murat Engindeniz, Robin Kumar, Sean Hsieh, Troy Bontrager	Author: Charles Herckis	Authors: Jeff LeBlanc, Jorge Medina, George Gutierrez, Carl Pitzer	Authors: Nirav Shah, Nicholas D'Angelo, Joseph Burns, Christopher Murphy	Authors: Alan Bair, Richard Buksa, Marc Blouin	Authors: Adam Braun, Omar Abusharikh	Authors: Josh Crossen, Shikei-Seteve Bian, Haile Tsehayu, Renni Zhao	Authors: Bill Jappy, Josh Greenberg
	172 - Design and Installation of Fiber Optics to Monitor HDPE Pipelines at an Earthquake Fault Crossing	275 - Deposit Analysis of Pipelines with Hydraulic Grade Lines Measured by Free-Floating, In-Line Tools	145 - Excavating Near Existing Utilities – Innovative Support Systems that Allow for Safety and Productivity	278 - Extreme Sewer Makeover: Large-Diameter Interceptor Edition	314 - Lessons Learned - Relining Large Diameter Water Pipelines	199 - Employing Erythritol to Inhibit Internal Corrosion in Crude Oil Pipelines	234 - Closer Look at the M11 Harness	105 - From Highway to High-Way – Challenges and Opportunities for Wastewater Design long the I-35 Corridor in Austin	169 - Leak Detection and Localization in Water Networks Using Convolutional Neural Networks with a Modified Loss Function
	Authors: Krista Araica, Gus Cicala, Marshall McLeod, Kenichi Soga, Maksymilian Jasiak, Peter Hubbard, Chien-Chih Wang, Yaobin Yang, Linqing Luo, Andrew Yeskoo, Shih-Hung Chiu	Authors: Matthew Kindree, Anouk van Pol, John van Pol	Author: Bruce Magee	Authors: Matt Gallagher, Mike Lehrburger, Brett Holzapfel	Authors: Tamara Miller, Jason Foster	Authors: Sher Afgan, Ravi Kiran	Author: Chris Sundberg	Authors: Yun "Lorraine" Liu, Stacey Gould, Sarah Alverson, Francisco Guerrero	Authors: Morad Nosrati Habibi, Rebecca Dziedzic
	Tuesday, July 20, 2024 4:30 PM- 5:30 PM MST								
Session Title	A6 - Ethics in Engineering	B6 - Management and Safety	C6 - Flexible Fiber Reinforced Pipe	D6 - Trenchless Rehabilitation	E6 - Seismic Testing and Design Considerations	F6 - Oil and Gas - Risk Management	G6 - Material Considerations	H6 - Innovative Ideas	I6 - Pipe Failure Modes
Moderator	Anna Pridmore	Benjamin McCray	Joe Royer	Denis Atwood	Gary Savanyu	Amir Tabesh	Joel Koenig	Christopher Ferguson	Craig Davis
	346 - Ethics in Engineering	67 - Developing and Executing Large Diameter Water Pipeline Physical Entry Inspection Protocols	83 - Construction Traction Prediction for Long-distance Pipeline Repair Using Lining Hose	117 - 96-inch Drinking Water Transmission Main – Clinton River Open-Cut Crossing Design and Construction	326 - Design of a New Full-Scale Vertical Ground Deformation Facility for Testing Buried Pipelines	100 - Expanding Pipeline Cybersecurity Regulations Drive Performance Measurement	143 - Avoiding Faults: AC Current Mitigation on a Large Diameter Steel Pipeline – Case Study	123 - Concrete Results: Repurposing of Existing C-76 Gravity Pipe to Save \$1M and Costly Permitting Delays	106 - A Process and Matrix for Utilizing Hazard Resilient Pipelines
	Author: Anna Pridmore	Authors: Jim Geisbush, Christina Collins	Authors: Dongmin Xi, Xing Zou, Hongfang Lu, Tom Iseley, John Matthews, Houming Ni	Authors: Peter Fromm, Corey Brecht, Kerilyn Paris, Jason Matteo, Jeff Yakel, Steve Roberts	Authors: Jonathon Matymisch, Ian Moore, Neil Hoult, Joshua Woods	Author: Chloe Applegate	Authors: Scott Christensen, Michael Britch, Matt Duffy, Joelle Bennett, Brien Clark	Authors: Todd Crouthamel, Tracy Anderson, Olugbenga Ibikunle	Authors: Craig Davis, Nagahisa Hirayama, Thomas O'Rourke, Masakatsu Miyajima, Kenichi Soga, Tetsuo Tobita, Katerina Ziotopoulou, Yoshihisa Maruyama, Brad Wham
	346 - Ethics in Engineering	246 - Optimizing Valve Management: Integrating Valve Criticality Analysis and Condition Data for a Comprehensive Valve Management Program	166 - Keeping the Connection Alive – How the Kearny Multiples were Saved	131 - Construction of 10-Year Transmission Main: San Antonio Water System's Water Resources Integration Program – Phase 2	344 - Critical Review of Axial Resistance in a Buried Pipeline Subjected to Transient and Permanent Ground Deformations	161 - Case Study : Application of Raise Bore Installation for Pipeline Construction on Steep Slope	311 - Application of Finite Element Method for Designing Flexible and Anisotropic Pipe Liners	178 - Seismic Design Approach for Ductile Iron Pipe Including Alternative to Boltless Segment Joints	360 - Pipe Diameter is a Dominant Factor in Pipe Failure Risk
