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STRONG FUTURE.

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From Your Friends
at Ash Grove



A CRH COMPANY



DISPATCH

THE MAGAZINE FOR
ASH GROVE NORTH CUSTOMERS

Number 4 | December 2021

A Message from Emma



I hope this holiday edition of Dispatch finds you and your families in the best of health.

The events of the last two years are nothing that we could have ever imagined.

As we endured the impacts of the COVID-19 pandemic, we were faced with numerous challenges unlike anything we had experienced before. Similarly, in 2021, as the economy began its recovery, commercial and construction activity increased to levels that once again can only be described as unprecedented.

Robust market conditions, in combination with global supply chain interruptions have resulted in labour and material shortages across the country, and the significant increase in prices of many commodities and consumer products have brought the annual rate of inflation in Canada to an 18-year high. Despite these challenges, our teams continue to adapt and tackle each obstacle with resilience.

While it has certainly been a challenging year, safety has remained our core value at Ash Grove. As pandemic related restrictions continue to lift across the regions in which we operate, I ask that you remain vigilant in keeping each other, our families, and our customers safe. We are pleased to return to face-to-face industry events (page 9) and in-person visits with our customers, with the confidence that our teams will continue

to uphold our commitment to safety.

As we reflect on 2021 and ahead into 2022, sustainability has and will remain at the forefront of our industry. As we strive to attain net zero carbon concrete by 2040-45, I encourage you to have a look at the next steps in the Global Cement and Concrete Association carbon roadmap launched in October (page 3), the update on the progress of the acceptance of Portland-Limestone cement across Canada (page 6), and an overview of what to expect as environmental product declarations become the standard for ourselves and our customers (page 5).

Finally, as our organization continues to evolve, I would like to welcome the newest members of our Ash Grove family: Richard Sluce has returned to Cement as Director, Technical Services, and will be responsible for leading our Technical Services Department and championing our Sustainability efforts in Canada. As well, Erik Evenson has joined Ash Grove as Sales Account Manager, based in Duluth and covering Manitoba, Minnesota and Wisconsin.

As the holiday season approaches, on behalf of Ash Grove, I wish you and your families the happiest of holiday seasons and hope you find ways to safely reconnect with those you love.

Emma Schindler
Vice President, Sales & Marketing
Ash Grove Cement

Meet our New Ash Grove North Colleagues!



RICHARD SLUCE, who has been with the company for over 9 years, has been appointed **Director, Technical Services**. Most recently, Richard was Operations Manager, East Region. Prior to that, he held a

number of management roles within CRH Canada and our business units in technical services, sales and operations. In his new role, Richard will be responsible for leading our Technical Services department and championing our sustainability efforts in Canada.



ERIK EVENSON, recently joined our Sales team as **Sales Account Manager**, based in Duluth, Minnesota. His new sales territory includes Minnesota, Wisconsin and Manitoba. Eric has held roles of increasing responsibility in sales and territory

management in the construction industry and a variety of building materials. Over the years, he has supported clients in both Canada and the U.S. We also welcomed **XI WANG**, coop student, to the Technical Services Marketing group. Xi completed his third year in Chemical Engineering at McMaster University, and is also completing a minor in Economics.

2020 to 2030 : The Decade to Make it Happen

In this key decade, we will accelerate our CO₂ reductions through the following actions and initiatives:

- Increased clinker substitution – including fly ash, calcined clays, ground granulated blast-furnace slag (ggbs), and ground limestone
- Fossil fuel reductions and increased use of alternative fuels
- Improved efficiency in concrete production
- Improved efficiency in the design of concrete projects and use of concrete during construction, including recycling
- Investment in technology and innovation
- CCUS technology and infrastructure development

In addition, we will strive for and collaborate in establishing a policy framework to achieve net zero concrete.

“A comprehensive policy framework will need to be developed in this important decade, in order to achieve the shared goal of net zero concrete.”

