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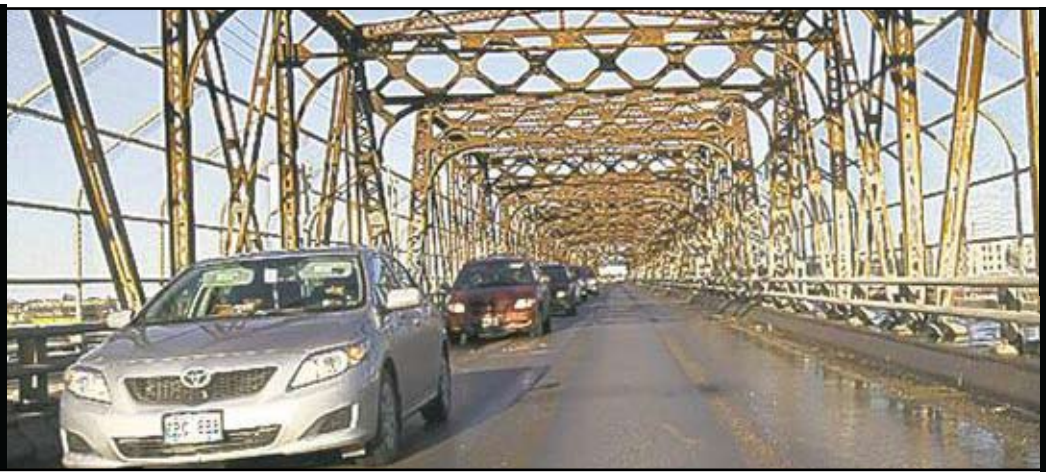
MANITOBA HEAVY CONSTRUCTION ASSOCIATION

THE Heavy News Weekly

WORKSAFELY MHCA

December 1, 2011

WORKFORCE MHCA



Building a better city

Courtesy of MacLean's Magazine

Deep beneath the streets of Montreal's entertainment district, running alongside the usual water, sewage and gas pipes that lie underground in every community across the country, something entirely unique is buried: 1.5 km of carbon steel tubes that will eventually funnel the neighbourhood's garbage, recycling and organic waste into a massive subterranean container with a capacity of up to 10 tonnes. The trash will be sucked through the pipes and into the container by four fans with a combined power of 440 kilowatts, and later trucked to a landfill or another destination.

Once up and running in 2014, the Envac system will be Canada's first municipal automated vacuum waste collection program—a stark contrast to the weekly curbside pickup most people are used to, which is labour-intensive and inefficient. "Today we are collecting waste like we did hundreds of years ago," says Sean Monclús of Envac, who has been working with the city of Montreal to set up the system, which is costing $8.2 million. That makes no sense, he says: "If we have waste water underground, why not the waste?"

Perhaps most surprising about the implementation of this innovative program is the fact that it's being done in Quebec, which has become the poster child for aging infrastructure, and the perils of failing to manage municipal services in a progressive way. In Laval in 2006, five people were killed, including a pregnant woman, when the neglected Concorde overpass crashed onto cars below. Parts of the Champlain Bridge corridor, which crosses the St. Lawrence, have been deemed "mediocre to deficient," according to an annual inspection obtained by the Montreal Gazette. And in July, a 25-tonne concrete beam collapsed from Montreal's Ville Marie tunnel onto an expressway travelled by 100,000 vehicles every weekday (no one was hurt). "But it's not just a Montreal problem," said Mayor Gérald Tremblay then. "When I talk to my colleagues in other big Canadian cities it's the same issue."

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In this issue

Indeed. Aging infrastructure, says Berry Vrbanovic, president of the Federation of Canadian Municipalities, "is one of the greatest—if not the greatest—challenges Canadian communities are facing from coast to coast to coast." Many roads, bridges, buildings and underground systems "constructed during the huge expansion of our cities in the 1950s and 1960s have reached the end of their service lives," says Ian Moore, Canada Research Chair in infrastructure engineering. "And the cost of replacement is huge."

The "infrastructure deficit" is estimated at $123 billion, says Vrbanovic, citing a 2007 report, up exponentially from $12 billion in 1985 and $60 billion in 2003. With municipalities getting just eight cents of every tax dollar, and responsible for 53 per cent of public infrastructure, every community is struggling to solve problems as fast and as well as possible. But the solution needs to be more than a patchwork of quick and dirty repairs. "Over the long term," says Vrbanovic, "if we're going to compete globally and protect the quality of life of citizens, we need to invest in high-quality and efficient infrastructure."

