

**WORK AUTHORIZATION # CM2096-WA01
 NASSAU COUNTY
 BOARD OF COUNTY COMMISSIONERS
 RFQ/BID NO. NC13-033**

Consultant:	S2L, Incorporated
Contract Number:	CM2096
Contact Name:	Sam Levin, P.E.
Contact Number:	407-475-9163
Email:	Slevin@s2Li.com

CURRENT WORK AUTHORIZATION			
Project Short Title: Operation, Monitoring, Maintenance and Reporting for the Landfill Gas Collection and Control System at the West Nassau Class I Landfill			
		CONTRACT OVERVIEW	
Date Submitted	03/19/2014	Total of Previous Authorizations	\$0.00
Amount	\$101,250.04	This Work Authorization	\$101,250.04
Scheduled Completion	09/30/2014	Current Contract Total	\$101,250.04

This Work Authorization is to the AGREEMENT between Nassau County and the Consultant known as the Continuing Contract for Professional Engineering Services – Solid Waste Landfills and Other Related Ancillary Facilities for Nassau County, Florida, dated April 16, 2014. The services to be provided under this Work Authorization are as follows:

ARTICLE 1. Services Described as:

S2Li will provide for the operation, monitoring, maintenance, and reporting of the Landfill Gas (LFG) Collection and Control systems at the West Nassau Landfill, in accordance with the scope of services, attached hereto as Attachment “A”.

ARTICLE 2. Time Schedule

Work under this Work Authorization is expected to begin April 17, 2014 and run through the service period ending September 30, 2014.

ARTICLE 3. Budget

The cost estimate to conduct the Work as described in the Scope of Services is \$101,250.04. A detailed breakdown for each tasks with the estimated labor hours and expenses are included in the Exhibit 1 of Attachment “A”.

Article 4. Other Provisions


The Services covered by this Work Authorization will be performed in accordance with the provisions set forth in the AGREEMENT referenced above and any of its attachments or schedules. Additional terms or contract provisions whether submitted purposely or inadvertently, shall have no force or effect. This Work Authorization will become a part of the referenced AGREEMENT when executed by both parties.



In presenting this Work Authorization, Consultant agrees that:


Unless detailed herein, all drawings, data, electronic files and other information required for this Work Authorization has been accepted by Consultant. Specifically, all electronic files have been reviewed and accepted for the purposes of this Work assignment. Any additional information, including detailed scope of services are attached.

AGREED TO BY:

BY: 
Print Name: Samuel B. Levin
Title: President
Date: March 20, 2014

RECOMMENDED AND APPROVED BY NASSAU COUNTY:

Public Works
Director of ~~Engineering Services~~:

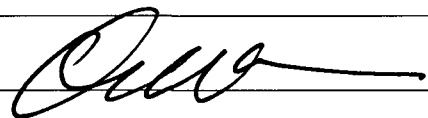


Board of County Commissioners, Chair:




Ex-Officio Clerk:

County Attorney:



APPROVED by the BOARD OF COUNTY COMMISSIONERS, the 16th day of April, 2014

ACCOUNT NO.: 70361534-531325 \$23,287.51
70362534-531325 \$77,962.53


**ATTEST AS TO CHAIRMAN'S
SIGNATURE ONLY**

Scope of Services

Operation, Monitoring, Maintenance, and Reporting for the Landfill Gas Collection and Control System at the West Nassau Class I Landfill

County Contract Number: CM2096

S2Li Project Number: 14-542

Work Authorization Service Period: April 17 through September 30, 2014

This Work will provide for the operation, monitoring, maintenance, and reporting of the Landfill Gas (LFG) Collection and Control systems at the West Nassau Landfill. The existing systems at the Landfill consist of approximately 50 vertical gas wells, 1 condensate pump station, 12 condensate connections to the leachate collection system risers, LFG header and lateral piping, control valves, 2 air compressors, blower and control station, and 1 candlestick flare. Under the scope of work for this Contract, S2L, Incorporated (S2Li) and its team of subconsultants shall perform four categories of service during a service time period, beginning on the contract date, which includes the following:

- Task 1 a) Routine operation and monitoring of the blower flare station, extraction well system and conveyance piping;
- b) Annual LFG Flare Visible Emission Testing; and
- c) Reporting.

