

MEMORANDUM

Agenda Item No. 11(B)8

TO: Hon. Chairperson Barbara Carey-Shuler, Ed.D.
and Members, Board of County Commissioners

DATE: January 20, 2004

FROM: George M. Burgess
County Manager

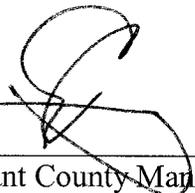
SUBJECT: Report on Landscaper Program,
Mulching, and Landfill Gas



This item is being added on to the agenda in response to a Committee directive and is therefore time sensitive.

RECOMMENDATION

It is recommended that the Board of County Commissioners accept the attached report updating the Board on the initial implementation of the new Department of Solid Waste Management Landscaper Program and providing requested responses on mulching and landfill gas.



Assistant County Manager



MEMORANDUM

TO: Honorable Chairperson Barbara Carey-Shuler, Ed.D.
and Members, Board of County Commissioners

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County Manager

SUBJECT: Report on Landscaper Program, Mulching, and Landfill Gas

This report has been prepared at the Board's request of July 22, 2003. The first section of the report contains an update on the Department of Solid Waste Management's (DSWM) revised Landscaper Program (Program) implementation. Sections two and three deal with the yard trash mulching situation in Miami-Dade County and the DSWM's experience with recovery and marketing of landfill gas, respectively.

Section I Landscaper Program

Since DSWM began accepting landscaper permit applications on July 28, 2003, the landscaping industry response to the Program has been very strong. The permitting process has gone according to the established plan and feedback from program participants and department personnel involved in this project has been generally positive. DSWM staff worked efficiently with the industry to ensure a smooth implementation of this Program. The department's Enforcement Division took on the demanding task of measuring and stickering landscaper vehicles in the field. To facilitate the permitting process, a large conference room at the DSWM administrative office was converted into a landscaper application intake center. The DSWM began to measure, weigh and apply identification stickers to landscaper vehicles on August 11, 2003. Approximately 1,550 landscaper vehicles have been processed, including 60 trailers through November 30, 2003.

As of November 30, 2003, 1,139 landscaper permits (one permit per company) have been issued, amounting to \$377,000 in permit fee revenue to the DSWM. In addition, \$192,000 in Trash and Recycling Center (TRC) coupons have been sold and disposal fees from the program have amounted to \$373,000. Total revenue since Program inception amounts to \$942,000.

Combined TRC and disposal facility deliveries by landscapers during the first three months of the program (September 1, 2003 through November 30, 2003) have decreased by 15,000 tons from 2002 figures. This three-month reduction in waste deliveries translates into a \$750,000 decrease in Collection Fund expenditures for disposal of yard trash delivered by landscapers. Projecting forward, the combined effect of increased revenues and decreased expenditures results in a \$4 million annual positive financial impact to the Collections Fund. This positive impact is anticipated to increase over time as more landscapers enter the Program and landscaper disposal fees increase to the full amount on April 1, 2004.

The fee for service phase of the program began on September 1, 2003 at TRCs, landfills and the Resources Recovery Facility. In the weeks prior to this phase, TRC and disposal facility staff were trained regarding the new program rules. For the first two weeks of program implementation enforcement officers were stationed at seven of the busiest TRCs and disposal facilities to support facility staff. The MDPD Illegal Dumping Unit was also brought in to monitor individuals that were turned away from DSWM facilities. Since program inception over 2,300 individuals have been turned away from DSWM facilities for various rule violations.

Enforcement activities have now moved into a maintenance and monitoring phase with officers responding to complaints and requests for assistance from TRC managers. Future enforcement plans include, more frequent monitoring of large illegal dump sites that may be used by landscapers, spot checks of permitted landscapers for modifications to vehicles beyond that permitted by the program rules, and continued cooperation with MDPD regarding commercial illegal dumping associated with the Landscaper Program.

A landscaper hotline (305-594-1608) has been established to take calls from permitted landscapers or others regarding Landscaper Program implementation problems. To date 107 calls have been received on this line and an additional 1,828 Landscaper Program related calls have been received on the main departmental telephone line. A meeting with industry representatives is planned for January 2004. At this meeting the DSWM will review Program implementation thus far and solicit suggestions on ways to make the Program better.

Program Enhancements

- TRC coupons are now available by mail.
- The DSWM plans to offer a mail-in landscaper permit renewal option for next fiscal year.
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Section II Mulching

The Department of Solid Waste Management yard waste mulching program ("MetroMulch") consisted of transport of clean yard waste, received either at the disposal sites directly or at TRCs to a central mulching facility. Material was mulched and transported back to the TRCs for distribution to residents, free of charge. In the early part of 1996 the Department of Agriculture and Consumer Services (DOACS) met with DSWM officials regarding mulching and the potential to spread citrus canker. The citrus canker inoculums generally die rapidly without a citrus host but under certain conditions can remain viable in non-citrus material or plant debris. As an outcome, the program was suspended until such time as the quarantine is lifted from Miami-Dade County.

