



TIMES



Number 5 | December 2016

Happy Holidays!



To our valued customers



Marie Glenn

I'd like to start by thanking you for another great year of successful collaboration. With the increased focus on infrastructure plans from both our federal and provincial governments, it is a time full of opportunity for our industry.

The Canadian economy as a whole continues to grow at a slow but steady pace and the fundamentals are sound; domestic policies are solid; unemployment at 7% remains lower than average historical levels, interest rates are low and inflation is under control. Construction output is expected to remain at stable levels into 2017. Residential construction markets are expected to remain stable in Ontario and Saskatchewan, grow in Manitoba and see a slow recovery in Alberta.

In Ontario, infrastructure spending should be strong with several ongoing transit projects in urban centers while Manitoba's ongoing large capital Hydro investments support the construction industry in the short to mid-term. In Saskatchewan, infrastructure investment by governments has dried up, and will remain low while residential construction is expected to remain stable. Alberta has been hit hard over the last two years by the global oil crisis but there is the expectation of infrastructure investment and a slow recovery of housing starts in 2017.

The uncertainty around the potential renegotiation of NAFTA in the new Trump administration may impact investment in manufacturing and logistics centers while a potential approval of the Keystone pipeline

could accelerate Alberta's recovery.

Overall, a frenzy of economic and global activity is driving our industry and we are expecting 2017 to be a strong year. We continue to seek opportunities to work with you on projects big and small to contribute not only to our communities and cities, but to our national economy.

We are looking forward to a prosperous year ahead and wish you all a very happy holiday season!

Marie Glenn
General Manager
Cement Marketing
Ontario & Great Lakes



CRH Urban Innovator Award

CRH Canada was proud to support Evergreen, a national charity leading the transformation of public landscapes into thriving community spaces, as they celebrated their 25th anniversary in September. As Foundation Partners at the Evergreen Brick Works, we were proud to not only be a presenting sponsor at their anniversary gala, Wild in the City, but also support the launch of the Evergreen City Builders Awards celebrating people that are connecting people, nature and the built environment in our cities.



The CRH Urban Innovator Award honoured Tanya Surman, a leading social entrepreneur and innovator, as an individual working at a city-sized scale to change systems and influence urban infrastructure.

For more information visit www.evergreen.ca.

Celebrating 60 Years at the Mississauga Cement Plant

In 1956, St. Lawrence Cement's Mississauga Plant began production. Sixty years later, as CRH Canada Group Inc., the plant celebrated its past, present and future with a celebration of epic proportion ... three events hosted over the course of two days.

The celebration began on Friday, September 23rd with a private event for vendors hosted by the Mississauga Plant and the CRH Canada Procurement Team. 91 representatives from our vendors attended with 37 of them flying in for the occasion.

Nicholas Macan, Chief Procurement Officer explains the importance of hosting an event such as this. "This was a great opportunity to thank our vendors for their work over the many years in Mississauga, and to emphasize the importance of maintaining a partnership approach to ensure mutual success." The vendors appreciated the invitation and enjoyed celebrating our partnership over the last 60 years.

Joanna Ha, Senior Account Manager, Petro-Canada Lubricants Inc. (Suncor) sent a note of appreciation saying, "I just wanted to send a quick note to say thank you very much for inviting us to your 60th Anniversary Celebration and Tour today. It was a real pleasure to be able to celebrate and meet with many of the CRH staff that we deal with on a regular basis. The plant tour was fantastic and gave me a deeper appreciation of your operations and business, right in our backyard! I am thinking of taking my kids tomorrow, they would love to explore with cement."

The celebrations continued on Saturday with an early morning Retiree Breakfast with 45

Mississauga and Ogden Point Quarry retirees returning home to the plant. Retirees were welcomed with chauffeured golf cart rides to the event venue, a delicious breakfast with the Open House volunteers and a bus tour of the plant. Kevin Hughes, General Manager of the Mississauga Plant says, "It was an emotional time for everyone in attendance as memories were shared and old friends reunited. Our retirees are the foundation on which our plant was built. This event was very special for all of us." Wayne Robinson, Quarry retiree and his wife Jean wrote in appreciation "Always impressed with this company that honours their retirees, and it speaks volumes of the company. Congratulations on your 60th Anniversary."

