

Golder Associates Inc.

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VIA EMAIL (to Beth McDonald) AND U.S. MAIL

August 19, 2003

993-3928.48

Nassau County
P.O. Box 456
Fernandina Beach, Florida 32034

Attention: Nassau County Management Committee:
Ms. Vickie Samus, Chairman, Board of County Commissioners
Mr. Chip Oxley, Clerk of the Court
Mr. Michael Mullin, County Attorney

03 AUG 19 PM 3:14
COUNTY COMMISSIONERS
OFFICE

**RE: COST PROPOSAL FOR ENGINEERING SERVICES
ASSOCIATED WITH PARTIAL CLOSURE AND
LANDFILL GAS SYSTEM EXPANSION
SOUTHWEST CORNER
WEST NASSAU LANDFILL
NASSAU COUNTY, FLORIDA**

Dear Management Committee:

Golder Associates Inc. (Golder) is pleased to submit this cost proposal to the Nassau County Board of County Commissioners (Board) for providing professional services associated with the partial closure and landfill gas (LFG) system expansion in the southwest corner area of the West Nassau Landfill. Based on previous permitting work for the County, the services under this cost proposal will be provided by both Golder and our teaming partner S2Li. This cost proposal includes the preparation and submittal of an Intermediate Permit Modification Application to the Florida Department of Environmental Protection (FDEP), preparation of construction bidding documents, and services during the contractor bidding process. This cost proposal does not include oversight during construction of the system or preparation of a certification report on the construction. A cost proposal for that work will be provided to the Board once a construction schedule can be better estimated. The following sections include a background on this project, the scope of services to be provided broken out by task, an estimated schedule, cost estimate, and terms and conditions.

BACKGROUND

There are several factors involved in recommending that the southwest corner of the active landfill be closed with the final cover system and that the LFG system be expanded in this area. As background, this area of the landfill has been the source of concern with FDEP as evidenced by a series of inspections and subsequent warning letters in 2001. The concerns (not strictly limited to the southwest corner) included excessive erosion, stormwater management, and

APPROVED

DATE 8-25-03 JAB

exposed waste. These issues were apparently addressed to FDEP's satisfaction at the time, but the area remains a constant source of maintenance to control erosion and stormwater. Based on these factors, the installation of the final cover in this area (which will include drainage controls and a vegetative layer with grass cover to provide erosion control) is recommended to reduce maintenance efforts and costs.

Additionally, the initial LFG extraction system was installed in this area as part of a contamination assessment required by FDEP to remediate groundwater contamination within the slurry wall in this area of the landfill. As planned, the gas wells installed in this area are located only on the perimeter of the landfill. Several factors are involved in the recommendation to expand the system in this area. First, the wells in this area were installed with less screened area (less area to collect gas) because the waste was not up to grade at the time of installation. This has resulted in less gas extraction than originally intended, so additional wells would be of benefit. Second, we are aware (and have conducted an evaluation) of one well located in this area that is not functioning effectively because of perched water within the landfill; this also has resulted in less gas extraction than planned. The solution to this problem may be replacement of the well. Third, the installation of the final cover in this area will increase the need for extraction of the gas because the gas that has been escaping through the temporary cover that is in place will no longer be able to escape. Fourth, because the wells were installed before the waste was up to grade, the associated piping to convey gas and condensate is now very deep within the landfill and access for repair or maintenance is limited (if not impossible). Finally, the combination of less extraction than planned on several fronts and several operational shut-downs that allows continued gas migration out of the landfill has resulted in slower than anticipated remediation of the groundwater in this area. As a result, we believe an expansion of the system is warranted and a combination of this effort with the final closure effort is also cost effective.

SCOPE OF SERVICES

Task 1000 – Intermediate Permit Modification Preparation

In general, the area to be partially closed covers approximately 11 acres along the western and southwestern sides of the active West Nassau Landfill; the LFG system will also be expanded within this general area. This task includes the preparation of the permit modification application, the closure design, the LFG extraction system design, submittal of a draft application to County staff for review, and submittal of the package to FDEP and addressing comments from the FDEP on the application. To better define the scope of services to be provided, this task has been further divided into subtasks, as detailed below. We have assumed that the County will provide the permitting fee that is required to be submitted to FDEP with the application. This fee will be \$5,000.00 to be paid directly to FDEP at the time of the submittal of the application.

Subtask 1001 – Project Initiation Meeting

Golder/S2Li project team members will meet with County staff in Nassau County to discuss the project schedule, design considerations, permit requirements, and any contractual issues.

Subtask 1002 – Permit Application Preparation

Golder/S2Li will prepare a Solid Waste Permit Application Report as required by the Chapter 62-701, F.A.C. for the closure of the west and southwestern slopes of the landfill and the expansion of the LFG system. Parts A, B, M, and O through T will be addressed. Facility

information that was previously submitted to the Department to support the permit, and which is still valid, will not be re-submitted. Portions of the application not re-submitted will be marked "no substantial change" on the application form. The report will include the following sections from the rules:

1) Part A - General Information

Appropriate data for these sections of the permit application will be typewritten on the appropriate electronic application form.

2) Part B - Disposal Facility General Information

Appropriate data for these sections of the permit application will be typewritten on the appropriate electronic application form.

3) Part M - Water Quality and Leachate Monitoring Requirements (62-701.500, F.A.C.)

This section will be marked as "No substantial change".

4) Part O - Gas Management System (62-701.530, FAC)

1. The design of the LFG expansion will be prepared, shown within the permit application, and referenced on the application form.

2. Reference will be made to the locations of the design details and plans.

3. Remediation plan will be marked as "No substantial change".

4. LFG recovery facilities will be marked as "No substantial change" or "Not applicable". However, an updated overall design plan will be prepared to reflect the LFG collection system changes on the west and southwestern slopes.

5) Part P - Landfill Final Closure Requirements (62-701.600, F.A.C.)

1. Closure schedule requirements will be marked as "No substantial change" for the entire landfill, however a schedule for the west and southwestern slope closure will be submitted.

2. Closure permit general requirements will be prepared as discussed below.

3. Closure report will be marked as "No substantial change."

4. Closure design plans, CQA plan, and other required information will be prepared, included in the permit application, and referenced on the application form. It is assumed that previously

conducted liner testing (by Golder's geosynthetic laboratory) will be referenced and/or submitted to satisfy the testing requirements under this section of the rule. Once the soil borrow source material is identified, testing will be conducted and submitted as part of the construction certification document (under a separate task order).

5. Closure operation plan discussion will be prepared, included in the permit application, and referenced on the application form.
 6. Justification of temporary closure will be marked as "Not applicable".
- 6) Part Q - Closure Procedures (62-701.610, F.A.C.)
1. Closure inspection discussion will be marked as "No substantial change."
 2. Survey monument discussion will be marked as "Not applicable."
 3. Final survey report discussion will be prepared, included in the permit application, and referenced on the application form. The actual final survey will be prepared by the construction contractor or the County and submitted as part of the construction certification document (under a separate task order).
 4. Certification of closure discussion will be prepared, included in the permit application, and referenced on the application form. The actual preparation of the certification documents is to be prepared under a separate task order.
 5. Declaration to the public discussion will be prepared, included in the permit application, and referenced on the application form. Actual declaration will be advertised by the County at the completion of construction.
 6. Official date of closure discussion will be prepared, included in the permit application, and referenced on the application form.
 7. Use of closed landfill areas will be marked as "Not applicable" since it is an ongoing operating landfill.
 8. Relocation of waste discussion will be marked as "Not applicable".
- 7) Part R - Long Term Care Requirements (62-701.620, F.A.C.)
- This section will be marked as "No substantial change".

- 8) Part S - Financial Responsibility Requirements (62-701.630, F.A.C.)

This section will be marked as "No substantial change."

- 9) Part T - Certification by Applicant and Engineer or Public Officer

Golder/S2Li shall include this executed form within the permit application report.

Golder/S2Li will submit to the County a draft application form, along with the various designs (as detailed in the following subtasks), for review and comments. Golder/S2Li will meet with the County as needed to discuss any staff comments. Golder/S2Li will incorporate final comments from the County and finalize the application, including all attachments.

Subtask 1003 - Preparation of Closure Plans/Cap Design/Stormwater Design

Golder/S2Li will prepare the required closure plans for use in the permit application and ultimate closure construction of the west and southwestern slopes. Golder/S2Li will utilize the design concepts permitted for the landfill expansion in the year 2000. The proposed closure area includes the west and southwestern slopes of the active portion of the landfill up to an elevation of approximately 90 to 95 feet, which will include two drainage terraces at approximate elevations of 40 and 70 feet. The sideslope of the closure slope between terraces and to the toe of slope will be maintained at 3 horizontal to 1 vertical (3H:1V). The proposed closure liner system will consist of a linear low density polyethylene geomembrane (FML) with a geocomposite drainage material or geonet above the FML as required to facilitate drainage above the liner. The closure plan will include the stormwater drainage plans that will detail the mechanisms to carry the stormwater from the sideslopes to the perimeter drainage ditches as currently defined by the existing State Environmental RP and solid waste permit design. Additionally, as permitted, a geosynthetic clay liner (GCL) will be designed to be placed in the perimeter ditch along the section to be closed. Golder/S2Li has assumed that no modification to the County's ERP will be required because no change in the runoff, landfill footprint, or final terrace collection/drainage system is anticipated.

Subtask 1004 - LFG System Design Services

Golder/S2Li will review the current approved LFG management system during preparation of the permit modification to determine if changes are warranted to improve the effectiveness of the system. Information that has been accumulated to date on the existing system will be critical in determining what changes to the proposed system will be constructive in improving the system operation. Critical items that will be reviewed and/or considered include the following:

- Actual grades compared to proposed closure grades in the areas where wells are required;
- Proximity of the wells to the landfill sideslope to maximize coverage along the perimeter of the landfill;

- A review of the condensate management system to determine if a more effective and less maintenance-intensive system can be incorporated into the design, including replacement of all existing header and lateral lines with lines placed above the closure cover liner;
- Waste and daily cover characteristics in the expansion area to determine if perched leachate could cause localized flooding of individual wells or if there are specific waste types that may effect the operation of the system; and
- Groundwater data to identify localized areas of impacts to the groundwater. This data may provide a basis for installing "control" wells located outside of the waste boundary for the purpose of controlling migration over the slurry wall.

Once changes to the system are finalized, Golder/S2Li will develop the necessary permit drawings for the modification. The LFG management drawings will include a plan view of the system layout, including any changes to the entire landfill system, as well as necessary detail sheets. Because these plans will be the basis for the construction package, Golder will develop these drawings generally at construction level, so that only minor changes are required to prepare the construction drawings under Task 2000.

