



WAI-47 amendment

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March 22, 2019

Ms. Elaine Baker

County of Maui
Department of Environmental Management
2200 Main Street
Wailuku, HI 96793

Subject: County of Maui, Central Maui Landfill – Change Order Proposal to Provide Groundwater Monitoring Services at the Central Maui Landfill for Fiscal Years FY2019

Dear Ms. Baker,

Thank you for providing CH2M HILL Engineers, Inc. (Jacobs) the opportunity to assist the County of Maui (County) with groundwater services and environmental compliance activities at the Central Maui Landfill Facility (CMLF).

This proposal is a change order to the current (FY2019) CMLF Groundwater Monitoring contract (C6589). This change order outlines Jacobs' additional groundwater monitoring services to conduct background groundwater monitoring at three new compliance monitoring wells installed in December 2018, revise the upper prediction limits (UPLs), and finalize the Groundwater and Leachate Monitoring Plan for CMLF during Fiscal Year 2019.

A brief description of the scope and objectives for the additional work is provided below together with the assumptions used to develop the cost for each task and our estimate of the associated professional service fees. The work outlined in this change order proposal will be conducted within the current contract period of performance.

Project Objectives and Scope of Work

The County is conducting periodic groundwater monitoring at CMLF in accordance with applicable regulations, the current operating permit for the landfill (Permit No. LF-0074-13), and the current CMLF Groundwater and Leachate Monitoring Plan. The Groundwater and Leachate Monitoring Plan was updated in 2018 with the draft document submitted to the State of Hawaii Department of Health (HDOH) Solid and Hazardous Waste Branch (SHWB) in May 2018 under the FY2018 contract. HDOH SHWB has provided comments to the draft document requiring additional statistical testing to include well MW-2, that was not included in the initial UPL calculations.

The updated Groundwater and Leachate Monitoring Plan required the installation of three additional compliance monitoring wells, which were installed at CMLF in December 2018. After installation, quarterly sampling is necessary to evaluate background groundwater concentrations.

Therefore, this change order proposal includes the following services:

- Conduct quarterly background groundwater sampling at monitoring wells MW-7, MW-8, and MW-9. Sampling results will be included in the Detection Monitoring Report prepared on a semi-annual schedule.
- Conduct statistical testing to re-calculate UPLs. As agreed during a teleconference call held on January 23, 2019 with HDOH SHWB and the County, well MW-2 should be included in the formal statistical testing together with other compliance monitoring wells MW-3 and MW-5 to develop UPLs for detection monitoring at the CMLF. After re-calculation of UPLs, the UPL memorandum and the Groundwater and Leachate Monitoring Plan shall be revised to address comments provided by HDOH on the draft document and discuss findings of the new statistical testing.

Background Groundwater Sampling

This change order proposal includes costs for the background groundwater sampling to be conducted at the newly installed compliance monitoring wells MW-7, MW-8, and MW-9. The procedures and general assumptions relative to this task are the same as those included in the original proposal submitted to the County on August 20, 2018. Additional assumptions relative to this change order proposal include the following:

- Three background groundwater sampling events to be conducted at wells MW-7, MW-8, and MW-9
- The new wells will be sampled together with old monitoring wells currently sampled on quarterly basis under the detection monitoring program. One additional full day is assumed to be necessary to sample the three monitoring wells part of the background monitoring program.
- Costs related to sampling the additional wells, including mobilization/demobilization, equipment rental, travel, and analytical laboratory costs, are included in this proposal considering the same unit rates included in the original proposal.
- Samples will be analyzed for the same constituents analyzed during the detection monitoring program currently conducted at CMLF.
- Results of the background sampling will be included in the detection monitoring report and HDOH letters. This task will also include data validation, a description of analytical results for samples collected at the newly installed monitoring wells, and additional figures as necessary.

