# Memorandum

**CITY OF DALLAS**

Date October 31, 2014

To Members of the Budget, Finance and Audit Committee: Jerry R. Allen (Chair), Jennifer S. Gates (Vice Chair), Tennell Atkins, Sheffie Kadane, Philip T. Kingston

Subject **McCommas Bluff Landfill – Dallas Clean Energy Lease Amendment**

The Monday, November 3rd Budget, Finance and Audit Committee agenda will include a briefing related to a proposed lease amendment with Dallas Clean Energy McCommas Bluff, LLC for continuing to operate a landfill gas collection and processing facility at the McCommas Bluff Landfill. The briefing will be presented by Kelly High, Director of Sanitation Services.

Please let me know if you need additional information.

Mark McDaniel
Assistant City Manager

c: A.C. Gonzalez, City Manager
Warren M.S. Ernst, City Attorney
Craig D. Kinton, City Auditor
Rosa A. Rios, City Secretary
Daniel F. Solis, Administrative Judge
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Jill A. Jordan, P.E., Assistant City Manager
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Jeanne Chipperfield, Chief Financial Officer
Sana Syed, Public Information Officer
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# McCommas Bluff Landfill – Dallas Clean Energy Lease Amendment

Budget, Finance & Audit Committee

November 3, 2014

# Briefing Outline

- Current landfill gas collection, plant operations, and lease with Dallas Clean Energy
- Proposed Dallas Clean Energy lease amendment and expansion
- Additional lease considerations
- Next Steps