The celebrations ended with the final event, the 60th Anniversary Open House for the community. Approximately 350 visitors, including local MP for Mississauga-Lakeshore Sven Spengemann, were welcomed through the gates of the Mississauga Plant and provided the opportunity to meet CRH employees, peruse departmental displays, enjoy a barbeque lunch and tour the plant by bus. Children learned how cement becomes concrete – making decorative concrete garden stones.

Children of all ages also had the opportunity to clock the best time on the popular remote control display! Baudouin Nizet, President and CEO of CRH

Canada was on hand to share his congratulations to the Mississauga Plant during the formal presentations. He was also honoured to present two donation checks on behalf of the plant, totaling \$60,000, to Armagh House and Ian Anderson House, two local community organizations that we are proud to support.

On behalf of the CRH Mississauga employees and retirees, we wish to thank everyone for your well wishes and support. Happy 60th Anniversary CRH Mississauga!



Dear Dave

Who needs Dear Abby when you've got a Dave on your team!

Have a question on your mind? Send him a note and "Dear Dave", our Technical Services Manager

David Bangma, will answer it and publish it here so we can all be a little better informed.



Where did the summer go? It seems like just last week I was enjoying the heat while pouring concrete and now we are into subzero temperatures. Similar to your last article, could you provide some tips on some of the practices I should keep top of mind when supplying concrete over the winter?

Thanks,
Frosty Finisher

Dear Frosty Finisher,

What a great question! Similar to concreting in hot weather, planning, a proper mix, and curing are related to all the tips. Here are some sketches of the CRH marketing team along with detailed tips from start to 'finish' for concreting in cold weather conditions.

1. PLAN IN ADVANCE

- All materials and equipment required for protection shall be available at the project site before cold weather concreting.
- Concrete for slabs and other flatwork exposed to cycles of freezing and thawing in a wet condition during the construction period shall be air entrained.
- Remove all snow, ice, and frost from the surfaces, including reinforcement, against which the concrete is to be placed.



2. HEAT THE MATERIALS

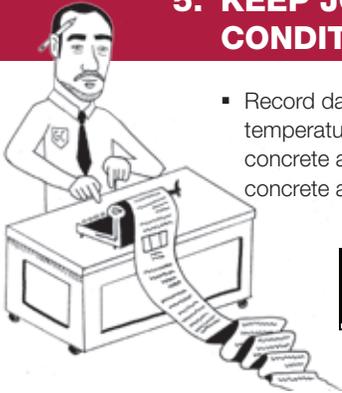
- Have concrete temperature between 10 and 20 °C for slabs and building frames, between 5 to 20 °C for heavier sections.
- For air temperatures between 0 and 5 °C, heat the mixing water.
- For air temperatures below 0 °C, heat mixing water and sand or both sand and coarse aggregate.
- Cover aggregate piles with tarps while heating.
- Avoid frozen aggregate lumps in concrete at time it leaves the mixer.
- Don't overheat. It may result in flash set.



3. USE ACCELERATORS CAREFULLY

- Calcium chloride or other de-icing salts shall not be used as a de-icing agent in the forms.
- Non-chloride, non-corrosive accelerators shall be used when concrete is placed on any surface that will lower the temperature of the concrete in place below 10 °C for slabs less than 1 m thick or 5 °C for slabs more than 1 m thick.
- Increase cement content by 60 kg/m³ if only non-chloride accelerators are allowed.
- High Early Strength cement can be used to accelerate both setting time and early strength gain.

5. KEEP JOB CONDITION RECORDS



- Record date, hour, weather conditions, temperature readings of air surrounding concrete and surface temperature of concrete at least twice daily.