Subtask 1005 – FDEP Submittal and Review

Golder/S2Li will submit the application package to FDEP for consideration. Should any questions or minor requested changes be received from FDEP, Golder/S2Li, with the assistance of the County, will prepare responses within the required time period. Golder/S2Li shall join with the County representatives in meeting with FDEP staff should such a meeting become necessary to describe the closure design and its integration with the expanded landfill gas collection system. For costing purposes, Golder/S2Li has assumed that two requests for additional information (RAIs) from FDEP will need to be addressed, and that one meeting with FDEP will be necessary.

Task 2000 – Construction Bid Document Preparation

Golder/S2Li will work with County staff to prepare construction bid documents for obtaining a contractor to regrade the slopes, place the cover system, and install the LFG system expansion. It is envisioned that this work would start after the permit application is submitted, while it is under review by FDEP. This work will include the preparation of a package consisting of contractual language (from the County), technical specifications, and construction-level drawings. To better define the scope of services to be provided, this task has been further divided into subtasks, as detailed below.

Subtask 2001 – Construction-Level Drawings

Golder/S2Li will prepare the final design and bid plans based on the permitted west and southwestern slope closure permit drawings and details and the LFG system expansion permitted design. These drawings differ from the permitting drawings, as information specifically directed to the Contractor will be added, and certain non-applicable permitting information removed.

For the partial closure cover, Golder/S2Li will prepare grading plans and details for the west and southwestern slopes up to an elevation of approximately 90 to 95 feet. As per the permitted design, two drainage terraces will be included at approximate elevations 40 and 70 feet. The sideslope of the closure slope between terraces and to the toe of slope will be maintained at 3 horizontal to 1 vertical. The proposed closure liner system will consist of a linear low density polyethylene geomembrane (FML) with a geonet above the FML as required to facilitate drainage above the liner.

Golder/S2Li will also produce stormwater drainage plans for the closure of the west and southwestern slopes of the landfill. All stormwater management collection swales, inlets, pipes, and grades will be delineated and located for construction-level drawings. Golder/S2Li will provide construction-level details for the conveyance elements required to carry the stormwater from the sideslopes to the perimeter drainage ditches as currently defined by the existing State ERP and solid waste permit design.

The construction-level LFG system drawings will include a plan layout of the system, including the wells and header piping along with a control point table for the system. The phasing of the system construction will be critical, as it would be more economical to install the wells before the liner is installed, but when the landfill is at final grades. The header and system components will be designed for installation above the liner system to facilitate future maintenance of the system components. Necessary detail sheets will also be included to allow for construction of the system wells, condensate management system and header piping.

Golder/S2Li will submit draft construction-level drawings to the County for review and comments. Golder/S2Li will incorporate final comments from the County and finalize the construction-level drawings for use in the bid package.

Subtask 2002 – Technical Specification Preparation

Consultant will prepare the technical specifications that will include detailed information on the various components of the proposed system improvements. Specifically, technical specifications will include but not be limited to:

- Earthwork;
- Linear low density polyethylene (textured) liner;
- GCL Liner;
- Geonet;
- HDPE piping (gas and condensate conveyance);
- Gas extraction wells and wellheads;
- Condensate management components (pumps and knockout stations);
- Grassing; and

- General conditions, including surveying, temporary work, submittals, odor control, waste removal and cover, etc.

The list of specifications may be revised depending on the final design of the system. Golder/S2Li will utilize soil and liner material reports as discussed in the previous section to prepare engineering calculations and determine the material specifications for the soil cover system and geonet requirements.

Golder/S2Li will submit draft technical specifications to the County for review and comments. Golder/S2Li will incorporate final comments from the County and finalize the technical specifications for use in the bid package.

Subtask 2003 -- Preparation of Bid Package

Golder/S2Li will work with County staff to prepare a complete bid package for distribution to potential bidders for the project. As with previous bid package preparations with the County, Golder/S2Li will provide project-specific information for the County's contractual language and forms and review same for applicability. Additionally, Golder/S2Li will provide copies of the technical specifications and construction-level drawings to be included in the bid package. If desired, Golder/S2Li will assist County staff in compiling the bid documents for distribution. Golder/S2Li will provide a list of potential bidders for the project for the County's use. Additionally, Golder/S2Li will prepare an estimate of construction costs based upon the County-approved final design of the system and an estimated construction schedule will be prepared and submitted to the County.

Task 3000 -- Bidding Process Services

Once the County receives approval of the permit modification from FDEP and the bid packages are finalized and distributed to potential bidders, Golder/S2Li will:

1. Assist the County with the solicitation of bids, including responding to questions from prospective bidders prior to the submission of bids;
2. Attend a Pre-Bid conference with representatives of the County and prospective bidders. Golder/S2Li and the County will conduct the meeting. Golder/S2Li shall prepare meeting notes, and shall respond to Bidders' questions;
3. Prepare any required addenda and submit to the County for distribution to prospective bidders;
4. Assist the County in the review of bids and the prospective bidders' credentials; and
5. Offer a recommendation as to the lowest most responsive, most responsible bidder.

SCHEDULE

The following presents the anticipated schedule for the work described above in the Scope of Services:

- Notice to Proceed from the County by: September 1, 2003
- Permit and plans submittal to FDEP by: January 30, 2004
- Expected permit approval from FDEP by: June 1, 2004*
- Project Advertisement by: July 13, 2004*
- Receive and review bids by: August 24, 2004*

* The schedule may need to be adjusted to reflect the time period for the permit to be reviewed and approved by FDEP.

COST ESTIMATE

Golder/S2Li cost estimate to complete the work as described in the above scope of services is \$169,968.00. A detailed breakdown of the costs for each task and the labor and expenses estimated are included in the attached Table 1. As discussed, S2Li will be performing a significant portion of the work included in this cost proposal and S2Li's costs are shown in Table 1 as Subcontractor Costs. We propose to perform this work on a cost reimbursable not-to-exceed basis in accordance with labor and unit rates consistent with Golder's and S2Li's standard rates for the year 2003. The County will only be billed actual hours and expenses incurred on the project for work within the agreed scope of work. Direct expenses will be marked-up 10 percent for administrative purposes. Photocopies, computer and AutoCAD time will be billed at agreed upon unit rates. Travel and communications costs 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 Nassau County. It is our understanding that the source of funds for this work, as well as the future construction phase, would be two separate but established accounts. For the closure permitting, design, and construction, the fund source would be the closure escrow account that is funded each year per FDEP regulations. For the LFG system expansion permitting, design, and construction, the fund source would be the remediation account that was required to be funded by FDEP.

The cost above is for reimbursement of Golder/S2Li for the services described herein. It should be noted that the costs herein are for completion of the permitting and bidding phases of the project and do not include any costs for Golder/S2Li nor the contractor during the construction phase. Additionally, there are other costs that the County may incur during the implementation of this project. For example, as stated earlier, it is assumed that the County will cover the permit application fee for FDEP, which is \$5,000.00. Additionally, if as-built information on the edge of existing liner is not available, the services of a surveyor may be required to establish a limit for the sideslope design. Potential costs for this service would likely be less than \$1,000.00 and it is assumed that these costs would be paid directly by the County.

As stated above, there are no costs herein that include the construction phase of the project. There are typical costs available for placement of a cover system. However, this project will entail more than a typical cover system construction because some waste may need to be cut from the area because of overfilling in some areas. The construction costs will be very dependent upon how much cut, regarding, and filling will be required before cover system placement will begin. Therefore, an estimate of the construction costs associated with this project will not be defensible until the cover grading design is completed. Also, the number of additional gas wells to be installed will not be able to be accurately estimated until the extent of the cover is determined in the design phase, so costing at this point would not be beneficial to the County.

It is difficult to determine at this point how the costs for this project (including construction) compare to the original closure cost estimates that have been conducted in the past for the annual financial assurance documents. Because of the potential for non-closure-typical work as described above, the design and construction costs may be higher, but the estimated costs for the financial assurance documents are somewhat conservative and do have a 10% contingency included. Additionally, performing the closure construction in phases rather than at the end of the landfill life may provide some cost savings in the long run based on the fact that construction today will likely be more economical than in the future. However, there are additional construction items that will be required for the phasing that would not be required if all constructed at the end, such as temporary drainage features at the top of the slope or other locations to temporarily divert stormwater off the slopes. There are also cost benefits that will be gained from this construction, including reduced maintenance costs.

TERMS AND CONDITIONS

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

Golder/S2Li appreciates this opportunity to provide our services to Nassau County. We hope this cost proposal includes sufficient information for you to evaluate the need for this work. If you have any questions regarding this cost proposal, please do not hesitate to call.

Sincerely,

GOLDER ASSOCIATES INC.



Wendy D. Karably
Senior Consultant/Associate

Attachment

cc: Bob McIntyre – Solid Waste Director, via U.S. Mail
Omar Smith – S2Li, via U.S. Mail
Kevin Brown – Golder, via intercompany mail

FN: G:\PROJECTS\993-39\993-3928\PROPOSAL\2003 prop\LFG Exp_Closure.doc

TABLE 1

Cost Estimate
Partial Closure and LFG System Expansion Permitting and Bidding Services
West and Southwestern Sides
West Nassau Landfill
Callahan, Nassau County, Florida

LABOR		LABOR CATEGORY AND RATE										TOTAL HOURS	SUBTOTAL LABOR
		Principal Sr. Consult. \$145	Associate \$130	Senior Proj. Mgr. \$115	Senior Engineer \$95	Project Engineer \$85	Staff Engineer I \$75	Staff Engineer II \$65	Drafting \$55	Technician \$55	Clerical \$45		
TASK	DESCRIPTION												
1000	Permit Modification	0	20	60	0	0	75	0	60	0	16	231	\$19,145
2000	Construction Bid Document Preparation	0	16	20	0	0	75	0	40	0	24	175	\$13,285
3000	Bidding Process Services	0	40	20	0	0	24	0	16	0	12	112	\$10,720
TOTALS:		0	76	100	0	0	174	0	116	0	52	518	\$43,150

EXPENSES		Field Vehicle (day) \$75	Travel/ Per Diem (est.)	Commun- ications (est.)	Mileage (mille) \$0.35	Shipping/ Postage (est.)	Field Equipment Incl. PPE (est.)	Office Computer (hr) \$10	AutoCAD Computer (hr) \$20	Photo- copying (each) \$0.15	Drawing Reproduction (est.)	Subcon- tractor (\$2L) (est.)	SUBTOTAL EXPENSES
TASK	DESCRIPTION												
1000	Permit Modification	0	1200	\$0	0	\$200	\$0	16	50	1,500	\$500	\$68,956	\$72,241
2000	Construction Bid Document Preparation	0	0	\$0	0	\$100	\$0	24	35	1,000	\$800	\$45,426	\$47,416
3000	Bidding Process Services	0	400	\$0	0	\$100	\$0	12	12	3,500	\$200	\$5,976	\$7,161
TOTALS:		\$0	\$1,600	\$0	\$0	\$400	\$0	\$520	\$1,940	\$900	\$1,500	\$120,358	\$126,818

TABLE 1

Cost Estimate
Partial Closure and LFG System Expansion Permitting and Bidding Services
West and Southwestern Sides
West Nassau Landfill
Callahan, Nassau County, Florida

COST SUMMARY				
TASK	DESCRIPTION	SUBTOTAL LABOR	SUBTOTAL EXPENSES	TASK TOTAL
1000	Permit Modification	\$19,145	\$72,241	\$91,386
2000	Construction Bid Document Preparation	\$13,285	\$47,416	\$60,701
3000	Bidding Process Services	\$10,720	\$7,161	\$17,881
TOTALS		\$43,150	\$126,818	<u>\$169,968</u>

Golder Associates Inc.