We will accelerate reductions over the course of this critical decade. With respect to clinker substitution – increased use of fly ash and ground granulated blast-furnace slag (ggbs) will still play an important role in this decade; ground limestone, recycled concrete fines and introduction of calcined clays and other new promising materials will also play an increasing role.

Further reductions will mean limiting fossil-fuel use at every point in supply and production chains, as well as repurposing society’s waste as a smart and greener alternative. We are making progress on this important energy transition which, at the scale of the sector, is substantial.

Additionally, it is critical that in this decade we bring forward the required breakthrough technologies to be ready for commercial scale deployment by the end of it. Investing now in technologies and innovation that will come on stream in later years. Our members are investing and researching into alternatives to Portland clinker cements. While these may contribute to CO₂ reductions, they will likely have a limited role because of the lack of raw material at the required scale.

Carbon Capture Utilisation and Storage (CCUS) is an essential component of our roadmap. CCUS pilots already have substantial momentum with live projects and announcements picking up pace in North America, China, India and Europe. This technology works, so we need to work with stakeholders such as policymakers and the investment community to help develop, de-risk and deploy the technology and infrastructure over this time to help transform the industry worldwide.

While by no means straightforward, there are also relatively easier wins in the concrete production and concrete design and construction phases. Indeed, not all changes require investment, and some can even reduce costs – reducing the quantities of raw materials through improved design processes, use of reprocessed and recycled material, through re-use of elements, and extending the lifetime of whole projects. Design efficiency and utilizing the benefits and versatility of concrete can result in less material being used. This means viewing concrete and cement not only as products to be produced, but as crucial components in a circular economy.

A comprehensive policy framework will need to be developed in this important decade, in order to achieve the shared goal of net zero concrete. This will need to be a joint endeavour by industry, policymakers and governments.



2030 CO₂ REDUCTION MILESTONES:
(Compared with 2020 baseline)

CONCRETE
25%

CO₂ reduction per m³ of concrete by 2030

CEMENT
20%

CO₂ reduction per tonne of cement by 2030

2030 MILESTONE: CARBON CAPTURE PROGRESS

Carbon capture technology is applied at industrial scale in

10
PLANTS

to contribute to delivering net zero concrete

Dear Atif,

Winter is right around the corner and I have too much salt in my pantry. Can I throw the extra salt on my driveway when it snows?

Dee Izer

Ask Atif

Have a question?
Atif has the answer!

Here to address all your cement-related questions, don't hesitate to reach out to him at atif.asif@ashgrove.com and read his answer in the next edition.



Dear Dee,

The air is getting cooler, and you are right, winter is almost here. Many of your neighbours will be using de-icing salts on their driveway and sidewalks to melt the snow. However, this has the potential to cause salt scaling.

Once the cold winter is over and the snow melts, you may notice patches of your concrete that have flaked away. This is caused by de-icing salts, the colder weather, and poor finishing and curing when placing the concrete. The salt will melt the snow, but the water will re-freeze around the brine pockets when it gets cold again and that ice will stick to the top surface of the concrete and eventually crack. This causes the top surface of the concrete to rip away with the ice and cause salt scaling at random spots, which is not pretty.

Some tips to avoid salt scaling:

- Make sure to use a properly designed concrete
- Ensuring proper air entrainment, 5-8%
- Follow best finishing and curing practices
- Avoid putting de-icing salts on the concrete, if possible

Therefore, it is best to keep the extra salt in your pantry. If you already have a driveway with scaling, it is best to repair and refinish it before it creates larger patches.

EPDs: Helping Our Customers Integrate Product Sustainability into Decision Making

An Environmental Product Declaration (EPD) is a transparent, objective report that communicates what a product is made of and how it impacts the environment across its entire life cycle. An EPD is developed following International Organization for Standardization (ISO) guidelines and it must be supported by a Life Cycle Assessment (LCA).

