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CONSTRUCTION • TRAVAUX PUBLICS • RESSOURCES NATURELLES

Volume 9 · Number 1 · December 2003 / January 2004











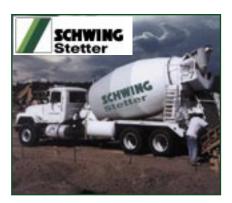
























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InfraStructures

Volume 9 Number 1 December 2003/January 2004

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THIS ELECTRONIC VERSION OF INFRASTRUC-TURES IS MADE AVAILABLE FOR THE SOLE PUR-POSE OF GIVING OUR ENGLISH SPEAKING READ-ERS A TASTE OF THE ORIGINAL PRINTED VERSION OF THE MAGAZINE.

WE WILL TRY TO PUBLISH AS MUCH OF THE EDITORIAL CONTENT OF THE PRINTED VERSION AS POSSIBLE GIVEN THE TECHNICAL LIMITATIONS.

Commentary

2004 begins with a big issue.

We want to give you a better idea of what is coming up in 2005 when the English Edition of InfraStructures will be printed and distributed by mail across Ontario and the Maritimes.

We are currently building up our database. If you are interested in receiving the English Edition of InfraStructures next year, you just have to send your coordinates to us by mail or e-mail.

Each issue will feature more content in English. We welcome your news releases that will be published free of charge.

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On the front cover:

A Daewoo Solar 340LC-V, sold by Denis Gauvin Inc. to Construction Dorbec Inc., a contractor based in Laval, Quebec, at work on a construction site.

In the News...

MONTREAL INTERNATIONAL AUTO SHOW RETURNS TO JANUARY

There's good news for all car lovers as the Montréal International Auto Show (MIAS) announces that it will be back in January. Members of the Board of the Montréal Automobile Dealers Corporation (MADC) and participating car manufacturers agreed on dates proposed by the Palais des Congrès de Montréal for all subsequent editions of the Montréal International Auto Show. The next Show will be presented from January 9 to 18, 2004.

While the dates the Montréal event will be open to the public are the same as the Detroit Auto Show's, the days set aside for the media and the unveiling of new models will be held at different times. Car manufacturers will first present their world or North American

premieres in Detroit, and follow up with Canadian premieres at the Montréal International Auto Show on Thursday, January 8.

The 2003 Montréal International Auto Show moved to the Palais des Congrès after learning that the playing field section of the Olympic Stadium was not available between December 1st and April 1st for safety reasons. The Palais des Congrès was only available in November 2002, which resulted in the Auto Show breaking a 34-year-old tradition of holding its Show in January.

"A return to January adds to the great success we saw at the Show last November at the Palais des Congrès," said Montréal International Auto Show President André Dorais. "This will allow us to get reacquainted with success. We all remember how the Auto Show attracted, on average, 240,000 visitors during the 1990 decade."

The Montréal International Auto Show is organised by the Montréal Automobile Dealers Corporation (MADC), a non-profit organisation founded in 1913. The MADC includes approximately 220 car dealerships from the Greater Montréal region. The Corporation's main mandate is to represent the automobile industry when dealing with government at all levels. The MADC provides its members with vital information that will help improve their business, while respecting industry norms and regulations, and offering the best service to their customers.

Source: Montréal Auto Show www.montrealautoshow.com

NOVEMBER HOUSING STARTS REMAIN AT HIGH LEVEL

The seasonally adjusted annual rate 1of housing starts was 213,000 in November, compared to 237,300 in October, reports Canada Mortgage and Housing Corporation (CMHC).

"Despite the decline in the rate of housing starts in November, the high level of activity continues to reflect a robust pace of housing construction across the country," said Bob Dugan, Chief Economist at CMHC's Market Analysis Centre.

"Demand for home ownership remains strong, supported by favourable mortgage rates and an improving labour market. Year-to-date, actual starts have exceeded last year's level by 6.5%."

In November, urban single starts increased 3.5% to 104,400 units at seasonally adjusted annual rates compared to 100,900 units the previous month. This increase was reflected



in all regions of the country except in the Atlantic region where urban single starts decreased slightly. Canada-wide, year-to-date actual urban single starts are 3.2% lower compared to the same period in 2002.

The seasonally adjusted annual rate of urban multiple starts dropped 25.2% to 82,700 units in November compared to 110,500 units in October. The majority of the decrease occurred in Ontario with decreases also being observed in British Columbia and the prairie provinces. The seasonally adjusted annual rate of urban multiple starts rose in Quebec and the Atlantic region. Nationally, year-to-date actual urban multiple starts increased 19.7% compared with the same period in 2002.

Rural starts in November were estimated at a seasonally adjusted annual rate of 25,900 units.

Source: Canada Mortgage and Housing Corporation, www.cmhc-schl.gc.ca

A FIRST GROUP OF CREE STUDENTS AT THE CENTRE POLYMÉTIER OF ROUYN-**NORANDA**

A first group of Cree students commenced training this year at Rouyn-Noranda Centre Polymétier. Once completed, their training program will give them the opportunity to occupy a permanent job in James Bay.

The training program comes under the Apatisiiwin Agreement, which ensues from the Peace of the Braves signed on February 7, 2002. The Apatisiiwin Agreement aims firstly to foster training and hiring by Hydro-Québec of 150 Crees by 2017.

In September 2003, a first cohort of 12 students began a 2-year training in view to obtain a vocational studies diploma in Automated Systems Electromechanics.

The Apatisiiwin Corporation consists of five Cree representatives and three Hydro-Québec representatives who work closely together to support the Cree School Board's efforts to train and hire future Cree students.

In total 14 Cree employees work at Hydro-Québec installations. Hydro-Québec and the Apatisiiwin Corporation will expend all efforts possible to attain the objective of 150 Cree employees.

The Apatisiiwin Agreement provides for three other types of jobs. The Cree School Board is working on identifying educational institutions that can offer the kind of vocational and technical training that would prepare Cree candidates to access those positions.

Hydro-Québec is pleased with the dynamics that all of the partners involved have developed towards a common objective.