- Task 2 Non-routine scheduled maintenance.

- Task 3 Non-routine unscheduled emergency services.

- Task 4 Parts and subcontractors for non-routine services.

It should be noted that this scope of services is for the period of mid-April 2014 through September 30, 2014. Some services required annually or semi-annually may not fall within this service period, and will be addressed within future work authorizations.

County Responsibilities

In general, the County shall:

1. Provide access to the site at reasonable times.
2. Provide S2Li with records and copies of previous operations and monitoring reports, permits, maintenance reports, past semi-annual and annual reports to regulatory agencies, operation and maintenance manuals, operations plans, and correspondences to and from regulatory agencies.
3. Provide a Landtec GEM2000, GEM5000, or equivalent to measure LFG flow rates, composition, and pressures at each wellhead, header/lateral piping, and at the flare stations.

The County is responsible for satisfying the manufacturer's recommended factory maintenance of the instrument (every six months for the GEM2000 or every 12 months for the GEM5000), as well as any unscheduled repair or maintenance of the instrument). If the County cannot provide a calibrated gas measuring unit, S2Li will provide a unit and bill the County as a rental unit under Task 4.

4. Provide, replace, and store the Flare Station LFG flow chart. A continuous LFG flow monitoring system and recorder must continue to be provided and be maintained in order to comply with monthly greenhouse gas (GHG) monitoring.
5. Respond to system dialer alert and alarms such as flare outages, blower shutdown, etc. and attempt to determine system fault and, if possible, restart the system. If the system cannot be restarted to normal continuous operations, notify S2Li to assist as provided under Task 3.
6. Record information into SSM Plan forms and provide to S2Li.
7. By March 1st of each year, provide S2Li any necessary records for the Title V annual operating report (due April 1st of each year).
8. Provide quarterly monitoring and reporting of the landfill's perimeter gas probes per Specific Condition No. 18a (2010) of the closure and long-term care permit.
9. Check and maintain the air compressor systems.
10. Replace or maintain compressed nitrogen or air gas canisters for operation of the automatic control valves and propane gas canisters for operation of the flare.

The West Nassau LFG Collection System is operated to vent all collected LFG to an open flare operated in compliance with NSPS requirements. In the event that the collection system is inoperable, it will be shut down and any valves in the GCCS contributing to the venting of gas to the atmosphere will be closed within one hour. NSPS operational and testing requirements apply at all times, except during periods of start-up, shutdown, or malfunction, provided that the duration of start-up, shutdown, or malfunction does not exceed five days for collection systems and does not exceed one hour for treatment and control devices (i.e. flares).

Schedule

Work under the Scope of Services provided below is expected to begin April 17, 2014 and run through this service period ending September 30, 2014.

Cost Estimate

The cost estimate to conduct the Work as described in the below listed Scope of Services is **\$101,250.04**. A detail breakdown for each tasks with the estimated labor hours and expenses are included in the attached Exhibit 1. Costs will be on a time and material basis. The County will be notified when the overall project budget is nearing its limit.

Scope of Services

Task 1 – Routine Operation, Monitoring, Adjustments, and Reporting

The LFG collection and control systems for the West Nassau Landfill will be operated, maintained, and monitored in accordance with NSPS requirements per 40 Code of Federal Regulations (CFR) 60 Subpart WWW, including pertinent calibrations, monitoring, and reporting. Operation and monitoring will include, but not be limited to, the following schedule:

1. Initial Data Collection And Evaluation

For this initial service period, S2Li will:

- a) Review past reports and data received from the County that was prepared by others;
- b) Upload applicable past recorded data into an online data base system; and
- c) Evaluate the data to determine if there are any trending compliance issues.

