Landfill Site Overview City of Denton Landfill

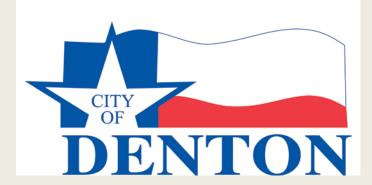


1984 - 1998

City of Denton Landfill



- Owned and operated by the City of Denton
- Opened in 1984 under permit 1590
- 32 acre original pre-subtitle D site





1998 – present

City of Denton Landfill



- Expanded to 252 acres in 1998
- 152 acre waste footprint, 14Mcy
- 30 year life
 expectancy in 1998
- 20 groundwater monitoring wells
- 24 gas monitoring wells

February 2008

Gas Extraction System

- 2007 SCS Engineers designed the landfill gas collection system
- \$1.2M system installed by Shaw Environmental

The system consists of:

- 52 vertical wells
- 20 lateral wells



June 2008

Flare Station

- Methane destruction
- Monitoring equipment
 - -Gas analyzer
 - Flow metering







December 2008

LFG-to-Energy Generating Station

- CAT engine 3520
- 1.6 megawatt generator
- DTE Biomass
 Energy

DTE Energy®



DTE Biomass Energy







Increased gas generation rate will allow for increased electric production on site

January 2009

Enhanced Leachate Recirculation (Texas' Term for Low Moisture "Bioreactor")

- Faster stabilization of organic waste
- Increased rate of gas generation
- ≤50,000
 gallons/day (avg.)
 Liquid injected
 into the waste
 pack



Public/Private Partnership for LFG-to-Energy

- Request for Proposals (RFP) process
 - Open for any possible types of LFG utilization
 - Electricity production
 - Steam production
 - Direct gas sales, etc.
- Negotiated an Agreement with DTE Biomass Energy
- 20 year term and renewal terms
- Buy-out options at various points in time or the occurence of certain events.
- Specify a date for plant start-up and full capacity production and the ability of terminate the contract if exceeded

Parties Responsibilities

• City will:

- Provide DTE with exclusive rights to LFG
- Provide a site for the facility
- Pay for the capital cost of the LFG Collection system, extraction wells, & Flare Station

DTE will:

- Provide the capital to build the generating station, monitor, manage and repair the gas collection system
- Pay the City a 12.5% royalty of gross power sales

Financing Options

- Owner may finance all or part of the project with tax exempt bonds
- Owner may wish to provide no capital funding and require the vendor to cover all costs
- Other variations can be developed through and RFP process

Permitting

- Ensure that your agreement covers each parties responsibilities for permitting
 - TCEQ's Air permit
 - TCEQ's MSW permit
- And all other required permits (Stormwater, building, etc.)

Beneficial Use of Landfill Gas

Questions?

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