Welcome to the Summer 2016 edition of the CATT Newsletter. This edition’s Message from the Board comes from the CATT Technical Committee.

As you may already know, the CATT Technical Committee is responsible for developing and updating Ontario Provincial Standard (OPS) specifications. While CATT is focussed mainly on trenchless technologies, the scope of the Technical Committee is broader. Our committee works on any and all specifications that relate to buried water and wastewater infrastructure, including trenchless technologies.

Anyone who works in infrastructure knows the importance of a properly written specification. If the wording is too broad or vague, there would be so many addendums required to customize it that would essentially render the original specification useless. However if the wording is too narrow or specific, new products and technologies would be excluded and the specification would only be useful to a small portion of the industry. The trick is to find the “sweet spot” somewhere in the middle. You may ask, how do we find that sweet spot? Simple: by putting together a diverse committee to develop the specification. Committee members must come from all 4 facets of our industry: government, engineering, material and equipment suppliers, and contractors.

This is why the CATT Technical Committee has been so successful. Our committees to date have consisted of members from all 4 corners of the industry, all of whom provided their own unique perspectives. With this diversity, we are able to develop relevant and useful OPS specifications for all stakeholders in the infrastructure business in Ontario. Over the past 3 years the Technical Committee has developed and updated OPS specifications for Sewer CIPP, Watertight Maintenance Hole Cover Systems, Fold & Form PVC Liners, Watermain CIPP, and Microtunnelling (the Microtunnelling spec committee had 25 members).

While every large municipality in Ontario uses OPS specifications, they are even more critical for the smaller municipalities that do not have the staff or resources to develop their own. Without OPS specifications, small municipalities would have to rely on old outdated specs, possibly from other provinces or countries, and they would be unaware of new products and technologies that may help them greatly.

If you’re interested in joining the CATT Technical Committee, or if you’re a supplier with a new product or technology that requires a new OPS specification, please contact CATT or myself at Alex.Sandovski@ipexna.com.

And remember, a specification is only as good as the committee that writes it.

Alex Sandovski, P.Eng., MBA
Municipal Sales Engineer – IPEX Inc.
Chair, CATT Technical Committee
The Niagara Region’s Smithville Sewage Pumping Station (SPS) services the community of Smithville in the Township of West Lincoln. The station collects wastewater and conveys it by means of a forcemain and sanitary sewer to the Grimsby Wastewater Treatment Plant (WWTP) in the Town of Grimsby for treatment.

R.V. Anderson Associates Limited (RVA) was retained by Niagara Region to provide design, contract administration and inspection services for upgrades to the SPS, forcemain, and various sections of the gravity sewer system.

A 120 L/s SPS capacity upgrade at the station was required to accommodate growth in the service area. Improvements identified at the station included replacement of the existing pumps and process piping, a new chemical system for odour control, and installation of a new control panel.

The project also included the complete replacement of the existing 10.6 km long 300 mm diameter forcemain with a new 400 mm diameter PVC forcemain, replacement of an existing 827 m long section of sanitary sewer, structural rehabilitation of sanitary maintenance holes, and in-situ rehabilitation of an existing concrete sewer crossing under railway tracks. In order to complete the scope of work in the most efficient and cost effective manner, several trenchless methods were specified during design and implemented by the Niagara Region’s General Contractor, V. Gibbons Contracting Ltd. The selected forcemain alignment passes through areas in Smithville that are heavily congested with existing buried utilities and infrastructure.

In order to mitigate potential conflicts during construction, a detailed Subsurface Utility Engineering (SUE) investigation was completed during the design phase of the project. The SUE information assisted with the design of the detailed forcemain layout.

The forcemain installation required trenchless methods at two separate locations. The first location involved a 60 m crossing of a set of railway tracks, and the second location was a 16 m crossing under two large concrete box culverts that convey a local stream under the roadway. Both crossings were completed using an auger boring machine to install a steel casing, and the PVC forcemain was then installed and grouted inside the casing pipe. The new forcemain also crossed several sensitive existing utilities along the alignment, including two (2) high pressure gas mains (500 and 900 mm diameter), two (2) 150 mm diameter fiber optic conduits, and railway track signals.