8933 Western Way, Suite 12
Jacksonville, FL USA 32256
Telephone (904) 363-3430
Fax (904) 363-3445



on 6-11-03
agenda

6-24-03

VIA FACSIMILE AND U.S. MAIL
(via Joyce Bradley)

May 28, 2003

993-3928

Nassau County
P.O. Box 456
Fernandina Beach, FL 32034

Attention: Nassau County Management Committee:
Ms. Vickie Samus, Chairman, Board of County Commissioners
Mr. Chip Oxley, Clerk of the Court
Mr. Michael Mullin, County Attorney

**RE: COST PROPOSALS AND FOLLOW-UP
LANDFILL GAS AND GENERAL ISSUES
WEST NASSAU LANDFILL
NASSAU COUNTY, FLORIDA**

Dear Management Committee:

As discussed at our meeting on May 12, 2003, Golder Associates Inc. (Golder) has prepared this letter to provide cost proposals to those items agreed to by the Management Committee and the Solid Waste Director as well as a follow-up on other items discussed. The cost proposals are anticipated to be presented at the June 9, 2003 Nassau County Board of County Commissioners (Board) Meeting. Additionally, we understand that certain tasks discussed in the May 12, 2003 meeting were approved at the Board meeting on May 14, 2003, as discussed below.

The following is the list of cost proposal items that Golder recommended to the County at the May 12, 2003 meeting. Cost estimates associated with each of the items listed are attached. For ease of reference herein and for future reference to each item, an Item Number has been used:

- **Item #1:** As agreed, five members of County staff will participate in a two-day SWANA LFG Operation and Maintenance Training course to be conducted by Golder at the landfill. This course has been scheduled for June 10 and 11, 2003. The cost details are attached;
- **Item #2:** The County has obtained a purchase order for Roto Rooter to perform a down-hole investigation of the lateral line at gas well GW-6. This work was approved by the Board in its May 14, 2003 meeting (referenced as Task 3 in Mr. McIntyre's May 13, 2003 email). Because of the depth of the lateral line at this location, its repair will not likely be possible. Therefore, work to replace the lateral line from GW-6 to the main header line will be required. The cost for this replacement work, including a contractor and Golder oversight, is attached;

APPROVED

DATE 6/11/03

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- **Item #3:** Based on continuing problems with landfill gas well GW-4, an evaluation of it will be conducted. This evaluation was approved by the Board in its May 14, 2003 meeting (referenced as Task 4 in Mr. McIntyre's May 13, 2003 email). After the evaluation is complete, actions will be required to increase the efficiency and effectiveness of the well. The estimated cost for the necessary follow-on work, including a contractor and Golder oversight, is attached;
- **Item #4:** As required by FDEP in its approval of the Interim Contamination Assessment Report (CAR), an evaluation of the landfill gas wells in the closure area will be conducted. This evaluation was approved by the Board in its May 14, 2003 meeting (referenced as Task 5 in Mr. McIntyre's email). After the evaluation is complete, actions will be required to increase the efficiency and effectiveness of the individual wells. The estimated cost for the necessary follow-on work, including a contractor and Golder oversight, is attached;
- **Item #5:** As required by FDEP in its approval of the Interim Contamination Assessment Report (CAR), Golder will perform headspace measurements (gas) at several of the detection wells in the southwest corner of the site and, based on the results, obtain gas samples from two wells. The gas samples will be submitted to an analytical laboratory for analysis of LFG parameters and will be followed up by a data evaluation and report. The estimated costs are attached;
- **Item #6:** As required by FDEP in its approval of the Interim Contamination Assessment Report (CAR), Golder will perform sampling and analysis (by analytical laboratory) of a total of five wells for natural attenuation parameters. The results will be evaluated and reported. The estimated costs are attached;
- **Item #7:** It is our understanding from County staff that the annual aerial photography for the West Nassau Landfill has been contracted and will be performed as the weather allows. Golder/S2Li has proposed to perform the Annual Financial Assurance documentation required to be submitted to FDEP by September 1 for all three of the County's landfills. A revised cost estimate for this work (revised from the May 5, 2003 letter) is attached; and
- **Item #8:** As discussed at the May 12, 2003 meeting, there was a fire at the landfill on May 9, 2003. Upon notification by the landfill staff, Golder assisted the County in evaluating the type of fire (i.e., near surface or deep) as well as monitoring the situation to determine if the fire was continuing to smolder or spread, or if it had been extinguished. As a result, Golder personnel have or will perform out-of-scope work, such as extra site inspections (daily and then weekly) and gas system monitoring, assisting County staff in communicating with FDEP, and establishing a plan of action for determining when the threat is over and when to start the system running again. The estimated costs associated with this unforeseen event are attached.

The following is an update on several other items discussed at the May 12, 2003 meeting:

- On May 15, 2003, Golder provided to County staff documentation on the landfill gas system monitoring conducted by Golder as well as other information requested by Mr. McIntyre;
- Golder had recommended (originally in Golder's August 8, 2002 letter to Mr. Robert McIntyre and on other occasions) that the County obtain calibration gases for the GEMS 2000 monitoring instrument. Based on our communication with County staff, these gases were ordered on May 21, 2003 (not prior to the May 12 meeting as indicated);
- Additionally, Golder has requested that the County provide monthly gas probe data and groundwater monitoring data in a timely manner, as it is collected/received by the County. Golder was provided copies of groundwater monitoring reports on May 13, 2003. However, we have not received gas probe data from the most recent monitoring events (January 2003 through present);
- Golder provided recommendations in a letter dated May 7, 2003 on the application for payment from OWT regarding the gas system improvement work.

As discussed previously, the above item list and associated costs are intended to address the more immediate needs for the County. However, it should be noted that the evaluations conducted under the scope included herein might result in additional more immediate needs. For example, the addition of wells in the southwest corner area, an area that is close to being up to final grade, may be required to address groundwater contamination in a more timely manner. Additionally, because one of the items included herein may include the installation of a replacement well, it may be prudent to install additional wells while the equipment is on site. Golder will inform the County of the options and potential costs when the evaluations are complete. Also as discussed above, attached are estimated costs to conduct the work described herein. It should be noted that the construction costs have been estimated by Golder based on our experience, and have not been obtained from a contractor. Therefore, although these costs are considered somewhat conservative in that we've tried to cost out "worst case" and have included some contingency costs, the actual costs may vary once the scope is better defined and a contractor(s) is retained.

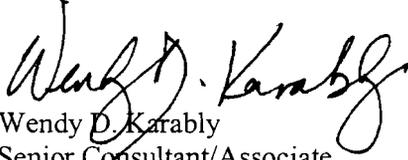
Golder appreciates the Management Committee's consideration of the above recommended items and would invite any questions or comments you may have. Please contact me to advise as to any additional information or needs you may have to obtain approval of these items from the Board. As stated above, it is assumed that these items will be presented to the Board at its June 9, 2003 meeting. If needed, I can be present at the June 9th meeting and/or available for a meeting to discuss the above items and any other issues related to the landfill.

Finally, it should be noted that Golder does not have a scope of work that includes the effort required to develop the above-presented recommendations and associated costs, nor to present these to the Management Committee and the Board. Development of these recommendations, along with the follow-on recommendations (those that are not as immediate) could be considered

solid waste management and/or planning, and budgeting assistance. Golder is typically compensated for such work and we would like for the County to consider a task order for Golder to continue with these efforts. I would welcome the opportunity to discuss this and other issues with the Management Committee and/or the Board.

Sincerely,

GOLDER ASSOCIATES INC.


Wendy D. Karably
Senior Consultant/Associate

Attachments

cc: Mr. Bob McIntyre, Nassau County Solid Waste Director
Mr. Omar Smith, S2Li

FN: G:\Projects\993-3928\Correspondance\2003 Corresp\Mgmt Comm Ltr FU2.doc

ITEM #1: REVISED ESTIMATED COSTS FOR LFG O&M TRAINING:Scope of Work:

Golder will provide certified SWANA trainer and materials for a two-day LFG Operations and Maintenance Training Course. Course to be conducted at the West Nassau Landfill at its on-site conference room.

Estimated Costs:

The estimated total cost for conducting the above scope of work is \$2,400. The County has indicated that it will have a total of five attendees. However, as discussed, Golder has solicited attendees from outside the County staff to fill the course with the maximum 10 participants to reduce the overall cost to the County. The other attendees include two representatives from Golder, two representatives from Brevard County, and one representative from S2Li. The cost per attendee will be \$240¹. Golder will not charge the County for its two participants, and the other three outside participants will pay the County directly (per the Management Committee's instructions). Therefore, at the completion of the training course, Golder will invoice the County a total of \$1,920, and the County will receive \$720 from outside participants.

¹ It is noted that this same course to be given through SWANA in Ohio is listed as costing \$460 per person (for SWANA Members).

ITEM NUMBERS 2 THROUGH 6: SCOPE AND ESTIMATED COSTS FOR PERFORMING NEEDED LFG SYSTEM IMPROVEMENTS AND FDEP-REQUIRED SAMPLING AND ANALYSIS (PER INTERIM CAR):

Scope of Work:

Item #2 – Repair the lateral line from GW-6 to the main header line. Work will include a contractor that will replace the lateral line and Golder's oversight and documentation of same. Evaluation of the damaged line and its potential effect on the remaining system through a down-hole camera investigation has been previously approved by the Board.

Item #3 – An evaluation of the status of gas well GW-4 has been previously approved by the Board. Because of the recent fire in this vicinity of the landfill, the evaluation work will not likely be conducted until early to mid-June. Based on the results of the evaluation, recommendations will be made to increase the efficiency and effectiveness of the well. The likely actions will include either installation of a permanent pump to remove the water in the well or abandonment and replacement of the well. The estimated costs for the follow-on work (after the evaluation) are included below.

