



We keep roads clean

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Global Roadway Maintenance



William R. Bennett Bridge safe throughout the winter

Global Road Maintenance worked collectively with Protrans WRB Bridge in order to maintain a safe ice and snow free bridge deck throughout the winter. GRM supplied Antiice product, storage facilities, equipment back-up and participated in Joint Employee Training sessions with Protrans and the City of Kelowna. GRM's Spring Maintenance Program included the flushing of the bridge deck of all road salts, sand and chloride residue left over from the winter season.

"We were very pleased with GRM's performance. They went above and beyond to assist the Protrans team with our winter maintenance activities. Not only did they provide us with a sufficient supply of the Antiice product, they made a person available when we were short staffed and had a service vehicle on standby to respond within 15 minutes of any call out", said Kevin Hamakawa, Operations Manager SNC Lavalin Services Inc, WRB Bridge Operations. "It is clear that the GRM folks understand the challenges that are associated with winter snow and ice control and the importance of product selection, response time and equipment availability."



**Antiice:
safe to concrete & the environment**

Concrete in the Okanagan is showing the effects of the last three years of extreme weather fluctuations resulting in numerous "Freeze Thaw Cycles".

Concrete spalls (surface deterioration) due to moisture penetrating the surface layer and proceeding to freeze/thaw cycle (expansion) that ultimately breaks the surface layer. The surface has become weak from UV rays, improper finishing, poor quality concrete & winter maintenance.



With the frequent use of deicing product on roads, it was suggested that the deterioration of concrete slabs on a number of residential driveways in The Legacy housing development on Rutland Road was caused by the use of deicing products.

Inspect IT Commercial Inspections was assigned to review and assess the cause of certain surface blemishes. These damages were visually assessed and catalogued. Three separate concrete cores were drilled in the areas of most visible damage and analyzed in Metro Testing Laboratories Ltd. in Burnaby, B.C.

Metro was tasked with the assessment of each core with the following criteria: compressive strength; pore water ratio; homogeneity; and permeability to determine if the concrete mix was at fault; or whether it was possibly due to installation, or foreign chemical attack.

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Their report identified that the surface layer of each core was weak. This weakness can be due to chemical attack and/or over working the concrete surface when finishing. It is the lab's assessment that the **deicing product** used on the adjacent roads is **not the source** of the problem. Metro states that the product does not include magnesium, but rather a calcium based product that could not have caused the problem. In summary, Inspect IT believes that the surface damages are due to improper installation techniques.

Calcium Chloride products have as many applications as they do advantages. Antilce (calcium based with corrosion inhibitors) is a safe and environmentally friendly product that can be used year round.

- Safe to use with no material transport restrictions
- Significantly less toxins than magnesium chloride; Calcium Chloride is a common food ingredient found in beer, cheese, canned tomatoes, olives, cherries and pickles
- Less toxic to aquatic life than oil, lignosulfonate, and dish soap
- Does not bioaccumulate or have the potential to contaminate the food chain
- May be 80-90% less corrosive than road salt
- Minimal impact on water, air, plants, and wildlife
- Has a negligible effect on concrete

*Sources: 1.SGS Testing Services
 2.Midwest Research Institute
 3.American Concrete Institute's Guide to Durable Concrete
 4.British Columbia Ministry of Environment
 5.Iowa State University



www.tigercalcium.com



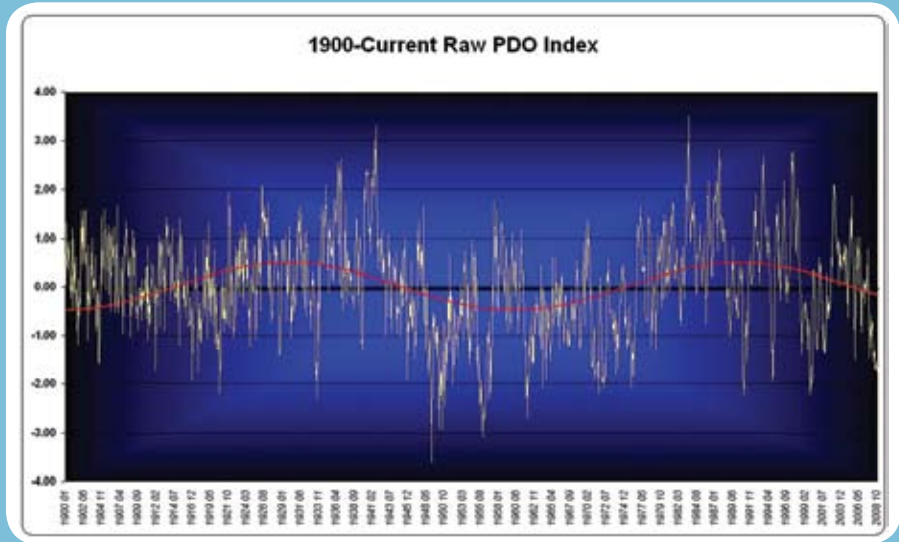
Global Roadway Maintenance

Be aware!

Frequent snowfalls and extreme winter weather are expected to become the rule rather than the exception for B.C. in the coming decades, climatologists say.