The standard used to create an EPD is ISO 14025, Environmental Labels and Declarations – Type III Environmental Declarations: Principles and Procedures. For an EPD to be verified, the supporting LCA must comply with:

1. ISO 14040, Environmental Management – Lifecycle Assessment: Principles and Framework
2. ISO 14044, Environmental Management: Lifecycle Assessment: Requirements and Guidelines
3. The relevant Product Category Rule (PCR) for that product type

What are EPDs?

Transparency! They provide data and insight into the global warming potential (GWP) when manufacturing a product. Look at it as a nutrition label, just as what you're putting in your body, an EPD explains what you're putting into the atmosphere.

Why are they important?

To provide data to decision makers so sustainability can be incorporated into the decision-making process. As well as to determine what effects do materials have on environmental impact. To reduce the overall CO₂ emission and to meet the 2050 net-zero targets.

How do they work?

By using PCR rules to assess material, the same rules apply for all the same type of material. Then putting data into context by using LCA (Life Cycle Assessment) to complete a picture, from beginning to end-of-life; measuring inputs, outputs and environmental impacts of a product across its lifespan.

When?

Now, the current 5-year National EPD expires in January 2022. The industry in Canada along with provincial concrete associations are producing regional averages through Athena to be ready for the second quarter of 2022. The industry average EPD will be valid until April 1, 2023. Post April 1, 2023, the federal government will specify facility specific Type III EPDs. An EPD is valid for 5 years.



PCR used to assess material, LCA puts the data into context and EPDs provide transparency

LCAs seek to measure the environmental impacts associated with all stages of a product or a project from raw material extraction through to processing, transportation, construction, use, demolition and disposal or recycling. The total energy used for all stages is referred to as the product's embodied energy.

Concrete is durable and the materials used to create concrete are natural to our environment. Concrete may be crushed and used in future mixtures. This type of recycling can reduce the presence of concrete in landfills.

Concrete absorbs and retains heat. MIT studies show that the passive energy efficiency of concrete's thermal mass — gains of 8% over other building materials — more than make up for the embodied impacts of the cement and concrete manufacturing process.

Why should you care?

EPDs will become a deciding factor moving forward as consultants, engineers and developers select products that have the lightest impact on the environment and meet emissions targets.

What should you do?

Participate in regional EPD programs by providing your facility's most up-to-date data by December 31, 2021.

Benefits:

- Show low carbon commitment
- Follow legislation
- Stay ahead of the market

Update on the Transition to Portland Limestone Cement

Ash Grove's Portland Limestone Cement (PLC or GUL) transition is just over six months old in Ontario. About 93% of planned Ontario shipments are of GUL, with 7% being GU. The 7% includes customers that need mix design approvals, our Technical Services team is assisting these clients with their testing and to transition them to GUL.

Departments of Transportation (DOT) of other provinces are now accepting or are planning to accept PLC with Prince Edward Island being an exception and the Territories not accepting at this time. While some provinces have given the green light to PLC, they do have restrictions.

Although PLC is approved by DOTs, it is not yet accepted by all municipalities across Canada. The Cement Association of Canada (CAC) continues to meet with individual municipalities and work through the acceptance process.

Map of acceptance by provincial transportation agencies in Canada (CAC 23021)



Some projects to highlight in Ontario by CRH companies using GUL:

- Reliance Construction Condos, Oakville by Dufferin Concrete
- Trafalgar Heights, Oakville, by Dufferin Concrete
- Buttcon Limited, Hyatt Hotel, Niagara Falls, by Dufferin Concrete
- Berkeley Parliament Developments Condo Tower, Toronto, by Ontario Redimix
- Bel East Corporation 25 Storey Condo, Toronto, by Ontario Redimix
- Lash Distinction 14 Storey Condo, Toronto, by Ontario Redimix
- Mattamy Homes, Trafalgar Rod and Highway 5, Oakville, by Ontario Redimix

PLC acceptance status by province:

- British Columbia – Not allowed for structural precast concrete and severe sulphate environments
- Alberta - Approved as "Potential Product" except bridge decks >1,500 m2
- Saskatchewan – Approved
- Manitoba - Limited to surfacing and grading
- Ontario - Approved
- Quebec - Limited to concrete pavements
- Nova Scotia - Limited to roller compacted concrete
- New Brunswick - Approved
- Newfoundland and Labrador - Planning to accept in 2021

- Accepting
- Planning to accept
- Not accepting at this time

Introducing... DURA SLAG!