At the end of the alignment, the forcemain discharges sewage into a trunk sanitary sewer. The trunk sewer conveys the sewage down the Niagara Escarpment to the Grimsby WWTP, located on the shore of Lake Ontario. Some of the concrete components of the sanitary system had deteriorated due to hydrogen sulphide (H2S)
Rehabilitation of 34 deteriorated concrete maintenance holes was completed with a structural liner installed by spin-casting. The liner material also contained a chemical additive to prevent bacteria growth and inhibit H$_2$S corrosion in the future. A 26 m long section of 375 mm diameter concrete sewer crossing under railway tracks also required rehabilitation due to H$_2$S corrosion. A structural CIPP liner was installed in the sewer, including a curing process with UV light.

The final phase of the linear portion of the project included the replacement of an 827 m long section of 375 mm diameter concrete sewer located adjacent to a set of railway tracks. This section of sewer had also been impacted by H$_2$S corrosion. For this reason, PVC pipe was selected for the replacement, and a new 525 mm diameter PVC sewer was installed.

To date, all of the linear works have been completed and tested successfully. The linear portion of the project required close coordination and collaboration between the Niagara Region, the consultant, the contractor and area municipalities to address constructability issues and to ensure the works were constructed safely and efficiently, while minimizing the disturbance and inconvenience to the general public. The contractor is currently working on upgrades at the SPS. The project was expected to be completed by late Spring 2016.

Contact: gino.giancola@niagararegion.ca or rboone@rvanderson.com

“Some of the concrete components of the sanitary system had deteriorated due to hydrogen sulphide (H$_2$S) corrosion”

TRENCHLESS TECHNOLOGY ROAD SHOW 2017
Richmond, BC | September 25-27, 2017

Helping Municipalities Save Millions of Dollars on Infrastructure Renewal

CATT, NASTT-BC and Benjamin Media Inc. are excited to announce the 2017 Trenchless Technology Road Show in Richmond, BC. The technical sessions will present the latest developments in the trenchless industry and the exhibition will show cost-effective and efficient tools and techniques for condition assessment, rehabilitation, and replacement of buried pipelines. Call for abstracts and further information will follow shortly.

Join us in Vancouver for learning, networking and fun!
**Featured Product:** Electro Scan’s Multi-Sensor Smart Probe: Leak Detection Solution for Pressurized Water Mains

Electro Scan’s ground breaking multi-sensor water leak detection probe combines its patent pending low voltage conductivity technology, with a high definition CCTV camera, pressure sensor, and acoustic hydrophone, to accurately measure location, size, and GPM of each water leak. Representing the first reliable, repeatable, and measurable solution for water loss leak detection, Electro Scan’s tethered 4-in-1 probe finds water losses in pressurized water mains, accessing mains through fire hydrants, valves, flow meters, and pressure fittings, to measure variations of electricity flowing through cracks, pinhole leaks, broken joints, and defective service connections, in accordance with ASTM F2550-13. Available exclusively as a professional service by the Company, Electro Scan Services is able to find and measure leaks, typically not detected or correctly measured by legacy techniques. Integrated with the Company’s CriticalH₂O cloud application, results are available within minutes, not days or weeks. www.electroscan.com. Contact 916-779-0660.

**Upcoming Events** *(Visit www.catt.ca for more details)*

- **September 14:** Using SUE to Mitigate Risk in Trenchless Projects
- **October 13:** CATT Annual General Meeting and Dinner
- **October 27:** Sewer and Watermain Condition Inspection Tools, Techniques
- **November 2:** Rehab Methods for Manhole Chambers
- **November 21-25:** Asset Management of Buried Infrastructure

Visit www.ogra.org

**On-site Training:** In its continuing effort to meet the industry needs, CATT is now able to provide on-site training courses. These courses are tailored to fit your training needs and scheduled to fit your employees’ availability.

Director-Approved CEUs can be granted, if required. Contact the CATT office for additional information: Catt@uwaterloo.ca.

**Welcome New Members:**

**Corporate Silver:** Echologics, SCS Consulting Group, multiVIEW Locates Inc.