

# Conference Agenda

## Track A

Risk, Asset & ROW Management, Security, and Water Supply Systems

## Track B

Condition Assessment

## Track C

Pipeline Materials, Design, Pipeline Economics, and Construction

## Track D

Corrosion, Rehabilitation, and Pipe Bursting

## Track E

Geographic Information Systems, Seismic, and Trenchless Technologies

## Sunday, August 1

8:00 am–1:00 pm ASCE Pipeline Division Committee Meetings

8:30 am – 4:30 pm Pre-Conference Workshop: Workshop: Horizontal Auger Boring and Pipe Jacking

1:00 pm–6:00 pm ASCE Pipeline Division Executive Committee Meeting

3:00 pm – 7:00 pm Registration Open

## Monday, August 2

7:00 am – 4:00 pm Registration Open

7:00 am – 8:00 am Speaker Breakfast

7:00 am – 8:00 am Order of the Engineer Ring Ceremony

8:00 am – 10:00 am Plenary Session

Welcome and Introductory Remarks: Conference Co-Chairs, Michael T. Stift and John J. Galleher Jr.

Featured Speaker: Patricia D. Galloway, ASCE President

Pipeline Regulatory Round Table Discussion: Frank King and Joseph Caldwell. Moderator: Ken Kiernow

10:00 am – 10:30 am Refreshment Break in Exhibit Hall, *Sponsored by PBS&J*

10:00 am – 4:00pm Exhibits Open

10:30 am – 12:00 pm **Concurrent Sessions — Period 1**

### Session 1A Security/Risk Assessment

*Moderator: Robert Homer*

Pipeline Construction Risks to a Large Community (Cabrillo Palisades Pipeline Relocation at Pacific Bell Property in San Diego)

*James Strayer*

Risk Management: Lessons from Six Continents

*Kris R. Nielsen*

Assessing Vulnerabilities of Water Networks Against Intentional Attacks

*Dulcy Abraham*

### Session 1B Condition Assessment—PCCP

*Moderator: Thomas Charles*

Impact Echo for Integrity Evaluation of Concrete Pipes

*Chetana Kommireddi*

Great Man-Made River Authority (GMRA) Inspection and Management of the Worlds Largest Prestressed Concrete Cylinder Pipe Project

*Mark Holley*

Effective Combination of PCCP Condition Assessment Methodologies—Raising the Pressure at Homestake

*Brian Mergelas*

### Session 1C Pipeline Performance— Fiberglass Pipe

*Moderator: Andy Romer*

Fiberglass Pipe Design for Watermains

*Glen Hille*

Characteristics of Fiberglass Pipes

*Hussain Alawaji*

### Session 1D Corrosion Assessment

*Moderator: Graham Bell*

Fuzzy Logic Expert System for Assessing Corrosion of Cast/Ductile Iron Water Mains Using Soil Properties

*Homayoun Najjaran*

The Significant Results of Two Unexpected Corrosion Failures at Las Virgenes MWD

*David Lippman*

### Session 1E Case Histories— Sewer/Storm Drain

*Moderator: Bob Pruitt*

Salt Creek Interceptor Gravity Sewer

*Dale Gruel*

Design of the South Mission Valley Trunk Sewer Project

*Kevin Contardi*

Rehabilitation of the Oak Creek 96" Cast-in-Place Concrete Pipe Storm Drain

*Curt Gilley*

12:00 pm – 1:30 pm

Exhibit Hall Luncheon



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<b>Track A</b> Risk, Asset & ROW Management, Security, and Water Supply Systems	<b>Track B</b> Condition Assessment	<b>Track C</b> Pipeline Materials, Design, Pipeline Economics, and Construction	<b>Track D</b> Corrosion, Rehabilitation, and Pipe Bursting	<b>Track E</b> Geographic Information Systems, Seismic, and Trenchless Technologies
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## Monday, August 2