2. Blower/Flare Station

A. Monthly Blower/Flare Station Checks

S2Li will visit the site once per month to perform the following services:

1. Measure and record LFG composition (methane, carbon dioxide, oxygen, and balance gas percent by volume), pressure, and temperature at the flare inlet. This information will be utilized as part of the annual GHG reporting requirements.
2. Record LFG flow rate to the flare and thermocouple temperature as displayed on the chart recorder or control panel indicator.
3. Measure and record pressure at the condensate knockout pot, the blower inlet and outlet, the flame arrester inlet and outlet, and the pressure drop across the flame arrester.
4. Adjust the system to increase or decrease the LFG flow depending on the monitoring data to maintain proper gas quality and provide sufficient vacuum to the extraction system.
5. Minor items such as damaged monitoring ports and temperature gauges will be repaired or replaced when encountered. Major repair problems will be reported to the County immediately and covered under Task 2 as appropriate.
6. Check flare pilot system and propane cylinder levels.
7. Check compressed nitrogen or air cylinder levels for operation of the main automatic control valves.
8. Observe and record any problems with equipment including any flare shutdowns. Check and adjust controller set points.
9. Check air compressors' operation including air lines, record air pressure, and to the extent that an hour meter is installed, obtain and document the reading of the hour meter once per month.
10. Check and add grease (if needed) for the blower bearings.

B. Quarterly Blower/Flare Station Checks (by June 2014, by September 2014)

S2Li will visit the site quarterly (may be conducted during a normal monthly visit) to do the following:

1. Check and lubricate (if needed) blower bearings and valves in accordance with manufacturer's recommendations. Note: Blower bearing grease may be changed every quarter if dirty. If the bearing grease needs to be changed, services required will be addressed under Tasks 2 and 4.

C. Semi-Annual Blower/Flare Station Checks

S2Li will visit the site semi-annually (may be conducted during a normal monthly visit) to do the following:

1. Change blower bearing grease in accordance with manufacturer's recommendations. (September 2014). Services required for this task will be addressed under Tasks 2 and 4.

D. Annual Blower/Flare Station Checks

S2Li will visit the site once per year to do the following:

1. Have the LFG flow meter removed and calibrated (by September 30, 2014). A temporary gas flow meter may be required to be rented and installed during the calibration period. Provide the County with calibration certification documentation. These services will be billed under Tasks 2 and 4.

3. **LFG Extraction System**

A. Monthly LFG Extraction Systems Checks and Tuning

S2Li will visit the site at least once per month to do the following:

1. All system components shall be checked for proper operation in accordance with NSPS requirements 40 CFR 60.
2. Perform preventive and corrective maintenance relative to the LFG Extraction Systems in accordance with applicable federal and state laws, regulations, and permits and generally accepted or recommended industry maintenance practices, procedures and standards. Additional adjustments may be required to address odor concerns. Note: This service may be required under Task 2, 3, and 4.
3. At each well extraction point, the following shall be measured and/or observed and recorded.
 - a. LFG flow rate.
 - b. LFG composition (methane, carbon dioxide, oxygen, and balance gases). Oxygen levels above 5 percent shall be noted and addressed per NSPS requirements.
 - c. LFG pressure. Pressures shall be noted and addressed per NSPS requirements. *(Note: Since the landfill was closed with the use of geomembrane or synthetic cover, positive pressures are allowed. However, the facility will be tuned such that each well will be pulling a vacuum, if possible).*
 - d. LFG temperature. Temperatures equal to or above 131 degrees Fahrenheit shall be noted and addressed per NSPS requirements.
 - e. The condition of the well head piping and well bore seal condition at the landfill surface.
 - f. In conjunction with the once per month monitoring, adjustments to the system shall be made as required to maintain odor control, system balance, and NSPS compliance. If pressure, composition, and temperature exceedances as noted above cannot be corrected within 15 days by adjusting the system, S2Li will notify the

County and the Florida Department of Environmental Protection (FDEP). A plan will be developed by S2Li with County input and with the Subcontractor's assistance, to correct the exceedance within 120 calendar days. Any such corrective actions shall be conducted in accordance with Tasks 2, 3, and 4.

- g. Check condensate handling system for proper operation. Perform an external inspection of condensate sumps, condensate traps, pump stations, and condensate discharge locations. Record pump cycle count, liquid level, and air pressure for each of the pneumatic condensate sump pumps. Where the pumps discharge to an above ground well riser or below ground injection system, visually confirm that liquid is being pumped.
- h. Report to the County within 24 hours of measurement or observation any abnormal readings of LFG temperature (131 degrees Fahrenheit or greater, oxygen levels above 5 percent) or other observations (such as a smoky odor or substantial waste settlement) which may be indicative of a subsurface landfill fire.

