Airspace is Money

By Todd Dunderdale

Overview

1. Waste Streams Where Shredding can Increase Airspace
   - MSW
   - C&D
   - Bulky Items
   - Organics
   - Tires
2. Other Realized Benefits From Shredding Waste
3. Other Ways To Save Airspace
   - Resale of Reclaimed Items
4. Dollars and Cents

MSW
- Shredding to increase compaction up to 46%
- Recovery of metal
- Recovery of plastics for fuel (Europe)
Compaction Study

- Bale Fill where there was limited airspace left on the cell
- Two piles were created from MSW received with approximate same weight and volume.
- Unshredded MSW was baled into 9 bales weighing @1500 lbs.
- Second pile was shredded and baled into only 5 bales for an increased compaction of 46%
- The bale weight also increased to roughly 1900 lbs. an increase of 26%

MSW With 2 Passes of a Landfill Compactor

C&D With 1 Pass of a Landfill Compactor

MSW After Shredding and Spreading
Steel Recovery

- Shredding to increase compaction up to 75%
- Recovery Of Metal
- Wood
- Drywall
- Asphalt Shingles

Construction and Demolition Waste

Plastic Recovery For Fuel

C&D Test

- Landfill in Oregon, Compaction with D9
- 100 Tons of material
- Shredded through Komptech Terminator 6000 HC Track
- Tonnage shredded into Roll off containers where a 4 to 1 volume reduction in volume was achieved.
- Landfill cell life extended from 5 years to 8.75 years.
New Build Housing Roll-Off Test

New Build Housing Roll-Off Test Results 56% Reduction

Bulky Items
- Couches and Mattresses
- Carpet
- Pulp Rope
- Plastics
- Asphalt Shingles

Couches and Mattresses

Before
Couches and Mattresses

Carpet

Pulp rope
30% of waste stream is organics
- Composting
- Mulch
- Spools / Wood Waste
- Fermentation
Other Benefits from Shredding

- Less Wear On Landfill Equipment
- Fewer Passes Needed To Compact
- Greater Fuel Savings On Landfill Compactor
- Ease of Moving Material
- Cell Liner Benefits
- Reduction of Scavengers
- ADC
- Disposal of Restricted Items

Other Ways To Save Airspace

- Resale Of Reclaimed Items

Disposal of Restricted Items
Financial Impact

- 50,000 TPY
- Based on 3 yards per ton incoming bulk density that’s 150,000 yards
- $30 per ton tipping fee
- $8.30 per yard airspace value
- Low estimate of 25% increase in compaction over LF compactor alone
- 25% increase in sellable airspace.
- Over 5 years that’s and increase of 90,000 cubic yards increase in available airspace
- $747,000 in increased revenue utilizing the same cell space

Thank you!

Powerscreening / Komptech Americas