In order to further align with the Ash Grove brand, Ash Grove North would like to announce the name change of our slag cement from CRH Slag Cement to DURA SLAG, which has been the recognized trademark for slag within Ash Grove for many years.

While only the product name has been set to change, we assure you that the quality of the product remains unchanged and unaffected. DURA SLAG will continue to increase concrete durability by making concrete less permeable, assist in mitigating the effects of ASR (Alkali Silica Reactivity) and increase the long-term strength gain of concrete. DURA SLAG meets specifications in CSA-A3001-18 Type S Ground Granulated Blast-Furnace Slag.

Effective January 1, 2022, all documentation, such as BOLs, invoices and Mill Certificates will be converted to the new name DURA SLAG.

We thank you for your support during this transition and encourage you to reach out to your Market Manager or Technical Services Engineer if you have any further question.



Project Spotlight: YYC Calgary Airport Concrete Apron Restoration

Ranking as one of the country's fastest growing airports the Calgary International Airport (YYC) will see its west runway, originally built in 1939, rehabilitated to accommodate future growth. The project will take approximately three years to complete and create 200 to 300 local jobs.

This past summer, Dufferin Construction, a CRH company, was successfully awarded the concrete portion of the restoration project and has kicked it off by completing the first of three apron replacements. Dufferin Construction has a strong history working with the Calgary Airport Authority, most notably in 2019, to help construct a centralized deicing pad which consisted of over 25,000 m³ of concrete.

The first concrete apron demanded a tight timeline with the work starting in August and was to be completed by early September. The challenges brought forth in this short period were magnified at times due to a shortage of haul drivers. Alberta has not been immune to the shortage of truck drivers impacting several business and consumers across the country. Dufferin overcame this hurdle by working closely with several carriers, including Ash Grove Cement and their haulers to ensure they would complete the project within the short window they were given.

Typically, Dufferin would utilize one cement storage guppy (~150 metric tonnes capacity) and the plant cement storage silos for

a project like this, but to mitigate a potential stock out due to driver shortage a second storage guppy with similar capacity was provided by Ash Grove Cement onsite.

Dufferin's concrete plant had been brought in from Ontario where they had used it recently on another project with the Toronto Pearson International Airport. Located a stone's throw away from the site adjacent to the airport, Dufferin had an output totaling over 150 meters an hour and worked throughout the weekends when needed.

Another other challenge was the coordination of the trucks hauling the raw material in and the finished material out from the site. On any given day, the site would see close to 50 haul trucks bringing in aggregates and 8 eight

tankers bringing in cement, which would then be batched and delivered with end dumps: approximately 10-12 end dumps hauling between 15-20 loads per day.

Thanks to some of Ash Grove's Cement customers who have access to the raw materials locally and our carriers, helping to supply the project and ensure the coordination of the material being brought in went smoothly. A total of 10,000 cubic meters of concrete was poured and placed for the first apron of the restoration project. Dufferin will be returning next year in late spring to kick off the second apron.



A Return to Face-to-Face Events

COVID-19 restrictions and precautions had led to daily meetings, conferences, annual general meetings, and employee engagements to go virtual in the past year and a half. The fall of 2021 saw a decrease in COVID-19 infections rates, vaccine coverage over 80% for Canadians over the age of 12 and the introduction of vaccine passports.