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Regulatory Issues

Both State (Chapter 5B58 FAC) and Federal Regulations (Title 7 CFR 301.75) regulate movement of plant clippings and yard debris within, into, and out of the quarantine zones. Certain procedures apply regarding transportation and decontamination. Plant materials must be covered during transport and all personnel, equipment, trucks, and tools have to be decontaminated. Decontamination of equipment is generally to be performed in the presence of an inspector and employs certain chemical disinfectants (sodium hypochlorite or quaternary ammonium chloride), high-pressure hot water/detergent wash, or steam wash. Personnel and their clothing must also be disinfected using approved methods. Citrus materials from a quarantine area must either be burned or buried. DOACS contractors, following the decontamination and handling procedures, generally handle citrus waste in Miami-Dade County. Commercial nurserymen are required to enter into compliance agreements pledging to comply with the requirements for handling and disinfection of equipment and personnel working in the quarantine areas.

Both DOACS and United States Department of Agriculture (USDA) officials contacted by the DSWM for this report strongly advised against resumption of the "MetroMulch" mulching program since MetroMulch patrons, and their equipment, DSWM personnel, collection, processing and transportation equipment would all have to be disinfected and inspected as prescribed in the regulations. A number of outbreaks throughout the state, including outbreaks in Brevard and Orange Counties, have been directly linked to homeowners transporting infected material out of Miami-Dade County. Notwithstanding the above, some private and municipal mulching operations are active in the County. It is presumed that strict control measures are employed at these facilities in order to prevent the spread of citrus canker.

Mulching Facilities in Miami-Dade County

The Florida Department of Environmental Protection (FDEP) maintains a list of yard trash processors. Department of Environmental Resources Management (DERM) permits mulching facilities in the County. According to the latest reports from these agencies, there are a combined total of six FDEP yard trash processing/DERM mulching facilities in operation in Miami-Dade County. Each facility is listed below with its rated capacity and operational status.

1. EPS Organics – This facility is currently in operation and has a permitted capacity of 100-499 tons per day (TPD). This firm accepts only clean yard waste and produces a wood chip fuel, compost and decorative mulch.
2. Florida Wood Recycling (FWR) – The facility is currently in operation and has permitted capacity of 100-499 TPD. This firm accepts yard waste and source separated clean wood waste for production of wood chip fuel and decorative color mulches.
3. JW Dawson – In permitting with DERM. Proposed capacity is 100-499 TPD.

4. City of Hialeah –Currently the City is processing 50 tons per month (approximately 2 TPD). The permitted capacity is 0-99 TPD. The feedstock is green (vegetative) waste collected by City trash crews from residential collection routes. The waste is processed into mulch which is available free of charge to interested parties.
5. City of Homestead - The City has not mulched anything this year. The permitted capacity is 0-99 TPD. The City processes only clean yard waste collected by its crews from the residential customers.
6. City of Miami – The City mulched 558 tons of yard waste in 2002 or about 2 TPD. The facility is in operation and has a permitted capacity of 0-99 TPD. The City processes yard waste from its service area. The resulting mulch material is used for compost.

Section III Recovery and Marketing of Landfill Gas

Miami Dade County owns, maintains and operates three (3) active landfills, namely South Dade Landfill (SDLF), North Dade Landfill (NDLF) and Resources Recovery Ashfill (RRLF). Both SDLF and RRLF are Class I (garbage) landfills, while NDLF is a Class III (Trash) landfill. RRLF accepts only ash from our Resources Recovery Facility. In addition to the active landfills, the County monitors and maintains a closed landfill, known as Main Landfill (MLF) (a.k.a. 58 St. Landfill), located between NW 87th and 97th Avenue, just north of NW 58 Street.

As noted earlier, RRLF accepts only ash and does not produce any landfill gas (LFG). The other three (3) landfills, SDLF, NDLF and MLF do produce landfill gas. During the last two decades, the County and its consultants performed several gas studies for these landfills to determine the feasibility of extracting gas from each facility to generate revenue. The studies have consistently concluded that both MLF and NDLF are not economically suitable for landfill gas to energy projects based on the currently available technologies, due to the reduced amount of gas available for beneficial end use. A list of major DSWM landfill gas studies is included at the end of this section.

Main Landfill

The MLF is currently closed and has a permanent passive gas collection system. Based on several studies, it was found that this facility does not produce an adequate quantity of gas to be viable for the construction of an active system and therefore, conversion of this passive system to an active system is not recommended. The following excerpt from Page 6 of "Landfill Gas-to-Energy Evaluation-Phase II, 58St. Landfill" by EcoGas Corporation, January 5, 1999, illustrates the above finding:

“Data found in this investigation (Phase II) supports the conclusions reached in Phase I listing this landfill as a unfavorable candidate for landfill gas-to-energy at the present time based on currently available technology. Although it is possible that additional gas volume can be collected from [the] older portion of the landfill to supplement Zone production, the benefit from additional gas will likely not justify the expense.”

