



TIMES

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THE CONSTRUCTION INDUSTRY TAKES LAS VEGAS BY STORM

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Message from John Pontarollo



John Pontarollo

As we know, our government's focus on transitioning to the green economy has been demonstrated through not only a national price on carbon, but through a commitment to renew and modernize Canada's infrastructure with some \$250 billion planned for infrastructure investments over the next decade.

As Ontario and Alberta embark on their carbon pricing and cap and trade system plans, and the federal government rolls out their national carbon pricing in the rest

of Canada, we continue to look for ways to improve our operations and lessen the environmental burden of the materials we need to build Canada's infrastructure.

With lifespans of decades, or even centuries, our infrastructure has the potential to dramatically improve the economic, health and environmental benefits of Canadians. Infrastructure investment decisions need to incorporate robust lifecycle cost and climate mitigation considerations in order to help

move the country towards a low-carbon economy.

As partners, we look forward to working with you on responsive strategies to meet these changing demands and supply the materials to continue building Canada's infrastructure together.

John Pontarollo
Senior Vice President
Great Lakes, Ontario
Western Canada, US
and Dufferin Construction
CRH Canada

Our Team is Changing and Growing!

At CRH Canada, we're proud to be continuously growing and expanding our teams. We're excited to announce that Wayne Lazzarato, our former senior vice president of Dufferin Construction has taken the role of President and CEO at CRH Canada. Wayne has been with the company for 33 years and brings a wealth of knowledge and experience with him to his new role.

John Pontarollo, Senior Vice President of the Great Lakes, Ontario, Western Canada and US regions of our business will now also oversee Dufferin Construction, allowing us to better provide complete and integrated solutions to our customers.

We're also proud to announce that Murray Yewchuk has accepted the position of Regional Manager, Cement Sales and Terminal Operations for Western Canada and the Northwest U.S. In his role, Murray will be responsible for overseeing cement marketing activities for the Trident Cement Plant and terminals in Western Canada. Prior to joining CRH, Murray worked for Halliburton Energy Services in business development for the cementing division and held the role of vice president of marketing for Whitemud Resources Inc.

We are excited to continue ensuring we have the right people, in the right place, at the right time so that we can continuously improve and innovate to provide solutions to your business.



Murray Yewchuk



Wayne Lazzarato

The Construction Industry Takes Las Vegas by Storm

CONEXPO-CON/AGG is a lot like getting married. People can tell you what to expect, but once you've done it for yourself you truly understand what you got yourself into! It is one of the top three construction shows in the world.

The event features exhibits of the latest technologies and innovations in equipment, products and services plus extensive industry-targeted education. It is an international gathering place for the construction industry with a broad focus on construction, aggregates and ready mixed concrete.

The directors of ConExpo 2017 announced that, over five days, a total of 128,000 people attended the show, which included 2,800 exhibitors. A remarkable 20% of that total attendance comprised international attendees from approximately 150 different countries. Walking through the

show you could hear at least ten different languages spoken!

World of Concrete (WOC) 2017 was another great event. It took place January 17-20 in Las Vegas, giving exhibitors a platform to begin the year on the right foot, filling the show room floor with industry-relevant attendees. WOC 2017 was one of the best shows in recent memory; it drew 50,770 registered professionals and featured more than 1,455 companies exhibiting across nearly 700,000 square feet of space. CRH Canada was well represented and took the show in with customers and other industry professionals.

"Exhibitors and attendees seemed very pleased with WOC 2017 from the show floor to the educational opportunities. Although the show was earlier than in past years, the industry showed up in force to see new products, network with their peers, and prepare for business in 2017. International attendance was strong with representation from India, Italy, Philippines, Costa Rica, Brazil, China, Japan, South Korea, Chile, Argentina and many other countries," added Jackie James, Director, World of Concrete.

Overall, both were excellent shows to attend, we were able

to see the improvements in construction technologies and catch up with some friends along the way! If you attend a show in the future, be sure to mention it to your market manager because it would be great to catch up with you and walk the show floor together.

