

CS-12-115

VIA E-MAIL ONLY

December 3, 2012

993-3928.110

Mr. J. Scott Herring, PE
Public Works Director
West Nassau Landfill
46026 Landfill Road
Callahan, FL 32011

**RE: PROPOSAL TO PROVIDE ENGINEERING SERVICES
LANDFILL GAS COLLECTION AND CONTROL SYSTEM
ADJUSTMENTS AND MONITORING, REPORT PREPARATION AND
CONTINUING O&M
WEST NASSAU LANDFILL
NASSAU COUNTY, FLORIDA**

Dear Mr. Herring:

Golder Associates Inc. (Golder) is pleased to submit this cost proposal to the Nassau County Board of County Commissioners (Board) for continuing to provide professional services associated with landfill gas collection and control system (GCCS) monitoring and adjustments, preparation of the semi-annual reports as required under 40 CFR 60, Subpart WWW – New Source Performance Standards for MSW Landfills (NSPS), and continuing operation and maintenance (O&M) of the LFG system at the West Nassau Landfill (WNL). This work is required to meet the NSPS regulations associated with the operation of the LFG system; these regulations for the site were effective March 1, 2007. This cost proposal provides an overview of the regulatory requirements and site background, Golder's proposed scope of services, schedule, cost estimate, and terms and conditions. Golder has prepared this cost proposal for review by the Board at one of the December 2012 meetings.

BACKGROUND AND REGULATORY REQUIREMENTS

The GCCS at the WNL currently utilizes an open candlestick flare as the permitted air pollutant control device. This device is associated with the operation of the GCCS. The flare was installed in February 2002, ahead of the NSPS (40 CFR 60, Subpart WWW) regulatory timeline. In late 2006 and early 2007, the GCCS underwent a major expansion in order to comply with 40 CFR 60, Subpart WWW - NSPS. Since March 1, 2007, the site has been required to comply with NSPS regulations, including monitoring and reporting. Note that Golder personnel will complete and submit (each week that a site visit was conducted) to Nassau County the Site Visit Checklist that was developed in 2012.

SCOPE OF SERVICES

Task 1: Monitoring and Adjustment Services under NSPS and GHG Reporting Rule

Golder has been contracted by Nassau County to provide routine monitoring and balancing services for the GCCS since the 2006 calendar year. The current (2012) work order covers these services through the end of December 2012. Therefore, the scope of work under this task is to continue to provide the required monitoring and balancing services for the GCCS for the 2013 calendar year.

The monitoring and balancing services provided will be similar to those provided in 2012. The well field consists of 50 gas extraction wells (48 under NSPS requirements) and 12 connections (tie-ins) to the leachate collection system cleanout risers; each of these will be monitored and adjusted on a monthly

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basis. During the monthly monitoring events, the flare station will also be monitored and adjusted as needed.

Based on the results of the wellfield monitoring, there may be the need for follow-up work, generally including re-checks of the data collected and any adjustments or corrections made. For planning and costs estimation purposes, Golder assumes that one day per month will be spent remonitoring the gas extraction wells or tie-ins that were out of compliance during the initial monthly monitoring event. Note that this task does not include any repairs or modifications made to the gas extraction wells or header pipe resulting from landfill operations such as mowing the grass and maintaining the cover. Additionally, this task does not take into account additional monitoring which may be required during the start-up of a landfill gas beneficial use project. The non-routine O&M functions will be covered under Task 3.

Additionally, weekly greenhouse gas (GHG) monitoring is included to meet the requirements of the GHG Monitoring Regulations.

Task 2: Quarterly Surface Methane Monitoring

NSPS regulations require the surface of the landfill that is covered by the GCCS to be monitored quarterly for methane concentrations. Procedures from US EPA Method 21 and the NSPS will be followed. Generally, the monitoring will be performed along the surface of the landfill at 30-meter spacing. The monitoring probe will be kept within 2 - 4 inches of the landfill surface while continuous sampling is performed. Results from the surface methane monitoring will be included in the semi-annual NSPS reports submitted to the FDEP (see Task 6).

In the event of an exceedance, landfill personnel will be notified and corrective actions must be implemented. Corrective actions may include, but are not limited to the following: the adjustment of gas extraction wells in the vicinity of the exceedance, the placement of additional cover soil, the repair of final cover geomembrane boots, and the repair of GCCS components. Remonitoring will be conducted in accordance with NSPS (10-day and one month). During any quarter, if an area has three failures, the GCCS must be expanded within 120 days of the initial exceedance. An alternative timeline or remedy may be submitted to the FDEP for approval.

For purposes of planning and estimating the associated costs for this task, Golder assumes that for each quarter, one 10-day and one 1-month remonitoring event will be required. Any corrective actions beyond adjustments to the gas extraction wells or any repairs to GCCS components will be covered under Task 3, as would any request for alternate timeline or remedy to FDEP.