UPL Statistical Testing and Revision of Groundwater and Leachate Monitoring Plan

This change order proposal includes costs for addressing HDOH SHWB comments on the Groundwater Leachate Monitoring Plan submitted to HDOH in May 2018, interacting with the regulator, revising the UPLs in response to the HDOH SHWB request to include compliance well MW-2 in the statistical testing, and revising the UPL memo and Groundwater Leachate Monitoring Plan after UPL recalculation. The general assumptions relative to this task are the same as those included in the original proposal submitted to the County of Maui on August 20, 2018. Additional assumptions relative to this change order proposal include the following:

- Labor hours are included in this proposal to re-run statistical analyses and re-calculate the UPLs one additional time.

- UPLs for MW-3 and MW-5 are developed using data collected at CMLF from June 2008 through September 2017. For MW-2, UPLs are developed using data collected between 1996 and 2011.
- One round of review will be conducted by the County.
- Any additional review for HDOH SHWB is assumed to be minimal, with comments that can be addressed in 4-6 hours.
- No additional meetings are assumed to resolve potential and minimal additional comments HDOH SHWB may have.

Proposed Fee Estimate

Jacobs estimates the cost for proposed groundwater monitoring and regulatory compliance services not to exceed **\$73,912** under the terms and conditions of the Contract for Professional Services, Number C-6589, executed October 19, 2018 between County of Maui and CH2M HILL Engineers, Inc. The cost summary per task is provided in Attachment 1. The estimated fee proposal includes the Hawaii general excise tax (4.1667%).

A detailed cost breakdown, including labor, subcontractor costs, expenses, and travel costs is included in Attachment 2 together with the staff-specific raw labor rates. Consistent with County requirements a raw labor rate multiplier of 3.0 was applied to estimate labor costs. In building the price, the direct salary rates guidance provided by the County was considered; however, as discussed with the County's Purchasing Department during preparation of the original proposal, some of the technical and professional job categories used to deliver project work are not included in the County's direct salary rates guidance. As agreed with the County Purchasing Department, a walk-up table with Jacobs job categories/rates and corresponding County's job categories/rates is provided in Attachment 2 to confirm that Jacobs rates comply with the County's guidance. An estimated annual 3% labor rate escalation has been applied to future labor costs, but invoiced costs will be based on the actual labor cost at the time of invoicing.

Subcontractor costs, expenses, and travel costs included in the estimated fee proposal are actual costs, and no markup was applied to them. Health and safety costs are estimated at \$1.10 per labor hour for staff potentially doing fieldwork. No markup is applied on health and safety costs.

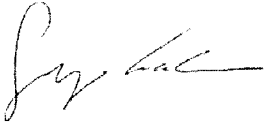
These estimated costs are based on our understanding of the project, and input provided by the County of Maui Solid Waste Division. We propose to conduct this work on a time and materials basis and under mutually acceptable terms and conditions. No work will be performed beyond the approved SOW or in excess of the cost estimate above without prior written authorization by the County.

We appreciate the opportunity to assist the County of Maui with this important project. Please feel free to contact Sergio Cocchia at (808) 440-0278 should you have any questions regarding this proposal. Proposal shall remain valid for a period of 60 days from the proposal date. We look forward to working with you on this project.

Ms. Elaine Baker
March 22, 2019
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Sincerely,

Jacobs



Sergio Cocchia
Project Manager



Terry A. DeBiase
Designated Manager

Attachments:

1. Cost Breakdown by Task
2. Staff-Specific Raw Labor Rates and Detailed Cost Breakdown

Attachment 1
Cost Breakdown by Task

CMLF GWM 2019-2021

Price by Element



Lowest Tasks. Change Order 2. without Budget Subtotals. without Period Subtotals. without Estimating Frequency Subtotals