The good news, notes Moore, who is a professor at Queen's University, is that Canada possesses one of the leading groups of researchers and infrastructure engineers in the world—talent we've exported in the way of services to other countries for years. An incredible range of inventive concepts, materials, tools and techniques are being discovered and implemented with a singular objective that is as old as time: how to build a better city. "As Canada goes through our own infrastructure renewal process, we have an excellent opportunity to build on our expertise," says Moore, who specializes in underground infrastructure such as pipes, which he calls "buried treasure" for their social significance. "The supply of clean drinking water and the management of waste water likely does more to safeguard human health than any other factor."

With these stakes in mind, the city of Edmonton turned to Simaan AbouRizk, Canada Research Chair in operations simulation, to get a handle on its own situation. AbouRizk has developed an elite computer modelling program that predicts the deterioration of infrastructure over time (even decades), and can be manipulated to determine what financial investments are required to improve, repair or replace these systems. Over the course of three years, he inputted every piece of municipal data he could find pertaining to roads, sidewalks, pipes, pools, libraries, light poles, traffic signals, parks, police stations and any other public property that might need attention—when they were built or installed, what they're made of, every time they've been inspected or impacted. Different models and formulas

were designed, and then, eventually, AbouRizk, who is a professor at the University of Alberta, identified the worst-affected areas.

At the top of the list were Edmonton's neighbourhoods, some 300 in all. For years, any infrastructure funding had gone toward fixing arterial roads, a common and even logical approach most cities take to putting their limited money toward the things that will affect the most people. And like most cities, Edmonton didn't have the cash for this new cause. But using the data from the computer models, city council implemented a creative solution under the banner of "neighbourhood renewal": in 2009 and 2010, residents paid an additional two per cent in property tax, and 1.5 per cent this year, totalling $45.7 million, to help fund the fixes. Since then, 11 neighbourhoods have had their roads and sidewalks reconstructed and street lights replaced, and 27 have received rehabilitative or preventative maintenance such as resealing roads to extend their lifespan.

Creating longer-lasting structures is the mission of Nemkumar Banthia, another Canada Research Chair in infrastructure rehabilitation and sustainability. In particular, he is inventing a new type of concrete that will be more durable and crack-resistant than what was used for building decades ago. "There is a very large population of these structures that are in very bad shape now," says Banthia, a professor at the University of British Columbia. To make a stronger concrete, Banthia is using a combination of materials, including fibre reinforcements made from either virgin or recycled matter such as cellulose from the pulp and paper industry. It will also contain just one per cent cement, which will make it environmentally friendly; today, the production of cement creates between eight and 10 per cent of the world's greenhouse gas emissions, says Banthia, who hopes the new concrete will be commercially available within a few years.

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MHCA Awards Breakfast & AGM Highlights

By Jason Rosin, MHCA Manager of Communications

The MHCA held its annual Awards Breakfast and Annual General Meeting on Friday, November 25th at the Winnipeg Convention Centre.

Highlights of the AGM included:

» MIT Minister Steve Ashton Announcing the release of the 2012-13 construction tendering schedule

» Manitoba Infrastructure & Transportation Highway Awards, presented by MIT Minister Steve Ashton

» Presentation from Western Glove Works President Bob Silver, addressing the future of Manitoba

» Gold Seal Certification presentations

» MHCA Member Awards for qualifying members

At the AGM, the Board of Directors Nominations took place, as well as the MHCA Activities Report from Chair Bob Reidy of Tallieu Construction and MHCA Priorities Report from MHCA President Chris Lorenc.

MIT Award Winners List:

» **Minor Structures Winner:** MD Steele Construction for Rat River PR 200 (Contract 1)

» **Major Structures Winner:** MD Steele Construction for PR 210 in St. Adolphe

» **Urban Works Winner:** Maple Leaf Construction for PR 603 - Ashern Main Street & Lundar Main Street

» **Paving Winner:** Nelson River Construction for PTH 3: PTH 14-PTH 23

» **Special Projects Winner:** Smook Contractors for PR 374 - 2KM south of Kichi Sipi Bridge, Cross Lake

MIT also awarded an **Award of Excellence** to the MHCA on behalf of all contractors in recognition of their efforts in the 2011 flood fight. We graciously accepted this award on behalf of all of the MHCA member contractors who were involved.