There may be a need for follow-up work related to retesting after adjustment to the wellfield system, per NSPS requirements, or for any corrections to the system. One additional day per month has been budgeted for retesting of wells and connections points found to be out of compliance during the routine monthly monitoring event. This work does not include any non-routine services included under Tasks 2, 3 and 4.

B. Annual LFG Extraction System Checks

S2Li will visit the site once per year to perform the following services:

- 1. Exercise all valves annually (to be completed by September 30, 2014).

4. **Annual LFG Flare Visible Emission Testing and Reporting (by August 2014)**

For the flare, the following is to be completed:

- A. Prepare a notification letter for submittal by the County to the FDEP. Notification is required to be submitted 15 days before testing begins.
- B. Conduct a visible emissions test for each flare in accordance with U.S. Environmental Protection Agency (USEPA) Method 22. The maximum allowable visible emissions may not exceed 20 percent.
- C. Prepare a test report summarizing the test requirements, conditions during the test, and test results. The report shall include the information required by Chapter 62-297, Florida Administrative Code (F.A.C.), and U.S. EPA Method 22. A draft of the report will be submitted to the County for review within 15 days of completion of the test. After review and approval by the County, the final report will be submitted to FDEP within 30 days of the test.

5. **Reporting**

A. Monthly Reporting

- i. A report shall be submitted to the County by the 15th of each month summarizing the last three months of operation utilizing an online data base program.
- ii. All wellhead monitoring data required under the NSPS shall be kept on file. The monthly report shall include wellhead readings of gas composition (methane, carbon dioxide, oxygen, and balance gas), pressure, temperature, and flow rate. Readings and comments shall also be included for rechecks of wells that are out of compliance with the NSPS wellhead operating criteria. The report shall detail the cause of the non-compliance, all remedial actions taken to correct the non-compliance, any future work that may be necessary to keep the wells in compliance with the NSPS requirements, and any other information as required under this Task.
- iii. Flare station data to be included in the report shall include gas composition and temperature, vacuum applied to the header system, and flow rate. Graphs shall also be prepared and submitted with the report plotting: 1) Blower/Flare Station Gas Composition (CH₄, CO₂, O₂, and Balance) – percentage by volume versus time and 2) Blower/Flare Station Flow and Inlet Pressure – SCFM and Inches-W.C. versus time.
- iv. Any condensate management system monitoring data shall also be provided in the monthly report.
- v. The monthly report shall detail all work conducted and confirm the system is being maintained in compliance with the NSPS. Any corrections conducted on the system or required to be conducted shall be listed. The report shall include a narrative summary of any significant trends in the monitoring data and explanations of anomalous data. Recommendations shall also be provided regarding potential non-routine repairs that are anticipated.

B. Semi-Annual Reporting

This task addresses the semi-annual reports required by the facility's Title V Operation Permit. These reports will be prepared for submittal by the following dates:

- 2014 First Semi-Annual Report: by July 30, 2014

i. Semi-Annual NSPS Report

S2Li will prepare semi-annual reports required under 40 CFR 60.757(f) and (g), and will include the following information:

- Value and length of time for exceedance of applicable monitoring parameters.
- Description and duration of all periods when the control device was not operating for a period exceeding one hour and the length of time the control device was not in operation.
- List of periods when the collection system was not operating in excess of five days.

- Description and duration of all periods when the gas stream was diverted from the control device through the bypass line.
- The location of each exceedance of the 500 ppm VOC as methane surface emission criteria.
- A diagram of the collection system showing all wells and collectors, including the areas excluded from collection and the areas into which the system are added in the future. This diagram will be provided by the County (or its Consultant) and include all new work that occurred during the reporting period.

ii. Semi-Annual SSM Report

S2Li will prepare semi-annual reports which will include the number of SSM events and whether or not SSM Plan procedures were followed. Any changes required to be made to the SSM Plan are not included in this scope of services.

iii. Report Submittals

S2Li will provide one draft copy of the NSPS and SSM reports for the County's review. Upon receipt of comments from the County, S2Li will submit one copy of the signed and sealed semi-annual reports to FDEP, and one copy for the County's files. Additionally, an electronic copy of the report will also be provided to each recipient.