Marco Carlini, Dean Garbutt from Spec Mix and John Hellyer



Dear Dave,
I've always been interested
in concrete and understanding
how structures made with this
amazing material can last 100 years.
Can you walk me through how to
ensure that when I make concrete
it will last?
Thanks,
Concrete Historian

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.

Dear Concrete Historian,

Thanks for the question. I fully support your conviction on ensuring we continue to prove concrete is the best building material in the world. What you are referring to is **concrete durability**. Let's take a look at some of the important factors for durability.

Although compressive strength is a measure of durability to a great extent it is not entirely true that strong concrete is always a durable concrete.

So, what is the definition of durability?

Durability of concrete is the ability of concrete to resist weathering action, chemical attack, abrasion, or any other process of deterioration.

Durable concrete will retain its original form, quality, and serviceability when exposed to environment.

How can we improve durability of concrete?

W/CM Ratio: For durable concrete, using the lowest water to cementitious (w/cm) ratio is the fundamental requirement to produce dense and impermeable concrete which can reduce drying shrinkage. A low w/cm ratio concrete is less sensitive to carbonation, external chemical attack and other effects that cause lack of durability of concrete. Use of superplasticizers can make flowing concrete while lowering w/cm ratio.

Aggregate Size and Gradation:

Using the maximum practical amount of aggregate in the mix along with ensuring the combination of the aggregates creates a proper gradation, will maximize strength and reduce drying shrinkage. Although some cracking is unavoidable, cracking due to shrinkage can be controlled by using properly spaced contraction joints and properly reinforcing steel detailing.

Supplementary Cementing Materials:

Use of a high quality supplementary cementing material (SCM) such as CRH slag cement, will increase

ultimate strength and reduce permeability. SCMs react with calcium hydroxide, which is a byproduct of the cement and water reaction, to further densify the mix.

Curing, Curing, Curing: I've often heard the phrase; concrete is not a finished product until cured. Curing will ensure proper hydration and hardening of the cementitious materials, ultimately improving the strength and reducing the porosity of the hardened concrete. A satisfactory moisture content and temperature should be maintained in the concrete after it has been placed and finished.

Air Entrainment: Especially here, Canada's proper air entrainment is a critical component of concrete mixtures exposed to freezing and thawing environments.

The durability of concrete can be verified by testing concrete in its plastic form and hardened state. These tests include slump, air, compressive strength, hardened air void test, linear shrinkage, salt scaling resistance, rapid chloride permeability, and sulphate resistance. If you are making a concrete that performs well under all the hardened test methods listed above you definitely have a durable concrete that is going to withstand the test of time!



Ontario's First Cap and Trade Auction

On March 22nd, Ontario held its first cap and trade auction, signaling its entry into a carbon market that will eventually link with Québec and California. The auction generated approximately \$472 million in proceeds which will be invested in programs to reduce greenhouse gas (GHG) emissions through the Climate Change Action Plan as part of Ontario's strategy to reduce GHGs to 15% below 1990 levels by 2020.

Linkage with California and Québec is an important feature of the Ontario system. The broader the market, the more likely it will be that price will reflect the true incremental cost of reducing emissions.

That linkage will take place next year, so the results of this Ontario-only auction offer a glimpse into the broader market that will be in 2018. So far, in Québec and California, two markets operating under the cap and trade system, emissions are on the decline and their economies are growing.

A robust cap and trade market is an important mechanism for making the transition to a more competitive, low-carbon economy and with its first auction, Ontario is off to a good start. Our industry believes that cap and trade systems are the most effective means of delivering real environmental results while putting a price on carbon.

While the cement industry is particularly sensitive to imports and exports and needs mechanisms to level the playing

field when our product is traded with jurisdictions that do not have a price on carbon, it provides an opportunity for us to be global leaders in emissions reductions. As we make critical investments to reduce emissions in our operations, we must continue to provide sustainable products and solutions to build resilient infrastructure for our communities today and into the future.

Reducing our environmental footprint and supporting the transition to a low-carbon economy remains a key priority for CRH Canada. As carbon pricing and GHG reduction legislation continues to evolve, we continue to seek opportunities to improve efficiencies, conserve non-renewable natural resources, and utilize alternative low-carbon fuels.