Item #4 – An evaluation of the status of the closure area wells (GW-40 through GW-50) has been previously approved by the Board. Based on the results of the evaluation, recommendations will be made to increase the efficiency and effectiveness of the individual wells (i.e., the recommended action may be different for each well). Likely actions may include one or more of the following: installation of permanent pumps to remove the water in the wells, clean-out of the wells via vacuum truck, and/or re-conditioning of the wells. The estimated costs for the follow-on work (after the evaluation) are included below.

Item #5 – Perform headspace measurements at several of the detection wells in the southwest corner of the site and, based on these results, obtain gas samples from two wells. The gas samples will be submitted to an analytical laboratory for analysis of LFG parameters (as performed previously). The results will be evaluated and reported as part of the evaluation of the LFG system performance. The estimated costs for the field work and analytical laboratory are included below.

Item #6 – Perform groundwater sampling of one upgradient, three detection, and one compliance monitoring well at the site. Conduct field testing to determine the presence and concentrations of natural attenuation field parameters as indicated in the Interim CAR. Also, submit groundwater samples to an analytical laboratory for analyses of specific natural attenuation parameters as indicated in the Interim CAR. The results will be evaluated and reported as part of the evaluation of the LFG system performance. The estimated costs for the field work and analytical laboratory are included below.

For all of the above tasks, Golder will provide the appropriate documentation and reporting necessary for FDEP to assure compliance with the County's permit with respect to any changes to the LFG system, with the exception of a permit modification, which would require additional funds.

Estimated Costs:

Item #2 – Estimated costs to replace the lateral line for GW-6 and evaluate the damage (by camera), including Golder's oversight and documentation costs, is \$15,300.

Item #3 – Depending on the outcome of the evaluation, the estimated cost to replace gas well GW-4 with two wells (worst case), including contractor and Golder oversight, is \$18,200.

Item #4 – Depending on the outcome of the evaluation of the closure area wells, the estimated cost to install air line and pumps in each well (close to worst case), including contractor and Golder oversight, is \$98,500.

Item #5 – Estimated costs to perform evaluation and include in letter report is \$3,800.

Item #6 - Estimated costs to perform evaluation and include in letter report is \$6,000.

ITEM #7: SCOPE OF WORK AND REVISED ESTIMATED COSTS FOR PERFORMING THE ANNUAL FINANCIAL ASSURANCE DOCUMENTATION:Scope of Work:

Golder and S2Li will perform the annual financial assurance documentation for the County's three landfills (West Nassau (closed and active), Bryceville, and Lofton Creek) for submittal to FDEP by September 1, 2003. As for the past two years for which work has been conducted, S2Li conducts the majority of the documentation, calculations, and document preparation; Golder serves as a reviewer and overall project manager. The tasks and costs described below assume that the County will contract for and provide the aerial photograph of the West Nassau Landfill to Golder/S2Li in AutoCAD format; that all of the financial forms for the landfills show that this year's costs are increased by an inflation factor only (which is expected as of this date); and that the costs for closure and post-closure have not increased from last year. The following details the scope for each task, as proposed:

Task 0001 – Facility Inspections – to be conducted so that the conditions of the landfills can be documented by a third party engineer, as required by FDEP.

Task 0002 – Remaining Capacity/Fill Time Calculations – Initially, the airspace consumed over the last year will be calculated using last year's and this year's aerial surveys. The remaining airspace for the facility will be calculated based on this year's aerial and the ultimate build-out drawing (from permit). This will also require the preparation of five cross sections of the southwest corner showing existing and final elevations (three cross sections on the west and two on the south side).

Task 0003 - FDEP Forms and Letter – The required FDEP Forms will be completed for each landfill along with a letter of transmittal that will detail the work performed, the rationale behind the calculations and costing approach, and be signed and sealed by both the Chairman of the Board of County Commissioners and a registered Professional Engineer in the State of Florida.

Estimated Costs:

Task 0001 – Estimated cost for this task is \$2,000.

Task 0002 – Estimated cost for this task is \$9,250.

Task 0003 – Estimated cost for this task is \$5,750.

The total estimated cost for the above described scope of work under Item #7 is \$17,000.

ITEM #8: OUT-OF-SCOPE SERVICES RELATED TO FIRE AT LANDFILL:Scope of Work:

Golder responded the day of the fire (Friday) by having a representative on site closing down valves on the gas system and monitoring the situation on site, and by evaluating the procedures being taken and making recommendations to County. Following that day, Golder made daily site inspections (except Sunday) to observe the area and monitor the gas system to determine if any signs of a fire were still present. Golder also assisted the County with the required written notification to FDEP. Based on recommendations made to the County, Golder will continue with weekly site inspections and monitoring the area for approximately three additional weeks, after which (if it appears as though the fire has been extinguished completely) the gas system will be re-started. Close monitoring of the system and the fire area will be required for start-up. If there are no problems during start-up, the routine (monthly) monitoring will continue under the original scope of work.

Estimated Costs:

The estimated cost for the above scope of work, including the immediate response to the fire and the follow-on inspections and monitoring, is \$5,500. It is proposed that these costs be included as a change order to the existing O&M task order (993-3928.41.0001) and Golder will invoice the County for the actual labor and expenses incurred.

for disposal at a rate of \$7.50 per ton to be charged to the County, with funding source identified as 70368590-549311, and to authorize the Chairman to sign same.

11:20 The Board considered cost proposals and follow-up Landfill gas and general issues at the West Nassau Landfill as submitted by Golder Associates, Inc. Ms. Karably, Senior Consultant/Associate of Golder Associates, Inc., appeared before the Board to report on issues related to the Landfill. After much discussion, it was moved by Commissioner Marshall, seconded by Commissioner Acree, and unanimously carried to schedule a Special Meeting at 2 P.M. on June 24, 2003 to discuss Landfill issues and requested Ms. Karably to be present. Commissioner Marshall requested that Ms. Karably furnish a report on Landfill tasks that have not yet been completed or addressed, but have been approved by the Board of County Commissioners. She also requested copies of any and all correspondence related to these tasks.

11:53 Upon the request and recommendation of the Solid Waste Director, it was moved by Commissioner Marshall, seconded by Commissioner Deonas, and unanimously carried to approve Cost Proposals and Follow-up Landfill Gas and General Issues for the West Nassau Landfill. Revised estimated costs are as listed:

Item #1 LFG O&M Training - \$2,400

Item #2 Replacement of lateral line for GW-6 - \$15,300

Item #3 Replacement of gas well GW-4 - \$18,200

Item #4 Installation of air line and pumps in each well - \$98,500

Item #5 Performance of evaluation and letter report for headspace measurements at detection wells in southwest corner of site - \$3,800

Item #6 Performance of evaluation and letter report of groundwater sampling of one upgradient, three detection and one compliance monitoring well - \$6,000

11:53 Upon the request and recommendation of the Solid Waste Director, it was moved by Commissioner Marshall, seconded by Commissioner Vanzant, and unanimously carried to approve the Consolidated Solid Waste Management Grant in the amount of \$117,000 and to authorize the Chairman to sign the grant application.

The Chairman signed the registers for the following warrants: Nos. 84707 through 84814, dated 06-10-03, for a register total of \$915,343.84; Nos. 84815 - 84938 dated 06-11-03 for a register total of \$419,258.64; and Nos. 84939 - 84946 dated 06-11-03 for a register total of \$1,577.52.

11:54 Upon the request and recommendation of the Clerk, it was moved by Commissioner Marshall, seconded by Commissioner Deonas, and unanimously carried to approve the Clerk's Finance Package No. 2003-08 as follows:

Golder Associates Inc.

8933 Western Way, Suite 12
Jacksonville, FL USA 32256
Telephone (904) 363-3430
Fax (904) 363-3445



KF

VIA FACSIMILE AND U.S. MAIL

January 9, 2003

993-3928.37

Nassau County Board of County Commissioners
P.O. Box 1010
3163 Bailey Road
Fernandina Beach, Florida 32035

Attention: Mr. Walter D. Gossett
County Coordinator

RE: COST PROPOSAL FOR
CONTINUED OPERATION AND MAINTENANCE SERVICES
FOR LANDFILL GAS EXTRACTION SYSTEM
WEST NASSAU LANDFILL
NASSAU COUNTY, FLORIDA

Dear Mr. Gossett:

Golder Associates Inc. (Golder) is pleased to submit this cost proposal to the Nassau County Board of County Commissioners (Board) for providing professional services for operation and maintenance (O&M) on the landfill gas (LFG) extraction system at the West Nassau Landfill in Nassau County, Florida. As you are aware, Golder has provided O&M and engineering support services to the County during the past approximately 8 months under our existing task order that had included providing O&M services for the first year of operations. However, because of the various conditions encountered at the site since the original start-up in February, the original budget for the O&M services will be exhausted approximately at the end of November 2002.

County staff has requested that the O&M budget under the existing task order be closed after exhausting the allocated funds and that a separate cost proposal be prepared to continue O&M services under a new task order. Our proposed scope and associated cost estimate to continue O&M services is included herein.

SCOPE OF SERVICES

Task 001 – Continued Monitoring and Training of County Personnel

This task includes work associated with monitoring of the system, providing engineering input for maintaining efficiency in the system (system adjustments), system inspections, and training of County personnel to perform all monitoring duties. In general, services under this item will include:

APPROVED

DATE 4/9/03
er

03 JAN -9 AM 11
RECEIVED
COUNTY COORDINATOR
OFFICE

Nassau County Board of County Commissioners
Attn: Mr. Walter D. Gossett

January 9, 2003
993-3928.37

-2-

- Monitoring of the system by Golder personnel twice per month for the first two months of this task order (anticipated to be January and February 2003). This monitoring will include a complete round of collecting data from the installed wells and the blower/flare operation. This time period is proposed based on the upcoming repairs to the system and to allow for the system to be adjusted once the repairs are complete;
- Monitoring of the system by Golder personnel once per month for another four months (anticipated to be March through June 2003). This monitoring will include a complete round of collecting data from the installed wells and the blower/flare operation. Additionally, during this time period, based on the more major adjustments having been made during the previous two months after repairs are completed, Golder personnel will train designated County personnel to perform the monitoring on a routine basis¹. Golder personnel will provide hands-on training for staff for monitoring the system components, inspecting the system components, and limited troubleshooting in accordance with the manufacturer's recommendations. This will include all monitoring required by the monitoring plan, including weekly monitoring at GW-11 for carbon monoxide and down-hole temperatures. During this time period, Golder engineers will provide input to the County for routine adjustments based on monitoring and feedback on inspection findings;
- Development of an inspection checklist detailing items to be inspected on a weekly or monthly basis for use by County personnel. Golder believes that it will be more cost effective for County personnel to perform routine inspections of the system and some effort is allotted during the initial project timeframe to go over the inspection checklist and a typical inspection with a designated County employee.
- Preparation of monitoring reports following each event (anticipated to be January through June 2003). The monitoring reports will include pertinent information on the system operation (gas composition, pressure, temperature, etc.).

