Waste Cell 6A Construction Contract
McCommas Bluff Landfill

Briefing for: Quality of Life Committee
Presenter: Ron Smith, Assistant Director Sanitation Services
Date: January 8, 2007
Purpose of Briefing

- Prepare committee members for Council action of January 24 – proposed contract award
- Re-familiarize committee with landfill features and development
Background Info

- **McCommas Bluff Landfill**
  - Large site with 996 acres for waste
  - Accepts 1.8M tons annually – largest in Texas
  - Produces revenues from commercial haulers ($16.6M in FY06)
  - Opened in 1981; projected life to 2050
  - About 30 percent space used
  - Construct new waste cells every 2-4 years
  - Cell 6A scheduled for use in Oct 07

- Using latest technology to maximize asset
Advancing Technologies

- **Increase density of waste**
  - Maximize use of space with tighter compaction (use of heavy compactors, minimize soil use)

- **Divert reusable materials**
  - Waste concrete and asphalt – use to build miles of landfill roads and drainage structures

- **Use of GPS on landfill equipment**
  - Improve compaction by monitoring equipment passes on waste
  - Keep waste filling at optimal lines and grades
  - Reduce need for land surveyors
  - Better predict future cell construction requirements
Advancing Technologies, cont’d

- **Use of surveillance cameras**
  - Monitor various landfill activities remotely and simultaneously
  - Efficiently position resources based on customer volume & needs
  - Enhance operational safety
  - Reduce opportunity for scavenging

- **Harvest landfill gas for energy uses**
  - Decomposing waste produces methane & CO₂
  - 5 million cubic feet of gas generated daily
  - Provides enough energy to heat 70,000 homes
  - Creates future revenue stream for City
  - Possibility of tripling gas volume with Biotechnology
New waste cell construction

- To meet disposal needs for city’s residential and commercial customers
- Cell 5 has 15 months of space now (through March 08)
  - Construction of Cell 6A requires 6-8 months
  - Provide a 6-month overlap from one waste cell to next
    (in case of unforeseen construction delays, weather issues)
- Cell 6A to be ready for waste in October 2007
- Cell 6A will be first cell in the landfill to use new biotechnology techniques
Landfill Biotechnology

- Advancing technology to prolong landfill life and generate renewable energy
- How does it work?
  - Build waste cell with standard liner and upgraded leachate collection system
  - Add fluids and air via recirculation conduits
  - Collect landfill gas and send to processing plant for energy use
  - See schematic
How does it work?

- Recycled Water from Trash with Added Biosolids
- Landfill Gas Collection to Gas Plant for Cleaning and Reuse
- Liquid Storage
- Water Utility Biosolids
- Landfill Cap
- To Gas Processing Plant
- Landfill Liner
- Trash
Landfill Biotechnology – Cell 6

- McCommas Bluff is first in Texas to receive TCEQ approval for additional liquid recirculation
- Direct value of using biotechnology in Cell 6:
  - Accelerated waste decomposition
    - Provides long-term stabilization of landfill
    - Up to 30% additional airspace through settlement
  - Accelerated landfill gas generation
    - Renewable energy source
    - Enhanced revenue stream for City of Dallas
    - Very attractive energy source for future industry
Fiscal Information

- Five bidders – each provided experience and reference qualifications
- Low bid: $3,190,846 (Rodman Construction)
  - Previous cells cost per acre: $125,436 (avg)
  - Cell 6A cost per acre: $112,826
- Supplementary project – to be bid separately
  - Leachate pumps and panels: $60,000 (est.)
  - New electrical power supply: $140,000 (est.)
  - Specialized work
  - Both items support increased need for recirculation system for biotechnology cell
Timeline

Jan 24, 2007  Council award of contract
March 2007    Contractor mobilizes, begins construction
April 2007    TXU provides electrical power
August 2007   Pumps and Panels installed
Sept 2007     Construction complete; City submits completion report to TCEQ for review
Oct 2007      State reviews and approves cell liner
Oct 2007      Available for waste October 2007