Task 3: Non-routine O&M and Repair Services

The scope of services to be provided under this task includes inspections and maintenance of various components of the system on a regular basis as well as minor repair and maintenance work. The following provides a list of the inspections and checks that are considered a necessary part of the operation and maintenance of the system:

- Quarterly check of the blower shaft couplers, alarms, and actuator valves for proper operation and signs of wear and damage;
- Annual preventative maintenance of the flame arrestor and knock-out pot;
- Follow-up visits required as a result of exceedances at an extraction well(s) or flare, in addition to the one follow-up visit that is included under Task 1; and
- Follow-up visits required as a result of exceedances during surface methane monitoring, in addition to the 10-day and one month remonitoring events that are included under Task 2.

Additionally, minor repair or maintenance work identified during the routine inspections or as identified by site personnel will be performed under this task. Golder assumes this work to be of a non-emergency nature, and can be performed in a planned fashion or as it is encountered during the inspections. This

work could include items such as servicing installed pumps associated with the GCCS, servicing of the two standby air compressors, flexible coupling adjustment; resetting of pipe supports; replacement of torn, damaged or worn flex hoses; the pumping of water from gas extraction wells that do not have permanently installed pumps; or replacement of worn or clogged sample ports.

Also, on a case by case basis, Golder (and, as needed, subcontractors) can provide small construction/repair services such as:

- Short runs of vacuum header lateral line piping fabrication and installation;
- Adjusting well head height;
- Repairing vacuum line or well casing breaks;
- Replacing/repairing well heads;
- Changing out blowers, air compressors, etc; and
- Performing electrical troubleshooting/repair on flare/blower systems and controls.

Generally, the small construction/repairs that are anticipated will be items that are discovered during the routine monitoring and balancing and/or inspections/checks described under Task 1. Because some of the work under this task is based on operational needs, replacement of worn or damaged material, and/or field conditions that can vary from month to month, the estimated effort is difficult to predict. We have based the required effort for this task based on the effort required over the past 5 years of activity, experience at similar facilities. Note that we have reduced the budget on this task by approximately 10% (from last year) due to the improvements that were made on the GCCS associated with the Final Closure Construction at the facility.

Task 4: Emergency Response Services

Unscheduled emergency services include events that require immediate response. These could include, but are not limited to:

- Emergency call-out by Nassau County personnel;
- Main header line breaks (resulting in no gas flow to the blower/flare station or excessive atmospheric infiltration);
- Odor complaints;
- Loss of flare ignition;
- Cleaning/pumping of sumps;
- Significantly reduced flow rates; and
- Surging vacuum.

Based on our recent task orders, Golder assumes that Nassau County personnel will first respond to system alarms such as flare outages or system damage. In the event that site personnel cannot effect repairs or re-start the flare, Golder may be contacted and will respond within one business day of such a call and will be available for emergency services twenty-four hours per day, seven days per week, for the duration of the contract schedule. If the emergency response results in the need for additional repairs or replacement of equipment or significant amounts of material, the necessary work would be conducted under Task 3, Non-routine O&M and Repair Services.

Task 5: NSPS Semi-Annual Reports

In accordance with 40 CFR 60.757(f), an affected facility must submit semi-annual reports to the FDEP. Under this task, Golder will prepare the semi-annual reports that will include the following items:

- Value and length of time for exceedance of applicable parameters monitored under §60.756(a), (b), (c), and (d);
- Description and duration of all periods when the gas stream was diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756;
- Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating;
- All periods when the collection system was not operating in excess of 5 days;
- The location of each surface methane exceedance of the 500 ppmv concentration as provided in §60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month; and
- The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of §60.755.

In addition to the NSPS semi-annual report, a semi-annual Startup, Shutdown, and Malfunction (SSM) Report must be submitted to the FDEP. This report will be prepared by Golder and submitted with the NSPS Semi-Annual Report. This report will include the number of SSM events and whether or not the SSM Plan procedures were followed during the SSM event. In the event an applicable emission limit was exceeded and SSM Plan procedures were not followed, the SSM Plan will need to be revised to address this issue. Revisions to the SSM Plan (if required) will be covered under a separate cost proposal.

Task 6: GHG Reporting

Under this task, Golder will prepare and submit the report associated with the calendar year 2012 GHG monitoring. Golder has provided these services for the past two years and has experience with the Electronic GHG Reporting Tool (e-GGRT) website and the associated spreadsheets and data requests. This report is anticipated to include the GHG monitoring results from 2012. Once any changes have been issued (by USEPA, if needed), Golder will prepare and submit the report, and request any required certifications to be completed by Nassau County. This report is expected to be due by March 31, 2013.

SCHEDULE

Work under this task order will begin on January 1, 2013. The semi-annual reports are due to the FDEP by July 30 and January 30, covering the previous six-month period. The monitoring and maintenance will be conducted as required.

COST ESTIMATE

Golder's cost estimate to complete the work as described in the above scope of services is \$104,931, which is a \$4,470 reduction from services provided in 2012. A detailed breakdown of the costs for each task and the labor and expenses estimated are included in the attached Table 1. Generally, we have estimated the effort and costs required based on the previous 5 years at the site and on our experience at similar sites. We have considered the recent improvements to the GCCS associated with the Final Closure Construction at the facility and we have reduced the budget on Task 3 (Non-Routine O&M and Repair Services) by approximately 10% (from last year) due to these improvements. As we have done in the past, costs will be based on time and materials and we will notify Nassau County when the overall project budget is nearing its limit. Additionally, note that if the effort is less than estimated, Nassau County is only invoiced for the work performed.

