

South Gifford Road Landfill

This Amendment 2 to Work Order Number 4 is entered into as of this 24th day of January, 2016, pursuant to that certain Continuing Contract Agreement for Professional Services, dated November 15, 2011, and that certain Extension and Amendment of Continuing Contract Agreement for Professional Services entered into as of this 4th day of November, 2014 (collectively referred to as the "Agreement"), by and between INDIAN RIVER COUNTY, a political subdivision of the State of Florida ("COUNTY") and Geosyntec Consultants, Inc. ("Consultant").

1. The COUNTY has selected the Consultant to perform the professional services set forth in existing Work Order Number 4, Effective Date March 1, 2016.

2. The COUNTY and the Consultant desire to amend this Work Order as set forth on Exhibit 1 (Scope of Work) attached to this Amendment and made part hereof by this reference. The professional services will be performed by the Consultant for the fee schedule set forth in Exhibit 1 (Fee Schedule), and within the timeframe more particularly set forth in Exhibit 1 (Time Schedule), all in accordance with the terms and provisions set forth in the Agreement.

3. From and after the Effective Date of this Amendment, the above-referenced Work Order is amended as set forth in this Amendment. Pursuant to paragraph 1.4 of the Agreement, nothing contained in any Work Order shall conflict with the terms of the Agreement and the terms of the Agreement shall be deemed to be incorporated in each individual Work Order as if fully set forth herein.

IN WITNESS WHEREOF, the parties hereto have executed this Work Order as of the date first written above.

CONSULTANT:**Geosyntec Consultants, Inc.****BOARD OF COUNTY COMMISSIONERS
OF INDIAN RIVER COUNTY**

By: _____



Sr. Principal

By: _____

Joseph E. Flescher, Chairman

Title: _____

BCC Approved Date: _____

Attest: Jeffrey R. Smith, Clerk of Court and Comptroller

By: _____

Deputy Clerk

Approved: _____

Jason E. Brown, County Administrator

Approved as to form and legal sufficiency: _____

Dylan T. Reingold, County Attorney

EXHIBIT 1

PROFESSIONAL SERVICES

28 December 2016

Mr. Himanshu H. Mehta, P.E.
Managing Director
Solid Waste Disposal District
Indian River County
1325 74th Avenue SW
Vero Beach, Florida 32968

**Subject: Proposal to Implement FDEP-Approved Remedial Action Plan Modification
(RAPM) Addendum No. 3
Former South Gifford Road Landfill
Vero Beach, Indian River County, Florida**

Dear Mr. Mehta:

Geosyntec Consultants (Geosyntec) is pleased to submit this letter proposal to the Indian River County (IRC) Solid Waste Disposal District (SWDD) to provide professional services associated with implementation of Florida Department of Environmental Protection (FDEP)-approved RAPM Addendum No. 3 related to the recalcitrant chlorinated volatile organic compound (CVOC) plume at the Former South Gifford Road Landfill located in Vero Beach, Indian River County, Florida. As requested by IRC, this fee proposal includes budget to implement activities required by FDEP as outlined in the RAPM Addendum No. 3 dated 31 May 2016 and approved by FDEP in a letter dated 15 July 2016. Geosyntec has prepared this proposal (professional services as Exhibit 1) as Amendment No. 2 to existing Work Order No. 4 for the Continuing Contract Agreement for Professional Services between IRC SWDD and Geosyntec.

The remainder of this letter provides a project background, an overview of a description of the proposed scope of work, a budget estimate, and a discussion of the schedule for accomplishment of the work described herein.

PROJECT BACKGROUND

Remedial activities have been completed at the Site historically to address CVOC concentrations identified in groundwater as outlined in the FDEP-required Remedial Action Plan (RAP) for the Site, as well as subsequent RAP Modifications (RAPMs). Source removal activities were completed in 2004 and subsequently bioremediation activities were implemented. Performance monitoring data has been collected during subsequent semi-annual groundwater monitoring events and the results of these monitoring events have been included within the semi-annual groundwater

monitoring reports provided to the FDEP. As outlined in the RAPM Addendum No. 2, it was anticipated at the time that additional bioremediation injection activities would likely be warranted in 3 to 5 years as the injected electron donor was depleted.

Trichloroethene (TCE) concentrations in the former source area (GR-MW30B) have fluctuated following the injection activities associated with RAPM Addendum No. 2, with semi-annually reported concentrations above the Groundwater Cleanup Target Level (GCTL) ranging from 124 to 3,150 micrograms per liter ($\mu\text{g/L}$) since June 2014, indicating that while groundwater concentrations at the Site have significantly improved (with concentrations lower by several orders of magnitude over pre-source removal concentrations), there may be recalcitrant CVOC mass in the vicinity of the former source area that continues to contribute CVOCs to groundwater.