We have implemented strategies to reduce emissions in our facilities, processes and products for many years and are proud to now support similar efforts across industries and governments.



Quick Facts

- Ontario's first cap and trade auction sold all 25,296,367 available current (2017) allowances at a settlement price of \$18.08.
- The Climate Change Action Plan and GHG emissions reduction program are part of Ontario's strategy to cut greenhouse gas pollution to 15% below 1990 levels by 2020.
- As of August 2015, 39 national and 23 subnational jurisdictions around the world will have implemented or are scheduled to put a price on carbon.

DO YOU KNOW THE 10 FACTORS THAT AFFECT OUR RISK TOLERANCE?

Every day we make decisions that are affected by our tolerance for risk. We assess situations and accept a certain level of risk in some instances and take steps to mitigate those risks in other instances. The ten risk factors below lead us to underestimate and therefore accept too much risk. By being aware of these factors, we can ensure that we act with vigilance to avoid becoming complacent and putting ourselves, and those around us, at risk.

1

Over-Estimating Ability or Experience

- Over-estimating one's physical capabilities to perform a task
"I can lift 150 pounds in the gym ... this won't be a problem"
- Over-estimating one's experience to perform a task
"We've always done it this way"



2

Familiarity with the Task or Complacency

- Complacency due to familiarization
"Repetitive tasks, long duration tasks, getting 'comfortable' working near hazards"
- Scepticism of Potential Hazard
"There was no incident when I did it this way last time"



3

Seriousness of the Outcome

- Underestimating the seriousness of the outcome
"How bad can it be?"
- Trivializing the true nature of the risk
"Referring to a consequence as a 'pinch' when it is actually a 'crush'"



4

Voluntary Actions or Being in Control

- Control over an activity or engaging in an activity voluntarily results in the risk being perceived as lower
"Use risk assessment process of 'THINK, TRACK, RTK, T5, etc...'"





Personal Experience with an Outcome

5

- A personal experience with a serious outcome will make us less accepting of the risk
"Keep the memory alive – serious incidents from the past need to be communicated"



Cost of Non-Compliance

6

- We may be more reluctant to take the risk if there is a high cost or penalty
"A speeding ticket of \$200 may be acceptable versus a ticket of \$10,000 and confiscation of the vehicle"



Over Confidence in the Equipment

7

- Excessive trust that the equipment will always perform as design and never fail
"It has never failed as long as I have been using it"



Confidence in Protection and Rescue

8

- Acceptance of the risk increases when we feel that our safety equipment will protect us or that help/rescue will come quickly
"Know limitations of your PPE – view it as a last line of defense"
"Recognize that help/rescue may not come quickly enough"



Potential Profit or Gain from Actions

9

- If there is the potential for a substantial profit or gain from a risky action then a person may accept the high risk
"Compromising on PPE – worn out safety boots"
"Cost cutting decisions may impact the acceptance of higher risks – less maintenance"



Role Models Accepting Risk

10

- Role models or mentors who accept a level of risk may influence your own level of risk
"It didn't seem like the safe way but that's the way he does it, so I assume he is doing it the safest way"
"Am I setting the right example as a role model and mentor?"

The Calgary Ring Road

By Sy Steppacher, Sales and Logistics Specialist for Alberta

Looking back at 2016, Alberta's economy was heavily impacted for several reasons. In 2016, the oil prices dropped to as low as US\$26 per barrel, the Fort Mac wildfires in May destroyed more than 1,500 buildings as well as cutting oil production by 51 million barrels, the unemployment rate in Alberta hit a two-decade high and overall employment decreased 1.6% (the largest contraction since 1983). Also, agriculture took a hit in the cattle market due to the Bovine TB outbreak. Despite the challenges that Alberta faced, the economy has turned a corner and can expect modest improvements in 2017.

According to the ATB Alberta Economic Outlook, the province should expect real GDP growth of 2.2% this year and 2.3% in 2018. The economy is forecasted to emerge from the worst downturn it has experienced in three decades, led by agriculture, agri-food and tourism sectors, as well as the potential stability of oil prices to remain in the US\$50 to US\$60 range.