It should be noted that Golder has been working very closely with Mr. Bill Hoskison, a County employee at the landfill, since the system start-up in February 2002 and he has observed Golder personnel performing monitoring duties and has, with support from Golder, provided maintenance of the flare and LFG system in general. Golder assumes that Mr. Hoskison will be one of the designated personnel to be formally trained to take over the monitoring of the system. However, Golder recommends that the County evaluate the availability of Mr. Hoskison to perform the monitoring and maintenance of the system that will be required to operate the system without engineering support. Golder strongly recommends that at least one other person be trained during the above-referenced time period. Based on our experience at the site, Golder believes that, due to his other responsibilities, Mr. Hoskison may not be able to consistently perform the monitoring as required by the monitoring plan or provide the attention to the system that is needed to maximize the effectiveness of the system without at least one other person to assist and/or perform some of the duties.

¹ It is noted that training of County personnel to perform monitoring and inspection of the system was in the original scope of work under the previous task order, but was not completed (formally) because of the budget situation.

Golder Associates

Nassau County Board of County Commissioners
Attn: Mr. Walter D. Gossett

January 9, 2003
993-3928.37

-3-

Task 002 – Engineering Support

After the above-discussed monitoring and training period is completed (six months), Golder will provide engineering support for the next six months. This is anticipated to include review of monitoring data (collected by County personnel) and providing feedback on recommended adjustments to the system, recommendations for maintenance items and two site visits to evaluate the system operation and/or assist in addressing O&M or monitoring issues.

Golder assumes that once this period of engineering support commences, County personnel will have adequate knowledge of the system and be able to perform necessary adjustments and maintenance to the system without significant input from Golder. If significant maintenance items arise during this timeframe, Golder will make recommendations on modifications to the system. If additional support is required by Golder for these maintenance items, separate proposals will be developed detailing the additional effort.

SCHEDULE

As indicated above, Golder proposes to begin providing O&M services to the County starting in January 2003. Golder will continue with monitoring duties for a six-month period, to include training of County personnel, followed by another six months of providing engineering support for the County to assist in adjustments to the system and minor maintenance items. This time period should also encompass the time period during which the Contamination Assessment Report (CAR) is prepared and submitted to the FDEP to indicate the effectiveness of the LFG system². Golder believes it is important that we are aware of the operational issues associated with the system during this time period such that the CAR is prepared based on first-hand knowledge of the operation of the system and its relationship to the groundwater system.

COST ESTIMATE

Golder's cost estimate to complete the work as described in the above scope of services is \$14,080. A detailed breakdown of the costs for each task and the labor and expenses estimated in included in the attached Table 1.

Golder proposes to perform this work on a cost reimbursable not-to-exceed basis in accordance with agreed upon labor and unit rates. The County will only be billed actual hours and expenses incurred on the project for work within the agreed scope of work. Direct expenses will be marked-up 10 percent for administrative purposes. Photocopies, computer and AutoCAD time will be billed at agreed upon unit rates. Travel and communications costs 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 Nassau County.

TERMS AND CONDITIONS

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

² The scope and cost for this work will be provided to the County under separate cover.

Golder Associates

Nassau County Board of County Commissioners
Attn: Mr. Walter D. Gossett

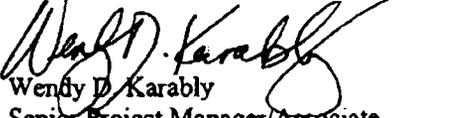
-4-

January 9, 2003
993-3928.37

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.

Very truly yours,

GOLDER ASSOCIATES INC.


Wendy D. Karably
Senior Project Manager/Associate

Attachment

cc: Bob McIntyre – Solid Waste Director
Kevin Brown – Golder

FN: G:\PROJECTS\993-3928\21&37\O&M Ext Prop.doc

Golder Associates

TABLE 1

Cost Estimate
 Continued O&M Services
 Landfill Gas Extraction System
 West Nassau Landfill
 Callahan, Nassau County, Florida

LABOR		LABOR CATEGORY AND RATE										TOTAL HOURS	SUBTOTAL LABOR	
		Principal Sr. Consult \$130	Associate \$120	Senior Proj. Mgr. \$102	Senior Engineer \$95	Project Engineer \$75	Staff Engineer I \$60	Staff Engineer II \$55	Drafting \$45	Technician \$40	Clerical \$40			
TASK	DESCRIPTION													
001	Continued Monitoring and Training	0	22	6	0	28	0	0	0	0	70	6	132	\$8,392
002	Engineering Support	0	12	4	0	24	0	0	0	0	16	4	60	\$4,448
	TOTALS:	0	34	10	0	52	0	0	0	0	86	10	192	\$12,840

EXPENSES		Field Vehicle (day) \$70	Per Diem (day) \$25	Communications (est.)	Mileage (mile) \$0.35	Shipping/Postage (est.)	Field Equipment Incl. PPE (est.)	Office Computer (hr) \$10	AutoCAD Computer (hr) \$20	Photo-copying (each) \$0.15	Drawing Reproduction (est.)	Subcontractors (est.)	SUBTOTAL EXPENSES
TASK	DESCRIPTION												
001	Continued Monitoring and Training	10	0	\$100	0	\$50	\$100	0	0	100	\$0	\$0	\$96
002	Engineering Support	2	0	\$20	0	\$50	\$50	0	0	100	\$0	\$0	\$27
	TOTALS:	\$640	\$0	\$120	\$0	\$100	\$150	\$0	\$0	\$30	\$0	\$0	\$1,246

JAN-09-03 09:54 FROM: GOLDR ASSOC JAX ID: 9043633445

TABLE 1

Cost Estimate
 Continued O&M Services
 Landfill Gas Extraction System
 West Nassau Landfill
 Callahan, Nassau County, Florida

COST SUMMARY				
TASK	DESCRIPTION	SUBTOTAL LABOR	SUBTOTAL EXPENSES	TASK TOTAL
001	Continued Monitoring and Training	\$8,392	\$965	\$9,357
002	Engineering Support	\$4,448	\$275	\$4,723
TOTALS		\$12,840	\$1,240	<u>\$14,080</u>

Agenda Request For: January 27, 2003

Department: Solid Waste

Fund: Solid Waste Management Fund

Financial/Economic Impact to Future Years Budgeting Process or Effect on Citizens: Required by Florida Department of Environmental Protection (FDEP).

Action requested and recommendation: Approval of cost proposal by Golder Associates, Inc. for providing professional services for the preparation and submittal of both an Interim Contamination Assessment Report (CAR) and a final CAR regarding the performance of the landfill gas (LFG) extraction system installed at the West Nassau Landfill. Reports were stipulated by the Florida Department of Environmental Protection (FDEP) to confirm the LFG extraction system is performing as proposed by minimizing LFG migration and thereby reducing contaminants in the groundwater.

Is this action consistent with the Nassau County Comprehensive Land Use Plan? N/A

Funding Source:

Current West Nassau Landfill #70341534- 531324 \$13,482.00 (90%)
#70361534 - 531324 \$1,498.00 (10%)

Total: \$14,980.00

Reviewed by:

Legal

Finance

Coordinator

Dictated but not proof read by
Walt Gossett - Mailed in his
absence to avoid delay. *BN*

APPROVED

DATE 1-27-03 *ALB*

Golder Associates Inc.

8933 Western Way, Suite 12
Jacksonville, FL USA 32256
Telephone (904) 363-3430
Fax (904) 363-3445



VIA FACSIMILE AND U.S. MAIL

January 21, 2003

993-3928.37

Nassau County Board of County Commissioners
P.O. Box 1010
3163 Bailey Road
Fernandina Beach, Florida 32035

Attention: Mr. Walter D. Gossett
County Coordinator

RE: COST PROPOSAL FOR
FDEP-REQUIRED INTERIM CONTAMINATION ASSESSMENT REPORT
AND FINAL CONTAMINATION ASSESSMENT REPORT
REGARDING THE LANDFILL GAS EXTRACTION SYSTEM
WEST NASSAU LANDFILL
NASSAU COUNTY, FLORIDA

03 JAN 22 PM 2:34

COUNTY COORDINATORS
OFFICE

Dear Mr. Gossett:

Golder Associates Inc. (Golder) is pleased to submit this cost proposal to the Nassau County Board of County Commissioners (Board) for providing professional services for the preparation and submittal of both an Interim Contamination Assessment Report (CAR) and a Final CAR regarding the performance of the landfill gas (LFG) extraction system installed at the West Nassau Landfill. These reports were stipulated by the Florida Department of Environmental Protection (FDEP) to confirm that the LFG extraction system is performing as proposed by minimizing LFG migration and thereby reducing contaminants in the groundwater.

SCOPE OF SERVICES

Task 001 – Preparation of Interim CAR

This task includes the preparation and submittal of the Interim CAR as stipulated by FDEP in its April 19, 2001 letter¹, which indicates that the Interim CAR shall evaluate the effectiveness of the system to control landfill gas migration. Preparation of this document will require that the County and/or its contractors provide Golder with gas probe monitoring data, site leachate data, and groundwater monitoring data. Golder has requested the gas probe monitoring data from the County and, unless otherwise instructed, will request the groundwater monitoring data from the County's contractor, Spectrum Data Solutions, Inc. (SDS). It is anticipated that this report will include a brief summary of the activities conducted, such as gas and groundwater monitoring,

¹ This letter stipulated specific deadlines, to which the County could not agree. A response letter was submitted June 5, 2001 with a proposed alternative schedule. This alternative schedule was accepted by FDEP by its letter dated August 14, 2001.

construction of the system, initial start-up of the system, problems encountered and resolution of same (additional investigation), and re-start of the system. This report will also include a summary of the monitoring results, including the gas probe data, groundwater monitoring data, leachate data, and the gas extraction well and system data. It should be noted that this Interim CAR will focus on the gas probe data, which will reflect the FDEP's requirement for this report. Additionally, the report will provide conclusions based on the monitoring data as well as recommendations such that the system will continue to perform as designed and/or to improve the system performance so that the groundwater contamination levels are decreased.

At this point, before a thorough review of the current data, Golder does not anticipate any recommendations that will require additional investigation or system improvements². However, as the operation and maintenance (O&M) of the system continues and as additional gas probe and groundwater data is collected, Golder will evaluate the system operation and determine if additional measures are needed to improve the existing groundwater contamination levels and ultimately meet the goals set forth by the County/Golder and FDEP. However, it is important to note that Golder will need to be provided the gas probe, leachate, and groundwater monitoring data as soon as it becomes available (i.e., monthly for the gas probes, quarterly for the groundwater, and semi-annually for the leachate) to effectively evaluate the performance of the system. Because neither the need for nor the scope is known at this time, any additional work associated with further investigation or system improvements is not included in this work order.

