



Trenchless Technology Center *Newsletter*

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Municipal Forums Focus on Lateral Rehabilitation Techniques

The municipal forums for trenchless technology held in October in Portland, Ore., and Longmont, Colo., both had a specific focus on lateral rehabilitation techniques. This topic was chosen by each of the forum groups due to the increasing interest in solutions to the lateral sealing problem and the improving cost effectiveness of the lateral techniques. Forum participants suggested the techniques that they would like to learn more about and the TTC worked with the host city and with the industry to arrange both presentations and field demonstrations.

The Portland meeting was held on Oct. 9 with Tom Caufield from the City of Portland assisting with the local arrangements.

Demonstrations of two lateral rehabilitation techniques were arranged. The first was provided by the City of Portland since it has its own lateral rehabilitation crews using Performance Liner as the supplier for an air-inversion CIPP approach. The second demonstration was provided by TRIC Trenchless using its pipe bursting equipment to replace the lateral. In each case, only the city-owned section of the lateral between the mainline and the property line was replaced.

The street chosen as a demonstration site was in itself an excellent example of the need for such rehabilitation work. CCTV inspections of the mainline and lateral showed severe problems with the laterals and, in fact, the first two laterals inspected were collapsed to the extent that rehabilitation was not an option. The demonstrations were complete with all the real-world problems of an older neighborhood in a northern climate, including difficult and deep access to the sewer laterals and conflicting utilities. But, both demonstrations were completed successfully.

Following the field demonstrations, the group of approximately 33 municipal engineers and city crew members from eight municipalities gathered for additional discussion on the field demonstrations and presentations on other rehabilitation techniques. Jim Moore from TT Technologies made a

presentation on lateral pipe bursting, Gillian Wilson from CUES showed the CCTV videos made the previous day of both the mainline and laterals at the demonstration site and Ray Sterling of TTC showed a PowerPoint presen-

ments were made by James Engel and Bill Taylor from the City of Longmont. The field demonstration was provided by Aqualine Services, using the PermaLateral air inversion CIPP technique.



TTC's municipal forums provide a medium for exchange of information between cities.

Meeting presentations and discussions followed. Gerry Muenchmeyer of K.R. Swerdfeger Construction presented an overview of the range of lateral rehabilitation technologies and discussed some of the commercial difficulties of lateral rehabilitation for larger companies. Muenchmeyer also presented, on behalf of TT Technologies, approaches to lateral pipe bursting and Sterling used the American Logiball presentation again to discuss grouting of laterals.

Jeff Anderson from Aqualine Services and Dean Peake from CUES discussed issues relating to CIPP rehabilitation of laterals and lateral inspection.

The presentations and discussions at each meeting made it clear that lateral rehabilitation is an important issue facing many municipalities. Circumstances and approaches to the problem vary widely from one city to another. Forum members were able to see first-hand that trenchless lateral rehabilitation is quick and effective but also were able to discuss the importance of developing programs that recognize the political and economic realities of dealing with laterals. Private lateral programs need approaches that accommodate low-income households. They also need cost-effective approaches either requiring grouping laterals into reasonable sized contracts or else enabling field crews to fix lateral problems as they are identified rather than requiring multiple site visits to complete a relatively small physical task.

The next forum meetings for these two groups are scheduled for April 3 and 4, 2002, in Denver and Tacoma, respectively, with a special focus on manholes and coatings. Forum meetings are also planned in the other forum locations as follows: Houston, March 27, 2002; Columbus, Ohio, April 17, 2002; and Kansas City, April 24, 2002. For further information, please contact the TTC.

tation provided by American Logiball on the sealing of laterals and lateral-mainline connections using grout packers and grout injection.

A similar program involving a field demonstration and presentations followed at the Denver forum on Oct. 11. Local arrange-



A lateral demonstration in Portland.

PRc and TTC Co-Host Symposium at Dallas ASTM Gathering

Taking advantage of the ASTM meeting in Dallas, the Pipe Rehabilitation Council (PRc) and the TTC co-hosted a special meeting to discuss the recent research results related to buckling of pipe liners under external pressure and the design loads expected to be carried by a liner when installed in a severely structurally deteriorated pipe.

The program was initiated and brought together by George McAlpine, Chairman of the PRc and President of Danby of North America Inc., and Ray Sterling, TTC Director, acted as the moderator for the event, which took place Nov. 4.

The program consisted of two key presentations by John Gumbel from Insituform Technologies and McAlpine. Gumbel presented a paper titled "New Design Method for Hydrostatic Buckling (Partially Deteriorated Case)" and McAlpine presented a paper titled "Design for Fully Deteriorated Case." After each presentation, a

formal response and commentary to each presentation was made by David Hall, Assistant Professor of Mechanical Engineering at Louisiana Tech University, and Ian Moore, Canada Research Chair of Infrastructure Engineering at Queen's University. The meeting concluded with an open discussion of the issues raised during the session.

Although the Sunday timeframe and reduced travel schedules kept the attendance small, the discussion was lively and constructive. The presentations and discussions indicated that the approaches to the prediction of constrained liner buckling are converging and that a more rational approach needs to be taken to the design load parameters for the "fully deteriorated" condition. The formal presentations and responses are being assembled by the PRc and are expected to be available at the end of 2001. The issues raised are being formally addressed by an ASCE Task Group chaired by Jay Schrock.

Long-standing Members Support TTC

In contrast to only announcing the new members joining the TTC, the faculty, students and staff of the center would like to take this opportunity to thank the long-standing industry supporters of the center. Without their continuous support the TTC could not have maintained its research and education programs in support of the trenchless industry.

Companies that have been members of the Industry Advisory Board continually since its formal initiation at the end of 1991 are: **BRH Garver, Hobas Pipe, Insituform, Lamson Vylon and Trenchless Technology magazine.** Many other companies and associations have provided substantial support over the 10 years of the TTC's existence and their support will be recognized in a future newsletter.

TTC Supports Advanced Technology Conference in Washington, D.C.

The TTC was pleased to support the recent Underground Infrastructure Advanced Technology Conference (UIATC) symposium held in Washington, D.C., Dec. 3-4. The purpose of the specialty meeting was to introduce the latest trenchless technologies to decision makers who must make decisions about how to maintain urban underground infrastructure.

The TTC provided review of industry papers submitted for presentation and handout at the symposium, and Ray Sterling also made a presentation on the research activities of the Trenchless Technology Center.



Dr. Jarold Stegeman Joins TTC Faculty

The TTC welcomes a new faculty member who joined Louisiana Tech University at the end of November. Dr. Jarold Stegeman completed his Ph.D. in Civil & Environmental Engineering at the University of Nevada-Las Vegas and has been working since that time as an engineering consultant and a graduate instructor at the University of Nevada-Las Vegas.

Prior to his Ph.D. studies Stegeman had extensive experience on both the public and private sides of municipal engineering in the Las Vegas and Colorado areas. He will teach in the Construction Engineering Technology program at Louisiana Tech and will join the TTC research group. His presence will strengthen the ability of the TTC to work closely with municipalities and consultants on the successful adoption of trenchless techniques.

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