



# Utility Engineering & Surveying Institute (UESI)

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Director, Cardno, Inc.

President, 2018 UESI

# Initiative to Create UESI



## Motivations

- Utilities, existing and planned, present risks to the public health and welfare.
- Contracts, case law, statutes, and the standard of care are leading civil engineers and owners to recognize utility engineering as a vital core aspect of civil practice and education.
- UESI allows opportunities for all those interested to collaborate in advancing the technical and professional practices of utility engineering and surveying.
- A focus on utility infrastructure to recruit, train, and retain younger members

# Utility Engineering



## Definition

- “Utility Engineering is a branch of Civil Engineering that focuses on the planning, design, construction, operation, maintenance, and asset management of any and all utility systems, as well as the interaction between utility infrastructure and other civil infrastructure.”

# UESI Organization Chart



Board of Governors

Administrative  
Committees

Technical Divisions

Pipeline

Utilities Risk  
Management

Utility  
Construction  
Management

Surveying and  
Geomatics

Asset  
Management

Standards

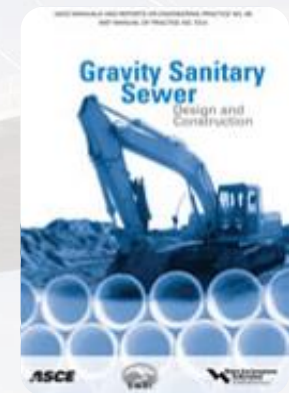
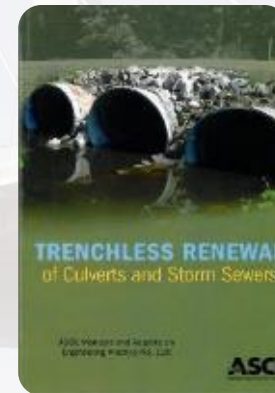
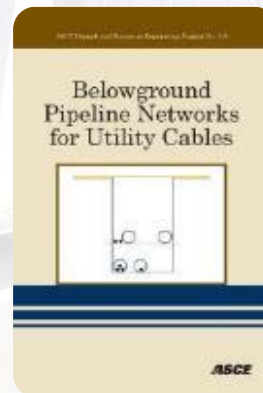
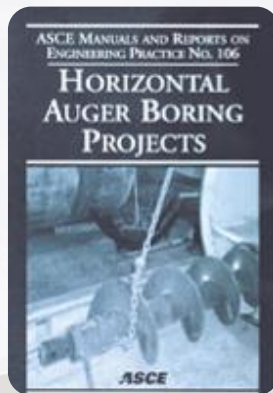


# UESI Technical Committees

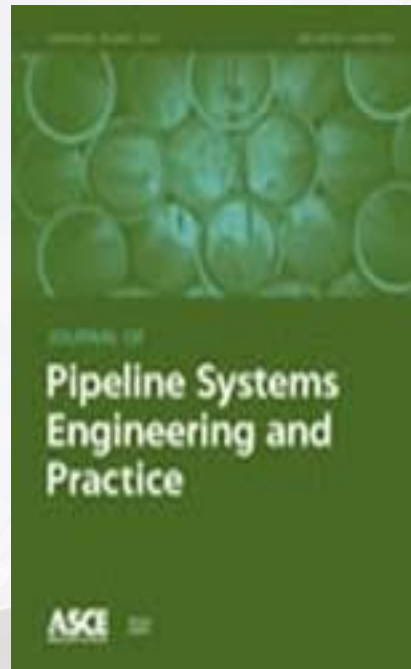


## Publications

- Have produced over 30 publications from 1997- 2015



# UESI Journals

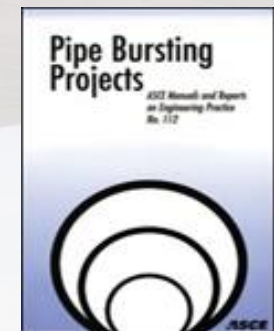
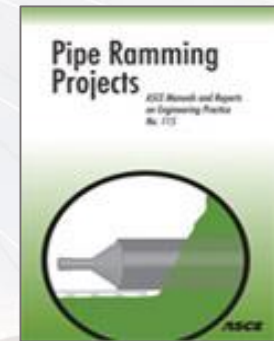


# UESI Current Projects



## Manuals of Practice

- Update Pressure Pipeline Design for Water & Wastewater
- Seismic Design of Pipelines
- Hydraulic Transient Analysis of Transmission Systems
- Pilot Tube Micro-tunneling
- Design of Liners for Gravity Pipes
- Water Pipe Condition Assessment
- Thrust Restraint Design of Buried Pipelines
- Sustainability Design of Pipelines
- Pipe Bursting Projects
- Pipe Ramming Projects
- Rehabilitation of Sanitary Sewer Laterals
- Renewal of Potable Water Pipelines
- Survey Engineering Manual





# UESI Current Collaborative Projects



- Community Resilience Program of NIST/DHS/NOAA/EPA/NAS
- NSPS on the Future of Surveying Workshops



