



NORTHWEST NEWS

North American Society for Trenchless Technology Northwest Chapter

Alberta, British Columbia, Washington

May 2005

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Bennett-Staheli Engineers, WA

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Program Manager
City of Edmonton, AB

PAST CHAIR

Dave Krywiak, P.Eng.
Senior Project Manager
Stantec Consulting Ltd., AB

Northwest Chapter 2004 Annual Report

March 15, 2005

The Northwest Chapter of NASTT had a busy year in 2004. The Chapter Board held quarterly meetings via conference calls to plan, discuss and update activities of the year. Aside from the Board meetings, there were numerous individual regional meetings held to organize individual activities. The predominant activities were the annual symposium, technical luncheon presentations in spring and fall and publishing of bi-annual newsletter.

Annual symposium was held in Edmonton in cooperation with the Tunnelling Association of Canada and the Canadian Society for Civil Engineering from September 26 to September 29, 2004. The theme of the symposium was the Advances in Tunnelling and Trenchless Technologies. The symposium featured the key-note speakers of Dr. Ray Sterling, Chair of International Society of Trenchless Technology, on the international development and transfer of tunnelling and trenchless technology and of Dr. Walter Steiner of Switzerland on the challenges of the tunnelling in the Alps, its recent and older lessons. There were 128 participants including 13 exhibitors and 9 sponsors.

Five technical presentations were held in 2004. It was structured for the months of January, February and March leading to the national No-Dig conference in New Orleans where annual general meeting was held. Board members were elected and Executive Committee was established. Monthly activities were recessed thereafter for the summer period and resumed in October, 2004 to March 2005 except in December. The 2004 presentations saw a gained momentum in the applications of the trenchless technologies. Participant's attendance had increased from the usual 25 to more than 40 people in recent presentations.

Through the bi-annual newsletter, the Chapter hopes to reach all the people interested in the trenchless technologies, in particular, our members. The newsletters featured the activities for each of the regions, NASTT No-Dig Conference and Exhibition, project news as well as special announcement such as a \$1,000 award to a graduate student to encourage students to reach out to the technologies. Chapter's website was periodically updated.

The followings list the activities conducted in 2004:

- AGM on March 23 in New Orleans, Louisiana.
- Two issues of Northwest News in May and November.
- A Student Mixer night at University of Alberta on September 23, sponsorship through APEGGA
- Co-Sponsor for the Cross Canada Lecture Tour on Buried Asset Management on October 26 by Dr. T. Iseley
- Exhibition booth in the WCWWA 56th Annual Conference & Trade Show on Oct 17 ~ 20, Calgary.
- Five technical luncheons were conducted:
 - January 22: Infrastructure Management by Dr. John Hodgson
 - February 19: Pipe Bursting for Laterals by Wing Chan
 - March 18: Schedule Optimization by Using Genetic Algorithms by Al-Battaineh Hussien
 - October 21: Drilling Uphill 1390 feet Vertically On a Gas Pipeline Project Through Hard Quartz Arenite Using HDD Technology by James Murphy
 - November 25: Pipe Bursting for Pipe Rehabilitation – A Desktop Study on Cost Effectiveness by Albert Kwan



The 2004 also saw the hard working of the trenchless technology group in the province of British Columbia. After years in the working, the TTBC finally got the approval of the NASTT in their final bid for a Chapter. The headquarters passed the resolution in the Board meeting on January 24, 2005 in Houston.