Source: Hydro-Québec, www.hydroquebec.com

PERSEVERANCE PAYS OFF FOR A QUEBEC HOUSING MANUFACTURER IN JAPAN

A Quebec housing manufacturer is making its mark halfway around the world today, with the launch of a new residential project

that will bring the best of Canadian housing technology to the Southern Japanese city of Kokura, located on the island of Kyushu. Demtec International inc. (Demtec), a well-known developer of panellized housing based in Princeville, Quebec, inaugurated its project by organizing an "open house" of its demonstration home, the first in a series of 20 Demtec homes scheduled for construction. Demtec is one of six builders who have won a highly coveted contract to develop an





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expansive residential lot owned by Nishitetsu Railway Co., Japan's largest transportation company. The urban strategy calls for the construction of 500 units surrounded by landscaped gardens and centrally situated in proximity to shopping centres, schools, businesses and a hospital. In attendance were executives from Demtec and its Japanese distributor Yamatsugi, as well as representatives from Canada Mortgage and Housing Corporation, the government of Québec

and members of the Canadian Consulate in Japan.

Demtee's accomplishment can largely be attributed to the company's willingness to collaborate closely with Japanese industry professionals and to work within the local infrastructure. Furthermore, its partnership with Yamatsugi was enhanced when Demtec trained the distributor to assemble its panellized housing system. The Canadian housing manufacturer also teamed up with

a local real estate agency and launched an advertising campaign targeting local media. Another key contributor to its success is perseverance as Alain Boulet, President of Demtec International Inc., explains: "Despite a recent minor slowdown in the real estate market, we have maintained an active presence in Japan for several years, expanding our network of distributors and implementing a rigorous quality control system. This approach has allowed us to thrive in a very competitive market and to develop a housing system that will meet the stringent requirements of our Japanese clients."

Demtec's first major foray into the Japanese market occurred in 2000, while participating on a mission led by CMHC. That trip proved to be very productive, as Demtec was introduced to several key members of the housing industry, including its current partner, Yamatsugi. Indeed, CMHC has consistently identified Japan as a lucrative market with a great deal of potential for Canadian exporters of housing products and services. As the second-largest market in the world for new housing, with housing starts exceeding the one million mark annually, Japan favours wood-based construction, which accounts for over 50% of new housing units.

"There is an increasing degree of acceptance for the Canadian-style timber-frame construction and the use of solid wood materials in Japanese homes" explains Stephane Forget, export advisor for CMHC International in Quebec. "In addition, the fact that Canadian construction methods are rapid and energy-efficient is an important selling point for housing exporters who want to enter the Japanese market."

Source: Canada Mortgage and Housing Corporation,

www.cmhc-schl.gc.ca Demtec International Inc., www.demtec.com

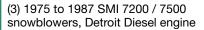
2003 BRIDGESTONE/FIRESTONE CANADIAN TRUCK HEROES ANNOUNCED AT ONTARIO TRUCKING CONVENTION

On November 13, Bridgestone/Firestone Canada Inc. recognized two truck drivers at the Ontario Trucking Association Convention for their bravery and quick thinking.

Clifford Ripley, of Spruce Grove, Alberta, and Paul Pelletier, of Saskatoon, Saskatchewan, were presented with the 2003 Bridgestone/Firestone Canadian Truck Hero Award for the rescue of Anthony Ishmael on November 14th, 2002.

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Ripley and Pelletier rushed to help Ishmael when he was trapped in a burning van on Highway 17, near Wawa, Ontario. Unable to open the passenger door, Ripley grabbed a chain and attached it from his truck to the van's door wrenching the door open. Ripley and Pelletier worked together to cut Ishmael free from his seatbelt and pull him to safety only seconds before the vehicle burst into flames.

For nearly 50 years, the Bridgestone/ Firestone Canadian Truck Hero Award has been presented annually to a professional truck driver who has shown great courage, integrity, and quick thinking in an emergency situation.

"Each year, we hear incredible and inspiring stories of life-saving bravery demonstrated by our nation's truck drivers," says Dave Schecklesky, director of commercial tire marketing, Bridgestone/Firestone Canada Inc. "This year is no exception. Anthony Ishmael is alive today due to the heroic and swift actions of Clifford Ripley and Paul Pelletier."

Source: Bridgestone/Firestone Canada Inc. www.truckhero.ca

STRUCTAL AWARDED \$3 MILLION CONTRACT IN UNITED STATES

Structal, Canam Manac Group's heavy structural steel division, today announced it had been awarded a contract by J. Fletcher Creamer & Son, Inc of Hammonton, New Jersey, for the fabrication of four bridges located in their home state valued at close to \$3 millions.

Fabrication of the structure will extend from January to May 2004 with delivery ending at the end of October. These I-beams road bridges are located in the counties of Salem, Gloucester and Camden.

"The expertise that the Structal team has demonstrated with complex projects over the last several years, as well as our excellent reputation enabled us to obtain this large contact," said Structal's sales manager, Robin Lapointe.

The Structal facility in Quebec City has participated in a number of large-scale projects over the last several years, including new access ramps for the Lester B. Pearson Airport in Toronto as well as several sections of the Central Artery Tunnel in Boston.

Source: Canam Manac Group Inc. www.canammanac.com

SABAT WILL OFFER QUEST SOFTWARE

Sabat Consulting Group, the longest established construction software consulting company and GTCO Calcomp digitizers/ scanners dealers in Toronto, Canada announces the acquisition of new product line.

In its strive to find the best and the easiest construction estimating software solutions for its clients, Sabat went on the hunt again and managed to find the most visually graphical estimating & takeoff software.

Effective September 2, 2003, Sabat

Consulting Group has added the Quest Solutions Inc. suite of software to its Estimating product offerings.

Quest Solutions suite of software products offer Quest Estimator, a complete takeoff and estimating software tools that handles lump sum building and unit price civil estimating as well as Quest EarthWork and related products such as roadwork, cross-sections and trenchwork. In addition, Quest offers Bidtrack, a bid tracking and management



system that keeps track of competitive bids and market conditions.

Source: Sabat Consulting Group, www.sabat.ca Quest Solution,

www.questsolutions.com

MANITOWOC AND KOBELCO SIGN **CRAWLER CRANE AGREEMENT**

Manitowoc Crane Group, a business entity of The Manitowoc Company, Inc., recently

announced an agreement with Kobelco Construction Machinery Co. of Tokyo, Japan, under which Kobelco will supply Manitowoc with a range of lattice-boom crawler cranes with lift capacities under 150 tons. These Manitowoc-branded products will be introduced in the second guarter of 2004.

The lattice-boom cranes supplied to Manitowoc by Kobelco will be clearly differentiated from Kobelco's own product offering. All new models will be sold and supported

through Manitowoc's existing dealer and product support networks. Manitowoc has not yet issued the model designations for the new cranes.