Golder proposes to perform this work on a cost reimbursable not to-exceed basis in accordance with labor and unit rates shown on the attached table. We will be using Golder (Jacksonville Office) standard rates for 2012. Also, because the majority of the work under this task order is field-oriented, we will not include the Office Services Fee for this task order. Therefore, there will be individual charges for items such as photocopies, AutoCAD use, etc.; it is expected that most of these charges will be incurred under Tasks 5 and 6. Direct expenses, such as shipping costs, will be marked-up 12 percent for administrative

purposes. Travel and communications costs (except for specific field activities, as estimated in Table 1) will not be billed to Nassau County as stated in our August 1998 proposal. The cost estimate will not be exceeded without prior authorization from the Board.

TERMS AND CONDITIONS

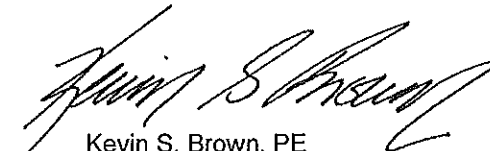
This work will be performed under the Agreement for Consulting Services between Golder and Nassau County, dated February 22, 1999.

Golder appreciates this opportunity to provide our services to Nassau County. If you have any questions regarding this cost proposal, please do not hesitate to call.

Sincerely,

GOLDER ASSOCIATES INC.


Don E. Grigg
Senior Project Engineer


Kevin S. Brown, PE
Senior Consultant and Principal

Attachment

DEG/KSB/veh

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TABLE 1

**Cost Estimate
2013 GCCS Adjustments, Monitoring, O&M, and Reporting
West Nassau Landfill
Callahan, Nassau County, Florida**

LABOR		LABOR CATEGORY AND RATE										TOTAL HOURS	SUBTOTAL LABOR
		Practice Leader \$200	Senior Consultant \$180	Senior Engineer \$150	Sen. Proj. Engineer \$135	Staff Engineer \$95	Engineer I \$80	Drafting \$90	Senior Technician \$93	Staff Technician \$83	Senior Admin \$65		
TASK	DESCRIPTION												
1	GCCS Adjustment and Monitoring	6	0	0	52	0	0	0	0	356	12	426	\$38,548
2	Quarterly Surface Methane Monitoring	0	0	0	8	0	0	0	0	40	4	52	\$4,660
3	Non-routine O&M & Repair Services	6	0	0	40	0	0	0	24	72	12	154	\$15,588
4	Emergency Response	4	0	0	8	0	0	0	8	16	2	38	\$4,082
5	NSPS Semi-Annual Reports	6	0	0	24	0	32	0	0	0	8	70	\$7,520
6	GHG Reporting	2	0	0	20	0	16	0	0	0	2	40	\$4,510
TOTALS:		24	0	0	152	0	48	0	32	484	40	780	\$74,908

EXPENSES		Field Vehicle (day) \$90	Rental Car Site Visits (day) \$60	Field Equipment and Materials (est.)	Mileage (mile) \$0.550	Shipping Costs (est.)	AutoCAD Charges (hr) \$20	Photocopies (pg.) \$0.15	Color Copies (pg.) \$2	Drawing Reproduction (est.)	Office Services Fee (7% of Labor)	Subcontractors	SUBTOTAL EXPENSES
TASK	DESCRIPTION												
1	GCCS Adjustment and Monitoring	76		\$2,000	500	\$500	0	200	0	\$0	\$0	\$0	\$9,645
2	Quarterly Surface Methane Monitoring	8		\$840		\$200	0	0	0	\$0	\$0	\$0	\$1,760
3	Non-routine O&M & Repair Services	12		\$3,500		\$1,000	0	150	0	\$0	\$0	\$10,000	\$15,603
4	Emergency Response	6		\$1,000		\$200	0	100	0	\$0	\$0	\$0	\$1,755
5	NSPS Semi-Annual Reports	0		\$0	150	\$300	0	1,600	24	\$200	\$0	\$0	\$871
6	GHG Reporting	0		\$0	0	\$75	0	500	20	\$200	\$0	\$0	\$380
TOTALS:		\$9,180	\$0	\$7,340	\$358	\$2,275	\$0	\$383	\$88	\$400	\$0	\$10,000	\$30,023

COST SUMMARY				
TASK	DESCRIPTION	SUBTOTAL LABOR	SUBTOTAL EXPENSES	TASK TOTAL
1	GCCS Adjustment and Monitoring	\$38,548	\$9,645	\$48,193
2	Quarterly Surface Methane Monitoring	\$4,660	\$1,760	\$6,420
3	Non-routine O&M & Repair Services	\$15,588	\$15,603	\$31,191
4	Emergency Response	\$4,082	\$1,755	\$5,837
5	NSPS Semi-Annual Reports	\$7,520	\$871	\$8,391
6	GHG Reporting	\$4,510	\$380	\$4,900
TOTALS		\$74,908	\$30,023	\$104,931