### 1:30 pm – 3:00 pm Concurrent Sessions — Period 2

<p><b>Session 2A</b> <b>ROW Management</b> <i>Moderator: Randy Hill</i></p> <p>Integrated Utility Planning: Combining Greenways and Utility Corridors <i>Paul Wilting</i></p> <p>Pipeline Rehabilitation in ROW and Easements—Phase A <i>Margaret Llagas</i></p> <p>Checklist for Assessment of Dewatering Issues along Large Interceptor Alignments <i>Carlos España</i></p>	<p><b>Session 2B</b> <b>Condition Assessment—PCCP Sewer</b> <i>Moderator: Mike Herman</i></p> <p>Acid Attack of PCCP Mortar Coating <i>Dipayana Jana</i></p> <p>PCCP Sanitary Sewer Force Main Evaluation and Management—A Case Study <i>Richard L. Fitamant</i></p> <p>PCCP Water Transmission Main Evaluation and Rehabilitation—A Case Study <i>Richard A. Lewis</i></p>	<p><b>Session 2C</b> <b>Design—Steel Pipe</b> <i>Moderator: Bill Whidden</i></p> <p>Design of Flexible Pipelines Using Soil Properties <i>Dennis Dechant</i></p> <p>Excessive Deflection in Welded Steel Pipe Installation <i>Gary Bousquet</i></p> <p>The Iowa Formula, Its Use and Misuse when Designing Flexible Pipe <i>Greg Smith</i></p>	<p><b>Session 2D</b> <b>Design &amp; Condition Assessment—Culverts</b> <i>Moderator: Mary Goodson</i></p> <p>A High Pressure Bar-Wrapped Concrete Cylinder Pipeline with Double-Gasketed Steel Joints <i>Henry H. Bardakjian</i></p> <p>Design of Profile Gaskets for Corrugated Polyethylene Pipe <i>John Kurdziel</i></p> <p>Rubber Gasket Concrete Pipe Joints...Eliminating the Smoke and Mirrors <i>Andrew E. Romer</i></p>	<p><b>Session 2E</b> <b>Geographic Information Systems</b> <i>Moderator: Mark Holley</i></p> <p>Applications of GPS Technology in Water Supply System in China <i>Gao Jinliang</i></p> <p>A Practical GIS Tool for the PCCP Operator <i>David Marshal</i></p> <p>Keys to Successful Utility Coordination <i>Michael Worton</i></p>
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3:00 pm – 3:30 pm Refreshment Break in Exhibit Hall, Sponsored by American Ductile Iron Pipe and American SpiralWeld Pipe

### 3:30 pm – 5:00 pm Concurrent Sessions — Period 3

<p><b>Session 3A</b> <b>Risk Management</b> <i>Moderator: Brian Mergales</i></p> <p>Modeling Failure Risk in Buried Pipes Using Fuzzy Markov Deterioration Process <i>Yehuda Kleiner</i></p> <p>Risk Management—Predicting Your Next Concrete Pipe Sewer Failure Before It Happens Using The Az Model <i>Karl Kienow</i></p> <p>The Great Made Man River Risk Management System <i>Omar Essamin</i></p>	<p><b>Session 3B</b> <b>Pipeline Crossings</b> <i>Moderator: Rick Wright</i></p> <p>Cable-Supported Overhead Pipeline Crossings: Structure Assessment Plan <i>Brian Leshko</i></p> <p>Construction of a Large-bore Siphon Under the Ventura River, Using Horizontal Directional Drilling <i>John Correa</i></p> <p>A Bridge Under Troubled Waters: We Have Found the Way <i>Eric Skonberg</i></p>	<p><b>Session 3C</b> <b>Design—Steel Pipe</b> <i>Moderator: Greg Smith</i></p> <p>A Guide for the Design of Ferrous-Based Water Transmission Pipelines <i>Richard Mielke P.E.</i></p> <p>Design and Construction of the Dominguez Gap Seawater Barrier Project <i>Havekost Mark</i></p> <p>Hydraulic Design Considerations for the Olmsted Flowline Replacement Project <i>Cort Lambson</i></p>	<p><b>Session 3D</b> <b>Corrosion—Ductile Iron Pipe</b> <i>Moderator: Eugene DeCarlo</i></p> <p>Making "Baggies" Work for Ductile Iron Pipe <i>Graham E. C. Bell</i></p> <p>Corrosion and Corrosion Control of Iron Pipe—75 Years of Research <i>Richard Bonds</i></p> <p>Ductile Iron Pipe Corrosion and Protection <i>Dale Lindemuth</i></p>	<p><b>Session 3E</b> <b>Seismic/Landslide</b> <i>Moderator: Joe Castronovo</i></p> <p>120"– 90" Olmsted/Alpine Designs at Active Landslides <i>Nathaniel Jones</i></p> <p>Hydraulic, Structural, and Seismic Analysis of the Portland Water Supply Conduits <i>Jey Jeyapalan</i></p>
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6:00 pm – 7:30 pm Welcome Reception and Exhibition

# Conference Agenda

## Track A

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## Track B

Condition Assessment

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Pipeline Materials, Design, Pipeline Economics, and Construction

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Corrosion, Rehabilitation, and Pipe Bursting

