Yard Waste – Additional Information

Original (April 9, 2013 Advisory Committee Meeting) Statement of Issues and Options:

Issue:
State law allows yard waste disposal in landfills that recover methane and utilize it for energy production. Increased quantities of yard waste disposal would decrease the life of the City’s MSW landfill. 3% of what is currently received for disposal at the City’s MSW landfill is yard waste; 5% of what is currently diverted from the City’s landfill is yard waste.

Options:
1) Maintain Status Quo (Seasonal Ban).
2) Allow yard waste disposal at City’s MSW landfill year round.
3) Ban yard waste disposal at City’s MSW landfill year round.

REVISED Statement of Issues and Options (for May 14, 2013 Advisory Committee Meeting):

Issue:
State law allows yard waste (grass and leaves) disposal in landfills for the production and recovery of methane gas for use as fuel. Increased quantities of yard waste (grass and leaves) disposal would decrease the life of the City’s MSW landfill. 3% of what is currently received for disposal at the City’s MSW landfill is grass, leaves, garden waste and brush; 5% of what is currently diverted from the City’s landfill is grass, leaves, garden waste and brush.

Major Options (primary): (Grass and Leaves)
1) Maintain Status Quo (Seasonal ban on grass and leaves).
2) Allow grass and leaves disposal at City’s MSW landfill year round.
3) Ban grass and leaves disposal at City’s MSW landfill year round.

Major Options (secondary): (Garden Waste and Brush)
1) Maintain Status Quo (Allow garden waste and brush in landfill year round).
2) Ban garden waste and brush disposal at City’s MSW landfill year round.

Clarifications:
- The City currently collects landfill gas (principally methane and carbon dioxide) from the 62 acres of the Bluff Road Landfill which has been capped and destroys the methane by burning it in a flare. In the very near future the methane component of this collected landfill gas will be used as a fuel source in engines that will generate electricity.
- There is no landfill gas collection system installed in the 65 acres of active operating area within the landfill. In the future, as more areas of the landfill reach final grade and are capped the gas collection system will be expanded to collect more landfill gas.
- The City’s current composting site is near capacity and will likely need to be expanded at some time in the future.
- If all yard waste (grass, leaves, garden waste, and brush) currently diverted annually from disposal were landfilled, an estimated 16,000 to 18,000 MMBTUs would be generated per year;
this represents about 3% of the 564,000 MMBTUs estimated to be generated by the entire landfill in 2012.

- Accepting grass and leaves (yard waste) into the Bluff Road Landfill would require the City to obtain approval, via a permit modification, from NDEQ.
- Accepting grass and leaves (yard waste) into the landfill is not anticipated to have significant cost implications to the current and future Bluff Road Landfill tipping fee.
- Landfill gas collection systems do not collect 100% of the methane emissions; some methane escapes to the air. Methane is a greenhouse gas considered 21 times more potent than carbon dioxide (CO2).

**Environmental Considerations**

There are limited studies from which to adequately compare the environmental benefits of various yard waste management alternatives.

- The USEPA undertook an assessment of *Solid Waste Management and Greenhouse Gases – A Life-Cycle Assessment of Emissions and Sinks*, 3rd Edition, September 2006 (http://www.epa.gov/climatechange/wycd/waste/downloads/fullreport.pdf) to examine the interrelationship between MSW (municipal solid waste) management and climate change. The general conclusion of that report was that landfilling or combustion of grass, leaves, garden waste, and brush may result in slightly less greenhouse gas emissions than composting. The study did not consider the benefits of compost used for soil conservation and management practices, or as a material with water retention capacity, which reduces the need for irrigation, and reduces the energy required for pumping water for irrigation. Nor did it account for the benefits of composting in terms of reducing the need for chemicals, (fertilizer, fungicides, pesticides), and reducing the energy required for manufacturing chemicals, and of improved soil quality and increased productivity.
- The report did include data which indicates the amount of material degradation that might occur in a typical landfill.
  - **Portion of initial carbon stored long term** (e.g., not decomposed)
    - Grass 68%
    - Leaves 72%
    - Branches 77%
    - MSW 52%

Thus, a significant portion of grass and leaves does not appear to degrade in a typical landfill.