THE JOHN NIEDRA
BETTER PRACTICES WINNER ~ 2009

What's the Catch? Brampton Recycles Sand.

Using sand for winter maintenance has a lot of advantages, not the least of which is the lack of harmful environmental side effects. But as everyone who has gone on a picnic knows, it has one big disadvantage. Sand gets into everything. And when the snow melts in the spring, you are left with a major headache.

The City of Brampton is the first municipality in Ontario to recycle winter sand collected from catch basins – a program that is not only environmentally responsible but saves money too.

Brampton's winter sand recycling program has been named the OGRA's 2009 Innovation Management Practices winner.

INSIGHT

Recycling Winter Sand

Location: Brampton

Project Scope: recycling winter maintenance sand collected from catch basins

Annual Quantities:
Sand used - 8,000 tonnes
Sand recovered - 4,400 tonnes
# of catch basins - 35,000

Annual Cost Savings: $55,000

Awards: Better Practices Competition 2009 – Innovation Management Practices winner.

As part of the winter maintenance toolbox, sand can be a useful supplement to traditional de-icing chemicals. Although technically not a de-icing material since it does not melt snow or ice, it improves winter traction on hills, curves, low-volume roads, and on packed snow or ice that is too thick for chemicals to penetrate. It is relatively cheap and plentiful and since it has no harmful chemicals, it is for the most part environmentally benign. But whenever you start spreading large quantities of material, there is bound to be some environmental impact and winter sand is no exception. Washed away in the spring thaw, it increases sediment levels in local watersheds and clogs catch basins.

The City of Brampton was well aware of just how much sand gets into its catch basins.

"We have about 35,000 catch basins and each year we clean them out and send the waste material to landfill. It's an enormous amount of material, about 200 kilograms in each basin, and much of it is winter sand. So when our contractor, Flow-kleen, suggested we could recycle the sand, we thought it was well worth trying," says Derek Currie, a senior operations technician in the Works and Transportation Department.

In 2008, Brampton began a pilot program to recycle the waste collected from the catch basins.

Flow-kleen collected about 2,200 tonnes of material from the city's catch basins and took it back to its yard in Stoney Creek. The material was screened to a one-inch mesh to remove large bits of debris and then sent to a washing unit, where it was screened to a quarter of an inch to produce a clean sand slurry. Flow-kleen recovered sixteen hundred tonnes of sand, which it sent back to the city for next year's winter maintenance.

"We were really impressed with the results," says Derek. "According to our field crews, the recycled material was drier, cleaner and less prone to freezing and clumping than pit material."

The pilot project proved to be such a success that this year the city started recycling street sweepings as well. In 2009, it sent 5,229 tonnes of material to Flow-kleen for processing and expects to get back about 4,400 tonnes of winter sand.

Recycling winter sand started as an environmental project and it has certainly met that objective but that is not the only reason that Derek is enthused about the program.

"When we did the calculations we found that compared to trucking and landfilling, reprocessing the sand will save us about $55,000 a year," he says. "You can't get better than that – an environmentally responsible project and cost savings too." M