Activities for 2005 include:

- AGM in Kissimmee, Florida on April 26
- Chapter bylaws revisions
- Technical luncheon presentation in spring and fall. Spring presentation include:
 - January 27: Edmonton's Service Connection Strategy by Dave Krywiak
 - February 17: Analysis of Tooling Behaviour on Directional Drilling Operations by Jason Lueke.
 - March 30: Regional AGM and Student Scholarship Presentation on HDD As-Built and Steering & Tracking Technologies by Sean Tong and Dale Kung
- Annual Symposium in fall, Calgary/Banff
- Bi-annual Northwest Newsletter

Submitted by:
 Ken Chua, MSCE, P. Eng.
 Liaison to NASTT, Northwest Chapter

STUDENT CHAPTERS IN NORTHWEST CHAPTER

		
Professor-in-Charge	Dr. Mohamed Al-Hussein malhussein@ualberta.ca	Dr. Janaka Ruwanpura janaka@ucalgary.ca
Student Organizer	Hussein Al-Battaineh hussien@ualberta.ca	Mamdouh Nasr

LOCAL GROUP NEWS

ALBERTA



The Edmonton Region has conducted another three successful Technical Luncheons in January, February and March of 2005. These Luncheons have been well attended averaging around 30 participants for each event. Continuing relationship with the Student Chapter at University of Alberta is also encouraged through presentations on trenchless technology and invitations to the Technical Luncheons. Another student mixer event was conducted at the University of Alberta as well.

The Calgary region has also formed a local board to promote trenchless technology in Calgary. Technical Luncheons have been successfully provided in the Calgary region. There were four Luncheons with good participation. In addition, the planning committee for the upcoming trenchless symposium has been established. The symposium will take place on November 16, 2005 at Coast Plaza Inn. A training module on trenchless technology will also be provided in conjunction with the symposium.

BRITISH COLUMBIA



Congratulations! The BC region has been approved as a separate chapter by NASTT. TTBC was officially recognized as a NASTT Chapter in the January 24, 2005 NASTT Board meeting. We certainly wish all the best for all the members in BC and look forward to working together on future endeavors.

As a result of the change, the bylaws for the Northwest Chapter need to be amended to reflect such changes. There is a questionnaire in this newsletter for you to express your opinion on the amendment to the Northwest Chapter bylaws.

WASHINGTON



The Northwest Chapter Board is working on getting things going. Washington State NASTT members are encouraged to support the local organizing committee and participate in future events.

The short course on HDD good practices guideline is being organized for 2005 in Seattle. This event will sure to generate interest on trenchless technology in general, and HDD in particular. In addition, the Rehab Road Show will visit Bilham, WA this year as well.

NORTHWEST TRENCHLESS PROJECTS

EDMONTON'S SERVICE CONNECTION STRATEGY

Dave Krywiak, P.Eng., Stantec Consulting Ltd

The City of Edmonton maintains over 250,000 combined, sanitary and storm service connections, with the oldest installations approaching 100 years in age. Each year Drainage Services receives an average of 5,000 to 6,000 calls related to service connection problems, resulting in approximately 200 service replacements. As the systems continue to age, these numbers are expected to increase significantly over the next 20 years.

To address this situation, the City is developing a Service Connection Strategy. The first stage in the development is identifying the needs of the various involved City departments, and at the same time being cognizant of the property owners needs. Required data and data management needs are identified, condition rating systems are reviewed and evaluated, and options for service connection repair/replacement are developed. These options look at both City side replacement only, and replacement of the City portion in conjunction with the private side. As well, the available means to complete the repair/replacement are identified. Traditional open cut techniques are compared with the continually evolving trenchless methods that are now available. These include relining, pipe bursting and extraction, or new installation using various methods such as horizontal directional drilling, guided boring or impact moles.

ANALYSIS OF TOOLING BEHAVIOR ON DIRECTIONAL DRILLING OPERATIONS

Jason Lueke - Infrastructure Engineer / Trenchless Specialist - Associated Engineering

Drill bits and reamers are critical elements of any Horizontal Directional Drilling (HDD) project with selection based on anticipated geological conditions to be encountered. Although there are multiple down hole tooling configurations that may be utilized to complete a given installation, proper selection can affect rig performance and ultimately, project success. This paper analyzes and explores the importance of down hole tooling selection and its influence on the success of horizontal directional drilling installations. Data collected on pullback force and rotational torque from field installations involving multiple reamer types and soil conditions are analyzed to study the effects of reamer configuration on drill rig operational parameters. Field installations were conducted utilizing various sized reamers and pipe products in three commonly encountered soil conditions: sand; clay; and cobble. The study also found that drilling technique and reamer configuration are influencing factors in the development

of fracouts, or inadvertent loss of drilling fluid escaping to the surface. By selection of appropriate down hole tooling to match the anticipated geological conditions, it is possible to increase the capabilities of a given directional drill rig and also reduce incidents of fracouts.