We would like to thank everyone who attended our events and look forward to another great year in our industry! **MHCA Members will be receiving their AGM Report in the mail over the next 5-10 business days.**

From left: MHCA Vice Chair Henry Borger, MHCA Chair Bob Reidy, Hon. Steve Ashton (Minister of MIT), and MHCA President Chris Lorenc with the 2011 Award of Excellence for MHCA Contractors involved in the 2011 flood fight.

Special Thanks to our Awards Breakfast & Chairman's Gala Sponsors

Manitoba Infrastructure and Transportation	Special Thanks to The Honourable Steve Ashton of Manitoba Infrastructure & Transportation for sponsoring the **MHCA's Awards Breakfast**
Hitrac	Special Thanks to Hitrac (1974) for Sponsoring the **Martini Bar**
GE Capital Solutions	Special Thanks to GE Canada Financing GP for Sponsoring the **Wine & Cheese Bar**
Brandt Tractor Ltd.	Special Thanks to Brandt Tractor Ltd. for Sponsoring **The Danny Kramer Band**
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Building a Better City **(continued from page 2)**

In the meantime, he's been busy with another project: installing sensors to more than a dozen of the country's busiest and most important bridges, including the Confederation Bridge in the east, the Taylor Bridge in Manitoba, and the Safe Bridge in British Columbia, a major logging route. The fibre optic sensors are affixed inside and onto the bridge and measure the strain it experiences. That information is then transmitted via fibre optic cables in real time over the Internet to a computer in Banthia's office. 'If there's an earthquake tomorrow, I would know exactly how the bridge performed," he says, or 'if there has been a problem with a retrofit or if indeed there is a failure in the bridge as a result of a very heavy truck that just went on board, I will be able to tell that."

In the future, Banthia imagines these sensors being incorporated into every new major concrete construction as a way of helping inspectors and engineers know exactly the state of any piece of infrastructure—a big challenge today. Current techniques are 'very rudimentary," he says. 'Somebody goes and they tap it with a hammer and they try to hear a voice as to what kind of reflected acoustic pulse they get." The same day the Concorde overpass collapsed, a transport road patroller had been out. 'That tells you everything about our condition assessment techniques at the moment," says Banthia.

For Richard Brachman, a professor at Queen's University, the most overlooked component of infrastructure is what lies beneath our roads and buildings: the pipes that carry our water, sewage and gas. 'Buried and forgotten," he says. 'When people turn on the faucet to brush their teeth in the morning no one is thinking about the pipe that brought you the water. You only think about the pipe when there's a leak at the surface or there's a leak underground that's led to the development of a sinkhole."

But engineers, contractors and a growing number of municipalities have been heeding new ways of fixing old pipes, especially using 'trenchless technology." Rather than ripping up the road, where possible a hole is drilled down and then along horizontally to install a new pipe, or to pull a liner through a pipe for reinforcement; alternatively, a metal tool can be dragged inside a pipe, bursting it and moving fragments out of the way while a new pipe is pulled through in its place.

While all of these innovations are promising, that it's taken so long for municipalities and developers to appreciate the need for longer-lasting buildings, bridges and underground pipes is disheartening, says Banthia, pointing to ancient structures such as the Parthenon, which are still blissfully standing. 'As we are moving along the time axis, our structures are lasting less and less. Imagine that. That's a serious indictment of us. We have a disposable mentality on our infrastructure," he says.

Going forward, Banthia believes the focus should be on building structures that last more than 100 years, establishing better condition assessment tools and techniques, and developing more durable materials with a minimum carbon footprint. 'If you can get that, then I think you have really solved the problem." Canada, it seems, is on its way. But the road won't be smooth.

MHCA

Groundbreaking MHCA

MHCA's Annual Curling Classic

Thursday January 12, 2012

Heather Curling Club – 120 Youville Street
8:00am – 5:00pm

Entry Fee: **$225.00** + gst / team **or** **$56.25** + gst / individual

Price Includes: *- a fun day of curling & networking – coffee, donuts – a fabulous buffet lunch!!*

If you or others from your office don't curl, come join us for the lunch portion of this fun day!

I would like to enter a team of 4 curlers _____

I would like to enter as a single player _____

I would just like to just attend the delicious lunch ($30.00 + gst) _____

Prize Donations

I would like to make a cash donation towards prizes:

$50.00 _____ **$100.00** _____ **$150.00** _____

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Fax this form to Christine at the MHCA office @ 204-943-2279

For more information call 204-947-1379 or email: christine@mhca.mb.ca

India at a Turning Point?