Kobelco will continue to market and distribute its own full line of lattice-boom crawler cranes, from 55 U.S. tons to 250 U.S. tons, and will support its products under its current distribution system in the Americas.

Glen Tellock, president of Manitowoc Crane Group, said: "As a world leader in the production of lattice-boom crawler cranes, Manitowoc is continually seeking new lifting solutions for our customers. We are very excited about our alliance with Kobelco. The company is an excellent partner to supply cranes because of its product quality and broad range of lifting products. The agreement between our two companies also serves as a base for future opportunities."

Takashi Ishida, president of Kobelco Construction Machinery, said: "Manitowoc Crane Group has an outstanding reputation around the world and offers a strong distribution network in the Americas region. I am excited about these two highly respected industry players joining forces.

"Kobelco is pleased to supply crawler cranes under 150 tons on an OEM basis to Manitowoc, the most reliable partner we could ever find in our industry. I feel strongly that both companies share the same approach - focusing on customers with care and bringing to market reliable products which have a high standard of quality and safety," Ishida added.

Source: The Manitowoc Company, Inc.

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(4) VOHL VDV4000, detachable snowblowers, telescopic chute, John Deere engine



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CLEANER SMALL ENGINES REQUIRED BY

Engines found in lawnmowers, chainsaws, snowblowers and other small tools and equipment will be subject to new, cleaner emissions standards by 2005 under regulations approved today by the Government of Canada.

"Small engines make a significant contribution to air pollution," said the Honourable David Anderson, Minister of the Environment. "These Regulations are the first in a series that will address air pollution from off-road sources. They will reduce emissions from off-road small spark-ignition engines by about 44%."

Pollution from small spark-ignition engines can be significant compared to automobiles which have been subject to emissions standards for over 30 years. For instance, in

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2000, it is estimated that lawn and garden machines in Canada produced the equivalent smog-forming pollution as more than three-quarters of a million automobiles.

Engines designed to meet the requirements of the Off-Road Small Spark-Ignition Engine Emissions Regulations are also expected to be more fuel-efficient. As a result, carbon dioxide (CO₂) emissions from small spark-ignition engines are expected to be reduced by about 9%. The Regulations will apply to 2005 and later model-year engines.

Small spark engines are used in lawn and garden machines such as lawnmowers, hedge trimmers, garden tractors, and snowblowers; in light-duty industrial machines, including welders, pressure washers and generators; and in light-duty logging machines such as chainsaws, log splitters, and shredders.

Purchasing machines with newer engines will help individual Canadians reduce greenhouse gas emissions and contribute to the goal set out in Canada's Climate Change Plan for individuals to reduce emissions by 20%, or approximately one tonne each.

The Regulations, aligned with U.S. federal standards, are the first in a series to address emissions from off-road engines. Small spark-ignition engines contribute approximately 9% of mobile air emissions in Canada. Other regulatory proposals under development will address off-road engines including those used in construction and agricultural

equipment, marine crafts and recreational vehicles.

This initiative builds upon the recently finalized On-Road Vehicle and Engine Emission Regulations and the Sulphur in Diesel Fuel Regulations.

Source: Environment Canada

STEEL PLATE BLAST AND PAINT LINE FOR MOBILE

Blastech Mobile LLC recently announced its plans to install a blast and paint line for the cleaning and coating of steel plate, to be located in Mobile, Alabama.

As a tolling operation, Blastech Mobile LLC will provide a blast and paint service for steel plate purchased by service centers and end user customers, including plate purchased from IPSCO and other plate producers. The state of the art facility will be located adjacent to the IPSCO Mobile steel mill in Mobile, Alabama and will incorporate the latest blast and paint technology, building on the expertise developed in the blast and paint tolling service provided by other Blastech operations.

Blastech has established a leading position as an independent provider of blast cleaned and pre-primed plate product for service center and end user accounts. Blastech's Redi-Plate™ includes the environmentally friendly abrasive cleaning and coating of steel plate with specially formulated inorganic primers prior to fabrication. Redi-Plate™ is able to be flame, plasma or laser cut, shaped and welded with demonstrable cost benefits to the plate customer.

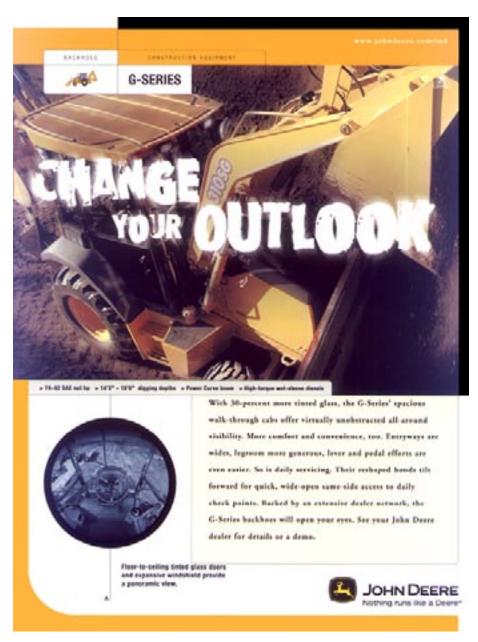
The new facility is scheduled for completion by January 30, 2004.

Source: Blastech Mobile LLC www.blastech.com

2004¹/₂ DODGE RAM HD CUMMINS '600' POWERS PAST THE COMPETITION

Dodge, the brand that revolutionized the diesel pickup market when it launched the state-of- the-art 1989 Dodge Ram Cummins Turbo Diesel, announced today the 2004¹/₂ Dodge Ram Heavy Duty Cummins '600' with a class-dominating 600 lb.-ft. of torque at 1,600 rpm and 325 horsepower at 2,900 rpm. Equipped with the new Cummins '600', the Dodge Ram Heavy Duty takes its position at the head of the heavy-duty pickup segment.

"The Dodge Ram dominates in every category," said Darryl Jackson, Vice President, Dodge Marketing, Chrysler Group. "With the new Ram Heavy Duty Cummins '600',



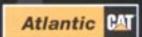
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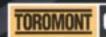


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Ontario • Newfoun Labrador • Manitoba • Nunavut 800-268-1965 the Ram family of trucks now includes the strongest heavy-duty pickup available, the fastest production pickup with the 150 mph Dodge Ram SRT-10, and the most powerful, mass-produced light-duty pickup, the HEMI-powered Dodge Ram 1500. This is an exciting time for Dodge."