Task	Hours	Labor	Labor Overhead	Labor Subtotal	Expense	Subs	Travel	Subtotal	GET Tax	Task Total
Top Task 19 - FY 2019 GWM										
19 02 FS - Dec 2018 GWM	38.00	1,423.30	2,834.60	4,257.90	1,554.80	2,600.00	600.00	9,012.70	374.93	9,387.63
19 02 RP - Dec 2018 GWM Report	34.00	1,781.20	3,281.20	5,062.40	22.00	0.00	0.00	5,084.40	211.52	5,295.92
19 03 FS - Mar 2019 GWM	38.00	1,423.30	2,834.60	4,257.90	1,581.80	2,600.00	600.00	9,039.70	376.05	9,415.75
19 03 RP - Mar 2019 GWM Report	34.00	1,765.48	3,500.96	5,266.44	122.00	0.00	0.00	5,388.44	224.16	5,612.60
19 04 FS - Jun 2019 GWM	38.00	1,423.30	2,834.60	4,257.90	1,581.80	2,600.00	600.00	9,039.70	376.05	9,415.75
19 04 RP - Jun 2019 GWM Report	34.00	1,765.48	3,500.96	5,266.44	22.00	0.00	0.00	5,288.44	220.00	5,508.44
19 EX - FY2019 EX	134.00	9,365.90	18,648.10	28,014.00	92.40	0.00	0.00	28,106.40	1,169.22	29,275.62
Subtotal for 19	350.00	18,947.96	37,435.02	56,382.98	4,976.80	7,800.00	1,800.00	70,959.78	2,951.93	73,911.71
Grand Total	350.00	18,947.96	37,435.02	56,382.98	4,976.80	7,800.00	1,800.00	70,959.78	2,951.93	73,911.71

Attachment 2
Staff-Specific Raw Labor Rates
Detailed Cost Breakdown

Staff-Specific Raw Labor Rates

Staff*	Years of Experience	Jacobs		City and County of Honolulu/ Maui County	
		Professional Job Category	Jacobs Raw Rate	Equivalent Job Category	DAGS Raw Rate
			2019		7/1/18-6/30/19
Alan Bradford	36	Geologist VIII	79.66	Engineer VIII	79.66
Charles Holbert	27	Engineer VII	71.41	Engineer VII	72.97
John Culley	23	Industrial Hygenist	71.37	Engineer VII	72.97
Sergio Cocchia	21	Engineer/Geologist VII	62.55	Engineer VII	72.97
Bernice Kidd	27	Chemist	53.71	Engineer VI	58.40
Christin Quintal	12	Geologist V	48.3	Engineer V	48.3
Leslie O'Connor	16	Technical Publication Manager	41.98	Engineer IV	47.17
Tim Ashton	8	Geologist III	36.45	Engineer III	40.7
Robert Graham	16	Subcontract Manager	36.51	Engineer IV	40.7
Amelia Rowland	2	CAD Operator 2	27.47	CAD Operator 2	29.4
Samantha Burns	5	Geologist II	28.61	Engineer III	37.03

* Proposed staff is tentative and may change. Rates of other staff that may be used who is not included in this table will comply with County's rates.

** CH2M now Jacobs Rates are actual raw rates for the individual staff. Because of that, different rates could apply for the same job category.

The project price is calculated applying a 3.0 raw labor multiplier.

*** Rates for County's fiscal years 2020 and 2021 are not available and have been estimated applying an escalation rate of 3%.

CMLF GWM 2019-2021

Total Price Detail



Lowest Tasks, Change Order 2, without Budget Subtotals, without
Period Subtotals, without Estimating Frequency Subtotals