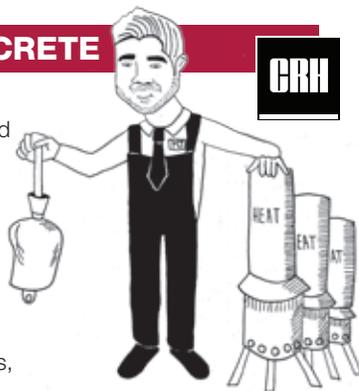
4. PROVIDE SUITABLE CURING TEMPERATURES

- Adequate protection of the concrete shall be provided that will maintain the concrete temperature at a minimum of 10 °C for the duration of the required curing period.
- Maintain temperature of concrete at 10 °C or above for 3 days to attain 40% of the specified strength for basic curing.
- Maintain temperature of High Early Strength concrete at 10 °C or above for 2 days.
- Cure and protect concrete against damage from freezing for a minimum period of 3 days.
- During periods not defined as cold weather, but when freezing temperatures may occur, protect concrete surfaces against freezing for the first 24 hr after placing.
- The protection shall not be completely removed until the concrete has cooled to the temperature differential of 15-20 °C (CSA A23.1-14 Clause 7.1.2.5).



6. PROTECT THE CONCRETE

- Enclosures shall be constructed to withstand wind and snow loads and shall be reasonably airtight.
- The housing shall provide sufficient space between the concrete and the enclosure to permit free circulation of warmed air.
- Heat shall be supplied to the enclosure by forced hot air, stationary heaters, hydronic heaters, or other heaters of various types.
- At the time of placing and during curing, concrete surfaces shall be protected from direct exposure to combustion gases by formwork or an impermeable membrane.
- The presence of combustion gases within heated enclosures should be prevented through the use of indirect-fired heaters and adequate fresh air ventilation to avoid harmful carbon monoxide exposure to workers.
- The corners, edges, and thin sections of a concrete member need more protection than plane surfaces.



7. REMOVE FORMS AT PROPER TIME

- When the concrete reaches a compressive strength of 7 MPa, it will normally have sufficient strength to resist early frost damage.
- Obtain approval of superintendent before removing any forms or temporary supports.



Carbon Pricing – National announcement

A National Price on Carbon for Canada

By Adam Auer, Cement Association of Canada

On October 3, 2016, Prime Minister Justin Trudeau made his government's long-awaited announcement on carbon pricing. Beginning in 2018, the Federal government will impose a price on carbon in all provinces that do not have an equivalent pricing system in place, starting at \$10 per tonne in 2018 and rising in \$10 increments to \$50 per tonne in 2022. The scope of the federal price is to be modelled on British Columbia's carbon tax, which is applied directly to fossil fuels (i.e. coal, petcoke, natural gas, gasoline, etc.) as opposed to broader categories of emissions (e.g. non-combustion industrial process emissions).

What does this mean for CRH and its customers in Ontario and Quebec?

Mr. Trudeau said that provinces would be free to adopt either a carbon tax or cap-and-trade system, noting that "equivalency" would extend beyond just parity on price to include consideration of coverage, stringency, provincially legislated greenhouse gas (GHG) reduction targets and the presence of other provincial policies that support emissions reductions.

Our two Canadian facilities in Mississauga and Joliette are already captured under Western Climate Initiative (WCI) linked cap-and-trade system between California, Quebec and Ontario. The price of carbon under this system is currently approximately \$18/tonne and is anticipated to rise to approximately \$25/tonne in 2022, well below the federal target of \$50/tonne.