Last winter's uncharacteristic snowstorms that started in early December are evidence the region is entering a long period of lower temperatures. The natural climate shift, known as Pacific Decadal Oscillation (PDO), refers to the way winter temperatures in the Pacific Northeast appear to drop every 20 to 30 years. *"In the fifties and sixties, even into the seventies, we had horrible, incredible snowfall events"*, said David Jones, a meteorologist with Environment Canada. *"We've been in a warm phase for a long time."*

Those mild winters may be over for now. This year's extreme snow in B.C. has led researchers to believe the warm, dry phase has ended. Last year the PDO shifted to a cool, wet phase and it is expected to stay like that for the next couple of decades.



2008 had one of the coldest and snowiest Decembers in Kelowna history: 19 days and 172 hours of precipitation with freezing rain & wet flurries on well frozen ground had started the month off. January gave more snow than what is considered normal for this month... all in the first 10 days. February was the fourth coldest on record in Kelowna and it concluded with a couple of record-setting cold overnight temperatures. These overnight lows are directly related to winter's snow remaining on the ground. Environment Canada meteorologist Gabor Friczka stated that overall our winter precipitation has been below normal, but it hasn't had a chance to melt because of record-setting overnight temperatures in February.

Be prepared and budget wisely

For the past three years, we have had to deal with more extreme winter conditions than what we had been used to in the past. Global Roadway Maintenance crews were prepared and have been working diligently to remove snow from parking lots, roadways, and sidewalks.

With 18 years experience in Snow & Ice control and being a pioneer in the Pro-active Antilce programs throughout Western Canada, GRM is a reliable and knowledgeable partner when it comes to performance, customer service and budgeting. Pro-active and Reactive Sanding Programs are required to circumvent any and all liability concerns related to winter weather events. In anticipation of an increasing number of snowfall events and lower winter temperatures, budgets should be adjusted accordingly.

Note: City of Kelowna Council will increase next year's snow removal budget by \$500,000 (45%). Global Roadway Maintenance offers contracts by the hour, per occurrence or seasonal.

Pro-Active Antilce and reactive sanding programs were in place throughout the winter months.

Snow was not only pushed, but also hauled and dumped at dedicated locations. The expense of an excavator and loader was twice required to make room for more snow to be piled this past year.



New services

Currently GRM is researching the available options to offer services for Pro-active maintenance – (sealer product suitable for our climate conditions) and restoration products & techniques for damaged concrete.

These services will be added to the services that GRM is currently providing year round (commercial and residential) including:

- Deck services (e.g. equipment, pallets, storage containers, site office units)
- Material hauling (e.g. landscape and construction materials, nursery stock)
- Snow and ice control
- Spraying solutions for the purpose of dust control, street flushing, noxious weed control, and fire suppression
- Waste management (roll-off bins and recycle containers; removal of demolition and construction waste materials)



DECK SERVICES



MATERIAL HAULING



MATERIAL HAULING



SNOW AND ICE CONTROL



SPRAYING SOLUTIONS



Testimonials

"We were very impressed with GRM this year. Anytime I have talked to them, they have been very responsive. There was no sign of ice building up on any of the streets. I think the streets in Bayview are much better tended than the average city suburb! I have also heard other comments from residents that GRM has been doing a great job."

Kit Bell, Bayview, West-Kelowna

"A special thanks to the GRM crew for a great service & quick attention to our needs, particularly during a harsh winter by Okanagan standards."

Paul Ardley, Facilities Coordinator FortisBC

"My two bosses were in Kelowna and visited both of our shopping centres. They were very impressed with the snow removal and how the centres looked. They are also very happy with the level of service so far."

Celine Nordhoj, Staburn Property Group Ltd.

GRM inc.

New Clients

- Staburn Property Group Ltd - Westbank Hub Centres: Canadian Tire, London Drugs, Chatters
- Anthem Properties - Westbank Town Centre Mall and Governor's Landing
- Loblaws - Vernon and Kelowna
- BLJC - Telus North Okanagan
- GWL Realty Advisors - Central Park Shopping Centre
- SNC Lavalin Services Inc, Protrans WRB Bridge
- District of Sicamous
- District of Peachland

GLOBAL ROADWAY MAINTENANCE AND THE COMMUNITY

GRM is a proud sponsor of the Children's Miracle campaign, with Costco Wholesale, Big Brothers Big Sisters, with Okanagan Strata Management, who matched all contributions, and supporter of the Kelowna Walk for MS, in support of our Colleague Ian Hewitt's wife Michelle.

New Dealer Associates

Sage Landscaping – Kamloops
Evergreen Spray Ltd. – Vernon
Outback Nursery – Penticton
Emerald Irrigation – Penticton

New software

Prior to the next winter season, GRM will be implementing new software with the following benefits:

- Improved routing and scheduling of crews & equipment
- Improved data recording – weather, road conditions, and services performed effectively meeting all requirements for liability assurance for our clients
- More timely accounting and billing procedures
- Improved product inventory management for our dealers and suppliers



Contact information

Our experienced team is ready to assist and answer all your questions.

For our Antilce program please contact Daniel at 250-860-3693 or by e-mail: daniel@globalantiice.ca

For our year round services please call 250-878-3195 or e-mail: garth@grminc.ca
Please visit our re-designed website: www.grminc.ca