Task 2 – Non-Routine Scheduled Maintenance

- A. S2Li's duties under this section shall include non-routine scheduled maintenance consisting of corrective repair or maintenance work identified during the monthly monitoring. This work shall include but not be limited to:
1. Header and lateral pipe realignment.
 2. Determining water levels in wells.
 3. Adding pumps to wells.
 4. Resetting of pipe supports.
 5. Repairing of broken valves.
 6. Replacing well heads.
 7. Replacing flex hoses (e.g., torn, degraded, needs extension).
 8. Overseeing the repair of all items associated with the landfill cap which resulted from the repair or movement of header pipes and/or lateral lines.
 9. Overseeing the repair of landfill closure liner cap system.
 10. Adding new monitoring ports as needed to measure pressure levels.
 11. Repairing or replacing damaged or broken monitoring ports, valves, couplings, thermometers, and clamps.
 12. Installing replacement extraction wells.
 13. Cleaning and adjusting of the flame arrester.
 14. Cleaning and adjusting condensate pumps and components.
 15. UV Eye cleaning.

16. Replacing flare station components such as thermocouples, etc.
 17. Replacing or cleaning the filter within the Knockout Pot at the Flare Station.
 18. LFG analytical sampling.
 19. Replacing or maintaining propane tanks for operation of the ignition systems.
 20. Providing rental equipment.
 21. Changing bearing grease for the blower.
 22. Having LFG flow meter removed, calibrated, and reinstalled.
- B. S2Li and County personnel are to conduct a joint walk-through and evaluation of the landfill gas wellhead system (i.e. valves, hoses, clamps, covers, etc.) and flare station to determine whether repair or replacement of certain identifiable items are required. The wellhead valves will be exercised during this evaluation. If it reaches a point where five valves failed the exercising procedure, the evaluation will continue, however, the exercising of the valves will be discontinued until a point after the valves are repaired or replaced. A list of items to be fixed or replaced along with an estimated cost will be submitted to the County. Upon approval by the County, work to repair or replace the items identified under this task will be billed under Tasks 2 and 4 assuming sufficient funds are available.
- C. This type of work under Task 2 is critical for system operation and the required services are difficult to predict during a contract service period. Payment for Task 2 shall be billed at the contract hourly rate. All parts and/or rental equipment are to be paid at the delivered cost. S2Li shall submit a copy of the invoice for the parts used for price verification along with the invoice submitted to the County for payment under Task 4 – Parts and Subcontractors for Non-Routine Services, unless the County elects to provide a Purchase Order for the direct purchase of a part. Should a Subcontractor be required for construction related work, it must be authorized in writing by the County under Task 4 – Parts and Subcontractors for Non-Routine Services. The total costs for the services provided under this task is limited to the budgeted amount under this task. If the costs for services is expected to exceed the budget amount or amount remaining under this task, S2Li will notify the County and alternative funding will be obtained.

Task 3 - Non-Routine Unscheduled Emergency Services

S2Li duties under this task include events that require immediate response to assist County personnel. Due to the urgent nature of these items, they cannot be scheduled. The events and services under this task could include, but are not limited to:

- a. Blower/Flare Station shut down;
- b. Repair of main header line breaks;
- c. Response to odor complaints;
- d. Repair/maintenance and troubleshooting of the blowers and flare; and
- e. The detection of LFG migration.

Sampling of LFG composition and pressures within various locations of the header pipe may also be necessary to diagnose problems within the LFG collection system, such as condensate accumulation, pipe obstructions, broken valves, etc.

S2Li is available to be contacted 24 hours a day, 7 days a week and if required, can be on-site within 24 hours of notification.

S2Li Contact: Omar E. Smith, P.E., V.P.,
Regional Manager
Tel: 770-517-9759
Cell: 770-330-1638
Alt. Tel: 407-475-9163

Work under this task shall be conducted upon authorization by the County and shall be billed at the hourly contract rate for Task 3. All parts are to be paid at the delivered cost. Should a Subcontractor be required for specialty related work, it must be authorized in writing by the County under Task 4 – Parts and Subcontractors for Non-Routine Services.

The total costs for the services provided under this task is limited to the budgeted amount under this task. If the costs for services is expected to exceed the budget amount or amount remaining under this task, S2Li will notify the County and alternative funding will be obtained.