In addition to the most torque ever available in a production heavy-duty pickup, the Dodge Ram Heavy Duty Cummins '600' boasts best-in-class towing capability of 16,400 lbs. (a 3,000 lbs advantage over the Ford F-350 PowerStroke®), a payload of 5,020 lbs. and a best-in-class Gross Combined Weight Rating (GCWR) and Gross Vehicle Weight Rating (GVWR) of 23,000 lbs. and 12,000 lbs., respectively. Additionally, the new Cummins '600' generates its peak torque of 600 lb.-ft. at 1,600 rpm, earlier than either Ford's PowerStroke or Chevrolet's Duramax® diesels. The new Cummins '600' delivers an 80 lb.-ft. torque and 25 horsepower advan-

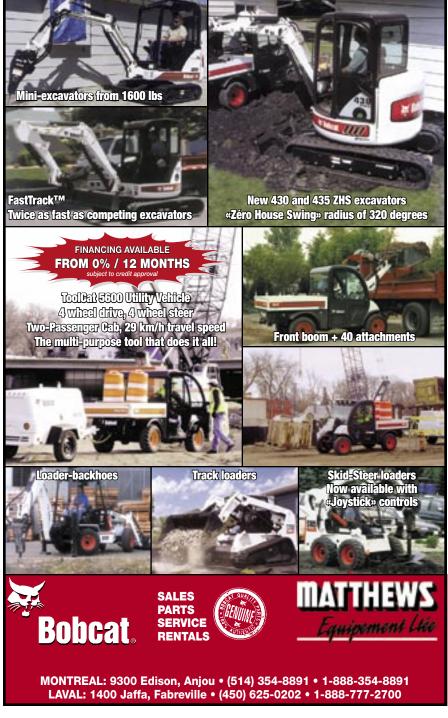
tage over Chevrolet Duramax and is priced just \$135 more than the previous Cummins High Output Turbo Diesel. The Standard Output Cummins Turbo Diesel is dropped from the Ram Heavy Duty line-up.

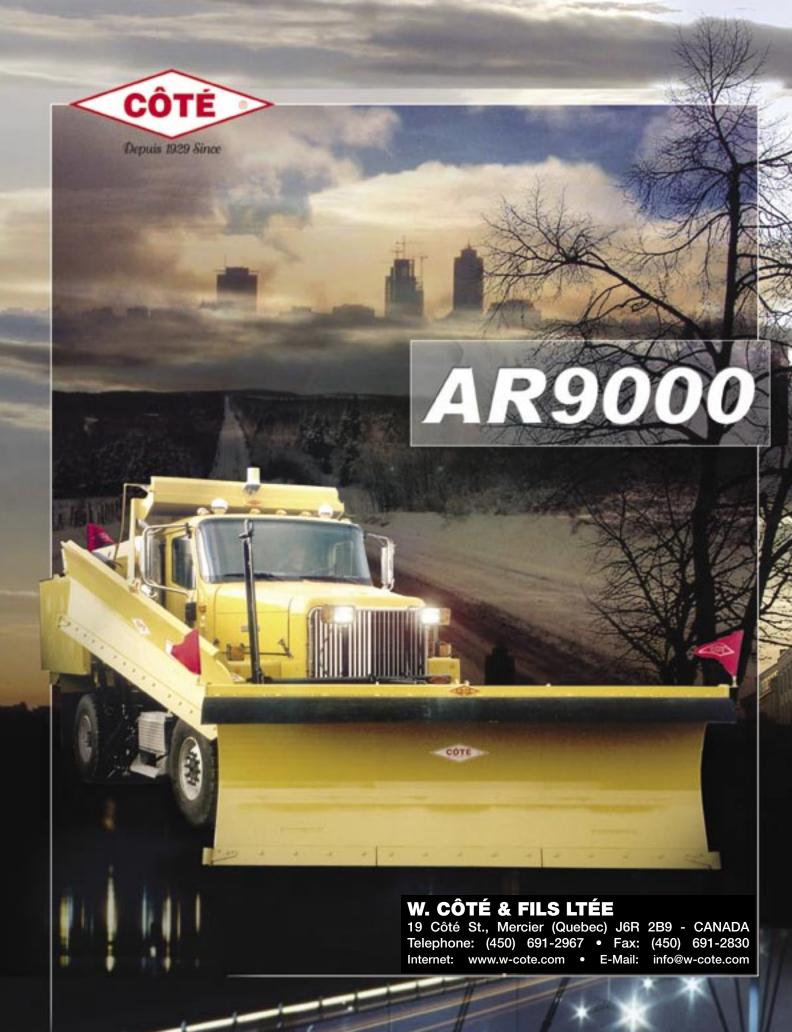
"The Ram Heavy Duty has the most sophisticated chassis in the segment, the biggest brakes, excellent handling and class-exclusive safety features such as side curtain air bags," said Eric Ridenour, Executive Vice President Product Development. "It is only fitting that it now has the most powerful diesel engine. This is also the quietest Ram diesel ever and the first High Output Cummins Turbo Diesel that meets 50-state emissions requirements."

Built for high-mileage customers who need the most capability available, the new Cummins '600' delivers best-in-class oil change intervals of 15,000 miles (versus 7,500 for the competition) and is the only heavy-duty diesel pickup pre-equipped for an exhaust brake. The Ram Heavy Duty Cummins '600' is also capable of zero-throttle launches, enabling smooth drive-offs under load with the 6-speed manual transmission. An automatic transmission is also available with the new Cummins "600."

"Our goal during the development of the Cummins '600' was to make meaningful changes, not just chase numbers," said Frank Klegon, Vice President, Truck Product Team. "The Ram Heavy Duty Cummins '600' delivers more torque and power where our customer needs it, under a full load and heading up a steep grade. We designed the Ram Heavy Duty Cummins '600' for the severe use customer, and for them, torque is everything. Dodge is also the only heavy-duty pickup manufacturer confident enough in our product to offer a seven year, 100,000 mile powertrain warranty."

Source: Chrysler Group DaimlerChrysler www.dodge.com





Unimog U500 Now Offered With AutomaticShift Transmission on the North American Market

Unimog North America announced the availability of the electronic automated

Introduced for the North American market earlier this year, the one-of-a-kind Unimog

consumption. The transmission system automatically selects the most appropriate gear,



U500 is intended for specialized vocational applications in the U.S. and Canada. The versatile Class 6&7 work vehicle is being marketed for use in firefighting, utility service, municipal and highway services, construction and rail yard work.