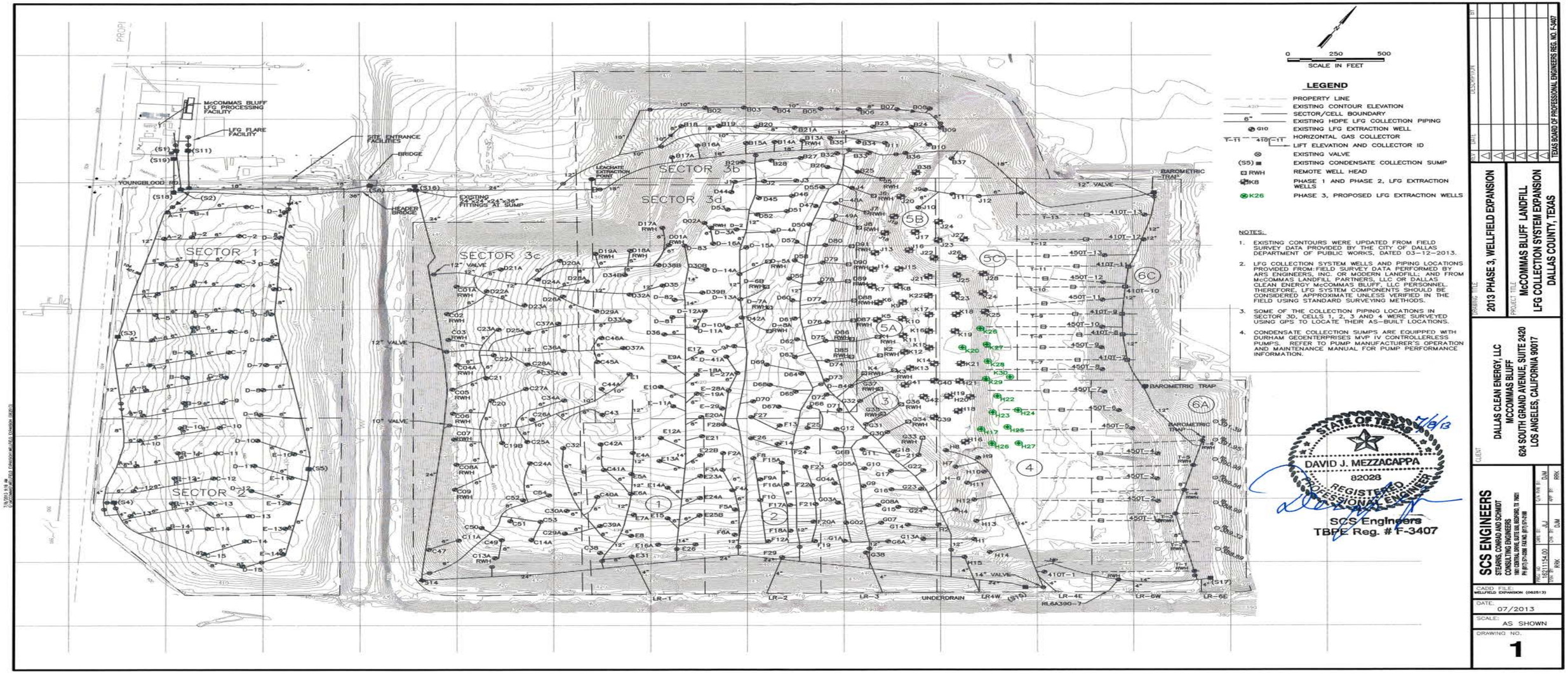
# Project Scope

- McCommas Bluff Landfill must manage and control landfill gas for safety and to remain in compliance with the EPA's Clean Air Act.
- Dallas Clean Energy McCommas Bluff, LLC (DCE) manages the collection of landfill gas through a 30 year lease which can be terminated in 2024.
- The DCE project is capable of processing 15.5 M cubic feet of landfill gas daily.
  - Produces over 5,200 MMBtus of renewable natural gas daily (31 MW)
  - City receives 12.5% of gross sales which equates to over $2M annually
  - Since 2009 the City has received over $9M

# Landfill Gas Collection System

DCE employs 3 full time operators  who maintain and tune the 460 wells that collect and send raw biogas to processing plant.

# Landfill Gas Collection System



# Landfill Gas Processing Plant

- DCE employs 5 full time plant operators who maintain the plant 24-7 with support from project owners.
- Carbon Dioxide, Hydrogen Sulfide, Volatile Organic Compounds, water and any trace contaminants are removed from raw biogas and a pipeline quality biomethane (renewable natural gas) is produced.
- Waste gas is combusted in a thermal oxidizer.
- Product gas is injected into the Atmos natural gas pipeline system.

# Moving Forward - Lease Amendment Opportunity

Issue:

- The current lease can be terminated by the City any time after December, 2024. DCE requests the lease term which is due to expire in 2024 be extended to 2034.

Reason:

- DCE currently has a customer contract to sell renewable natural gas at a premium (>$10 per MMBtu) to Shell Energy North America through 2024. DCE has the opportunity to secure an extension of this agreement through 2034 (with annual price escalations) provided DCE's lease with the City is extended to 2034 prior to December 31, 2014.

Benefit:

- This amended Shell agreement could result in estimated lease payments in excess of $25M over the extended 10 year term

# Moving Forward - Lease Amendment Opportunity

Issue:

- DCE has requested a land lease expansion by 31,347 square feet to allow for a potential expansion of the gas plant, bringing the total land lease to 126,394 square feet.

Reason:

- This will provide an area for plant expansion to increase gas processing capacity, thus, increasing revenue as additional landfill gas is available, processed and sold.

Benefit:

- With the extension DCE will be able to finance further expansion of the gas processing plant when needed – an expansion capacity of 5.5 million cubic feet per day would result in estimated additional revenue in excess of $500K annually or $5M over the extended 10 year term.

# Additional Lease Amendments Initiated by the City

- In addition to the lease extension and processing site expansion, the City and DCE have agreed to enhanced/clarified contract language and the addition of DCE responsibilities related to a lease extension.
  - Enhanced dispute resolution procedures
  - Clarification of lessee responsibilities with respect to the gas collection system and back-up power capabilities
  - Clarification & expansion of City's rights and remedies in the event of odor issues from the gas collection system or processing plant, including tightened response times for DCE
  - Addition of City lease compensation protections from the sale of landfill gas and/or landfill gas constituents
  - City will have the right to submit an offer in the event of proposed sale of the facility and to purchase excess/un-contracted gas if available and feasible

# Next Steps

- Committee recommendation regarding contract amendment
- Consideration of DCE lease amendments on the November 12, 2014 Council agenda

# Appendix

# Summary of DCE Lease Amendments

| Description | Benefit | Implications without amendment |
|---|---|---|
| Current Lease can continue or be terminated for convenience any time after December 2024 | • Renewable natural gas produced at McCommas Bluff is with Shell Energy at a price that exceeds $10.00 per MMBtu<br>• Compliance with the Clean Air Act requirements<br>• Annual revenue for the City of over $2M annually<br>• Annual DCE operation, expansion and management of landfill gas collection system (approximate value of $500K annually) | • Current lease will not allow DCE to finance a plant expansion, which could increase revenues in excess of $500K annually |
| Expand facility by 31,347 additional square feet of land (total of 126,394 square feet) and extension of lease until 2034 | • Provide for a larger gas processing site for increased gas processing capacity<br>• Increased revenue as the additional landfill gas is available to be processed and sold<br>• Allows DCE to extend the Shell agreement<br>• Renewable Natural Gas sold at a price of $10+ MMBtu, with increasing pricing, over the time period 2025-2034. Estimated revenues to City in excess of $25M over the 10 year term<br>• With plant expansion estimated additional revenues in excess of $5M over the extended 10 year term | • No additional revenue from plant expansion<br>• No premium price for renewable natural gas<br>• Potential closing of the DCE facility. The landfill would have to burn off the excess gas by flares and incur a cost to install additional gas wells, maintain well field and maintain the flare<br>• A potential $25M+ loss in lease payments and $5-10M loss in collection system expansion and operations cost incurred if DCE doe not operate after 2024 |