Task 002 – Address Requests for Additional Information on Interim CAR

Should the FDEP have and comments or requests for additional information (RAIs) on the Interim CAR submitted under Task 001, Golder would address these under this task. This task assumes that the RAIs are minor in nature and that no additional field work or analytical laboratory analyses are required.

Task 003 – Preparation of Final CAR

This task includes the preparation and submittal of the Final CAR as stipulated by FDEP in its April 19, 2001 letter, which indicates that the Final CAR shall be submitted to FDEP one year from the date of submittal of the Interim CAR. Preparation of this document will again require that Golder be provided with gas probe monitoring data, site leachate data, groundwater monitoring data, and gas system monitoring data³ by the County and/or its contractors. As indicated earlier, it is critical that Golder be provided with this data during the operation of the system when it becomes available so that continuing evaluation can be conducted. Also as previously indicated, if the data indicates that additional investigation or improvements to the system are needed, the scope and costs for such additional work would be developed at that time and because neither the need for nor the scope is known, these costs are not included in this work order. Golder anticipates that the Final CAR will include a summary of the operation of the system (any disruption in service, any other issues, etc.) and of the associated data, including the gas probes, groundwater monitoring wells, leachate, and gas well and flare data. This report will

² It is noted that recommended improvements to the system were started in mid-December 2002 and should be completed before the end of January 2003.

³ The gas extraction system monitoring data will routinely be collected by the County and not Golder based on our currently approved O&M work order.

provide an evaluation of the data and conclusions reached based on this evaluation. It is anticipated and intended that the data will provide evidence that the groundwater contamination, which initiated the installation of the LFG system, has improved, hopefully such that all constituents are within regulatory compliance.

Task 004 – Address Requests for Additional Information on Final CAR

Should the FDEP have and comments or requests for additional information (RAIs) on the Final CAR submitted under Task 003, Golder would address these under this task. This task assumes that the RAIs are minor in nature and that no additional field work or analytical laboratory analyses are required.

SCHEDULE

The Interim CAR should be submitted as soon as possible and Golder has started the preparation of this document. Golder will provide the County with a draft Interim CAR within a maximum of 5 days from receiving the requested data. Additionally, assuming the various data is provided to Golder on an as-received schedule, the continuing evaluation will be conducted under our existing O&M contract with the Board. Golder will prepare the Final CAR and a draft will be provided to the County such that the final document will be submitted by the stipulated date (one year from the submittal date of the Interim CAR).

COST ESTIMATE

Golder's cost estimate to complete the work as described in the above scope of services is \$14,980. A detailed breakdown of the costs for each task and the labor and expenses estimated in included in the attached Table 1. Golder proposes to perform this work on a cost reimbursable not-to-exceed basis in accordance with labor and unit rates consistent with Golder's standard rates for the year 2003. The County will only be billed actual hours and expenses incurred on the project for work within the agreed scope of work. Direct expenses will be marked-up 10 percent for administrative purposes. Photocopies, computer and AutoCAD time will be billed at agreed upon unit rates. Travel and communications costs 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 Nassau County.

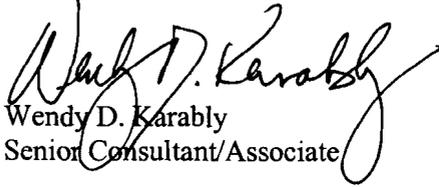
TERMS AND CONDITIONS

This work will be performed under the Agreement for Consulting Services between Golder and the 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.

Very truly yours,

GOLDER ASSOCIATES INC.



Wendy D. Karably
Senior Consultant/Associate

Attachment

cc: Bob McIntyre -- Solid Waste Director
Kevin Brown -- Golder

FN: G:/PROJECTS/993-3928\21&37\CAR Proposal.doc

TABLE 1

Cost Estimate
 Interim and Final CAR Preparation
 Landfill Gas Extraction System
 West Nassau Landfill
 Callahan, Nassau County, Florida

LABOR		LABOR CATEGORY AND RATE										TOTAL HOURS	SUBTOTAL LABOR
		Principal Sr. Consult	Associate	Senior Proj. Mgr.	Senior Engineer	Project Engineer	Staff Engineer I	Staff Engineer II	Drafting	Technician	Clerical		
TASK	DESCRIPTION	\$140	\$120	\$110	\$95	\$85	\$75	\$65	\$50	\$50	\$45		
001	Preparation of Interim CAR	0	8	8	0	20	0	6	4	0	4	50	\$4,310
002	Address RAIs for Interim CAR	0	2	4	0	8	0	0	2	0	4	20	\$1,640
003	Preparation of Final CAR	0	12	8	0	30	0	12	8	0	8	78	\$6,410
004	Address RAIs for Final CAR	0	2	4	0	8	0	0	2	0	4	20	\$1,640
TOTALS:		0	24	24	0	66	0	18	16	0	20	168	\$14,000

EXPENSES		Field Vehicle (day)	Per Diem (day)	Communications (est.)	Mileage (mile)	Shipping/Postage (est.)	Field Equipment incl. PPE (est.)	Office Computer (hr)	AutoCAD Computer (hr)	Photo-copying (each)	Drawing Reproduction (est.)	Subcon-tractors (est.)	SUBTOTAL EXPENSES
TASK	DESCRIPTION	\$70	\$25		\$0.35			\$10	\$20	\$0.15			
001	Preparation of Interim CAR	0	0	\$0	0	\$50	\$0	4	4	200	\$50	\$0	\$250
002	Address RAIs for Interim CAR	0	0	\$0	0	\$30	\$0	4	2	100	\$20	\$0	\$145
003	Preparation of Final CAR	0	0	\$0	0	\$50	\$0	8	8	500	\$75	\$0	\$440
004	Address RAIs for Final CAR	0	0	\$0	0	\$30	\$0	4	2	100	\$20	\$0	\$145
TOTALS:		\$0	\$0	\$0	\$0	\$160	\$0	\$200	\$320	\$135	\$165	\$0	\$980

TABLE 1
Cost Estimate
Interim and Final CAR Preparation
Landfill Gas Extraction System
West Nassau Landfill
Callahan, Nassau County, Florida

COST SUMMARY				
TASK	DESCRIPTION	SUBTOTAL LABOR	SUBTOTAL EXPENSES	TASK TOTAL
001	Preparation of Interim CAR	\$4,310	\$250	\$4,560
002	Address RAIs for Interim CAR	\$1,640	\$145	\$1,785
003	Preparation of Final CAR	\$6,410	\$440	\$6,850
004	Address RAIs for Final CAR	\$1,640	\$145	\$1,785
TOTALS		\$14,000	\$980	<u>\$14,980</u>



Golder Associates

GOLDER ASSOCIATES INC.
8933 Western Way, Suite 12
Jacksonville, Florida 32256
Tel: 904-363-3430
Fax: 904-363-3445

FACSIMILE TRANSMISSION

DATE SENT: November 7, 2002

TO: County Coordinator's Office

ATTN: LISA

FAX NO.: (904) 321-5784

FROM: Wendy Karably

PROJECT NO.: 993-3928.37.004

RE: GOLDER COST PROPOSALS

Total no. of pages (including this cover page): 1

WARNING: The document(s) with this transmission are only for recipient(s) named above and contain privileged/confidential information. Unauthorized disclosure, dissemination, or copying of this transmission is strictly prohibited. If you have received this communication in error, please immediately notify us by telephone at (904) 363-3430.

Lisa

As requested by Beth, I am sending you this note to inform you that Golder is submitting one or more cost proposals for presentation at the November 18, 2002 Board of County Commissioner's Meeting. The first cost proposal you should receive is regarding "Review of Past Costs and Estimated Future Costs, Landfill Gas Extraction System". If possible, we will also submit a cost proposal to continue O&M Services for the LFG System and a separate cost proposal for preparing a Contamination Assessment Report (CAR) for the LFG System (doubtful). So I guess I requesting that you please "save me a spot" in the agenda for the Nov. 18 meeting. If you have any questions, please call me.

Wendy

RECEIVED

DATE 11-18-02 JKB

02 NOV - 7 PM 2:10
COUNTY COORDINATORS OFFICE

Golder Associates Inc.

8933 Western Way, Suite 12
Jacksonville, FL USA 32256
Telephone (904) 363-3430
Fax (904) 363-3445



VIA FACSIMILE AND U.S. MAIL

November 12, 2002

993-3928.37

Nassau County Board of County Commissioners
3163 Bailey Road
P.O. Box 1010
Fernandina Beach, Florida 32035

Attn: Mr. Walter D. Gossett
County Coordinator

RE: REVIEW OF PAST COSTS AND ESTIMATED FUTURE COSTS
LFG EXTRACTION SYSTEM
PERMITTING, CONSTRUCTION, O&M, AND MODIFICATIONS
WORK ORDER NUMBER 993-3928.37
WEST NASSAU LANDFILL

02 NOV 14 PM 2:03
COUNTY BOARD OF COUNTY COMMISSIONERS
OFFICE

Dear Mr. Gossett:

As we discussed in our September 24, 2002 meeting (and subsequently in our October 30, 2002 meeting), Golder has reviewed costs associated with work performed to date associated with the permitting, construction, and operation and maintenance of the landfill gas (LFG) extraction system at the West Nassau Landfill. We have also reviewed responses to questions from the County dated July 2, 2002 (email to/from Cathy Lewis). The original scope of work under this work order was approved by the Nassau County Board of County Commissioners (Board) on February 14, 2001.

This letter provides a summary of the current amounts invoiced and budgeted for each task, along with those invoices paid by the County to date. Also provided is a description of the out-of-scope work performed that resulted in the task budget overages and/or additional expenditures. Golder has invoiced the County monthly on a time and materials basis, i.e., only time and expenses attributable to the work on this project were charged at agreed-upon rates. Also, this letter includes an estimate of future costs, based on remaining scope as defined in our approved scope and/or as modified based on the current situation at the landfill. Finally, included herein a request for additional funds based on the previous overages and the future estimated costs, as compared to the existing remaining budget. It should be noted that the future estimated costs included herein are anticipated to take this project to its completion¹, pending any unanticipated events and/or FDEP requirements for the system that would require additional out-of-scope work.

¹ Completion of this task order is defined herein as completion of the scope of work from the original cost proposal, the out-of-scope work performed to date, the remaining budgeted funds for the O&M task, and costs to complete recommended repairs/improvements to the system. Under separate submittals, Golder will provide a cost estimate to provide additional O&M services for the LFG system and to prepare a Contamination Assessment Report (CAR) for submittal to FDEP at the one-year anniversary of the system

APPROVED

DATE 11-18-02 *JLB*

Summary of Current Budget Status

Table 1 provides a progress budget and invoice summary for this project through the end of the September billing period (September 28, 2002). As shown, this project has five separate work tasks and the work under some of these tasks started as early as April 2001. Also as shown, the total budget for the work order has been exceeded with the September billing and the individual task budgets have been exceeded on three of the five tasks. The following section provides a description of the out-of-scope services provided that resulted in these overages.