The Automat-

AutomaticShift transmission for North American-model Unimog U500 commercial vehicles. This automated transmission is designed to make driving easier and more efficient while minimizing wear and tear. icShift transmission system contributes to safe and convenient gear changes without the use of a clutch pedal, allowing for less strain on the drive train, longer clutch life, lower maintenance costs and reduced fuel



depending on vehicle load, engine operating state and the position of the accelerator, thus eliminating the risk of incorrect operation or selecting the wrong gear. Manual intervention is possible at any time when the system

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19.5L24	R4	75%	\$300.00
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is in automatic mode.

"The AutomaticShift transmission is an exciting new option for Unimog operators in North America, simply because it makes their job easier in the field and on tough terrain," said Bob McTernan, Director of Unimog North America for Freightliner LLC.

direction allows the vehicle direction to be changed automatically, without stopping the vehicle.

If necessary, manual shifting is still an option with the AutomaticShift transmission. A folding and unlocking clutch pedal is located on the left-hand side of the foot well, allowing

drivers to change gears in a conventional manner.

The Automatic-Shift transmission is available immediately. The Unimog U500 is available at selected Freight-liner Trucks, Sterling, Western Star and American LaFrance dealerships in the U.S. and Canada. Unimog North

America is a business unit of Freightliner LLC, headquartered in Portland, Oregon. Freightliner LLC is the leading heavy-duty truck manufacturer in North America. Freightliner produces and markets Class 3-8 vehicles under the Freightliner, Sterling, Western Star, American LaFrance, and Thomas Built Buses nameplates. Freightliner is a company of DaimlerChrysler, the world's leading commercial vehicle manufacturer.

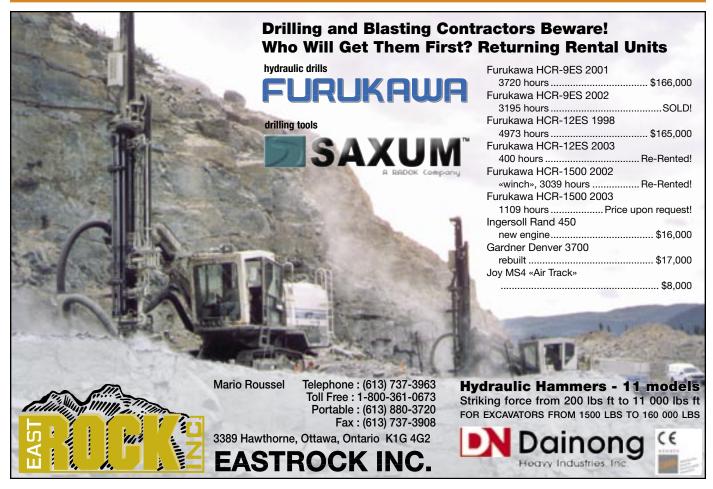
Unimog vehicles are sold in the Montreal region by Globocam (Montréal) Inc. which



Used In conjunction with the standard Electronic Quick Reverse (EQR) system, the AutomaticShift transmission enables fast and easy maneuvering in forward and reverse. Activating the EQR and selecting the drive

also sells Freightliner, Sterling and Western Star trucks.

Source: Freightliner LLC Globocam (Montréal) Inc. François DeMartel, (514) 344-4000



Sterling Introduces New Chassis For Heavy-Duty Trucks

Last Fall, Sterling Truck Corporation unveiled the new HX chassis for heavy-duty trucks. The new chassis was designed to accommodate new engines that comply with 2004 emissions regulations and will feature stronger, lighter weight frames; a new proprietary air cab suspension; a new cooling system; new fuel tank offerings and additional front and rear suspension options. The new HX chassis is intended to extend Sterling's reputation for durability, value and the customization capability of its products. It was unveiled at an event to mark the production of 100,000 trucks at the Sterling truck manufacturing plant here.

"We are pleased to offer such a comprehensive package of enhancements to our heavy-duty customers," said John Merrifield, Senior Vice President, Sales and Marketing for Sterling Truck Corporation. "The HX chassis represents Sterling's commitment to providing our customers with the highest quality products that exceed industry standards for their applications."

STRONGER, LIGHTER-WEIGHT FRAMES

The new HX chassis merges existing frame materials and the technology that has made the Sterling frame an industry benchmark; it also provides customers with increased frame choices. These new frame offerings include new section heights from 10 inches to 11 inches, plus an all-new 13-inch frame, which is over two inches taller than any current frame offering. The HX frame also offers improved frame strength ratings, with optional RBMs up to five million inch-pounds when an insert is added.

The chassis also will include the "OptiLock Chassis Grid System," a frame hole layout process that provides pre-determined rows of potential chassis hole locations that are spaced 50 millimeters (approximately 2 inches) apart, center-to-center. All chassis component mounting holes (cross members, mounting brackets, etc.) comply with the grid pattern and allow for a more consistent process for chassis component mounting that is important for custom order units. Sterling

also can pre-punch body and equipment mounting holes in the grid area for customers, saving them time during installation.

AIR CAB SUSPENSION

Sterling also has developed "Comfort Ride," an all-new durable air cab mount system, for the HX chassis. Comfort Ride will provide customers with a simple and compliant design that provides improved ride comfort and motion control with less complexity, improved service life and lower cost of operation.

IMPROVED COOLING SYSTEMS

Cab positioning has been adjusted to accommodate larger cooling systems. The HX Chassis will offer new radiator options: a 1,000 inch crossflow with or without in-tank oil coolers, a 1,200 inch crossflow radiator and a 1,400 inch crossflow radiator.

In addition, the chassis features an improved accessory drive system that includes an industry-first scroll air condition-











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www.leica-geosystems.com www.gradtek.ca ing compressor from Visteon as the standard offering for all A-Line and L-Line trucks. The air conditioner compressor will be available exclusively in Sterling trucks for the next year.

The scroll-type compressor, used for many years in luxury and high-end automotive applications, has been upgraded for heavy-duty trucking use. With fewer moving parts and almost no wear points, compared to typical piston-type compressors used currently in heavy duty truck air conditioning systems,

scroll compressor technology offers greater durability and is backed by a two year warranty.

NEW FUEL TANKS

The most visible change in the midchassis area is the fuel

tanks. Cylindrical aluminum fuel tanks will now come standard on Sterling A-Line and L-Line trucks in both 23 and (optional) 25 inch diameters. The new tanks reduce the overall chassis weight and provide greater consistency in step height and positioning.

