

Fundy Region Solid Waste Commission

Location: Saint John, New Brunswick

Application: Recycling & Composting

Building Series: TITAN

Building Sizes: 120' x 60' & (3) 80' x 180'



The Business of Preserving Nature

Crane Mountain Landfill is located in the Fundy Region of New Brunswick, Canada. The landfill employs 33 people and offers a recycling depot program and community composting program that is equipped with the most advanced environmental protection technology available in the solid waste industry. "It's a \$42 million dollar investment that is owned and operated by the Fundy Region Solid Waste Commission," says Chris Harned, Waste Diversion Supervisor. "Our recycling and composting program is a total voluntary program that serves 125,000 people in seven different municipalities."

The recycling and composting process is contained in four Cover-All TITAN buildings. The Cover-All buildings are positioned on a 4' thick by 5' high push wall foundation that provides a tremendous clear-span work environment for the machine operators and the 26' tall elevated conveyor system.

During construction of the concrete, trenches were molded into the floor to create positive aeration upwards from the floor for very dense product. Each building has protective equipment, respirators, air exchange systems and special bio-filters to protect workers and control odor. "We chose Cover-All buildings for a number of reasons; this is a very acidic process and extremely harsh environment, the fabric of the Cover-All buildings is not affected by the corrosive environment and the steel tube framing requires minimal maintenance. These buildings are the right buildings for this industry," says Harned.

The 'Receiving Hall' is housed in a 120' wide x 60' long Cover-All building. The organic materials are dropped on the floor where large contaminants are pulled during a preliminary search. A pay-loader loads the organic materials into an in-feed hopper and transports the materials through a sorting line to hand pick contaminants. A high power electro magnet is also utilized to further remove contaminants prior to the organic materials hitting the shredder. A conveyor transports the sorted organics to compost halls to allow the 70 day thermo-fellic process to kill pathogenic organisms and for vector reduction.

Two more 80' x 180' Cover-All buildings are used for compost halls. Machine operators move and mix carbon amendments into the organic product to control C-N ratios (carbon to nitrogen). Once a stockpile is mixed, an operator forms the stockpile into a compost windrow. Quality control personnel monitor temperature, moisture and oxygen levels within each of the eight 14' x 60' compost windrows. Each windrow is allowed 40 days to process before it is moved to the second compost hall.

In the second compost hall, the organic materials are allowed to process for another 40 days. To hydrate the organic material, a 3500-gallon reservoir of potable water is utilized to control moisture levels.



The four TITAN buildings were placed on a 4' thick x 5' high concrete foundation.



Sorting line and electro magnet remove large contaminants in receiving hall.



Enclosed conveyor transports sorted organics to compost halls.



Machine operator forms stockpile into compost windrow.

After the 40-day process is completed in the second compost hall, the organic material is placed outside for five months to complete the Meso-fellic stage. At this point, the composting product has no smell and does not attract seagulls to the site. Once the Meso-fellic process is completed the compost product is sifted through a 512-Screener to remove any final contaminants and oversized particles. The final result is 4000 metric tons of Grade A compost product ready for sale.

The fourth Cover-All building is used as a plastics warehouse.

"We are ecstatic with the results this program is providing," says Harned. "We are starting to get a lot of ICI business mostly because of tipping fees. Current tipping fees to dump organics into the compost plant are \$50 per metric ton, as opposed to \$110 per metric ton for garbage that goes to the landfill."

Building Highlights

Building Fabric

- DuraWeave® fabric is not affected by the corrosive environment and requires minimal maintenance
- Fire retardant fabric provides natural sunlight environment within the building

Custom Building Features

- Bio-filter, ventilation system and enclosed transfer conveyor contains and controls odor concerns from near-by residential community
- The concrete foundation is 4' thick x 5' high in dimension



Bio-filters protect workers and control odor.



Positive air exchange is pulled in through side air vents.



Quality control personnel monitor temperature, moisture and oxygen levels within compost windrows.



512 Screener removes remaining oversized contaminants prior to sale.