# UESI Conferences



- Pipelines Conferences
  - Phoenix, AZ | August 6-9, 2017
  - Toronto, ON | July 15-18, 2018
- Congress on Technical Advancement 2017
  - Duluth, MN | September 10-13, 2017
- Engineering Survey Forum
  - Cal Poly – Pomona, CA | April 2018



# Utility Risk Management Division



## Purpose

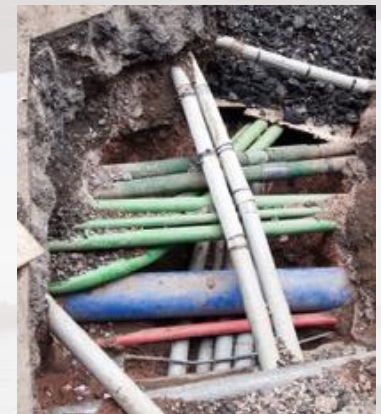
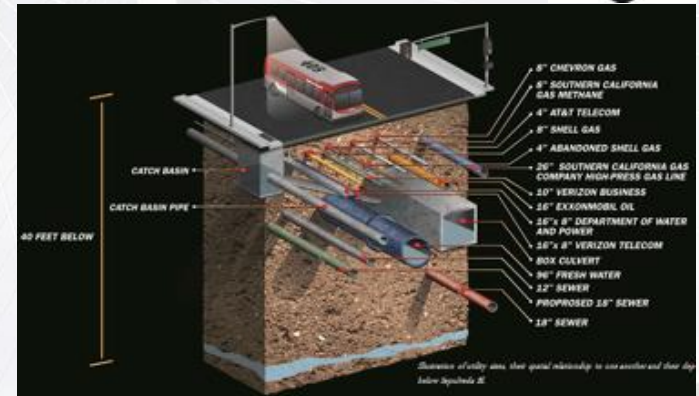
- The Utility Risk Management Division promotes utility engineering as a fundamental technical discipline within civil engineering by exploring, developing, and communicating strategies to improve practices regarding the interactions of all utilities with surrounding infrastructure and environment during project development and delivery. The Division provides leadership for research and development related to utility investigations, coordination, design, and data management and security.

# Utility Risk Management Division



## Standing Committees

- Utility Investigations
- Utility Coordination
- Data Management and Security
- Aerial and Underground Cable and Conduit Infrastructure
- Utility Risk Research Council





# Short Term Activities



- Consensus Definition of Utility Engineering
- Committee Report Documents
  - Utility Infrastructure Mapping Prequalification Guidance
  - Utility Infrastructure Mapping Scope of Work Template
  - Utility Engineering (SUE) RFP Guidance
  - “How to do a Utility Records Research” White Paper
- Significant Update to ASCE 38
- Publication of Utility As-Built Standard
- 40 Hour Short Course UIS 401, Geophysics for SUE Professionals
- EJCDC now recognizes ASCE 38 use as a “Basic Engineering Service”



# Intermediate Term



- 40 Hour Short Course: Utility Coordination
- Model One-Call Statute for “Design Tickets”
- Webinars:
  - Handling Utilities on Design-Build Projects;
  - Performing Utility Records Research;
  - Utility Conflict Identification and Utility Risk Envelopes

# Long Term



- 12-20 Hour On-Line Guided ASCE Courses and University Short Courses

- Geophysics for SUE Professionals
- Utility Coordination
- PE/PLS Use of ASCE 38: Utility Investigations
- Utility Systems Construction and Configurations
- Elements of Pipeline Planning and Design
- Engineering Surveying



When combined with a Field Practicum, will lead to a “Board Certified Diplomat of Utility Engineer” credentialing  
Ex: Joe Smith, PE, D.U.E

- Cyber-Security for utility data
- ???

# Who Should Join?



- Water and Wastewater Pipeline Engineers, Technicians, and Suppliers
- Oil & Gas Pipeline Engineers
- Electrical and Communications System Engineers / Designers
- Subsurface Utility Engineers
- CAD Technicians
- Utility Coordinators
- Surveyors
- Party Chiefs
- Field Technicians
- Utility Asset Managers
- Pipeline Construction Contractors

# How To Join UESI



- Current Member of ASCE
  - Go to [www.asce.org/renewal](http://www.asce.org/renewal) - Primary Institute - free; Secondary - \$30
- New Member of ASCE (\$240/year)
  - Go to [www.asce.org/join](http://www.asce.org/join) - Choose UESI as free Institute
- UESI-Member Only (\$135USD/year)
  - Go to [www.asce.org/uesi](http://www.asce.org/uesi) - Select “Join UESI Member-only Online”
- Student Member (Free)
  - Go to [www.asce.org/uesi](http://www.asce.org/uesi) - Select “Join UESI student member”
- Corporate Member (\$2,000/year)
  - Go to [www.asce.org/uesi](http://www.asce.org/uesi) - Select “Corporate member”



# UESI Member Involvement



- UESI Website
  - Go to [www.asce.org/uesi](http://www.asce.org/uesi)
- Join a Technical Committee
  - Go to “UESI Committee”
- Interest in other aspects of Utility Engineering?  
If so, please contact the UESI staff for ...
  - Training Needs
  - Technical Reports
  - Expert Advise and Support





Questions?