Task 4 - Parts and Subcontractors for Non-Routine Services

- A. Required parts and/or rental equipment provided by S2Li's services under Tasks 2 and 3 are to be paid under Task 4. All parts or equipment are to be paid at the delivered cost. S2Li shall submit a copy of the invoice for the parts or rental equipment used for price verification along with the invoice submitted to the County for payment from the funds allocated for Task 4 – Parts and Subcontractors.
- B. Should S2Li require a Subcontractor for specialty related work such as realignment of lateral and headers lines, repairs to the Flare Station, or repair to the liner cap system, etc., an estimate for the Subcontractor's work must be submitted to the County for review and approval. The Subcontractor's work must be authorized by the County. No work shall be conducted under this task unless authorized, in writing, by the County.
- C. S2Li shall submit a copy of the Subcontractor's invoice for price verification along with S2Li's invoice. The total costs for the services provided under this task are limited to the budgeted amount under this task. If the costs for services are expected to exceed the budget amount or amount remaining under this task, S2Li will notify the County and alternative funding will be obtained.

March 19, 2014

EXHIBIT 1

Service Period Estimate

April 15 through September 30, 2014

S2Li No.

14-452

County No.

CM2096

Total Project Costs
S2Li Fee Estimate

Operation, Monitoring, Maintenance, and Reporting
Landfill Gas Collection and Control System
West Nassau Class I Landfill
Nassau County, Florida

LABOR	TASK	DESCRIPTION	LABOR CATEGORY AND RATE								TOTAL HOURS	SUBTOTAL LABOR	
			Project Dir./	Regional Manager/	Principal	Senior	Associate	CAD		Office			
			Principal	QC Officer	Engineer	Engineer	Engineer	Technician		Manager			
			\$225.00	\$208.88	\$171.38	\$122.51	\$47.47	\$47.47			\$68.46		
1		Routine Operation, Monitoring, Adjustments, and Reporting	18	96	0	124	238	0			32	508	\$52,782.30
1.1		Initial Data Collection and Evaluation	4	24	0	32	24	0			4	88	\$11,246.56
1.2		Blower/Flare Station (2/month; 12 total)	0	13	0	3	12	0			0	28	\$3,652.61
1.3		LFG Extraction (2/month; 12 total)	6	29	0	53	150	0			12	250	\$21,842.57
1.4		LFG Flare Emission Test and Reporting- Method 22 (1 event)	1	2	0	4	0	0			2	9	\$1,269.72
1.5		Reporting											
1.5A		Monthly (6 events)	6	24	0	28	48	0			12	118	\$12,893.48
1.5B		Semi-Annual (1 event)	1	4	0	4	4	0			2	15	\$1,877.36
2		Non-Routine Scheduled Maintenance	2	24	0	24	48	0			0	98	\$10,681.92
3		Non-Routine Unscheduled Emergency Services	2	8	0	8	0	0			0	18	\$3,101.12
4		Parts and Subcontractors for Non-Routine Services	0	0	0	0	0	0			0	0	\$0.00
		SUBTOTALS:	22	128	0	156	286	0	0	0	32	1132	\$66,565.34

EXPENSES	TASK	DESCRIPTION	Field	Lab	Equipment	Parts	Landtec	Grove	Subcon-					SUBTOTAL EXPENSES
			Vehicle (\$90/day)	Testing (est.)	Rental (est.)	(est.)	Web Data Base (\$500/m)	Scientific (see attached)	tractors (est.)					
1		Routine Operation, Monitoring, Adjustments, and Reporting												
1.1		Initial Data Collection and Evaluation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ -
1.2		Blower/Flare Station (2/month; 12 total)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ -
1.3		LFG Extraction (2/month; 12 total)	\$ 1,080.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ 1,080.00
1.4		LFG Flare Emission Test and Reporting- Method 22 (1 event)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,981.32	\$ -	\$ -				\$ 1,981.32
1.5		Reporting												
1.5A		Monthly (6 events)	\$ -	\$ -	\$ -	\$ -	\$ 3,000.00	\$ -	\$ -	\$ -				\$ 3,000.00
1.5B		Semi-Annual (1 event)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,623.38	\$ -	\$ -				\$ 6,623.38
2		Non-Routine Scheduled Maintenance	\$ -	\$ -	\$ -	\$ 5,000.00	\$ -	\$ -	\$ 7,000.00	\$ -				\$ 12,000.00
3		Non-Routine Unscheduled Emergency Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,000.00	\$ -				\$ 4,000.00
4		Parts and Subcontractors for Non-Routine Services	\$ -	\$ -	\$ -	\$ 3,000.00	\$ -	\$ -	\$ 3,000.00	\$ -				\$ 6,000.00
		SUBTOTALS:	\$ 1,080.00	\$ -	\$ -	\$ 8,000.00	\$ 3,000.00	\$ 8,604.70	\$ 14,000.00	\$ -				\$ 34,684.70