However, Mr. Trudeau's announcement contained two criteria that must be met to avoid having to adopt the federal price. The first is that there must be an emissions reduction commitment equal to or more

stringent than the federal goal of 30% below 2005 levels by 2030. Ontario and Quebec have legislated 2030 GHG reduction targets of 37% and 37.5% below 1990 levels respectively, thus fulfilling the first criteria. The second is that the provincial program must be delivering as many or more reductions than the federal program. The Ontario and Quebec cap and trade systems both will be on track to meet this requirement by virtue of their interim commitment periods and their planned ratcheting down of the emissions cap. In addition, the price coverage of the WCI system is broader than what is proposed under the federal approach as it covers fossil fuel combustion emissions, as well as other non-combustion industrial process emissions. Therefore it is anticipated that the existing carbon pricing systems in Ontario and Quebec will be deemed equivalent to the federally imposed price and that the federal price will therefore not impose additional costs on Ontario and Quebec businesses and residents.

A price on carbon isn't the only tool the federal government intends to use to address GHG reductions and climate adaptation. They

have also made a significant commitment to renewing and modernizing Canada's infrastructure with a view to facilitating a transition to a low-carbon climate resilient economy. Some \$250 billion in federal, provincial and municipal infrastructure investments are expected over the next decade.

CRH and its peers in the cement and concrete industry are working hard with a variety of infrastructure, environmental, cleantech and other stakeholders to help identify significant GHG reduction opportunities in the built environment including, for example, lower-carbon cements like Portland Limestone Cement (PLC also known as Contempra). PLC cement reduces the GHG footprint of concrete by 10%, offering immediate carbon reductions from construction projects, while maintaining the same level of strength and durability as regular concrete. If adopted as a full replacement for all cement sold in Canada, PLC could yield annual CO₂ reductions of up to 900,000 tonnes, at no additional cost. That's the equivalent of planting 23 million trees!





Safety is our number one priority

Here are some of the initiatives we have undertaken to ensure that the safety of our employees, customers and community is always top of mind.

Workplace Inspection at the Mississauga Plant

This summer, the Cement Marketing team conducted its first workplace inspection focusing on both safety and environment. These inspections now take place once a month and focus on different areas of the cement plant each time. The goal is to ensure that our team is aware of plant safety at all times, even though we aren't always in the plant and to act as a second set of eyes for our colleagues in the plant.

We want to make sure that everyone goes home safely at the end of the workday. We are working together to ensure we put actions behind our safety pledge, "When I SEE something, I will STOP and DO something".

Mississauga Cement Plant Hi-Visibility Clothing

Personal Protective Equipment (PPE) is a first line of defence against accidents. With machinery, vehicles and people at the plant, highly visible

clothing is an important tool in keeping our workers and visitors safe. In order to improve worker visibility, the Mississauga Plant requires all employees working at the plant to wear head to toe Hi-Visibility clothing.

All employees were fitted earlier this year and are now gearing up with their HIVIS clothing.

Defensive Driving

Road hazards are encountered by each of us every day when we are behind the wheel. Some of our employees with company vehicles can drive up to 100,000 kms each year meaning they are on the road more than the average driver. In order to make each kilometer we drive safer, each employee with a company vehicle is now required to take a Defensive Driving course to help them better navigate road hazards they encounter.

Project Spotlight

Eglinton Crosstown Light Rail Transit

If you haven't travelled on Eglinton Avenue in Toronto in the last year or so you will be in for a surprise the next time you do! The entire stretch from Weston Road to Kennedy Road is undergoing an exciting transformation – all initiated by the start of the Eglinton Crosstown LRT.

WHAT IS IT?

The Eglinton Crosstown is part of Metrolinx's 25 year Regional Transportation Plan. It is a new 19 km Light Rail Transit (LRT) line completely separated from regular traffic. It runs from Weston Road to Kennedy Road and consists of 15 underground stations and 10 surface stops with links to 54 bus routes, GO Transit and the UP Express.



WHO IS BUILDING IT?

Crosslinx Transit Solutions (CTS) was awarded the contract to design, build, finance and maintain the project. CTS is a consortium of global and local leaders in urban transportation infrastructure consisting of ACS, Aecon, EllisDon and SNC Lavalin.



