



STL COMPOSTING New Developments in Bioretention Soils 2013



St. Louis

COMPOSTING

ENRICHING THE SOIL NATURALLY SINCE 1992

Current Guide lines for Bioretention Soil

- 35% Compost STA Approved
- 5% Topsoil Sandy loam
- 10% Medium Sand 0.25-0.5mm
- 50% Coarse sand 0.5-2mm
- All materials on a volumetric basis

Possible Bioretention soil additives

- Rice hulls
- Pine bark
- Water residuals
- Bottom ash
- Fly Ash
- Wood Fiber

Potential issues with additives

- Cost of material
- Testing of material
- Classification of material Regulatory
- Availability of material
- Storage of materials

Rice Hulls

- Increase permeability rate
- Source of silica
- Life span in mix short
- Little in the way of research

Pine Bark

- Availability
- Cost
- pH modification
- Life span in mix long
- Little in the way of research

Water Residuals

- Material classification Regulatory
- Storage
- Potential to retain Phosphorus
- Potential to replace percentage of sand or soil
- Improved plant growth
- pH modification

Bottom Ash

- New handling system on hold
- Availability
- Classification of material
- Storage
- On going research
 - Inconclusive at this time

Fly Ash

- Potential mixing issues
- pH is high
- Plant growth is reduced
- Storage

Wood Fines

- Size of material varies
- Make up of material varies
- Plant material growth is reduced
- On going testing
 - Inclusive at this time

Wrap up

- On going search for better Bioretention Soil amendments
- Improvements in testing methods for both Bioretention soils and amendments
- Improved performance and life of Bioretention (Rain Garden soils)
- Better understanding of compost's role in high performing Bioretention soils