COST SUMMARY				
TASK	DESCRIPTION	SUBTOTAL LABOR	SUBTOTAL EXPENSES	TASK TOTAL
1	Routine Operation, Monitoring, Adjustments, and	\$52,782.30	\$12,684.70	\$65,467.00
2	Non-Routine Scheduled Maintenance	\$10,681.92	\$12,000.00	\$22,681.92
3	Non-Routine Unscheduled Emergency Services	\$3,101.12	\$4,000.00	\$7,101.12
4	Parts and Subcontractors for Non-Routine Services	\$0.00	\$6,000.00	\$6,000.00
TOTALS		\$66,565.34	\$34,684.70	\$101,250.04

Service Period Estimate
 April 15 through September 30, 2014
Operation, Monitoring, Maintenance, and Reporting
Landfill Gas Collection and Control System
 West Nassau Class I Landfill
 Nassau County, Florida

Attachment - GROVE Scientific Fee Estimate - Subconsultant

LABOR		LABOR CATEGORY AND RATE										TOTAL HOURS	SUBTOTAL LABOR
		Sen. Scientist/ Principal \$126.57	Sen. Engineer/ PE \$225.00	Professional Geologist \$57.92	Environ. Scientist \$84.38	Environ. Specialist \$70.38	Technician \$35.10				Para. Professional \$59.67		
TASK	DESCRIPTION												
1	Routine Operation, Monitoring, Adjustments, and Reporting	18	4	0	9	0	0	0	0	0	0	81	\$8,514.70
1.1	Initial Data Collection and Evaluation	0	0	0	0	0	0	0	0	0	0	0	\$0.00
1.2	Blower/Flare Station (2/month; 12 total)	0	0	0	0	0	0	0	0	0	0	0	\$0.00
1.3	LFG Extraction (2/month; 12 total)	0	0	0	0	0	0	0	0	0	0	0	\$0.00
1.4	LFG Flare Emission Test and Reporting- Method 22 (1 event)	12	0	0	3	0	0	0	0	2	17		\$1,891.32
1.5	Reporting												
1.5A	Monthly (6 events)	0	0	0	0	0	0	0	0	0	0	0	\$0.00
1.5B	Semi-Annual (1 event)	6	4	0	56	0	0	0	0	4	70		\$6,623.38
2	Non-Routine Scheduled Maintenance	0	0	0	0	0	0	0	0	0	0	0	\$0.00
3	Non-Routine Unscheduled Emergency Services	0	0	0	0	0	0	0	0	0	0	0	\$0.00
4	Parts and Subcontractors for Non-Routine Services	0	0	0	0	0	0	0	0	0	0	0	\$0.00
	SUBTOTALS:	36	8	0	118	0	0	0	0	0	6	168	\$8,514.70

EXPENSES		Field Vehicle (\$90/day)	Lab Testing (est.)	Equipment Rental (est.)	Parts (est.)	Landtec Web Data Base (\$500/m)	Subcontractors (est.)						SUBTOTAL EXPENSES
		TASK	DESCRIPTION										
1	Routine Operation, Monitoring, Adjustments, and Reporting												
1.1	Initial Data Collection and Evaluation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.2	Blower/Flare Station (2/month; 12 total)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.3	LFG Extraction (2/month; 12 total)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.4	LFG Flare Emission Test and Reporting- Method 22 (1 event)	\$ 90	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 90
1.5	Reporting												
1.5A	Monthly (6 events)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1.5B	Semi-Annual (1 event)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2	Non-Routine Scheduled Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	Non-Routine Unscheduled Emergency Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4	Parts and Subcontractors for Non-Routine Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	SUBTOTALS:	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 90
TOTAL												\$8,604.70	