AS-BUILT GENERATION AND EXISTING UNDERGROUND UTILITY DAMAGE PREVENTION DURING HORIZONTAL DIRECTIONAL DRILLING OPERATIONS

Sean Tong & Dale Kung

Underground utilities have traditionally been installed using an open cut method of construction. It wasn't until the early 1970's when Horizontal Directional Drilling (HDD) was first introduced as a means of installing underground utilities. At the time HDD was not recognized as being the best installation methodology for underground utility installations due to its poor steering and tracking capabilities. In the early 1980's, a vast improvement to both the steering and tracking technologies garnered the attention of organizations involved in buried utility installations. Some of the advantages HDD bring to these types of installations include minimizing environmental and traffic disruptions, decreased costs associated with rehabilitation projects, and shorter time frames for installations. It is for these reasons that underground utility installations using HDD are becoming more and more common and can currently be seen in almost every municipality in North America.

The development of HDD best practice standards and regulations has not kept up with the growth of this industry sector. This has resulted in a number of problems with HDD operations. With the vast network of buried utilities currently in place, any new installation will just add to the congestion. Without accurate as-builts, the risk of damaging existing underground utilities, during HDD operations, increases substantially with each new installation of underground utilities using horizontal directional drilling. The University of Alberta in collaboration with the City of Edmonton is looking at possible solutions to mitigate this problem. The research consists of: 1) Review of Current Industry Practice; 2) State of the Art Technologies; and 3) Future Developments.

The findings of this research are intended to enhance the current practices of the horizontal directional drilling industry sector. It is also meant to illustrate where this industry is heading in the future and to highlight areas of concern with HDD operations.

2005 NO-DIG SHOW

The 2005 No-Dig Show was successfully held in the fabulous Gaylord Palms Resort & Convention Center in Orlando, Florida, USA during April 24 to 29, 2005. The show attracted over 1,000 participants with many international representatives. This is the only conference and exhibition of its size in North America dedicated solely to promoting trenchless technology.

- The format of the conference consisted of 4-track technical paper sessions. A mock trial, with “real-world” professionals, was performed based upon actual incidents.

The NASTT 4th Annual Education Fund Auction & Reception was also conducted on April 25, 2005 during the 2005 No-Dig Show. Over the last three years, the auction has generated nearly \$85,000 for the benefit of education in the trenchless industry. Proceeds have facilitated the development of new NASTT student chapters and supported activities of existing student chapters.

ABSTRACTS REQUEST FOR 2006 NO-DIG SHOW

The North American Society for Trenchless Technology (NASTT) is now accepting abstracts for the 2006 No-Dig Show in Nashville, Tennessee. Please submit one page abstracts, not more than 300 words, by June 10, 2005, for consideration to:

NASTT, 1655 N. Ft. Myer Drive, Ste. 700
Arlington, VA 22209
Email: nastt@nastt.org
Fax: 703-739-6672

Be sure to include the primary author's name, complete mailing address, phone, fax and email.

