The Digital Pipe Digest

CCPA ACTB

Canadian Concrete Pipe Association
Association des Canadienne de Fabricants de Tuyaux de Béton

Editor: A. Grant Lee, MCIP, RPP, FCInst.M March 2004

CCPA/ACTB holds 2004 AGM in Whistler BC

The 2004 Executive and Board of Directors for the CCPA/ACTB was nominated and approved by the membership at the 2004 AGM in Whistler on February 13, 2004.

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Miceli & Frères Ltèe.
Mike Schmidtler, Secretary Treasurer
Lafarge
Derek Guberney, Past Chair
Con Cast Pipe.

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Lafarge Canada
Mike Palmer, Associate
Hamilton Kent
Mel Marshall, Associate
Mel C. Marshall Industrial Consultants.
Terry MacDonald, Associate
Besser / International Pipe Machinery Corp.

The meeting was highlighted by the acceptance of three new member firms into the CCPA/ACTB. Hyprescon and Anchor Concrete Products joined as Producer Members, and S&B Technical Products joined as an Associate Member.

One of the mandates of the CCPA/ACTB is research and development that benefits members nationally. As such, the membership voted to support continuing research at the University of Toronto that is investigating traditional formulae and codes calling for the level of shear reinforcement currently required in box units.

Specimen at U of T placed in test frame and being readied for experimentation.

There are potential huge savings in production costs and product costs if codes can be refined to call for shear steel only when required on certain applications.

For information on the research, contact Paul Smeltzer, P.Eng., Executive Director, Ontario Concrete Pipe Association at 905-631-9696, paul.smeltzer@ocpa.com

The Ontario Concrete Pipe Association also held its meeting on February 13. After its business meeting, three information sessions were held.

The first session was by Mr. James Musgrove of Lang Michener, the solicitors for the OCPA. Mr. Musgrove's topic was "Competition and Anti-Trust Compliance", in which he provided an overview of the legislation, and identification of where prosecutions tend to be and the differences between Canadian and American law. He ended his presentation with a video, produced by the US Securities regulators of an actual case study of companies involved in anti-competition activities.

Domenico Miceli presented the second of the day's sessions on activities currently underway in Québec. Items highlighted included:

- Training and education of engineers and specifiers,
- 'Concrete Days' hosted by the ACC and Tubécon,
- Construction training for site inspectors and contractors,
- Training of CCTV inspection companies, and
- Working with BNQ on Standard 1809-300.

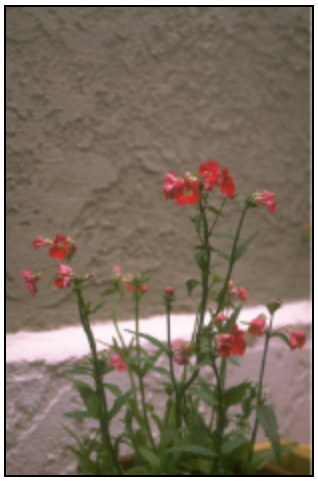
The third presentation was by Paul Smeltzer on the Draft MTO Gravity Pipe Design Guideline Manual. Paul went through the evolution of the manual, which started more than 10 years ago. The work is funded by the MTO and overseen by a stakeholder group consisting of all the pipe supplier groups in Ontario. The manual will address, hydraulic equivalency through identification of Manning's 'n' values, structural design requirements, Life Cycle Analysis including design and service life, and risk factors.

The project currently is at draft final report stage and is to be complete by year-end.

Sustainable Society

The Canadian cement industry is committed to developing creative solutions to sustainability issues and will continue to work actively with government and other stakeholders to achieve this goal. The Canadian Concrete Pipe Association is partnering with the Cement Association of Canada (CAC) in its initiative to promote concrete as the building material of choice within the context of sustainable development. The following information was downloaded from CAC's Web site. It places the issue of sustainability into context that industry leaders can easily understand.

A growing realization of the ecological limits of the biosphere, combined with the need to improve international competitiveness and overall efficiency, has caused a rethinking of the manner in which business operates. For some time now, the Canadian cement industry has been a participant in the evolution towards a more sustainable society.



Gray Matter for a Greener World

In contrast to building materials dependant on endangered natural resources, the ingredients of cement and concrete are readily available around the world. Limestone, a key ingredient in cement, is in abundant supply while aggregates such as sand and gravel are also plentiful.

Moreover, the extraction of raw materials required to produce cement and concrete causes less damage to the environment than comparable building materials and ultimately, quarries can be reclaimed for recreational or commercial development.

Precast or cast-in-place concrete is made to measure and any remaining materials are used for new concrete mixtures so that nothing is left to waste. On a housing site, this translates into 21% less waste using concrete walls as opposed to wood products.