# DCE Project History

- In December 1994,  the City of Dallas (City) entered into a 30 year lease with a company to lease land and build a gas processing facility to recover and sell gas produced by decomposition of waste at McCommas Bluff Landfill.
  - This partnership provided a potential revenue stream and a no cost solution for the City to  meet EPA's Clean Air Act requirements.
- Three previous owners (1994-2007) were unable to successfully operate or finance the gas processing facility.
  - Market based financial arrangements for gas sales contributed to failure
- In November 2007, Dallas Clean Energy, LLC, now Dallas Clean Energy McCommas Bluff, LLC (DCE) purchased the plant and equipment from the Bankruptcy Trustee and assumed the lease.

# DCE Project History

- Between 2008 and 2011, DCE stabilized the operation of the plant and significantly expanded the gas collection system.
- In 2009 DCE was able to enter into an agreement with Shell Energy North America to sell processed landfill gas (as renewable natural gas) at a premium price to fossil fuel natural gas prices.
  - Previous plant operators relied on discounted market based rates that fluctuated significantly and were generally less than $5 per MMBtu.  The Shell Energy agreement allows for premium pricing of over $10 per MMBtu.
  - The Shell agreement has allowed for the financing, successful operation and expansion of the current processing plant facility.

# DCE Project History

- In March 2011, DCE, through Mission Economic Development Corporation, issued $40.2 million in tax-exempt bonds to pay for a complete overhaul and expansion (by 50%) of the processing facility plus an expansion of the gas collection system into new landfill cells.

- The bonds issued for DCE were the first investment grade rated bonds for a Landfill Gas energy project ever issued.

- In January 2013, the lease was amended to include an additional 7,945 square feet of land for the expanded processing facility financed by the bonds.

# DCE Project History

- Since 2009, DCE has invested approximately $7.8 million in the gas collection system at McCommas Bluff and over $40M in plant expansion and overhaul – the collection system is a critical component for controlling odors and greenhouse gas (GHG) emissions and ensuring regulatory compliance.

- From 2009 through 2014, expansions of the gas collection system resulted in estimated 1.6 million metric tons of carbon dioxide (CO2) equivalent emission reductions by capturing methane that would have been emitted from the landfill.

- Since 2009, approximately 520,000 tons of additional CO2 equivalent voluntary emission reductions were achieved through displacement  of conventional natural gas with renewable natural gas.

# McCommas Bluff Landfill - Background

McCommas Bluff Landfill, opened in 1981, is a professionally designed and managed Type I Municipal Solid Waste (MSW) landfill with:

- Engineered liners for groundwater protection
- Production of green energy from landfill gas
- Biotechnology accelerating landfill gas production
- ISO certification achieved for quality and environmental management programs (first and only landfill in the state)

# McCommas Bluff Landfill – Background

- 2,000 acres of land, approximately 900 acres permitted for landfill use and just over 400 acres has been utilized to date
- Approximately 1.4 million tons of MSW accepted annually
- Over 10 million cubic feet of landfill gas collected each day
  - Approximately 5 million cubic feet of methane is processed for sale as pipeline quality natural gas ($2.1M in royalty payments collected annually)
  - Approximately 5 million cubic feet of other landfill gases, including carbon dioxide are captured and destroyed via a thermal oxidizer

# Landfill Clean Air Act Requirements

- In 1996 the EPA established guidelines to control sources of air emissions for MSW Landfills.
  - The regulations apply to MSW landfills that have accepted waste since 1987 and with design capacities greater than 2.5 million metric tons of waste.
  - These landfills must collect landfill gas emissions and dispose of them either through open flaring or through other forms of controlled combustion.
- In 2003, the National Emission Standards for Hazardous Air Pollutants (NESHAP) extended these regulations to require the reduction of hazardous air pollutants from large landfills.