WHAT ARE THEY BUILDING?

The overall project is very complex and consists of numerous components.

1. Underground Stations – there are 15 underground stations grouped into three categories:

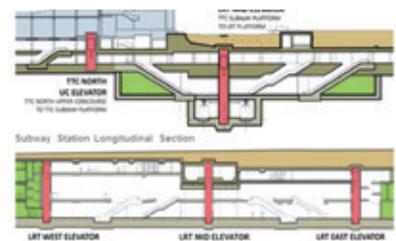
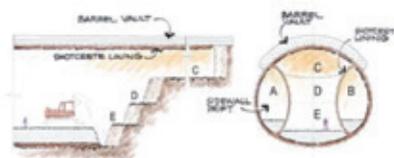
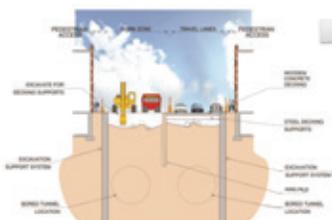
a. Cut and Cover Stations - Twelve stations, including interchange stations, will use a cut and cover method to support excavation. This construction method entails opening a section of space to allow work below grade. The

section is excavated and then covered to allow traffic to flow above. Once proper shoring and decking is in place then construction will safely continue under the roadway, excavating to a depth of 20m for the construction of the station box.

b. Mined Stations - Three stations will be mined and one will be partially mined. The station entrances will be excavated and supported first. They will then continue excavating under the

roadway with minimal impact to traffic. The excavated area will be supported with a shotcrete lining which will enable the station box to be safely constructed inside the lining.

c. Interchange Stations - There are four interchange stations which will be built using the cut and cover method. These interchange stations will allow transit riders to connect to other transit modes (TTC, GO and the UP Express).



Light Rail Transit (LRT)

WHAT ARE THEY BUILDING?

2. Surface Stations – there are 10 surface stations with dedicated right-of-way tracks separate from traffic. These stations run from Sunnybrook Park to Don Mills on the east end of the project.



WHAT ARE THEY BUILDING?

3. Other infrastructure

- a. Maintenance and Supply Facility (MSF)** – The MSF is located at the most western end of the line on 42 acres of land, north of the Mount Dennis Station. It will provide storage for the Light Rail Vehicles, maintenance and repair facilities and offices and employee parking. The MSF will be built to achieve LEED Silver Certification.
- b. Back Up Power Facility** – A 10-18 MW generation facility is to be located near the MSF to be used periodically in order to reduce grid strain on the provincial electrical power network.
- c. Guideways and Tunnel Portals** – there will be one elevated guideway at the west end of the line and two tunnel portals. The west portal is located at the Mount Dennis Station and the east portal is located west of the Sunnybrook Park Station.

West Portal (Eglinton Ave Box Tunnel)

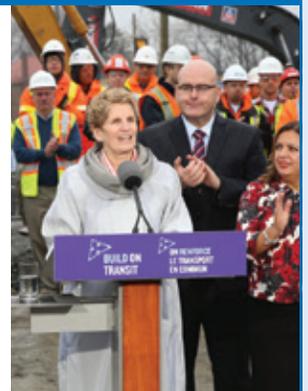


WHAT WILL THE STATIONS LOOK LIKE?



WHEN ARE THEY BUILDING IT?

Preparatory work for the station construction began in the fall of 2015, while utility relocation has been ongoing throughout 2016 consisting of gas, hydro, watermain and sewer, fiber and telephone line relocation. Station construction started at the Keelesdale station in March 2016. Throughout the year additional underground station construction has begun and will continue through the coming years with completion targeted by the end 2021.



Carrier Spotlight

LIDLAW

Laidlaw Carriers Tank is a diversified Bulk Transportation Company, servicing the Dry Bulk, Liquid, and Compressed Gas industries throughout North America. Our company has three Terminals strategically located throughout Ontario (Woodstock, Sudbury, and Cardinal) to service a wide range of customers, including CRH Canada, efficiently and safely.