A RAPM3, requested by FDEP in correspondence dated 21 September 2015, was approved by FDEP on 15 July 2016 and proposed a follow up injection of electron donor and dechlorinating microbial culture in the former source area. Former source area pre-injection investigation activities, including collection of discrete groundwater samples via direct push technology (DPT) and collection of groundwater samples from site monitoring well injection wells, were conducted in July 2016 and resulted in a refined target treatment area within the former source area.

PROPOSED SCOPE OF WORK

The proposed scope of work includes the activities required to implement the FDEP-approved RAPM Addendum No. 3, including the procurement of injection amendment and drilling subcontractor and performance of the injection activities. The remainder of this letter provides details regarding the proposed scope of work and a budget estimate to accomplish the work described herein.

For the purpose of budgeting, the scope of work has been divided into the following four phases:

- Phase 1 – Project Management;
- Phase 2 – Meetings/Regulatory Interaction;
- Phase 3 – Injection Activities; and
- Phase 4 – UIC and Performance Monitoring and Reporting.

The remainder of this section presents a general description of the activities to be performed in each phase.

Phase 1 – Project Management

Under this task, Geosyntec will perform project planning and management responsibilities, such as correspondence with IRC SWDD and FDEP, invoice review, project coordination.

Phase 2 – Meetings/Regulatory Interaction

Under this task, Geosyntec will prepare for, and attend a project meeting with FDEP, as requested by IRC SWDD. It has been assumed that two Geosyntec personnel will attend the meeting, which will be held at the IRC SWDD office. A powerpoint presentation will be prepared for use during the meeting.

Phase 3 – Injection Activities

Under this task, Geosyntec will implement the proposed injection activities, as outlined in the FDEP-approved RAPM Addendum No. 3 and detailed information provided to IRC SWDD via email on 28 December 2016 regarding the proposed injection approach and refined treatment area.

These activities will include monitoring well installation, procurement of injection amendment and drilling subcontractor and performance of the injection activities. It has been assumed that the injection activities can be completed in five field days (one day for onsite field prep, three days for monitoring well installation and injection activities, and one day for breakdown). IDW will be containerized and staged on-site for proper disposal.

Underground Injection Control (UIC) monitoring is required after injecting remedial fluids into the aquifer according to Chapter 62-528 of the Florida Administrative Code (F.A.C.). UIC monitoring will be included with the semi-annual sampling events until criteria are met. Performance monitoring of CVOCs and total organic carbon will continue to be included as part of the semi-annual sampling events. Budget for UIC and performance monitoring will be conducted concurrently with semi-annual groundwater monitoring at the Site as a cost-savings measure. Budget has not been included herein for these activities at this time.

Phase 4 – Reporting

Implementation of RAPM Addendum No. 3 will be summarized in the semi-annual groundwater monitoring report that follows completion of the implementation activities. A limited budget has been included herein to incorporate a description of these activities and a summary of the results into the currently authorized semi-annual groundwater monitoring reports.

SCHEDULE

Geosyntec will initiate project scheduling and implementation activities within two weeks of receipt of notice to proceed from the County. The final field schedule will be based on subcontractor availability and the delivery schedule for the injection materials. We anticipate that the field activities will tentatively be conducted in February 2017. A description of the well installation and dosing activities will be included in future semi-annual groundwater monitoring report(s).

BUDGET ESTIMATE

A budget estimate for the scope of work outlined in Phases 1 through 4 of this proposal is summarized in the following table, and a detailed budget estimate is provided as Exhibit 1. The budget estimate presented in this proposal is based on Geosyntec's understanding of the project requirements, our experience gained from executing similar tasks for SWDD since 2002 at the site, and experience with groundwater remediation activities at similar facilities.

Geosyntec will not exceed the budget estimate without prior approval and written authorization from IRC SWDD.

Phase 1 – Project Management	\$3,339
Phase 2 – Meetings/Regulatory Interaction	\$4,901
Phase 3 – Injection Activities	\$41,379
Phase 4 – Reporting	\$3,829
TOTAL	\$53,448

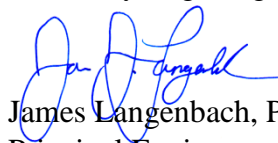
CLOSURE

Geosyntec appreciates this opportunity to offer our services. If this proposal is acceptable, please indicate your agreement by signing the attached work authorization, which references this proposal. Please return one signed work authorization to Ms. Johnson's attention. Please call either of the undersigned with questions you may have as you review this proposal.

