

December 11, 2019

**The Municipality of Brockton**

(Walkerton Community Centre)

100 Scott Street, Box 68

Walkerton, ON

N0G 2V0

**Attention: Mr. Eric McDougall, Parks, Recreation and Facilities Supervisor**

**Subject: Arena Permafrost & Remedy Recommendation**

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Dear Mr. McDougall;

We are responding to a request to voice our opinion of permafrost and its effect on arena sub-structures, and associated recommendations to address permafrost.

Frost heave of arenas can be an extensive and expensive fix. As each arena facility can be unique in several ways (year built, soil condition and quality, drainage, design & general construction etc.) it is important first to understand the current permafrost accumulation at **your** facility and how much "build-up" the floor experiences after each ice season. In other words, are the 2 months of thaw time enough to alleviate the permafrost that has built up over the ice season? If you don't give the permafrost enough time to recede then eventually it just keeps building up – this is where you run into problems. But how do you know how much if any has built up – that's the question.

Our recommendation is to have a core sample or thermal imaging done. From there you will have an idea of how much build up you have. I would take 1 sample at the end of this season, then another right before next season so see how much of a thaw you get. Once you have the second sample done before next year's season and it shows permafrost, then you know for sure you have a "build-up" problem and likely aren't giving the permafrost enough time to recede completely. Once you have these hard numbers, you can make adjustments to programming to address issues, if any.

I hope this helps answer some of your questions. If you have any other questions relating to permafrost, please do not hesitate to contact us.

**Best Regards,**



**Steve Taggart**

Project Representative - Refrigeration

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