Laidlaw Carriers Tank is comprised of 4 Divisions with 275 power units, and over 400 tank trailers. These divisions include Cement/Propane, Special Commodities, Liquid Food Grade, and Liquid Chemical.

The Cement/Propane Division is the largest business segment within Laidlaw Carriers, operating 80 power units with 89 Cement tanks and 31 Propane tanks. The seasonality of these two industries makes

them a perfect fit for consistent year round volumes. As the demand for cement starts to decline in the fall, propane volumes pick up through the colder winter months. Much of our fleet is cross-trained in both products.

Laidlaw Carriers Tank is proud to be a bulk carrier for CRH Canada. We service customers throughout the GTA, Eastern and Northern Ontario, as well as the Michigan Market. We operate a fleet of 4, 5 and

6-axle dedicated cement tanks to ensure impurity free deliveries every time. We started servicing CRH on special projects like the Highway 417 rebuild south of Ottawa and the Trenton landing strip in the early 2000's. We were then invited to tender RFPs and as we delivered and maintained service levels, we secured contracts for regular lanes.

Our philosophy is based on 7 key success factors; Core

Customers, Professional Drivers and Owner Operators, Insurance, Operating Authorities, Equipment Utilization, Financial Stability and Vision and Growth. Through these, we have been able to effectively serve our customers, while reducing driver turnover and maintaining an excellent safety rating.

We value our relationship with CRH Canada and look forward to continued success with with them.

Laidlaw Carriers Tank is an important and valued part of our distribution network. CRH looks forward to continuing to work closely with their drivers and dispatch to ensure high quality service.

Emma Schindler
Logistics Manager





Sales meeting

Focus on continuous improvement

Over two days this past October, our sales and marketing teams from CRH, Dufferin Aggregates and Dufferin Concrete from all over Canada and the US came together to meet in Toronto with one core focus, Customer Excellence.

The meetings took place over the course of two days and we tackled topics like the economic outlook, the growing importance of social media and our own strategic growth objectives all in an effort to bring even more value to our customers, beyond the high quality products and services upon which we pride ourselves.

Another highlight of the event was spending time with the sales teams from each division and getting to share stories from the road. We don't often get to see

each other so it was nice to break some bread! Baudouin Nizet, our regional President and CEO, spoke to us regarding safety and the strategic development that we have seen over our first full year as CRH.

It was inspiring to hear John Keating, Oldcastle Materials President and COO give a great speech on what has happened in the past year and where we're aiming to be in the near future.

We were also fortunate to have guests from other Oldcastle

Materials Group companies, including Oldcastle Storm Water Solutions and Oldcastle Enclosure Systems join a panel discussion on what they look for when they're partnering with suppliers, giving us a unique insight into the purchasing decision on the other end.

It was a great two days of learning, sharing and growing so we can continue to deliver on our promises.

Cheers to another great year ahead!



Photo Gallery

1 - Peter Moylan, GM of Dufferin Concrete, Marie Glenn, and Baudouin Nizet, President and CEO



2 - Frank Alaimo, Kristina Costabile (Cemix Concrete), Lindsay Toffoli (Cemix Concrete), Santo Costabile (Cemix Concrete) and Marco Carlini

3 - Jacqueline Gowan (Harold Sutherland) with Emma Schindler



4 - John and Julie Pontarollo with Lucy and Joe Lamanna (G & L Group)



5 - John Hellyer & Marco Carlini

6 - Bricklayer 500 Regional Qualifier at Conestoga College



7 - Rosa & Joe Vanderwerf with Marie Glenn

8 - Matt Piccoli, John Raponi (Merkley Supply) and John Hellyer



9 - John Hellyer, Paul Mutter and John Raponi (Merkley Supply) and Tony De Marinis (DMA Inc.)



10 - MP Sven Spengemann visiting the Mississauga Plant