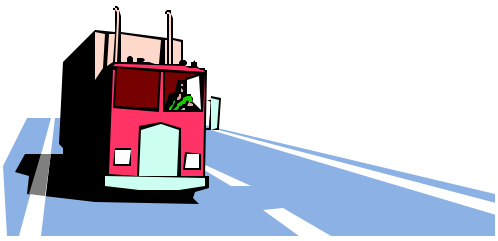
Concrete's strength and impermeability improves groundwater protection and is ideal for large-scale composting and livestock facilities.

In another environment-friendly application, cement stabilization and solidification (S/S) technology, can neutralize harmful toxins and restore contaminated sites for new uses.

Finally, at the end of its long life, concrete itself can be recycled.

Conserving Fossil Fuel

Concrete highways can save up to 20% of fuel use by heavy trucks and "insulating concrete form" (ICF) houses can reduce energy requirements by up to 40% compared to conventional wood structures.



Significant investment in modern cement manufacturing technology has reduced energy requirements by more than 30% over the past few decades.

Finding new uses for waste materials has become a progressively common practice in the manufacturing of cement-based products.

Because of the sustained high temperatures and long residence time within the cement kiln, the residual value of alternative fuels such as tires, paint, cleaning solvents, used oil and chemically treated wood can be recovered as a supplement to conventional fuels.

Capturing the energy potential of what would otherwise become ecological problems conserves fossil fuels such as coal, oil and natural gas in addition to reducing CO_2 emissions.

Waste materials can also be substituted for some of the raw materials used in both cement and concrete. Apart from alleviating pressure on landfills, reclaiming industrial by-products such as fly ash, silica fume and blast furnace slag results in even less energy consumption. As well, this trend reduces the need to quarry raw materials and lowers greenhouse gas emissions.

To find out more about sustainable development, visit the CAC Web site at www.cement.ca.

National Lecture Tour coming to a place near you.

Recent initiatives related to infrastructure in Canada will be presented at locations in various cities including the InfraGuide, Infrastructure Canada programs and activities, FCM green funds, and a number of research initiatives such as the NRC Centre for Sustainable Infrastructure Research in Regina.

Details of the process and results of the Technology Road Map (TRM) project – the 10 objectives and associated challenges and technology needs – will also be presented, as well as the 10 immediate recommendations.

The TRM is a comprehensive action plan that contains objectives and recommendations aimed at charting new and innovative ways to improve the maintenance and rehabilitation of our road and water systems. Unlike previous studies, the final report is a national vision resulting from a process that succeeded in bringing together numerous

stakeholders in the fragmented infrastructure industry.

The recommendations when implemented will improve public safety and ensure a strong economic future for Canadians. See www.csce.ca/trm/index.htm

Venues
Mar. 8, Victoria (noon), Thor Tandy 250-384-9115
Mar. 8, Vancouver (evening), Mahmoud Rezai 604-276-9121
Mar. 9, Edmonton (noon), James Tan 780-496-5580
Mar. 10, Regina (noon), Harold Retziaff 306-787-5642
Mar. 10, Saskatoon (evening), Cory Day 306-975-1452
Mar. 11, Winnipeg (noon), Ameen DeRaj 204-453-2301
Mar. 15, Oshawa (noon), James Garland 416-497-8600
Mar. 15, Toronto (evening), Peter Langan 416-497-8600
Mar. 16, London (noon), John Simon 519-661-4938
Mar. 17, Thunder Bay (noon), Gerry Buckrell 807-623-3499
Mar. 22, Montreal (evening), Sylvain Laporte 514-940-6862
Mar. 23, St. John's (evening), Gordon Jin 709-729-5467
Mar. 24, Halifax (noon), Bill Dooley 902-423-7317
Mar. 24, Moncton (evening), Sylvain Leblanc 506-382-3330
Mar. 25, Fredericton (noon), Sayed Ismail 506-458-4849

MOE releases White Paper

In early February, the MOE released "White Paper on Watershed-based Source Protection Planning for review and comment. The stated purpose of the white paper was identified by the Ministry as;

- To inform Ontarians on the proposed approach for the development of watershed-based source water protection panning;
- To describe the proposed legislative framework; and
- To examine ways of ensuring a sustainable supply of water.

This will include a new process for water taking permits and potential charges for water.
In the interim, a moratorium on new water taking permits has been issued to ensure full compliance with the ultimate legislation. The OCPA will be participating in stakeholders meetings on the White Paper that started with an industry meeting in mid-February. Stakeholders meetings will be held across Ontario in March 2004.

The Ontario Concrete Pipe Association suggests that if you are a user of ground or surface water not provided by a municipal system, you should get an idea of water use for your facilities.

For more information, contact Paul Smeltzer at 905-631-9696, paul.smeltzer@ocpa.com

OCPA's Standard Installation research in the home stretch

It has taken four years to complete, but the Ontario Concrete Pipe Association is in the home stretch when it comes to recognition of Standard Installations in Ontario.

In 2000 the OCPA and its partners, the National Research Council of Canada, the Ministry of Transportation and the City of Ottawa commenced a research project on the design and installation of concrete pipe using ASCE 15-93.