Questions? - Piero Salvo, Program Chairman -

Phone: 613-235-8119 or
Email: psalvo@waterrehab.com

Request for Proposals Sewer Laterals Training Module Course Presentation, Instructor's Manual, and Demonstration

NASTT
Education Committee
1655 N. Fort Myer Drive, Suite 700
Arlington, VA 22209

Submit Proposals to: John Hemphill
c/o NASTT's Education Committee
1665 N. Fort Myer Drive, Suite 700
Arlington, VA 22209

PROPOSALS DUE: Friday, July 29, 2005 @ 4:00 pm EST

Please consult the NASTT web site for more details @ <http://www.nastt.org/rfq.html>

UPCOMING EVENTS

September 19-21, 2005 - In 2005 the trenchless world meets in Rotterdam, The Netherlands for the 23rd International No-Dig Conference and Exhibition. From September 19 - 21 they will bring the experts in the industry under one roof. This is the chance for sales specialists to meet and to interact with potential customers, representing the booming European market. If you are in the trenchless business, No-Dig 2005 is a must to attend since it will be the last No-Dig in Europe until 2007. For more information, please check the following web site: www.no-dig2005.com

November 16, 2005 - 2005 Alberta Trenchless Symposium will be staged in Calgary. This event will be in the Coast Plaza Hotel and Conference Centre of Calgary, Alberta. For more information please contact Chad Blash at cblash@urban-systems.com

March 26-31, 2006 - The NASTT 2006 No-Dig Show will be held from March 26 to 31, 2006 at Nashville, Tennessee, USA. The 2006 No-Dig Show will be in the Gaylord Opryland Resort & Convention Center. For further information, please visit www.nastt.org/nodig.html or contact 2006 No-Dig program chairman Piero Salvo at ph: 613-235-8119 or e-mail: psalvo@waterrehab.com.

NEWS FLASH

March 1 - Participated in the APEGGA student mixer night at University of Alberta.

**NASTT NORTHWEST CHAPTER
ANNUAL GENERAL MEETING
DURING
2005 NO-DIG SHOW**

The Northwest Chapter of the North American Society for Trenchless Technology (NWNASTT) held its annual general meeting on April 26, 2005 in Orlando during the 2005 No-Dig Show. Sixteen members attended the annual general meeting.

The meeting started with the report from the Chairperson of the Northwest Board, Kim Staheli. The activities from the past year were summarized.

Due to the recognition of TTBC as a separate chapter in NASTT, the bylaws for Northwest Chapter need to be revised. There were a lot of discussions on the proposed changes to the bylaws. A questionnaire was proposed to solicit inputs from Chapter members.

The next agenda item was the election of executive members. The followings are the election results:

- Kim Staheli from Washington State will remain as the Chairperson.
- The Vice-Chair is vacant.
- Albert Kwan from Alberta Region will resume as the secretary.
- Neil Kucharski from the Alberta Region will assume the Treasurer position.
- The Directors are as follows:
 - Glenn Duyvestyn and Jack Burnam for Washington State
 - Bill Boyes for the Alberta Region
- Ken Chua will remain as the Liaison to NASTT.
- Dave Krywiak will remain as the Past-Chair.

**NASTT NORTHWEST CHAPTER
CHAPTER BYLAW AMENDMENT
QUESTIONNAIRE**

Name: _____

1. Do you support the formation of separate Chapters for Alberta and Washington State regions?
 Yes No

2. Do you support the formation of a Northwest Group of Chapters to look after common interest issues?
 Yes No
 (If yes, please answer question #3.)
 (If no, please go to question #4.)

3. Which Chapters should be in the Northwest Group of Chapters?
 Alberta Yes No
 Washington State Yes No
 B. C. Yes No

Others: _____

4. Other Comments

Please submit the completed response to Albert Kwan
 Phone: (780) 496-6852, Fax: (780) 496-6865,
 e-mail: albert.kwan@edmonton.ca

NASTT NW Chapter WEB Site

The NASTT Northwest Chapter Web site has been on-line since January 2004. The Web address is www.nastt-nw.com. Please log on to check for the latest news. Lists of companies in trenchless industry are also provided. Trenchless contractors, manufacturers and service providers are welcomed to add your name onto the list.

This is your newsletter. We are looking for articles, events, suggestions and ideas for the next issue. If you would like to receive the NORTHWEST NEWS, contact the editor. Letters to the editor are welcome.

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