

Rapid City Biosolids and Organic Waste Facility

Rapid City, SD - USA

In 2003 the City of Rapid City, South Dakota completed a decade long process of instituting a comprehensive landfill diversion program to significantly extend their landfill life and achieve > 50% recovery of materials. After completing their outdoor green waste composting area, their Materials Recovery Facility to capture recyclables, the City focused on the **beneficial re-use of the organics remaining in the waste stream as well as the biosolids from their waste water treatment plant.** Commencing operations in May 2003, the City's compost facility is one of two biosolids and solid waste compost facilities that utilize BDP's agitated bays. Solid waste is loaded into one of two rotating drums where it is subjected to physical reduction from the tumbling action for approximately 8 hours. The biosolids are added in the drums as well to enhance the physical breakdown of the solid waste material. At the discharge end of the drums the material is passed thru an approximate 1.5 inch screen. The fraction that is > 1.5 inch is predominantly inorganic and disposed of in landfill. The fraction that is < 1.5 inch is predominantly organics and belt conveyed to the compost facility to be loaded in the compost bays. The facility incorporates nine 10 feet wide x 300 feet long bays and two 100 HP BDP agitators to co-compost 160 WTPD of municipal solid organics and 60 WTPD of biosolids. An acid scrubber is used in conjunction with a traditional wood chip type biofilter for maximum odor control. The material undergoes 28 days of active composting in the bays followed by curing for another 30 – 60 days prior to final use in agricultural and commercial operations.



Tip Floor



Compost Feedstock Material after Drum Sorting



BDP Agitator on Transfer Dolly



Combination Scrubber and Biofilter for Odor Control

Primary Compost Material	@58,000 WTPY Organic Solid Waste. 40% - 50% DS from after drum. Max particle size 1.5"
Secondary Compost Material	@ 22,000 WTPY Biosolids. Moisture content adjusted to suit drum needs
Facility Start Up	May 2003
Total Facility Size	@ 8 acres
Facility Engineer	Alliance Architects and Engineers – Rapid City, SD
Plant Contact	Mike Oyler – City of Rapid City Operations Manager
BDP Contact	Richard Nicoletti – Compost Systems Manager