ADDITIONAL OPTIONS FOR FRONT AND REAR SUSPENSION

The HX Chassis also will introduce new offerings in both front and rear suspensions for highway and vocational applications. Front

> suspensions will now include both taper leaf springs rated to 20,000 pounds, and multi-leaf designs up to 23,000 pounds; in addition to maintenance-free suspension designs with ratings up to 14,600 pounds. New for

now include a new front air suspension that will offer an improvement in overall ride quality with no reduction in handling or stability.

Rear suspension enhancements for the HX include expanded offerings from Hendrickson, including Primaxx, an innovative air suspension system for heavy-duty vocational applications, and the new Haulmaxx walking beam rear suspension system. In addition, HX will offer an enhanced TufTrac two-stage suspension that provides an improved unladen ride quality.

Another improvement for HX is the addition of the new THP60 high-pressure steering

box from TRW. The THP60 offers significant design improvements, including a more

compact shape allowing greater wheel cut angles.

The HX Chassis design was phased in to the complete line of Sterling heavy-duty conventional trucks last November

Source: Sterling Truck Corporation www.sterlingtrucks.com

the A-Line is a 12,000-pound rated optional lightweight composite springs made from highly durable fiberglass, offering a 77-pound weight savings per truck.

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Canam Manac Builds First Steel-Elastomer Bridge

Canam Systems, a division of The Canam Manac Group, successfully completed the construction of the first bridge to use the new SPS technology (Sandwich Plate System), in Saint-Martin de Beauce, located 70 miles South of Quebec City. This pilot project was completed with the cooperation of Quebec's department of transportation and local municipal authorities to replace the bridge that had been swept away by spring floodwaters. The bridge was opened to traffic several days ago.

Despite unfavorable weather, the superstructure of the 74-foot by 23-foot bridge was built in just 14 days. The bridge deck used ten SPS panels supported by three girders. Total weight of the structure is 32 tons while the same structure in concrete would have weighed approximately 96 tons.

"The use of SPS allowed a weight reduction of over 40% compared with the original design," said Richard Vincent, Vice President, research and development for The Canam Manac Group. "Concrete formwork was

not required, allowing the faster bridge erection than with traditional methods. We are thrilled by the results of this project. It also allowed us to complete testing on vibration modes, absorption coefficients and dynamic loading."

As previously announced, The Canam Manac Group has signed an agreement with Intelligent Engineering to fabricate and market this new patented product for use in mid- and long-span bridge deck construction as well as other civil engineering applications.

SPS is a structural product composed of two steel plates bonded to a solid elastomer core. This product allows efficient designs that significantly reduce overall weight, resulting in smaller infrastructures, lower costs and increased service life.

Several other government transportation departments in Canada and the United States are closely following this product and its possibility of increasing the service life of road infrastructures.



The Canam Manac Group Inc. is an industrial company operating 19 plants specialized in the fabrication of steel components, semitrailers and forestry equipment. In 2002, sales reached CA\$936,719,000. The company employs over 4,000 people in Canada, the United States, Mexico, Romania and India.

Source: The Canam Manac Group www.canammanac.com





\$3 Million Site Remediation Project In Laval

Biogenie, a firm specializing in site remediation, has been awarded a \$3 million contract for the remediation of a brownfield site in the City of Laval on which the largest soccer complex in Canada will be constructed. To carry out this \$15 million investment project, Complexe Multisports, a non-profit organization acknowledged by the City of Laval, chose Biogenie's proposed remedial solution, the only one providing a performance guarantee. The Quebec Ministry of Environment, Environment Canada and Canada Economic Development are also collaborating in the project. Additionally, the proponent of the project will benefit from the Quebec government's Revi-Sols program that will subsidize approximately 50% of the remediation costs.

"What organization's such as Complexe Multisports fear the most is to be confronted with escalating remediation costs which could jeopardize their investment project. With its know-how, Biogenie is able to propose guaranteed fixed-price remedial solutions which facilitates the implementation of an investment project such as this soccer complex" stated Biogenie's president, Mr. Benoit Cyr. "Biogenie is proud to have the opportunity to contribute to the construction

of the largest soccer complex in Canada, while permitting the revitalization of a site that has long been abandoned and unproductive", stated Biogenie's project manager, Mr. Daniel Bergeron.

SCOPE OF THE WORK

Biogenie will excavate approximately 3,000 tons of hydrocarbon-contaminated soil that will be sent to Solution Eau Air Sol (EAS) Inc., a contaminated soil treatment facility located in Montreal-East. More specifically, the project consists of installing a 600 meter long ground-

water interception trench and surface drainage system and, finally, covering the play surface areas with one metre of good quality soil. The interception trench, built upstream from the site, will redirect the groundwater in order to limit the amount of water circulating throughout the site. Finally, an environmental monitoring program, recommended by Biogenie, will complete the project.

Biogenie is a leader in the remediation of

contaminated sites. Major North American and European petroleum, petrochemical and utility companies are among its clientele. Biogenie's distinctiveness lies in its sophis-



ticated tools for 3D mapping of contaminant plumes, its innovative treatment technologies and its ability to carry out large and challenging projects at a fixed-price. In addition to its head office located in Quebec City (Canada), Biogenie has established offices in Montreal, Calgary, Edmonton, Philadelphia, Paris and London and maintains a staff of 200.

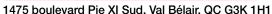
Source: Biogenie



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EAS Invests \$3M in its Soil Treatment Facility

Solution Eau Air Sol (EAS) Inc., a Quebec leader in the treatment of contaminated soil, has recently invested more than \$3 million in order to modernize and expand its Montreal treatment facility. With this major investment, the biological treatment facility will become the largest of its kind in Canada.

The improvements made to the site include the addition of two new treatment pads, the enhancement of the six existing ones, the construction of a new administrative building as well as the installation of updated equipment. As a result, the Montreal treatment facility will double its present capacity to 50,000 tons. This investment will also result in the creation of five new permanent jobs.

A NATURAL AND EFFECTIVE PROCESS

The EAS treatment facility in Montreal uses a proprietary biological treatment technology called the Biopile. This technology consists of creating the most favourable conditions for the growth of microorganisms that will use soil contaminants as a source of nutrients.



The contaminants are reduced to non-toxic compounds by microorganisims already present in the soil, but whose numbers and effectiveness have been greatly increased by

the Biopile process.