## Track E

Geographic Information Systems, Seismic, and Trenchless Technologies

## Tuesday, August 3

7:00 am – 8:00 am

Speaker Breakfast

8:00 am – 3:30 pm

Registration Open

8:00 am – 9:30 am

### Concurrent Sessions — Period 4

#### Session 4A ROW Management

*Moderator: Mohammad Najafi, Ph.D., P.E.*

New Technologies to Detect Encroachment near Pipelines  
*Rodney Anderson*

Protecting a Large Diameter Pipeline System in a Developing County  
*Kristine McCaffrey*

Coordinating the Relocation of Large Diameter Water Lines  
*Alisa Gruber*

#### Session 4B Condition Assessment—Sewer

*Moderator: Richard Trembeth*

Sewer Leak Detection—Electro-Scan Adds a New Dimension/Case Study: City of Redding, CA  
*Rob Harris*

Management of Sewers in Environmentally Sensitive Areas  
*Jeroen Olthof*

Implications of Surcharge on the Operability of Sewer Networks  
*Yvonne Hau*

#### Session 4C Design Build—Projects

*Moderator: Gary Bosquet*

Design Build Pipeline “Surges” to Completion  
*Roland Pilemalm*

Design Build of the New Mississippi Outfall, Denver, CO  
*Jon Kaneshiro*

Design Build of the Cooling Water Intake Pipeline for Rosarito Power Plant  
*Lucano Meiorin*

#### Session 4D Corrosion—Monitoring

*Moderator: Graham Bell*

External Corrosion of Water System Piping—Causes & Solutions  
*James Lary*

Dielectric Isolation Concepts Relevant to the Corrosion Control of Pipelines and Plant/Yard Piping  
*Eugene DeCarlo*

Managing Corrosion Testing and Monitoring in a Large Diameter Pipeline System  
*Julia Aranda*

#### Session 4E Oil, Gas, & Freight Transport

*Moderator: Ken Kienow*

A Simple and Accurate Mathematical Model for Pipeline Heat Transfer  
*Boyun Guo*

Simple Method Predicts Location of Line Heaters in Natural Gas Transmission Pipelines  
*Saeid Mokhtab*

Design, Analysis, and Economics of an Underground Pipeline in New York City for Freight Transport  
*Henry Liu*

9:30am – 11:30 am

Exhibits Open

9:30 am – 10:00 am

Refreshment Break in Exhibit Hall, Sponsored by Boyle Engineering Corporation

10:00 am – 11:30 am

### Concurrent Sessions — Period 5

#### Session 5A Asset Management

*Moderator: Alison Ratliff*

Asset Management is Much More Than an Annoying Buzzword  
*Henry Derr*

Impacts of Life-Cycle Cost Analysis (LCCA) and Deterioration on the Values of Wastewater Infrastructure Assets  
*Hyeon Shik Baik*

Integrated System Approach for Municipal Pipeline Asset Management  
*Sunil Sinha*

#### Session 5B Condition Assessment—Storm Drain/Sewer

*Moderator: Howard Arnold*

Asset Management of Sanitary and Storm Sewer System Components Using Conditional Assessment  
*Joseph Strauch*

Condition Assessment of City of Los Angeles Concrete/Brick Semi-Elliptical Sewer  
*Keith Hanks*

San Diego's Sewer Condition Assessment Program  
*Dean Gipson*

#### Session 5C Subsurface Utility Engineering

*Moderator: Steve Shumaker*

Proactive Utilities Management: Conflict Analysis and Subsurface Utility Engineering  
*Nicholas Zembillas*

Construction Benefits Resulting from Using ASCE C/I 38-02  
*Frank Huber*

Use of ASCE 38-02 and Subsurface Utility Engineering for Better Design, Cost Savings  
*James Noone*

#### Session 5D Corrosion—Sewer

*Moderator: Graham Bell*

Accelerated Corrosion Rate Threatens Phoenix Sewers  
*Ronald Ablin*

Evaluation of Sanitary Sewer Sulfide, Odor, and Corrosion Potential and Pipe Life Expectancy  
*Kenneth Kienow*

Failure Analysis of a Sewer Pipeline Confirms Link Between Regulatory Changes and Resultant Biochemical Impact on Pipe Materials  
*Elizabeth Dahlen*

#### Session 5E Seismic

*Moderator: Phil Ryan*

Earthquake Damage Detection in Water Distribution System  
*Reza Rasti Ardakani*

Seismic Mitigation—Mokelumne Aqueduct No. 3  
*Mary Goodson*

Settlement Predictions for Pipelines within Seismically Liquefiable Soils  
*Shanmugam Pirabaroban*