By Peter Hall, Vice-President and Chief Economist of Export Development Canada

It's no stretch to argue that India has the greatest long-term potential of any economy on the planet. It also faces monumental hurdles to achieving that potential. India's physical infrastructure is famous for all the wrong reasons, a predicament that its $1 trillion spending is pledging to remedy. The country's political problems are legendary, and will take much more than money to fix. Does the promise of this vast market outweigh the risk?

Consider the growth potential. Economic fundamentals point to sustained growth of 8% annually over the next decade. The substantial commitment to infrastructure spending will help, but current economic momentum and favourable demographics are a huge part of this outlook. Economic growth over the past two decades has built a middle class that is 274 million strong. What's more impressive are the projections: over the coming decade, the Asian Development Bank sees the number more than doubling, to 600 million. No other economy measures up to these stats. With so much at stake, will India overcome the obstacles that stand in the way of realizing its potential?

Progress on the political and infrastructure fronts has been difficult this year. Corruption scandals have erupted one after the other, most notably the 2G Telecom license sales, Commonwealth Games contracts, the 'Cash for Votes' issue and the Karnataka mining scandal. These have harmed the government's standing and on occasion nearly paralyzed its day-to-day operations and the parliamentary process due to sustained protests by the opposition and the general public. As a result, the approval of mega-projects and crucial land, tax and other reforms have been delayed.

But beyond the cries of foul play from the opposition, it now looks like India has reached a pivot point concerning tolerance for corruption. This was highlighted by activist Anna Hazare's hunger strike to push for more stringent anti-corruption legislation, which grabbed headlines around the world. Given India's active and open press, more coverage is likely. Will this effect change? Entrenched corruption can take decades to reverse, and perhaps longer in India's cumbersome policy-making process. But it would be a mistake to underestimate the power and the growing frustration of India's aspirational class. Strong signs of their demands for change should ensure that political reform moves forward.

Canadian companies looking to tap into this promising market face its particular economic, political and operational risks. Yet for most of those currently operating in India,, the risks are manageable if products and business models are adjusted to accommodate Indian realities.

For interested Canadian exporters, EDC has developed a detailed India Strategy aimed at raising awareness, harnessing key opportunities and mitigating risks in the marketplace. Emphasis is placed on sectors where there is a strong alignment between Canadian capabilities and Indian growth opportunities, such as the automotive, extractive, telecom and, in particular, infrastructure industries. At the same time, free trade negotiations between the governments of Canada and India, underway and set to be concluded in 2013, will further facilitate bilateral trade flows.

The bottom line? The aspirations of its people are the best hope that India will soon undergo major changes that unlock its vast future potential. Best to prepare now to be a part of the dramatic story.

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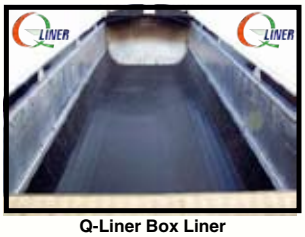

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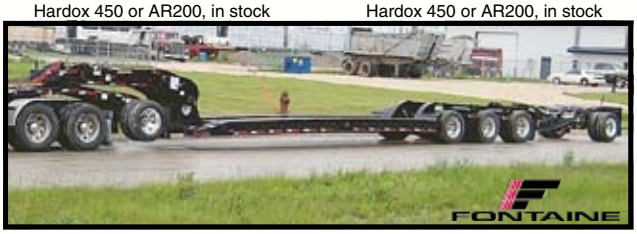

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Construction Safety Excellence™

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NOVEMBER 2011	
November 10	Excavating & Trenching (1/2 day AM)
November 10	Flagperson (1/2 day PM)
November 14-15	COR™ Leadership
November 16	COR™ Principles
November 17-18	COR™ Auditor
November 21-22	Train the Trainer
November 23	WHMIS (1/2 day AM)/ TDG (1/2 Day PM)
November 24	COR™ Auditor Refresher (1/2 day AM)

DECEMBER 2011	
December 5-9	COR™ Training Week - Winnipeg
December 12-13	Train the Trainer
December 14	WHMIS (1/2 day AM)/ TDG (1/2 day PM)
December 16	Excavating & Trenching (1/2 day AM)
December 16	Flagperson (1/2 day PM)

Winter Roads Training Week	
December 5-9	Thompson, MB

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December 12-16	Riverton, MB

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