Sincerely,



Jill Johnson, P.G.
Senior Hydrogeologist



James Langenbach, P.E.
Principal Engineer

Attachments

ATTACHMENT A

BUDGET ESTIMATE

Attachment A

**BUDGET ESTIMATE
SOUTH GIFFORD ROAD LANDFILL**

PHASE 1: Project Management

ITEM	BASIS	RATE	QUANTITY	ESTIMATED BUDGET
A. Professional Services				
a. Senior Principal	hr	\$221	2	\$442
b. Principal	hr	\$197	0	\$0
c. Senior Project Geologist	hr	\$184	4	\$736
d. Project Engineer	hr	\$143	12	\$1,716
e. Engineer	hr	\$124	0	\$0
f. Senior Staff Geologist	hr	\$109	0	\$0
g. Staff Engineer	hr	\$93	0	\$0
Subtotal Professional Services				\$2,894
B. Technical/Administrative Services				
a. Site Manager/Construction Manager	hr	\$105	0	\$0
b. Senior Engineering Technician	hr	\$78	0	\$0
c. Designer/GIS	hr	\$127	0	\$0
d. Drafter/CADD Operator	hr	\$77	0	\$0
e. Technical/Administrative Assistant	hr	\$87	4	\$348
f. Technical Word Processor	hr	\$89	0	\$0
g. Clerical	hr	\$92	0	\$0
Subtotal Technical/Administrative Services				\$348
C. Reimbursables				
a. Lodging	day	\$89	0	\$0
b. Per Diem	day	\$51	0	\$0
c. Communications Fee	3% labor	0.03	3,242	\$97
d. CADD Computer System	hr	\$15	0	\$0
e. Vehicle Rental	day	\$75	0	\$0
f. 8.5"x11" Photocopies	each	\$0.12	0	\$0
g. Airfare	each	\$300	0	\$0
Subtotal Reimbursables				\$97
TOTAL ESTIMATED BUDGET : PHASE 1				\$3,339

Attachment A

**BUDGET ESTIMATE
SOUTH GIFFORD ROAD LANDFILL**

PHASE 2: Meetings/Regulatory Interaction

ITEM	BASIS	RATE	QUANTITY	ESTIMATED BUDGET
A. Professional Services				
a. Senior Principal	hr	\$221	0	\$0
b. Principal	hr	\$197	0	\$0
c. Senior Project Geologist	hr	\$184	10	\$1,840
d. Project Engineer	hr	\$143	0	\$0
e. Engineer	hr	\$124	0	\$0
f. Senior Staff Geologist	hr	\$109	16	\$1,744
g. Staff Engineer	hr	\$93	0	\$0
Subtotal Professional Services				\$3,584
B. Technical/Administrative Services				
a. Site Manager/Construction Manager	hr	\$105	0	\$0
b. Senior Engineering Technician	hr	\$78	0	\$0
c. Designer/GIS	hr	\$127	0	\$0
d. Drafter/CADD Operator	hr	\$77	0	\$0
e. Technical/Administrative Assistant	hr	\$87	2	\$174
f. Technical Word Processor	hr	\$89	0	\$0
g. Clerical	hr	\$92	0	\$0
Subtotal Technical/Administrative Services				\$174
C. Reimbursables				
a. Lodging	day	\$89	2	\$178
b. Per Diem	day	\$51	2	\$102
c. Communications Fee	3% labor	0.03	3,758	\$113
d. CADD Computer System	hr	\$15	0	\$0
e. Vehicle Rental	day	\$75	2	\$150
f. 8.5"x11" Photocopies	each	\$0.12	0	\$0
g. Airfare	each	\$300	2	\$600
Subtotal Reimbursables				\$1,143
TOTAL ESTIMATED BUDGET : PHASE 2				\$4,901