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## Tuesday, August 3

11:45 am – 1:15 pm Awards Luncheon with entertainment by White Collar Comedy

### 1:30 pm – 3:00 pm Concurrent Sessions — Period 6

<p><b>Session 6A</b> <b>Transient-Surge</b> <i>Moderator: Roger Bieler</i></p> <p>Analysis, Design, and Reliability of a Simple Surge Tank <i>Mehdi Azhdary Moghaddam</i></p> <p>Soil Structure Interaction Effects in Thrust Restraint Systems of Buried Pipelines <i>Sri Rajah</i></p> <p>Fatigue Failure of Buckled Pipelines <i>Spyros A. Karamanos</i></p>	<p><b>Session 6B</b> <b>Condition Assessment &amp; Design—Culverts</b> <i>Moderator: Rick Wright</i></p> <p>Cured-In-Place Pipe Helps General Motors Plant <i>Jeana Gillaspie</i></p> <p>CIPP Sectional/Point Repairs Critical Factors—Finally Explained <i>Shaun M. Flanery</i></p> <p>Experimental Studies of Soil Load Transfer to Flexible Sewer Liners: Latest Results and Implications for Design <i>John Gumbel</i></p>	<p><b>Session 6C</b> <b>Pipeline Economics</b> <i>Moderator: Rafael Ortega</i></p> <p>Pipeline Replacement Reinvestment Planning <i>Richard Nelson</i></p> <p>Developing a Defined Water Mains Rehabilitation Strategy for Prioritization and Expenditure <i>Peter Oram</i></p> <p>Life-Cycle Cost Analysis of Trenchless Pipeline Replacement and Conventional Dig-Up and Replace <i>Kyoung Kim</i></p>	<p><b>Session 6D</b> <b>Pipe Deterioration—Design &amp; Construction</b> <i>Moderator: Jeff Adine</i></p> <p>Pinpointing Leaks in Water Transmission Mains <i>Anthony Bond</i></p> <p>Emergency Abandonment of 6.5-Foot Steel Water Pipeline for Blue Lakes Trout Farm <i>Dave Jakovac</i></p> <p>Ten Times in Ten Years—Design and Construction of Critical Water Transmission Main Relocation Tie-ins <i>Thomas Wilson</i></p>	<p><b>Session 6E</b> <b>Trenchless Technologies</b> <i>Moderator: Gregory Raines</i></p> <p>Use of Trenchless Technologies in Infrastructure Rehabilitation and Development <i>Moustafa Moteleb</i></p> <p>Trenchless Trunk Sewer Rehabilitation without Bypass Pumping or Utility Relocation <i>John Goodwin</i></p> <p>Trenchless Technology Saves the Day—What the City of South San Francisco Did in the Shadow of a Cease and Desist Order <i>Dave Antonson</i></p>
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2:00 pm – 4:00 pm Exhibits Open

3:00 pm – 3:30 pm Refreshment Break in Exhibit Hall

### 3:30 pm – 4:30 pm Concurrent Sessions — Period 7

<p><b>Session 7A</b> <b>Open</b></p>	<p><b>Session 7B</b> <b>Condition Assessment—Storm Drain/Sewer</b> <i>Moderator: Michael Feroz</i></p> <p>The True Costs of a Culvert Failure <i>Randy Wahlen</i></p> <p>Design Methods for Steel Liners to Prevent Collapse by External Pressure During Relining of Prestressed Concrete Cylinder Pipe <i>Aric Gnesa</i></p>	<p><b>Session 7C</b> <b>Pipeline Performance—Plastic Pipe</b> <i>Moderator: John Struzziery</i></p> <p>Behavior of Flexible Pipe with Sand Backfill in Trench Conditions <i>Sungro Cho</i></p> <p>Pipe and Soil Mechanics for Buried Corrugated HDPE <i>Reynolds Watkins</i></p>	<p><b>Session 7D</b> <b>Rehabilitation—Sewer</b> <i>Moderator: Henry Nodarse</i></p> <p>GRP: A New Rehabilitation Technique for Sewers in Indiana <i>Lynn Osborn</i></p> <p>Rehabilitation of a Large Non-Circular Sewer <i>Anthony Howard</i></p>	<p><b>Session 7E</b> <b>Construction—Bid Phase</b> <i>Moderator: Larry Rega</i></p> <p>Developing Bid Forms for Conveyance Projects—Being Fair to Owner, Contractor, and Suppliers <i>Roger Beieler</i></p> <p>Reaching Out to Potential Bidders: Design &amp; Implementation of the Group Jobs Contractor Outreach Program <i>Sue Blackman</i></p>
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4:30 pm – 4:45 pm Break

4:45 pm – 5:30 pm Bechtel Award Lecture, *Speaker: Arun Deb, P.E., Ph.D.*

6:30 pm – 11:00 pm Dinner at the Hotel Del Coronado, Sponsored by Ameron International, Inc., Entertainment by the "Rat Pack"—Dean, Frank, and Sammy—will be provided after dinner by Joe Scalissi. Buses begin loading at 6:00 pm.