	Authors: Anna Pridmore	Authors: Sepideh Yazdekhasti, Greta Vladeanu, Sewelo Keleagetse, Kris Carter	Authors: Alexandra Wells, Ahmed Hassan, John Moody, Javier Hendricks, Mark Romain	Authors: Ty Waltz, David Bennett, Michael Boyd	Author: Sri Rajah	Authors: Arenda Deelen, Colby Smoth, Riley Bartel	Authors: Xuanchen Yan, V. Firat Sever, Mo Ehsani	Author: Michael Britch	Authors: Kevin Laven, Marco Dignum, Shaoqing Ge, Nimarta Gill, Michael Zantingh, Kumaraswamy Ponnambalam, Harry Krinas

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	Wednesday, July 31, 2024 8:00 AM- 9:30 AM MST								
Session Title	A7 - Concrete Pipe Assessment Tools	B7 - Predictive and Failure Modeling	C7 - Construction Planning	D7 - Alternate Project Delivery	E7 - Research and Development	F7 - Pipe Failures	G7 - Solutions to Design Challenges	H7 - Trenchless	I7 - Decisions on Materials
Moderator	Alan Swartz	Brent Hauset	Craig Pass	Daniel Applegate	Karem Carpio	Jumoke Awosolu	Paige Cronin	Deanna Martin	Open
	239 - Reviving Reliability: Safeguarding the Waukegan Effluent F-3 Force Main	9 - Working with Combined Sewers - Geometric and Hydraulic Elements of Egg-Shaped Sewers	118 - How to Accommodate Differential Settlement using Geohazard Resistant Steel Pipe (GRSP)	87 - Progressive Design Build: How DC Water Used Collaborative Delivery to Make Large Diameter Sewer Rehabilitation Possible	159 - How Proper Trunkline Construction Maximizes the Longevity of Reservoir Floating Covers	186 - Standard Practices for Corrosion Control of Pipelines	91 - The Negotiation and Relocation of Utility Pipelines for P3 Projects	79 - Designing for the Future – a Seismically Resilient Transmission Pipeline Crossing in Earthquake Country	101 - Sewer Pipeline Material Selection is Easy, Right? It's More Complex than You Might Think
	<i>Author: Daniel DeFever, Nicholas Wolf, Evan Biedenbach, Ashan McNealy, Nathaniel Wilson</i>	<i>Author: Kevin Enfinger</i>	<i>Authors: Brent Keil, Polynikis Vazouras, Richard Mielke, Spyros Karamanos</i>	<i>Authors: William Elledge, Zach Pistilli, Pono Hanson</i>	<i>Authors: Miguel Campos, Joycelyn Zhang</i>	<i>Authors: Andrew Fuller, Gwen Sullivan, Hassan Rashidian-Dezfouli</i>	<i>Author: Tom Bodera</i>	<i>John Worthen, Tim Collins</i>	<i>Authors: Matthew Alcock, Noel Guercio, Scott Williamson, Deryk Daquigan</i>
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	Wednesday, July 31, 2024 10:00 AM- 11:30 AM MST								
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	337 - Sound Decisions: Leveraging Ultrasonic Technology for Pipeline Inspections in the City of Grapevine	80 - The Heartland of Alberta's Approach to Leak Detection	255 - Rehabilitation of the 105 Year Old Lakewood Interceptor Tunnel with Glass Reinforced Plastic Composite Pipe	175 - New Westminster Interceptor Columbia Section Rehabilitation	70 - Critical Suction Line Replacement for the LADWP – Design, Construction, and Lessons Learned	14 - Pipeline Mapping with Next Generation Spherical In-Line Inspection Tools	48 - Introduction of the Concept of Probabilistic Risk Assessment for Evaluating the Borehole Stability in Horizontal Directional Drilling	44 - The Application of 3D Drawings and BIM Files in the Development of Standard Details	90 - Connecting the Dots – How Trenchless Construction Opened Doors for a Wellfield Expansion in Fort Myers
	<i>Authors: Stephen Johnson, Mazen Kawasmi, Chris McDowell, David Clark, Kent Conkle</i>	<i>Authors: Josh Greenberg, Leo Huang, Justin Hebner, Kailee Erdman</i>	<i>Authors: Kevin Alspach, Chris Macey, Bob Budzilek, Mark Papke</i>	<i>Author: Justin Cheng</i>	<i>Authors: Max Jansen, Vlad Scutelnicu</i>	<i>Authors: Marshall Kennedy, Eric Toffin, Alexander Down</i>	<i>Authors: Inshik Park, Alireza Bayat</i>	<i>Authors: Chike Monwuba, Michael Marchant, Christopher Moschillo, Sr., Mark Reid</i>	<i>Authors: Trent D'Alessio, Stephen MacEachern, Tracy Anderson</i>
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