Attachment A

**BUDGET ESTIMATE
SOUTH GIFFORD ROAD LANDFILL**

PHASE 3: Injection Activities

ITEM	BASIS	RATE	QUANTITY	ESTIMATED BUDGET
A. Professional Services				
a. Principal	hr	\$221	2	\$442
c. Senior Project Geologist	hr	\$184	4	\$736
d. Project Engineer	hr	\$143	12	\$1,716
e. Staff Engineer	hr	\$93	60	\$5,580
Subtotal Professional Services				\$8,474
B. Technical/Administrative Services				
a. Site Manager/Construction Manager	hr	\$105	60	\$6,300
Subtotal Technical/Administrative Services				\$6,300
C. Subcontractors				
a. Driller Mod/demob/prep	LS	\$428.00	1	\$428
b. DPT Daily Rate	day	\$1,444.50	3	\$4,334
c. Per Diem, per night	day	\$214.00	2	\$428
d. Injection Pump Rental	day	\$214.00	3	\$642
e. Monitoring Well Installation	each	\$323.14	1	\$323
f. Decon	LS	\$267.50	1	\$268
g. Permits	LS	\$53.50	1	\$54
h. Drums	each	\$53.50	1	\$54
i. GPS Unit/Level/Rod for Surveying	day	\$63.00	1	\$63
Subtotal Subcontractor Services				\$6,592
D. Reimbursables				
a. Lodging	day	\$89	4	\$356
b. Per Diem	day	\$51	5	\$255
c. Communications Fee	3% labor	0.03	\$14,774	\$443
d. CADD Computer System	hr	\$15	0	\$0
e. Vehicle Rental	day	\$75	4	\$300
f. SRS Delivery	LS	\$1,169.51	1	\$1,170
g. SRS Purchase	drum	\$858.68	10	\$8,587
h. SRS Injection Trailer/Injection Manifold	week	\$700.00	1	\$700
i. Tank Rental Delivery/Pickup	LS	\$1,471.25	1	\$1,471
j. Tank Rental	day	\$55.64	5	\$278
k. Tank Cleaning Fee	LS	\$802.50	1	\$803
l. KB-1 Plus (with delivery)	LS	\$4,682.00	1	\$4,682
m. Hydrant hookup and water usage	LS	\$200.00	1	\$200
n. Dedicated Miscellaneous Injection Supplies	LS	\$250	1	\$250
o. O&M Kit	day	\$65	4	\$260
p. Well Installation Kit	day	\$150.00	1	\$150
q. Equipment Shipping	each	\$54	2	\$108
Subtotal Reimbursables				\$20,012
TOTAL ESTIMATED BUDGET : PHASE 3				\$41,379

Notes:

- Lodging and per diem rates were taken from the GSA website for the Vero Beach area (www.gsa.gov).
- O&M Kit includes various small items for minor work/repairs (valves, PVC fittings, gaskets, etc.).
- Well Installation Kit includes: water level indicator, PID/FID OVA, GPS unit, field geology kit, measuring wheel, multi-meter (pH, temperature, conductivity, turbidity, dissolved oxygen, and oxidation reduction potential), and miscellaneous supplies.

Attachment A

BUDGET ESTIMATE SOUTH GIFFORD ROAD LANDFILL

PHASE 4: Reporting

ITEM	BASIS	RATE	QUANTITY	ESTIMATED BUDGET
A. Professional Services				
a. Principal	\$221	\$195.67	2	\$391
b. Associate	\$197	\$185.32	0	\$0
c. Senior Project Geologist	\$184	\$163.07	8	\$1,305
d. Project Engineer	\$143	\$129.12	8	\$1,033
e. Engineer	\$124	\$112.49	0	\$0
f. Senior Staff Geologist	\$109	\$100.16	0	\$0
g. Staff Engineer	\$93	\$84.24	0	\$0
Subtotal Professional Services				\$2,729
B. Technical/Administrative Services				
a. Site Manager/Construction Manager	hr	\$105	0	\$0
b. Senior Engineering Technician	hr	\$78	0	\$0
c. Designer/GIS	hr	\$127	4	\$508
d. Drafter/CADD Operator	hr	\$77	0	\$0
e. Technical/Administrative Assistant	hr	\$87	2	\$174
f. Technical Word Processor	hr	\$89	0	\$0
g. Clerical	hr	\$92	2	\$184
Subtotal Technical/Administrative Services				\$866
C. Reimbursables				
a. Lodging	day	\$89	0	\$0
b. Per Diem	day	\$51	0	\$0
c. Communications Fee	3% labor	0.03	\$3,595	\$108
d. CADD Computer System	hr	\$15	2	\$30
e. Vehicle Rental	day	\$75	0	\$0
f. 8.5"x11" Photocopies	each	\$0.12	500	\$60
g. CADD Photocopies	each	\$3	12	\$36
Subtotal Reimbursables				\$234
TOTAL ESTIMATED BUDGET : PHASE 4				\$3,829