April 30 – May 3, 1995
Toronto, Ontario Canada

NORTH AMERICAN SOCIETY FOR TRENCHLESS TECHNOLOGY
expresses appreciation to the following Cooperating Organizations

American Public Works Association
American Underground Space Association
American Water Works Association
Associated General Contractors of America
Association of Pipeline Inspectors of Ontario
Canadian Concrete Pipe Association

Canadian Society for Civil Engineers
National Association of Sewer Service Companies
National Association of Water Companies
National Utility Contractors Association
Ontario Concrete Pipe Association
Trenchless Technology Center

Trenchless: The Way of the Future
LIST OF PAPERS

Seminar A: Design Considerations for Trenchless Technology

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Harvey E. Svetlik, Phillips Driscopipe, Inc.

SA2: 1-8 Numerical Analysis of Stress Distribution Around Shallow Buried Pipes
Y.G. Diab, Savoie University

SA3: 1-18 Pipe-Soil Interaction Design Considerations in Microtunneling/Jacking Projects
Jey K. Jeyapalan, American Ventures, Inc.

Seminar B: Evaluation & Selection of No-Dig Methods

SB1: 1-6 Trunk Sewer Condition Survey in Edmonton
C.Y. Hsung & S. Fernando, City of Edmonton

SB2: 1-69 Practical Selection of Trenchless Technology Methods for Sewerage and Drainage System Rehabilitation/Replacement

SB3: 1-10 Evaluation of Procurement Practices for Trenchless Pipeline Renewal Processes in the Gas Industry
B. Jay Schrock, JSC International Engineering

Panel Discussion C: Legal & Commercial Considerations in Trenchless Technology Transfers

SC1: 1 Panel Discussion
Edward Castorina, Attorney at Law
(Manuscript Not Available. Please contact author directly.)

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1A-1: 1-10 Historic Boston Offers a Real Challenge
Bill Gilman, McLaughlin Microtunneling

1A-2: 1-13 Microtunneling Using an Innovative Oversized Shield
Kimberlie Staheli, Constructors-PAMCO and David J. Young & Stephen J. Klein, Woodward Clyde Consultants
Session 1B: Gas Rehabilitation

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Steven R. Kramer, Jason Consultants International, Inc. & Steven W. Gauthier, Gas Research Institute

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Karl F. Kiefer, Invocon, Inc. & Kiran M. Kothari, Gas Research Institute

Session 1C: Sewer Rehabilitation

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Tim Dennis, City of Toronto

1C-2: 1 McKnight Boulevard Sewage Rehabilitation
Terry Prince, City of Calgary & Sue Evison, Agra Earth and Environmental Ltd.
(Manuscript not available. Please contact author directly.)

Session 2A: Remediation

2A-1: 1-10 Recent Experience Using Horizontal Wells to Remediate Petroleum Contaminated Sites
James M. Doesburg, FlowMole Environmental Services & Brian Kelly, UNOCAL Corporation

2A-2: 1-16 Environmental Measurement-While-Drilling System for Real-Time Field Screening of Contaminants
Grant J. Lockwood, Randy A. Normann, Luke B. Bishop, Robert J. Floran & Cecelia V. Williams, Sandia National Laboratory

Session 2B: New Technology

2B-1: 1 Development of Steerable Pneumatic Impact Mole
Allan Fisk and David Freed, Foster Miller, Inc. & Steven Gauthier, Gas Research Institute
(Manuscript not available. Please contact author directly.)

2B-2: 1 Key Hole Excavations - Rotary Cutter
Jim Teehan, Consumers Gas
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Session 2C: Non-Destructive Inspection and Testing

2C-1: 1-8  Subsurface Utility Engineering: A Damage Prevention Tool for Trenchless Technology  
*James H. Anspach, So-Deep, Inc.*

2C-2: 1-12  Seismic Resonance Testing - Greenlake Trunk  
*Daniel P. Clark, Brown & Caldwell; Roger Browne, King County Dept. of Metropolitan Services & Robert Whiteley, Coffey Partners Pty Ltd.*

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*Ivan C. Mandich, Delta U.S. Engineering; Sean Pechon and Reda Bakeer, Tulane University and Gerald T. Preau, Sewerage & Water Board of New Orleans*

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*W. Thomas Straughan & Leslie K. Guice, Louisiana Tech University*

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*Barbara A. Brewer, URS Consultants, Inc. & Paul M. Bowers, Amherst Engineering Department*

3B-2: 1  Case Studies of Various Sewer Rehabilitation Projects by Hampton Roads Sanitation District  
*William R. Smith, Smith Demer Normann and Richard M. Norman & Wayne W. Long, Hampton Roads Sanitation District*  
*(Manuscript not available. Please contact author directly.)*

Session 3C: Directional Drilling

3C-1: 1  Using Trenchless Technology for Installing an "Information Superhighway" in Bell Atlantic  
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3C-2: 1-8  Easy Directional Drilling in Sand  
*Nelson Jonnes, American Polywater Corporation*
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Robert A. McKim, University of Waterloo  
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Lori Tulipani, Stearns & Wheeler

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Greg Ellis, Regional Municipality of Halton & Ian Doherty, Trenchless Design Services

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John M. Pitt, Iowa State University  
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Session 4C: Environmental Uses for Microtunneling

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D.J. Coleman and R. Davidson, Gore & Storrie Ltd. & F. Bandoni, City of Cambridge  
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Glenn Boyce & Lee Abramson, Parsons Brinckerhoff Quade & Douglas  
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Michael E. Argent, Permalok Corporation and David A. Pecknold & Rami M. HajAli, University of Illinois

5A-2: 1  New Standard for Concrete Microtunneling Pipe  
Dan Zehavi, Waterloo Concrete Products  
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Tom Altpeter, Gas Research Institute & Gerard Pittard and J.H. Cohen, Maurer Engineering, Inc.
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J.M. (Jack) Casselman and Randy Cooper, Evanco Environmental Technologies
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Ted O. Price, Sonex, Ltd.

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Steven W. Gauthier
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Ronald Fedrick, Nova Group, Inc.

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Carl Haas, Dave Fowler, Charles Wright & Tom Bauhan, University of Texas, Austin

6B-2: 1  CIPP Spot Repair in the City of Toronto
Ken Foster, IGL Canada Ltd.
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Session 6C: Gas Rehabilitation & Renovation

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Robert Zlokovitz, ConEdison Company of New York & Roy Streatfield, PIM Corporation
(Manuscript not available. Please contact author directly.)

6C-2: 1  Development of a Pipe Renewal System for High Pressure Gas Lines
Tom Driver, Paltem Systems, Inc.; Steven Lawrence, Pacific Gas & Electric Co. & Steven W. Gauthier, Gas Research Institute
(Manuscript not available. Please contact author directly.)