Construction spending is expected to be sluggish in 2017, but could be offset by increases in government building projects as promised federal and provincial infrastructure capital spending plans come online. One project that is expected to take off this year and spur growth is the South West Calgary Ring Road.

Calgary – South West Calgary Ring Road

In Calgary, with a metropolitan area of over 1.3 million residents, transportation is essential to economic progress. To cement its footing as an established major city, Calgary has worked with both provincial and federal governments on a comprehensive plan for transport development. With over 80,000 vehicles currently driving daily on its completed segments, the Calgary Ring Road (CRR) is a large part of this development serving as an important bypass around Calgary.

Planning for the CRR started in the '70s between the Government of Alberta and the City of Calgary. Today, 70% is completed, or three of the five segments. The NW and NE segments opened in 2009,



followed by the SE, which opened in 2013. Work is currently underway on the SW segment with the final West segment to follow. When finished, the ring road will offer motorists more than 101 kilometers of free-flow travel around the city.

The SW segment, known as the South West Calgary Ring Road (SWCRR), will connect Hwy 8 and Macleod Trail/Hwy 22X. The construction involves 31 kilometers of six- and eight-lane divided highway with 49 bridges (including three river crossings and a roadway overpass), one rail overpass, and 14 interchanges. The project will require more than 120,000 cubic meters of concrete.

Alberta Transportation has signed an agreement with Mountain View Partners (MVP) to design, build, partially finance and operate the SWCRR project. The contract is worth \$1.42 billion, to be paid over the 35-year term of the contract using a Design-Build-Finance-Operate (DBFO) procurement process. This method is considered the best option to ensure the road is built and open to traffic within seven years.

As committed to the signing of the land transfer agreement with the Tsuut'ina Nation, the agreement sees the Tsuut'ina Nation transfers 428.1 hectares (1,058 acres) of its land to the Government of Alberta. The design and construction has been contracted to KGL Constructors, a joint venture partnership between Kiewit, Graham and Ledcor.

The SWCRR project is expected to generate thousands of jobs in the province over the project's five-year construction period, with the SWCRR expected to be open to traffic in 2021. Preliminary construction work began in fall 2016, with major construction to get underway in spring 2017.

The project will be designed and constructed to accommodate traffic volumes projected for the next 30 years, estimated to be between 80,000 and 100,000 vehicles per day on certain sections. "With this contract with MVP in place, full construction of the Southwest Calgary Ring Road is ready to begin creating good family-supporting jobs. We look forward to working together on this vital infrastructure project for the Calgary region, strengthening the local and provincial economy," said Brian Mason, Minister of Transportation.

The Calgary Ring Road is a good investment in the economy by enhancing the safe, efficient movement of goods and people in and around Calgary, while reducing traffic congestion. As part of both the north-south and east-west trade corridors, the completed Calgary Ring Road will provide effective routes for commercial vehicles taking goods across the province or country, and to foreign ports.

The planning of the West segment, completing the link of the CRR, is currently in progress. Construction will likely not begin until the early



Calgary Ring Road Map courtesy of Alberta Transportation

2020s after all construction on the southwest segment is completed. The final segment of the ring road will run between Hwy 1 and Glenmore Trail, featuring 26 bridges and six interchanges.

For more information, visit www.sw-crr.ca or www.calgary.ca/swrr.

2017 Concrete Cup Concrete for the Win!

By Gord Cawker
Market Manager

At the start of every year since the 1980s, between the World of Concrete, Super Bowl and the Daytona 500, the ready mix and construction industry comes together in Alliston at the Nottawasaga Resort to see who will reign the rest of the year as the Concrete Cup Champions.

The tournament, organized by Mike Gowan of Harold Sutherland Construction and I, consists of a non-competitive (concrete) division and a competitive (cement) division. This year there were eight teams in the cement division, and ten teams in the concrete division.