Summary of Out-of-Scope Services

Under Task 002, Title V Air Permitting, the original scope only included updating the Title V permit for the site to include the addition of the LFG system flare and responding to requests for additional information (RAIs) to the permit application as necessary. The initial permit application and the construction permit were submitted with effort within the task budget. However, as the project progressed, out-of-scope work was performed including a meeting with FDEP regarding the construction permit as well as addressing an unrelated Title V site issue that included preparation of a letter for FDEP. Currently, this task is about \$350 over the original budget and there is some work remaining (see next section).

Task 003, Bid Document Preparation and Review, is over budget by about \$4,600. The out-of-scope work performed under this task includes attendance at more than one meeting with County staff during preparation of the bid documents and a meeting with the Contractor after selection to review cost and contractual items. Also, additional effort than budgeted was required for development of the contractual language portion of the bid documents, including working with County staff and providing some of the project-specific language for the documents. Because at the time of completion of this task, there was sufficient budget remaining in the work order, no additional funds were requested for the out-of-scope work.

Under Task 004, CQA and Design Support, the original scope of work was to be conducted over the duration of the actual construction portion of the project, estimated at 12 weeks, plus the preparation of a certification report at the completion of the construction. Currently, this budget has been exceeded by approximately \$12,600, which is about 16 percent of the task budget, and there is work remaining under this task (see next section). The out-of-scope work performed under this task is listed below:

- There were two delays in starting the construction by the Contractor, which resulted in additional effort for personnel scheduling and equipment costs;
- Submittal review required more than anticipated effort because the submittals by the Contractor (primarily the subcontractor for the flare construction) were consistently incomplete or did not meet the specifications and had to be rejected, re-submitted, and then re-reviewed;
- The Contractor's parent company filed for bankruptcy during the middle of the project work, which lead to issues with subcontractors, and resulted in some work not being performed timely and/or consistently. The untimely bankruptcy filing also resulted in second parties becoming involved or Contractor re-doing work (which meant additional involvement and/or review by Golder);

- Golder provided oversight during repair and re-testing of a gas system header line damaged by landfill staff during placement of waste. Also, oversight was provided for investigation of (including down-hole camera subcontract work) and subsequent repairs made by the Contractor to lines that were leaking due to a faulty weld and an incorrectly seated valve (Contractor did not charge County, but Golder provided oversight);
- Oversight was provided for correcting several well extensions that had been installed by the County after Contractor's demobilization;
- Because of several factors, there was an extensive initial punch list for the Contractor to resolve and a subsequent punch list developed after the system start-up when additional problems were encountered. Also, some of the punch list items could not be addressed until a phone line was installed at the flare; Golder provided oversight and assistance to the County for the phone connection and addressed issues concerning problems with obtaining a phone connection. Other additional work included responding to comments/proposed actions from the Contractor on the punch list, review of responses with County, development of a second punch list, and oversight on at least three occasions during Contractor's addressing the punch list items. The punch list work has extended over several months and actually was not completed until late August, which has resulted in more time and effort by Golder than originally estimated;
- One item included on the punch list that was affected by the bankruptcy was the production of as-built drawings for the project. Under the contract, the Contractor was responsible for collecting survey information and preparing as-builts. The Contractor retained a surveyor for this purpose (and initial layout). The Contractor changed surveyors after the initial layout and the as-built was produced by the second surveyor. The change in surveyors resulted in errors on the as-built drawings and the Contractor elected to produce as-builts from its own CADD department using the survey and construction drawing information. This resulted in additional work being performed by Golder for several reviews and comments on the as-built drawings. On October 7, 2002, Golder received as-builts from the Contractor and additional errors were noted and comments will be provided to the Contractor for correction. This was not included in the original scope of work and this work is not yet completed; and
- Because of the bankruptcy filing, extended time to correct punch list items, and possibly other unknown reasons, the Contractor has had difficulty in producing accurate and acceptable applications for payment. The first application for work through December 2001 was accepted and has been paid by the County. However, the second application, initially submitted in March 2002 had numerous errors and included items for which there were still outstanding issues (such as the flare). As a result, Golder has spent effort not originally anticipated in working with the Contractor and the County in providing corrections to the applications and this issue is still not resolved (a second application received in September was still not acceptable).

Task 005, First Year O&M, has a budget remaining of approximately \$5,200 as of the end of September. The original scope of work under this task included routine monitoring and inspections of the system, preparation of monitoring reports, and training of County staff for taking over O&M responsibilities. As discussed in the July 2, 2002 email response, O&M requirements would

typically result in more effort immediately after start-up (to make the appropriate adjustments to the system) than would be expected a few months in to the system operation, assuming the system is operating normally.

However, there were several factors at the start-up of the system in February 2002 that resulted in more effort than would typically be expected, including numerous punch list items that were still outstanding and/or discovered at start-up, problems with high oxygen in the system, and the continued presence of high temperatures at one well and apparent high carbon monoxide (CO) readings that lead to system shut-down and investigation (conducted under a separate work order). Therefore, the first three invoices for this task (starting February and covering three and one-half months) reflect more effort than originally estimated (average is over \$3,900/month) and include additional work that is attributable to the CO issue prior to approval for the investigation in June 2002. Additionally, during the CO investigation period (conducted in June, July, and first part of August), O&M-related work was also conducted including system re-start in July (although only for part-time operation), associated monitoring, and request of information and recommendations for site equipment. This work extended into the first part of August 2002.

Upon completion of the punch list item by the flare Contractor on August 23, 2002, another start-up and associated O&M work was conducted. Then, based on revised analytical data received on August 30, 2002, additional evaluation of the CO levels at two wells was conducted using two separate methods in September. This additional evaluation work included outlining the monitoring procedures and proposed actions based on results, rental of equipment, shipping, and field work and expenses, as well as evaluation of the data. As outlined in the procedures, a description of the additional monitoring and operational procedures required as a result of the findings (low CO and high VOCs) is being developed for the County's use and for submittal to FDEP. Therefore, the costs reflected in both the August and especially September invoices under this task include significant out-of-scope work. The work under this task is not complete in that the "first year" of O&M is not complete. However, as requested by the County, the remaining budget for this task will be expended and the task closed. A separate cost proposal for providing O&M services to the County will be submitted under separate cover.

Summary of Remaining Work and Estimated Costs

The tasks for which future (October 2002 forward) work is anticipated include Task 001, Task 002, Task 004, and Task 005. Because of recent occurrences at the site for which modifications to the system are recommended, we have also included a new task, Task 006, for completion of the monitoring plan and submittal to FDEP, recommended modifications to the system, and non-routine maintenance issues that may occur (see discussion below). Table 2 provides an estimate of the remaining work by task, including labor and direct costs. Table 2 also includes the status of the existing budget through September and a total estimate for requested additional funds.

As shown on Table 2, the remaining effort for Task 001 should not require additional funds from that already budgeted. The remaining budget for this task is over \$6,200, so no additional funds are requested. Task 002 is anticipated to include some additional effort, including obtaining an extension to the Title V Construction Permit and then preparing a Title V amendment for submittal prior to the end of the construction permit. This additional effort is anticipated to take less than \$2,200 and with the slight existing overage, the additional funds requested for this task are just over \$2,500. No additional work is anticipated under Task 003 so the requested funds only reflect the amount by which the task budget was exceeded due to out-of-scope work (see last section).

As previously discussed, additional work under Task 004 is anticipated for October and beyond to address items regarding the construction that are still incomplete, including additional work with the Contractor on the as-builts and on payment applications. As shown on Table 2, the future (October forward) effort under this task is anticipated to be just over \$3,100. However, the future estimated effort combined with the previous exceedance of the budget based on out-of-scope work performed, results in the amount requested under this task being just over \$12,500.

The remaining work under Task 005 includes only the work that can be performed under the existing remaining budget. Therefore, no additional funds are requested herein. With the remaining budget, O&M services should continue through November 2002 and maybe into December 2002. However, as discussed earlier, Golder is preparing a cost proposal to provide O&M services that would continue the originally-scoped one-year period and enable us to provide adequate training to County staff and/or provide engineering support to County staff performing monitoring duties.

Based on discussions with County staff, Golder was requested to include only strictly O&M services (as defined in the original proposal) under future work under Task 005. However, there is work that is required that will affect the O&M, but that does not fit under any other existing task (as a component of the out-of-scope work previously performed). Primarily, this includes the completion and submittal to FDEP of a modified monitoring plan. Therefore, a new task to cover this work as well as oversight services for recommended repairs/modifications to the system is proposed, as described below.

Golder is herein providing recommendations (some discussed in previous correspondence) to the County for making modifications to the system and/or addressing items that are not operating properly and/or making slight modifications that will increase the efficiency and effectiveness of the monitoring program and has included Golder's estimated costs. First, as has been discussed with the County in previous correspondence, Golder is recommending the replacement of the dripleg located in the southwest corner of the landfill (across from the flare) with a closed system. The reasoning behind this recommendation is that, as previously discussed, the number of wells currently on line are approaching the minimum number needed to maintain the pressures within the system such that the driplegs will operate without going dry. Additionally, recent occurrences at the site have indicated that this dripleg is apparently not draining properly and, as a result, excess water in the system at the flare (which should be discharged through this dripleg) is causing the flare to shut down. Based on the construction of the dripleg, the effort to determine the reasons for it not draining would likely be extensive and, because the dripleg will eventually need replacement per the earlier discussion, it is recommended that the dripleg be replaced now. We would recommend replacement with a closed system, i.e., a sump with a pump (similar to that installed in the closure area) that is connected to a force main that ties into the existing force main at the leachate collection system risers for the southwest corner cells. This would entail the County retaining a contractor (based on familiarity with the site and potential warranty issues, OWT would be recommended) to perform the work and Golder would provide oversight (included under Task 006).

It is also recommended that several other operational items be addressed by OWT while on site to replace the dripleg. It should be noted that some of these items may be considered warranty items, depending on the cause of the malfunction, and therefore, would not cost the County additional funds. One of the items includes the well seals in the closure area. Since the start-up in July (initially part-time operation), there have been a few wells that have indicated oxygen levels above

what would be expected to be entering the system. Two of the wells, GW-49 and GW-50 are located in the closure area and, until additional data is collected that shows otherwise, the source of oxygen at these locations is suspected to be the well seal at the surface. OWT previously made adjustments to several of the closure wells to address inadequate seals, but some of the seals may still need repair (this may be an ongoing maintenance item because pumping of the gas has increased the settlement in this area). It is recommended that an evaluation of the seals be made and adjustments or corrections made as necessary. The other well showing high oxygen is well GW-4, which is located on the west side of the active area of the landfill. An investigation of the possible source of the oxygen at this well is recommended to be conducted by OWT and may include downhole camera investigation and/or excavation around the well to determine if a leak below grade is occurring.