North Dade Landfill

NDLF has two (2) cells, known as west cell and east cell. The east Cell is currently operating and accepts waste. The west cell was originally closed with a passive gas venting system. Due to regulatory requirements the passive gas venting system was recently retrofitted to an active gas extraction system, while a new active system has been built into the east cell. As per regulatory requirements, the extracted gas is currently being piped and burned in an enclosed flare. The DSWM is monitoring the gas flow and other factors as recommended in page 26 of the “Passive Gas Flare Study for North Dade Landfill” , by Stone & Webster Corporation, May 1994. The monitoring data will be evaluated to determine the feasibility of installing a landfill gas to energy facility. Excerpts from the referenced study are presented below:

“The existing passive flares at the North Dade Landfill were evaluated to determine their effectiveness in controlling landfill gas odor and emissions. Based on the evaluation, it has been concluded that the passive flares are ineffective and that an active system with an enclosed flare would be the optimal solution in odor and emission control.”.....

“A geosynthetic cap was considered to determine if it would be a more effective cover design. Due to the high cost associated with the geosynthetic cap, the reduced methane generation rate due to less infiltration of water into the refuse, and the demonstrated performance of a crushed limerock cover, a geosynthetic cap is not recommended.”

South Dade Landfill

Several investigational studies were conducted to determine the feasibility of marketing SDLF gas to generate revenues for the County. All of these studies consistently concluded SDLF is a potential favorable candidate for economical gas extraction projects.

Accordingly, a gas collection system, including 17 gas wells, a transmission system, 2 blowers and a flare were designed and constructed for SDLF Cells 1 & 2. An RFP was developed and issued in 1996 to procure a vendor for extraction of LFG from Cells 1 & 2 as well as from Cell 3 (Request For Proposal for Landfill Gas Recovery At South Dade Landfill, October 1996 DSWM).



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Only one Company, EcoGas, responded to the RFP. A long-term (20-year) agreement was signed with EcoGas in late 1996 (Lease Agreement to Develop Landfill Gas between DSWM and EcoGas, GSF Corporation 1996). In accordance with the terms of this agreement, the County received an initial payment of \$500,000 and was to receive \$5,000 a month for the full term of the agreement. After four (4) years of operating and maintaining the County's LFG system at SDLF without having found a purchaser, EcoGas was forced to default on its agreement with the County.

EcoGas explored several possibilities to sell the LFG to a 3rd party, including the Miami-Dade Water and Sewer Department (WASD), but was unable to sell the gas. EcoGas ultimately transferred the contract to a company known as Dade County LGP, L.L.C. (a.k.a. Montauk). This company (Montauk) could not find an entity to buy the landfill gas either and ultimately abandoned the Contract on December 31, 2001 citing lack of success in installing a beneficial use. Since Montauk abandoned the project in December 2001, there has been little interest expressed by the LFG industry to lease and operate the SD LFG system, although recently a company from Spain performed an economic analysis to determine if it was feasible for them to assume the Contract, but concluded that it would not be profitable for them.

Currently, the LFG at SDLF is being flared in accordance with the Federal and State permit requirements. In addition to the 17 wells on Cells 1 & 2, the County and EcoGas installed 17 wells on Cell 3. The County is planning an additional 19 wells on Cell 3 bringing the total number of wells to 53.

At this time, the DSWM and WASD are evaluating the energy saving advantages and economic feasibility of constructing a pipeline connecting the SDLF gas collection system to the WASD South Dade Treatment Facility, in order to harvest the gas as a co-fuel for three - 900 KW Digester gas fired generators that WASD owns and operates. If successful this project would reduce the Electric bill at the WASD Plant and generate revenue for the DSWM.

List of Major DSWM LFG Studies

Landfill Gas Study for the 58 Street Landfill Site, Stone & Webster, September 1994

Dade County Landfill Gas Analysis, June 8, 1995, Self Services.

Reports of Findings-58 St. Landfill Gas-to-Energy Evaluation, EcoGas Corporation, April 8, 1998.

Landfill Gas-to-Energy Evaluation-Phase II, 58 St. Landfill, EcoGas Corporation, January 5, 1999.

Passive Gas Flare Study for North Dade Landfill, Stone & Webster Corporation, May 1994.

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Dade County Landfill Gas Analysis, June 8, 1995, Self Services.

Design Plan Technical memorandum, Landfill Gas Collection and Treatment System, North Dade Landfill, ATC Group, January 2002.

North Dade Landfill Leachate Pre-Treatment Project, Westhorpe & Associates, March 2001.

Landfill Gas Management Plan for the South Dade Landfill, March 1989, PBS&J.

Gas Recovery System for Cells 1 and 2, May 1991, Brown and Caldwell.

Landfill Gas Recovery Study for the South Dade Landfill, March 1994, Stone & Webster.

Dade County Landfill Gas Analysis, June 8, 1995, Self Services.

Request For Proposal for Landfill Gas Recovery At South Dade Landfill October 1996 DSWM.

Lease Agreement to Develop Landfill Gas between DSWM and EcoGas, GSF Corporation 1996.