Each team is guaranteed three games after which the points are tallied, and the top two teams in each division play for the championship. The point system awards points for periods won, and points for the game winner.

The tournament starts on a Friday night after which the teams dissipate to various establishments in the Barrie area to celebrate or discuss strategy for the next day, usually into the wee hours of the morning, before scrambling to bed to rest for Saturday's games. Generally, the teams that consume the most Gatorade in the morning and secure the crucial first game win on Saturday have a good chance to move on.



This year, we're proud that our teams came together to collect food for their local food bank as well as raise \$1,500 for Camp Ooch from the tournament proceeds. Thanks to all the teams who have participated

over the years, and congratulations to CBM Ready Mix and Nudura, this year's competitive and non-competitive winners! We look forward to another great Concrete Cup in 2018!

Engaging our Neighbours with Community Advisory Panels

Engaging with local stakeholders is a critical component of our social commitment—to learn from their experiences, as well as share our own, to consider stakeholders' input as part of our decision making processes, and participate in a meaningful way in community life. Each community that we are a part of has its own unique needs and concerns, which is why CRH operates Community Advisory Panels (CAPs) with local representatives at various locations throughout Canada. Since December 2009, CRH Canada's Mississauga Cement Plant and Ogden Point Quarry have hosted CAPs, providing a forum to engage in meaningful discussion, collaboration and information sharing. CAP members are volunteers representing local residents and ratepayer associations, government, health units, emergency services and agencies.

CAP meetings are typically held quarterly and the agendas are tailored to meet the needs of both the CRH facility and the local community. As ambassadors of their local Mississauga, Oakville and Colborne communities, our CAP members play an important role in raising community awareness of our operations while also helping CRH better understand the needs of local communities.

The Mississauga CAP has also participated in two Technical Information Sessions (TIS), educational meetings to share technical information related to specific plant activities. The most recent TIS was held in

February, sharing detailed information on GHG emissions and the plant's participation in cap and trade.

We would like to thank our Mississauga and Ogden Point CAP members for their dedication and commitment. For more information on CRH Canada's Community Advisory Panels, visit www.crhcanada.com.



Members of the Ogden Point Quarry and Mississauga CAPs witness a quarry blast.

Guess the CRH Babies!



You may know our team, but can you guess who's who in their baby pictures? Take a guess and match each cuddly baby with a member of our team for a chance to win an Apple iPad! Send us an email at nives.greco@ca.crh.com by **June 15th, 2017** with your guess for each photo (ie. Photo 1. Emma Schindler, Photo 2. Gord Cawker, etc.). Please guess one person per baby photo and note that only those that match all the photos correctly will be entered into the prize draw.

Match each photo with one of our team members below:

Marie Glenn
David Bangma
John Hellyer
Gord Cawker
Marco Carlini
Mackenzie Johnston

David Wasylenchuk
Sy Steppacher
Emma Schindler
Dennis Baker
Jasmine Samadi



Photo Gallery

- 1- Dave Carter and John Hellyer at Landscape Ontario 2017
- 2- Minister McGarry and Marie Glenn at the Ontario Good Roads Association conference
- 3- Emma Schindler, Jasmine Samadi and Nives Greco rocking the CRH booth at the 2017 Merkle Show in Ottawa
- 4- Gilles Dore, Sonia Rego John Hellyer and Jason Rego cheering on the Sens at Merkle Hockey Night
- 5- Dante DiGiovanni of Blair Building Materials at WOC with Marco Carlini and John Hellyer
- 6- John Hellyer and Dante DiGiovanni in action at Bubble Hockey supporting Sick Kids
- 7- Couple of old pros: Darryl Sittler and John Hellyer at Bubble Hockey for Sick Kids
- 8- MacKenzie and Gord attending the National Precast Show
- 9- Marco Carlini at Spec Mix 500 in Las Vegas
- 10- Dominic Suppa, Mike Stefi and Guido Consentini getting ready to rip it up at Shadow Creek Las Vegas
- 11- Paul Mutter of Merkle Supply and Emma Schindler fueling up for the annual Merkle Supply Show.
- 12- Our team working hard at our SMART Meeting