This research included a literature review of the work to date and a demonstration site in the City of Ottawa, which is a 1350 mm circular culvert installation. The site instrumentation was monitored up until fall 2003, and the NRC has now distributed a draft final report to the project partners for review and comment.

The report is a summary of the work to date including:
- Literature review of US and Western Canada experience,
- Presentation of the findings from the demonstration project,
- Comparison of the Standard Installations to the Spangler- Marston method,
- Theoretical discussion of cost implications, and
- Design and installation implications for the Ontario marketplace.

The OCPA and producer members are in the midst of reviewing this document and will provide comments back to the NRC. In addition, the OCPA has begun to inform municipalities and engineers of this option, and have seen significant interest from the users.

Salt scaling research nears completion

Early last year, the Ontario Concrete Pipe Association and the Cement Association of Canada initiated a research project with McMaster University on slag cement content in box culverts.

In Ontario slag cement content in precast concrete box culverts is limited to 25%, even though other precast products have no such limitations. The research work, being conducted by Daman Panesar, a Ph.D. candidate and under the guidance of Dr. Samir Chidiac is approx. 75% complete and preliminary discussions with the MTO have been optimistic with respect to changes in the requirements.

The research indicates that precast concrete drainage products with as much as 60% slag cement content meet the MTO LS – 412 Test Method for salt scaling. The limit in the test method is 0.8kg/m^2.

PipePac Version 3.0 released

North American designers and specifiers of buried drainage infrastructure have been using PipePac software for more than six years. PipePac is a program that offers an integrated analysis using independent programs for D-load calculations (3EB), estimating the material costs of the pipe embedment zones (CAPE), and calculating the real cost of the materials specified over the design life of the project (LCA).

Users can select either metric or imperial units for calculations and results, with defaults to common specifications in both the United States and Canada. The program is versatile and user-friendly in a Windows-based environment.

PipePac was developed by, and continues to be upgraded by the concrete pipe industry in the U.S.A. and Canada. The program is a cooperative effort between the American Concrete Pipe Association, Canadian Concrete Pipe Association, Ontario Concrete Pipe Association, Tubécon (Québec-based concrete pipe association) and Giffels Associates Limited (software engineers). The Cement Association of Canada also provided funds for the latest upgrade.

The new PipePac has several improvements, which will make the software even easier to use. These updates include:

- Upgrade to Microsoft XP platform option,
- Inclusion of Canadian Highway Bridge Design Code live loads,
- Update of pipe cost tables in CAPE,
- Easy printing option in CAPE,
- No costing when 'no bedding' option selected,
- More comprehensive Help files, and
- An explanation of the built in reports.

Copies can be obtained by contacting the OCPA at 905-631-9696, or the American Concrete Pipe Association at 800-290-2272

Concrete Pipe Industry Billboard

2004

96th Annual Meeting of the ACPA
Ritz-Carleton Half Moon Bay, San Francisco
March 14 to 17

BAUMA
Munich, Germany
March 29 to April 4

Water Environment Association of Ontario
London, Ontario
April 18 to 20

Ontario Water Works Association Conference and Trade Show
Niagara Falls, Ontario
May 9 to 11

ACPA CPU 101 – Concrete Pipe University
Irving, Texas
June 3 to 4

Ontario Environmental Tradeshow and Environmental, Compliance & Engineering Conference & Workshops
Toronto, Ontario
May 12 to 13

Federation of Canadian Municipalities 66th AGM and Municipal Expo
Edmonton, Alberta
May 28 to 31

Canadian Society for Civil Engineering Annual Conference
Saskatoon, Saskatchewan
June 2 to 5

AWWA Conference & Exposition
Orlando, Florida
June 13 to 17

STORMCON
Palm Desert, California
July 26 to 29

ASCE Pipelines 2004 Conference
San Diego, CA
August 1 to 4

ACPA Committee Week & CPU 301
Nashville, Tennessee
August 8 to 9

APWA Congress & Exposition
Atlanta, GA
September 12 to 15

Transportation Association of Canada (TAC) Annual Conference
St. John's, Nfld.
September 21-24

WEFTEC 2004
New Orleans, Louisiana
October 2 to 6

ACPA Fall Marketing Short Course School
Las Vegas, Nevada
November TBA

International NO-DIG 2004
Hamburg, Germany
November 15 to 17

Construct Canada
Toronto, Ontario
December 1 to 3

Canadian Public Works Expo
Mississauga, Ontario
December 1 to 2

2005

TRB 84th Annual Meeting
Washington, DC
January 9 to 13

ACPA Production Short Course School/MCPX
Indianapolis, IA
February 7 to 13

CCPA/OCPA Annual General Meetings
(TBA)

World of Concrete 2005
Las Vegas, NV
January 18 to 21

NUCA 2005
Orlando, FL
February 8 to 12

Ontario Good Roads Association Conference
Toronto, Ontario
February (TBA)

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