The process can be used to treat a wide-range of organic contaminants such as petroleum hydrocarbons (gasoline, heat-



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ing oil, waste oil products, etc.) polycylic aromatic hydrocarbons and pentachlorophenol. The vast majority of contaminants can be successfully treated by EAS using technology and know-how, providing a permanent and

economical solution for the treatment of contaminated soil while also reducing future liability.

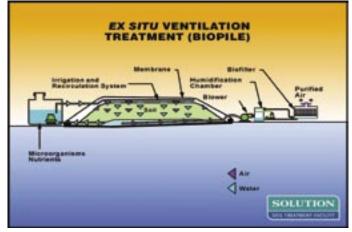
AN INVESTMENT DRIVEN BY A NEW POLICY

In July 2001, the Government of Quebec adopted new regulations forbidding the disposal of highly contaminated soil without prior treatment. The objective of this policy is to favour contaminated soil treatment and recycling within a sustainable development perspective. EAS's investment falls

within this perspective: "We offer a permanent treatment solution as the contaminants are reduced without having any negative impact on the environment. We also make beneficial use of the treated soil by using it as cover material at landfill sites," stated Martin Plante, Director of EAS.

Responding to the Growing Demands of the Real-estate Sector

Greater Montreal's dynamic real-estate and construction sectors, new environmental regulations, Quebec's Revi-Sols program



(which subsidizes up to 70% of the costs for remediating contaminated sites) and the growing environmental awareness in the public and private sectors have all contributed to the increasing demand for the treatment of contaminated soil. Consequently, EAS's Montreal treatment facility is expanding its

operations in order to meet growing local needs, as well as to respond to the increasing demands of real-estate developers, contractors, environmental consultants as well as industrial and manufacturing companies

"When contaminated soil is found during the excavation process of a real-estate project, the investors need an off-site treatment solution which will quickly eliminate the contamination so as not to delay construction. In addition to being fast, the solution must also be cost-efficient and environmentally safe. This is exactly what we are able to provide developers: a fast, cost-effective and permanent solution for any volume of contaminated soil, large or small" explains Mr. Plante.

Solution Eau Air Sol Inc. began operating in 1993. In addition to the treatment facility in Montreal, the firm, which holds all the required operating permits, runs a second facility in Saint-Lambert-de-Lauzon near Quebec City.

Source: Solution Eau Air Sol Inc.





Lafarge North America Marks 20 Years of Trading On the New York Stock Exchange

On November 24, Lafarge North America Inc., the leading supplier of construction materials in the U.S. and Canada celebrated the 20th anniversary of the company's listing on the NYSE with Philippe Rollier, president and chief executive officer ringing The Closing BellTM.

"Lafarge North America is proud to be listed on the NYSE and to participate in the traditional ringing of the bell," said Rollier. "Twenty years on the NYSE is a great achievement and a testament to the growth and performance of our company. We look forward to being represented on the exchange for many years to come."

Joining Rollier on the podium for the bell-ringing ceremony was Larry Waisanen, executive vice president and chief financial officer of Lafarge North America. NYSE executives were also present. In recognition of the 20-year milestone, Rollier will present the Exchange with a statuette created from

Tercem 3000™ cement, a product developed by Lafarge North America for strength and durability.

With origins in Canada, Lafarge North America's history dates back nearly 100



years. Through a series of mergers and acquisitions, the company expanded into the United States, and went public in 1983 as

Lafarge Corporation. In 2001, the company was renamed Lafarge North America. Headquartered outside of Washington, D.C., Lafarge North America employs 15,500 people who work at approximately 1,000

Lafarge locations across the United States and Canada.

Lafarge North America is the U.S. and Canada's largest diversified supplier of construction materials such as cement and cement-related products, ready-mixed concrete, gypsum wallboard, aggregates, asphalt and concrete products. The company's materials are used in residential, commercial, institutional and public works construction across the U.S. and Canada. In 2002, net sales exceeded \$3.25 billion.

Lafarge North America's majority shareholder is Lafarge. The Lafarge Group is the world leader in building materials. Source: Lafarge North America Inc. www.lafargenorthamerica.com

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CERIU Fact Sheets 'Fold-and-Form Liners»



Fact Sheeg RT-02 Trenchless Techniques Sliplining Rehabilitation Fold-and-Form Liners

DESCRIPTION OF THE TECHNOLOGY PURPOSE AND USE

The main advantages of fold-and-form liners for underground pipes are watertightness, resistance to corrosion and chemical attacks,

increased structural capacity and improved hydraulic characteristics.

PROCEDURE

The liner is folded at the factory, generally into a "U" shape and rolled onto a support before being transported to the site. From an access pit (eg. manhole) a cable is run through the length

of the pipe that is to be rehabilitated and attached to the liner. The other end of the cable is attached to a winch. The liner is then winched into the pipe. Rollers act as guides and protect the liner during the insertion process. Certain techniques call for the liner to be heated to make insertion easier.

Once the liner is in place, it is heated by a combination of steam and pressure so that it retakes its original circular shape. Pressure and temperature gauges are attached to the ends of the pipe to ensure that the required conditions are achieved.

Finally, a "pig" is passed through the liner to finalize the reshaping process. After a few minutes, a bulge appears in the liner wherever there is a house lateral, and the liner can later be cut at these points to complete the connections.

The liner is cooled progressively by substituting cold air for the steam, while at the same time maintaining the pressure.

Once the liner has cooled, it is cut, leaving enough spare material at each end to seal the ends of the pipe.

MATERIALS

Fold-and-form liners are made of PVC or polyethylene; their thickness depends on the technical requirements of each project.

APPLICATION TYPES OF PIPES OR STRUCTURES

Circular sewer pipes, water mains and gas pipes may be rehabilitated by this method irrespective of the material from which they

eliminate all debris. Water jets or scrapers may be used.

A CCTV inspection is particularly helpful in locating obstructions such as intruding lateral connections, collapsed or non-circular sections of pipe, open joints or any other anomaly that would hinder the insertion of the liner. This also allows for the exact positioning of the house laterals.

This technique involves interrupting service and may require setting up some temporary arrangements to accommodate users.

RECONNECTING LATERALS

House laterals for sewer pipes are usually cut by using a robot inserted in the pipe. This machine is equipped with a camera and a blade, and a qualified technician manipulates it by remote control.

House laterals for pressure pipes are excavated and reconnected individually.

CONDITIONS AND LIMITATIONS

The fold-and-form liner must be selected so that its outside diameter is a snug fit to the inside diameter of the old pipe.