It was with great excitement that these factors led to the return of face-to-face events. We are all too aware that we are still in the midst of a global pandemic and the risks are still

real. Gathering safely remains a top priority and saw creative solutions to reduce risks and ease nervousness with face-to-face interactions. One example of this was at the Canadian Concrete Masonry Producers Association (CCMPA) Annual General Meeting (AGM) and the implementation of "Covid Comfort" bracelets. These were waterproof, comfortable bracelets worn for the duration of the conference and allowed members to express the type of bubble they preferred. Green bracelets expressed you were comfortable with handshakes, fist pumps or high fives. Red bracelets

signaled that you preferred to keep your distance. Events were set up to be outdoors when possible, social distancing enforced and of course, masks when in close contact.

Ash Grove employees kicked off the return to face-to-face events with outdoor events at offices across the company and the Mississauga Cement Plant in late summer to reconnect after months of working from home. It was great to catch up and finally see each other in person and not through computer screens. Next, was a busy fall attending

various industry events. Some of those included the Ontario Masonry Contractors' Association AGM, CCMPA AGM, Canadian Concrete Pipe & Precast Association AGM and it was great to finally get to see our awesome customers and industry friends again. There were lots of catching up to do and we can't stress how much we appreciated getting to see many of you at these events. With more events being scheduled and resuming in the upcoming months, Ash Grove is excited to see our valuable and respected customer base face-to-face in the upcoming year.



From Our Tables to y

With the holiday season right around the corner, everything is getting festive. The holiday tunes have started to play, and the Christmas bells have started to ring. It is a great time to host get-togethers and spread happiness with friends and family. Here are a few delicious recipes from our sales team to help up lift your holiday spirits.

Murdog's Smoked Prime Rib Roast for Christmas

PREPTIME: 10 MINUTES

SMOKETIME: 4 HOURS

SERVES: 6 PEOPLE

Ingredients:

- 1 bone-in, trimmed prime rib roast, 5 to 7 pounds
- 3 tbsp. extra virgin olive oil (EVOO)
- 5 cloves garlic, minced
- 2-1/2 tbsp. kosher or coarse sea salt
- 2 tbsp. dried thyme
- 1 tbsp. freshly ground black pepper
- Wood chips, such as cherry or oak
- Water and dry red wine

Directions:

1. Take the prime rib roast out of the refrigerator 45 minutes before smoking. Place it on a clean cutting board or large roasting pan.
2. Prepare the smoker. Add wood chips to the side tray. Fill the water bowl halfway with equal parts water and red wine. Set the temperature to 250°F, open the top vent, and turn on the smoker. Allow it to come up to temperature while you prepare the roast.
3. In a small bowl, combine the EVOO, garlic, salt, thyme and pepper. Coat the roast evenly with this mixture.
4. Place a disposable roasting pan on the rack below the middle rack of the smoker to catch the beef drippings. Place the roast, fat side facing up, directly on the middle rack in the smoker above the pan. Smoke the roast for 3-1/2 to 4 hours for rare to medium rare. Check the internal temperature with a probe thermometer. You are looking for 125°F to 135°F for medium rare and 145°F to 155°F for medium to medium well. Remember to check the wood chips and water bowl every 45 to 60 minutes. Replenish both as needed.
5. Remove the roast to a clean cutting board and tent with aluminum foil. Allow the roast to rest for 15 to 20 minutes before slicing and serving. Save the pan with drippings to use in making Yorkshire pudding.
6. Slice between the ribs into individual rib steaks and serve with horseradish.

Bon Appetit!

Mike Gowan's Christmas Dip

Ingredients:

- 12 oz fresh, uncooked cranberries
- 1/4 cup green onion
- 1-2 fresh jalapeño peppers
- 2 tbsp. cilantro (optional)
- 3/4 to 1 cup sugar (according to taste)
- 1 tbsp. lemon juice
- 1/8 tsp. salt
- 16 oz. cream cheese (whipped)

Directions:

1. Use hand food chopper to chop cranberries. (It is best to not use a food processor to chop these as the cranberries liquify too much.)
2. Chop green onion, jalapeño peppers and cilantro.
3. In a medium-sized bowl, add chopped cranberries, green onion, cilantro and jalapeños.
4. Add sugar, lemon juice and salt on top of cranberry mixture and stir gently until blended.
5. Cover with plastic wrap and place in refrigerator overnight.
6. Take cranberry mixture out of the refrigerator and stir all ingredients together. Strain out all liquid using a colander with small holes.
7. Whip softened cream cheese with hand mixer until smooth (about 2 minutes) and spread cream cheese over bottom of a pie plate or 9x9 dish.
8. Pour cranberry mixture atop cream cheese and keep in refrigerator until ready to serve.
9. Pour a double vodka soda with lime and sip while spreading dip over Ritz crackers.

Enjoy!

OURS

Driver Appreciation Day at Ash Grove – Selkirk, MB

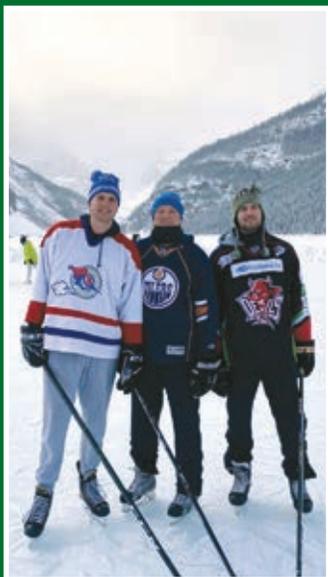
Hauling cement to our customers is an integral part of our daily business at Ash Grove, and it would not be possible without the dedication and resilience of our customers hauling, and our third-party trucking company Veitch Truck Lines.

To keep up with demand it is imperative that we work closely together to meet time constraints, and customer requests. Following and contributing to safety requirements is noticed daily, and once a year we like to officially say thank-you to all the drivers who work together with us by hosting an annual 'Driver Appreciation Day',

where we personally say thank-you with an Ash Grove package of goodies and card of appreciation.

Drivers are a crucial asset of our business, and whether they customers or haulers, there is an expectation met at our facility and we do not want our appreciation for them to go unnoticed.

Thank you to all the drivers who continue to contribute to keeping everyone safe, and take pride in being a huge part of the Ash Grove team!



The Newest Member of the Ash Grove Family

We are very excited to introduce you to the newest member of our Ash Grove family! No, it wasn't an April Fool's joke, Jasmine Samadi and her husband, Rico welcomed their beautiful daughter Kamelia to the world on April 1st, 2021. Jasmine will be off on maternity leave until September 2022, but we couldn't wait for our customers to meet Kamelia and provide an update on our growing Ash Grove family.

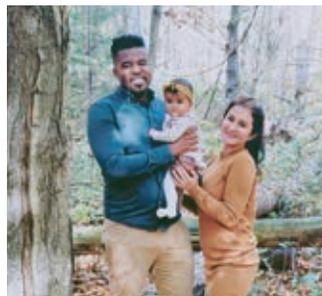
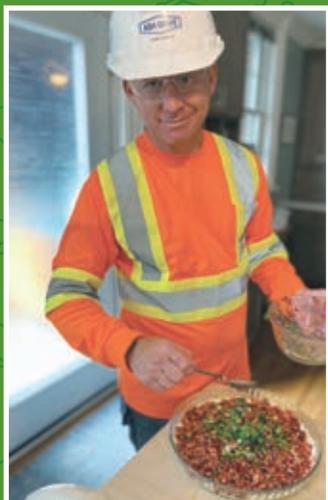


Photo Gallery

- 1** CCPPA golf tournament
- 2** CCPPA fall meeting in Blue Mountain
- 3** Meet our new co-op student Xi!
- 4** Mississauga Cement Plant employee appreciation event
- 5** CRH Canada Excellence Awards
- 6** Con-Cast site visit
- 7** CCPPA golf tournament
- 8** Luso charity golf tournament
- 9** Our sales team returns to the office
- 10** Commercial excellence meeting



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