Other items for OWT to address include three wells in the active area that were extended during waste filling activities in the area that are now too high to reach from the ground surface (i.e., a ladder is needed to perform monitoring). It is recommended that OWT cut off these wells to specified heights (to be determined by Golder) while on site. Another item that would make the additional monitoring requirements easier would be for an access port to be installed in each wellhead in the active area (7 wells) to allow access for the down-hole temperature probe and/or a water level indicator. Also, for the remaining dripleg located on the west side of the landfill, an access port for the water level indicator is recommended.

During discussions with County staff, it is our understanding that the flare (skid-mounted) was not grounded when installed. The County has obtained information from the flare manufacturer to determine the recommended grounding requirements and will install these as soon as possible. We recommend that OWT evaluate the grounding that the County has installed and provide information/documentation that the installed grounding is adequate and/or install the necessary grounding to achieve compliance with manufacturer's recommendations. Golder agrees that the grounding should have been performed during installation and is considered a warranty item. Also, recent problems have been encountered with a float switch in the knock-out pot at the flare. OWT has already been notified of this problem and will replace the component and/or correct the problem.

Another component that could help with some of the pressure-related issues with the flare² and the drainage of the system is a timer. We recommend that a timer be installed on the flare to allow for periodic temporary shutdown of the flare to allow drainage of the knock-out pot. The timer could also be used for shutdowns for the weekend days or any time period when there may be a concern with the system running without supervision.

Golder has included on the attached Table 2 under Task 006 an estimate of the oversight requirements for the above-recommended work to be performed along with effort to complete and submit the monitoring plan to FDEP. As shown, Task 006 is estimated at approximately \$26,360, of which a portion is estimated at approximately 15 days in the field providing oversight for the recommended modifications and/or repairs to the system, per the schedule submitted by OWT. Also, as requested by County staff, Golder has prepared a request for bid from OWT for the above-discussed items and OWT's estimated cost ranges from \$71,960 to \$90,310. This range is due to

² The flare was designed to allow for expansion of the system, therefore the blower is currently operating on the lower end of its performance curve, which results in higher pressures to maintain minimum flow for the system. These higher pressures can inhibit proper drainage of the condensate knockout pot during system operation.

the request for alternate prices on two items in order to evaluate the difference in costs for various procedures. It is noted that OWT prepared its costs without knowing the extent of the work involved for several items and that the work involves both OWT and LFG Specialties (subcontractor/subsidiary) personnel.

Summary

Golder has prepared this letter to provide the County with information on the work performed to date and the anticipated work remaining for this project. As discussed earlier, this revised budget, once approved, is anticipated to take the project to completion under this task order (see footnote 1), barring any unforeseen circumstances or requirements imposed by FDEP. As shown on Table 2, the remaining effort and expenses for each task have been estimated and combined with the existing budget (be it remaining or an exceedance) to determine a total amount being requested by this letter. The total amount requested is \$46,053, which includes some out-of-scope work already performed as well as future work preparing a plan for FDEP and oversight for recommended work to improve the system. The amount by which the individual task budgets have been exceeded (as a result of out-of-scope work) is approximately 10 percent of the total project budget, and the majority of the requested funds are for future work (\$26,360).

Golder appreciates the Board's review of this letter and considerations of the additional costs that Golder believes were justly charged in performance of work for the County and future costs that are necessary to finish this project. As with the majority of the work performed by Golder for the County, only effort and expenses directly attributable to the project will be invoiced to the County. If there are any questions, please call.

Very truly yours,

GOLDER ASSOCIATES INC.



Wendy D. Karably
Senior Project Manager/Associate

Attachments – Tables 1 and 2

cc: Mr. Robert McIntyre, Solid Waste Director
Mr. Kevin Brown, Golder

FN: g:\projects\993-3928\21&37\Cost Review and Request1.doc

TABLE 1
PROGRESS BUDGET AND INVOICE SUMMARIES
PERMITTING, BID PREPARATION, CONSTRUCTION AND O&M SERVICES
LANDFILL GAS EXTRACTION SYSTEM
WEST NASSAU LANDFILL
NASSAU COUNTY, FLORIDA

BUDGET SUMMARY THROUGH 09/29/02

TASK	DESCRIPTION	TOTAL EXPENDED TO DATE	APPROVED BUDGET TOTAL	PERCENT EXPENDED TO DATE	BALANCE
001	FDEP Req'mts and Permit Mod.	\$1,054.62	\$7,310.00	14.4%	\$6,255.38
002	Title V Air Permitting	\$5,900.33	\$5,550.00	106.3%	(\$350.33)
003	Bid Document Prep. And Review	\$29,516.99	\$24,900.00	118.5%	(\$4,616.99)
004	CQA and Design Support	\$84,006.29	\$74,560.00	112.7%	(\$9,446.29)
005	First-Year System O&M	\$27,046.11	\$32,290.00	83.8%	\$5,243.89
	TOTAL	\$147,524.34	\$144,610.00	102.0%	(\$2,914.35)

INVOICE SUMMARY THROUGH 09/29/02

PAYMENT APPL. NO.	INVOICE PERIOD	INVOICE NO.	INVOICE DATE	INVOICE AMOUNT	PAID/UNPAID STATUS*	UNPAID BALANCE
1	04/01-04/28/01	0000045120	05/17/01	\$1,205.52	PAID	\$0.00
2	04/29-05/26/01	0000046290	06/07/01	\$1,060.60	PAID	\$0.00
3	05/27-07/01/01	0000048080	07/12/01	\$19,948.87	PAID	\$0.00
4	07/01-07/28/01	0000050238	08/15/01	\$7,164.17	PAID	\$0.00
5	07/29-08/25/01	0000051589	09/10/01	\$1,913.35	PAID	\$0.00
6	08/26-09/29/01	0000055198	11/10/01	\$1,568.85	PAID	\$0.00
7	09/30-11/24/01	0000056721	12/10/01	\$18,134.03	PAID	\$0.00
8	11/25-12/31/01	0000058321	01/17/02	\$21,448.30	PAID	\$0.00
9	01/01-01/26/02	0000059647	02/12/02	\$12,991.36	PAID	\$0.00
10	01/27-02/23/02	0000061495	03/18/02	\$21,597.17	PAID	\$0.00
11	02/24-03/30/02	0000062761	04/17/02	\$10,915.38	PAID	\$0.00
12	03/31-05/25/02	0000065987	06/13/02	\$13,029.67	PAID	\$0.00
13	05/26-06/29/02	0000067397	07/16/02	\$1,250.41	PAID	\$0.00
14	06/30-07/27/02	0000069709	08/22/02	\$1,882.04	PAID	\$0.00
15	07/28-08/24/02	0000070665	09/06/02	\$5,213.54	PAID	\$0.00
16	08/25-09/28/02	0000072441	10/10/02	\$8,201.08	UNPAID	\$8,201.08
	TOTALS			\$147,524.34		\$8,201.08

* Status as of November 12, 2002

TABLE 2

Cost Estimate
Remaining Work & Requested Funds
Landfill Gas Extraction System
West Nassau Landfill
Callahan, Nassau County, Florida

LABOR TASK	LABOR CATEGORY AND RATE										TOTAL HOURS	SUBTOTAL LABOR	
	Principal Sr. Consult	Associate	Senior Proj. Mgr.	Senior Engineer	Project Engineer	Staff Engineer I	Staff Engineer II	Drafting	Technician	Clerical			
001	0	0	0	0	0	0	0	0	0	0	0	0	\$0
002	0	2	2	16	0	0	0	0	0	4	4	24	\$2,124
003	0	0	0	0	0	0	0	0	0	0	0	0	\$0
004	0	24	0	0	0	0	0	0	0	4	4	28	\$3,040
005	0	0	0	0	0	0	0	0	0	0	0	0	\$0
006	14	32	30	0	60	130	0	4	60	12	12	342	\$24,730
TOTALS:	14	58	32	16	60	130	0	4	60	20	394	\$29,894	

EXPENSES TASK	DESCRIPTION	Field Vehicle	Per Diem	Communi-	Mileage	Shipping/	Field	Office	AutoCAD	Photo-	Drawing	Subcon-	SUBTOTAL EXPENSES
		(day) \$70	(day) \$25	ications (est.)	(mile) \$0.35	Postage (est.)	Equipment incl. PPE (est.)	Computer (hr) \$10	Computer (hr) \$20	copying (each) \$0.15	Reproduction (est.)	tractors (est.)	
001	FDEP Req'nts and Permit Mod.	0	0	\$0	0	\$0	\$0	0	0	0	\$0	\$0	\$0
002	Title V Air Permitting	0	0	\$0	0	\$50	\$0	0	0	0	\$0	\$0	\$50
003	Bid Document Prep. And Review	0	0	\$0	0	\$0	\$0	0	0	0	\$0	\$0	\$0
004	CQA and Design Support	0	0	\$0	0	\$50	\$0	0	0	100	\$0	\$0	\$65
005	First-Year System O&M	0	0	\$0	0	\$0	\$0	0	0	0	\$0	\$0	\$0
006	Recommended Modifications/Contingency	20	0	\$200	0	\$0	\$0	0	0	200	\$0	\$0	\$1,630
TOTALS:		\$1,400	\$0	\$200	\$0	\$100	\$0	\$0	\$0	\$45	\$0	\$0	\$1,745

TABLE 2

Cost Estimate
Remaining Work & Requested Funds
Landfill Gas Extraction System
West Nassau Landfill
Callahan, Nassau County, Florida

COST SUMMARY						
TASK	DESCRIPTION	SUBTOTAL LABOR	SUBTOTAL EXPENSES	TASK TOTAL	EXISTING BUDGET THRU SEPT	REQUESTED FUNDS OCT-DEC
001	FDEP Req'mts and Permit Mod.	\$0	\$0	\$0	\$6,255	\$0
002	Title V Air Permitting	\$2,124	\$50	\$2,174	(\$350)	\$2,524
003	Bid Document Prep. And Review	\$0	\$0	\$0	(\$4,617)	\$4,617
004	CQA and Design Support	\$3,040	\$65	\$3,105	(\$9,446)	\$12,551
005	First-Year System O&M	\$0	\$0	\$0	\$5,244	\$0
006	Recommended Modifications/Contingency	\$24,730	\$1,630	\$26,360	\$0	\$26,360
TOTALS		\$29,894	\$1,745	\$31,639	(\$2,914)	\$46,053