However, some techniques allow the diameter of the original pipe to vary by a nominal diameter over the length to be rehabilitated.







are made.

This technique is generally carried out on pipes varying in diameter from 100 mm to 450 mm, although it is possible to go up to 900 mm diameter.

Preliminary and Complementary Work The pipe to be treated must be cleaned to



The length of the section to be worked on in a single operation is limited by the length of liner that can be rolled onto a support, the length of the cable and the strength of the winch.

Generally speaking, 100-m to 200-m lengths of pipe can be rehabilitated at a time. The maximum change in direction that can be accommodated is approximately 30o.

Fold-and-form linings have a tendency to become brittle at ambient temperatures of less than 50 C.

DEADLINES AND TIMEFRAMES

Lead time may be significant for foldand-form liners that are made-to-measure.

Three or four days are usually required to complete a rehabilitation project of this nature. This includes preparing the access pits, cleaning the existing pipe, inserting and placing the liner, and reconnecting the laterals. The insertion and reforming phase requires one day's work.

TESTING AND MONITORING

All routine tests applicable to the type of pipe under repair must be carried out.

During the reforming of the liner, the curing time, temperature and applied pressure must all be controlled. A CCTV inspection is carried out to check the quality of the work.

STATUS OF THE TECHNOLOGY

These techniques were developed in the United States and first used in Quebec in 1995.

CERIU assumes no responsability whatso-ever concerning the application of the techniques and procedures described in the present fact sheet.

To obtain the complete collection «CERIU Fact Sheets» you are invited to contact Mrs. Céline Forest by phone at (514) 848-9885 poste 272 at the Centre d'expertise et de recherche en infrastructures urbaines (CERIU).



City of Montreal Chooses Bucher Sweepers



Last December, Accessories Machinery Limited delivered a second Bücher CityFant 60 vacuum sweeper to the City of Montreal.

Bücher sweepers are assembled in Montreal by Accessories Machinery Limited for sale on the Canadian market.

In early 2004, Accessories Machinery Limited will introduce a new model that will be added to its CityFant 60 et OptiFant 70 models.

Source: Accessoires Outillage Ltée (514) 387-6466

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The Changing Infrastructure Rehabilitation Market: The Emergence of a New Dynamic

INFRA 2003, which took place from November 17 to 19 with the theme "The Changing Infrastructure Rehabilitation Market: The Emergence of a New Dynamic," proved to be a great success on all accounts, not the least of which was the high number of participants in attendance. The fact that this conference can generate such consistent remarkable results, year after year, speaks to the outstanding quality of the event and proves that the various stakeholders are more attentive than ever to infrastructure concerns.

It also reconfirms the necessity of holding this annual forum and providing managers and other players with an opportunity to update their knowledge of the latest developments in urban infrastructure management and rehabilitation and to actively contribute to the evolution of practices and mentalities by discussing these topics with their colleagues.

Moreover, the strong media exposure in Quebec among the written and electronic press in both French and English this year clearly demonstrates that these concerns are felt far beyond the infrastructure community per se. Journalists consider that infrastructure no longer constitutes an intangible social issue but a question of current interest for the general populace, which is more attuned to the importance of our public facilities. This unprecedented media attention comes on the heels of years of awareness and information initiatives led by several players, including CERIU since its creation. These efforts were initially directed toward engineers and then broadened to reach municipal managers and, more recently, elected officials. It also affirms that we are all now on the same wavelength and that infrastructure increasingly tends to be prioritized by decision-makers at all levels.

Those attending the first day of activities on Monday collectively pondered a variety of issues. As pointed out by Johanne Desrochers during the opening ceremonies, while the rehabilitation market has grown

significantly and today represents a growing proportion of infrastructure operations in Quebec, it is important to manage this growth and ensure that rehabilitation represents an adequate solution to the needs of today's infrastructure managers.

The opening plenary session provided a comprehensive overview of recent issues

related to the rehabilitation market, thanks to the participation of representatives at all levels: institutions, Canadian and Quebec municipalities, private businesses, and



tions. The activity featured the initial findings of the latest projects involving the burial of public utility facilities in Quebec, with a focus on three innovative pilot projects, which were the result of concerted efforts by several urban infrastructure stakeholders. Second, at the conference luncheon, Jean-Marc Fournier, Quebec Minister of Municipal

Affairs, Sports and Recreation, delivered a keynote speech, reminding participants of the need to be creative in finding ways to ensure the long life of urban infrastructure and to

accommodate existing needs using productive methods and cost-efficient, sustainable solutions. He also stressed that the lack of funds necessary to upgrade infrastructure systems meant that all levels of government – federal, provincial and municipal – and potentially the private sector as well, need to get involved. Minister Fournier added that public-private partnerships would be given serious consideration by the Quebec government, although he stipulated that public managers would still be responsible for defining needs and expectations and that all assets would remain under public ownership.

The first day of the conference wrapped up on a festive note with some 100 participants continuing their discussions in a more relaxed setting during the icebreaker reception.

On Tuesday and Wednesday, more than 75 speakers presented case studies, research findings, experimental projects and theoretical models involving topics as varied as integrated risk management, multicriteria analysis, alternative funding mechanisms and new urban infrastructure investigation and rehabilitation methods.

Source: CERIU

government agencies. Five speakers took the podium to outline their personal vision of the challenges they face and propose potential solutions including an "Infrastructure Table," which will soon be set up by the Ministre des Affaires municipales, du Sport et du Loisir du Québec. The brainstorming process continued into the afternoon with an animated discussion between attendees and the nine panel members. These exchanges emphasized the limited funding available to solve problems, and led participants to conclude that a viable solution was possible only through a shared vision backed by concrete contributions by all those involved. The notions of action plans, decision-making trees, the rehabilitation reflex and the contractual environment were also explored. The conclusions drawn from these discussions will be summarized in a soon-to-be-released report.

There were two main highlights of the first day of the conference. First, there was the official inauguration of the exhibit entitled The Future of Public Utility Network Burial in Quebec, attended by several distinguished representatives from our partner organiza-



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- Reduces wear on the front tires and suspension.
- Reduces wear and tear on the axles and the steering system.

Telephone: (450) 691-2967 Fax: (450) 691-2830 E-mail: info@w-cote.com Web: www.w-cote.com And, best of all, it reduces the operator's stress level and fatigue, allowing him to go about his work in a much more quiet, enjoyable and controllable way.

This suspension system can be installed on all Côté products, as well as on most of our competitor's harnesses.

(This device is patent pending)



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