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## Wednesday, August 4

7:00 am – 8:00 am

Speaker Breakfast

8:00 am – 12:00 pm

Registration Open

8:00 am – 9:30 am

Concurrent Sessions — Period 8

### Session 8A

#### Water Supply Systems

*Moderator: Randy Hill*

Tampa Plans Pipeline Backbone to Regional Reclaimed Water Supply System

*David Hagan*

City of Corona Recycled-Water System

*Craig White*

Case Studies on the Use of PE Pipe for Municipal and Industrial Projects in North America

*Camile Rubeiz*

### Session 8B

#### Condition Assessment & Design—Culverts

*Moderator: Rafael Ortega*

State-of-the Art Review of Municipal PVC Piping Products

*Shah Rahman*

Horizontal Directional Drilling Installation of Polyethylene Pipe

*Larry Petroff*

HDPE: An Alternative with Limitations—Houston's Experience

*Cindy Klopfenstein*

### Session 8C

#### Pipeline Economics

*Moderator: Jeff Moncrief*

Alternative Contract and Delivery Methods for Pipeline Projects

*Steven Kramer*

Relining Prestressed Concrete Cylinder Pipe—A Manufacturer's Perspective

*Jeff Bruny*

How to Get the Highest Value for Water Pipeline Projects

*Russell Gibson*

### Session 8D

#### Pipe & Soil Mechanics and Pipe Bursting

*Moderator: Bruce Stiller*

Buried Pipe Encased in Concrete

*Reynold Watkins*

Elasto-Plastic Design and Assessment of Pipelines: 3D Finite Element Modeling

*Max Hencriks*

Ground Movement in Hard Rock Conditions Related to Pipe Bursting

*Alan Atalah*

### Session 8E

#### Special Topics

*Moderator: Matt Tebbets*

New Scheduling System for Pipeline Projects

*I-Tung Yang*

Background and Approach to Securing a Vital Water Lifeline in Utah

*David Pitcher*

Effective Teaming of Design and Manufacturer Engineers Avoids Costly Delays Due to Changed Conditions

*Elwood Herom*

9:30 am – 10:00 am

Refreshment Break

10:00 am – 11:30 am

Concurrent Sessions — Period 9

### Session 9A

#### Asset Management and Planning

*Moderator: Brian Mergales*

Planning Pipeline Improvements—Best Management Practices for an Aging Water Distribution Infrastructure

*Randall Hill*

Evaluation Methods of Survival Capacity Oriented Investment Strategies of Drainage Networks by the Use of Damage-Specific Ageing Models

*Roberto Stein*

Planning and Effective Use of GIS Technology Turn Massive Amounts of CCTV Data into Prioritized Rehabilitation Projects

*Martin Dorward*

### Session 9B

#### Condition Assessment —PCCP Sewer

*Moderator: Chris Dull*

Structural Model for Stress Evaluation of Prestressed Concrete Pipes of the Cutzamala System

*Roberto Gomez-Martinez*

A Distribution of Traffic Loads for Shallowly Buried Pipe by D.E.M. Analyses

*Toshinori Kawabata*

### Session 9C

#### Design—Sewers

*Moderator: Matt Tebbets*

Scattergraph Principles and Practice—A Comparison of Various Applications of the Manning Equation

*Kevin Enfinger*

Performance of Coated Cement Concrete in Wastewater Environment

*Cumaraswamy*

*Vipulanandan*

Design and Construction of the Imola Avenue Force Main

*Christopher Mueller*

### Session 9D

#### Open

### Session 9E

#### Trenchless Technologies

*Moderator: Gregory Raines*

Pipe Jacking in a Complex Urban Environment—Boston, Massachusetts

*Tennyson Muindi*

Prediction of Surface Heave Associated with Horizontal Drilling Using Neural Networks

*Samuel Ariaratnam*

Designing and Interpreting Geotechnical Investigations for Horizontal Directional Drilling

*Marc Gelinis*

11:30 am

Conference Adjourns

1:00 pm–3:30 pm

Technical Tour: City of San Diego Metropolitan Biosolids Center (MBC). Buses begin loading at 12:30 pm.

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1:30 pm–8:00 pm

Pipelines 2004 Golf Tournament and Banquet. Buses begin loading at 12:30 pm.