Description	Per Diem Code	Unit	Quantity	Rate	Price
Top Task 19 -					
Task 19.02.FS - Dec 2018 GWM					
GEO II	9	HOURS	15	28.61	429.15
GEO III	7	HOURS	15	36.45	546.75
GEO V	6	HOURS	4	49.30	197.20
GEO VII	5	HOURS	4	62.55	250.20
			38		1,423.30
			Subtotal for Labor		
Total Affiliate Overhead					2,834.60
					2,834.60
			Subtotal for Overhead		
			38		4,257.90
			Subtotal for Labor		
			Subtotal for Labor and Overhead		4,257.90
Equipment Consumables		COST	100	1.00	100.00
GWM Field Sampling Equipment		COST	813	1.00	813.00
Health & Safety		HOURS	38	1.10	41.80
Shipping		COST	600	1.00	600.00
					1,554.80
			Subtotal for Other Direct Expenses		
Analytical Laboratory		COST	2,600	1.00	2,600.00
					2,600.00
			Subtotal for Subcontract		
auto rental		TRIPS	150	1.00	150.00
hotel		TRIPS	300	1.00	300.00
meals		TRIPS	150	1.00	150.00
					600.00
			Subtotal for Travel		
			Subtotal for Costs		9,012.70
Hawaii GET					374.93
					374.93
			Subtotal for Bottom Line Markups		
			Subtotal for 19.02.FS - Dec 2018 GWM		9,387.63
Task 19.02.RP - Dec 2018 GWM Report					
CHEM VI	5	HOURS	10	53.71	537.10
ETC Labor	19	HOURS	4	31.40	125.60
GEO V	6	HOURS	10	49.30	493.00
GEO VII	5	HOURS	10	62.55	625.50
			34		1,781.20
			Subtotal for Labor		
Total Affiliate Overhead					3,281.20
					3,281.20
			Subtotal for Overhead		
			34		5,062.40
			Subtotal for Labor		
			Subtotal for Labor and Overhead		5,062.40
Health & Safety		HOURS	20	1.10	22.00
					22.00
			Subtotal for Other Direct Expenses		
			Subtotal for Costs		5,084.40

Hawaii GET					211.52
	Subtotal for Bottom Line Markups				211.52
	Subtotal for 19.02.RP - Dec 2018 GWM Report				5,295.92

Task 19.03.FS - Mar 2019 GWM

GEO II	9	HOURS	15	28.61	429.15
GEO III	7	HOURS	15	36.45	546.75
GEO V	6	HOURS	4	49.30	197.20
GEO VII	5	HOURS	4	62.55	250.20
		Subtotal for Labor	38		1,423.30

Total Affiliate Overhead					2,834.60
		Subtotal for Overhead			2,834.60
		Subtotal for Labor	38		4,257.90
		Subtotal for Labor and Overhead			4,257.90

Equipment Consumables		COST	100	1.00	100.00
GWM Field Sampling Equipment		COST	840	1.00	840.00
Health & Safety		HOURS	38	1.10	41.80
Shipping		COST	600	1.00	600.00
		Subtotal for Other Direct Expenses			1,581.80

Analytical Laboratory		COST	2,600	1.00	2,600.00
		Subtotal for Subcontract			2,600.00

auto rental		TRIPS	150	1.00	150.00
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CMLF GWM 2019-2021

Total Price Detail



Lowest Tasks, Change Order 2, without Budget Subtotals, without Period Subtotals, without Estimating Frequency Subtotals

Description	Per Diem Code	Unit	Quantity	Rate	Price
hotel		TRIPS	300	1.00	300.00
meals		TRIPS	150	1.00	150.00
		Subtotal for Travel			600.00
		Subtotal for Costs			9,039.70
Hawaii GET					376.05
		Subtotal for Bottom Line Markups			376.05
		Subtotal for 19.03.FS - Mar 2019 GWM			9,415.75
Task 19.03.RP - Mar 2019 GWM Report					
CAD 1	8	HOURS	4	27.47	109.88
CHEM VI	5	HOURS	10	53.71	537.10
GEO V	6	HOURS	10	49.30	493.00
GEO VII	5	HOURS	10	62.55	625.50
		Subtotal for Labor	34		1,765.48
Total Affiliate Overhead					3,500.96
		Subtotal for Overhead			3,500.96
		Subtotal for Labor	34		5,266.44
		Subtotal for Labor and Overhead			5,266.44
Health & Safety		HOURS	20	1.10	22.00
Reprographics, Shipping & Misc		COST	100	1.00	100.00
		Subtotal for Other Direct Expenses			122.00
		Subtotal for Costs			5,388.44
Hawaii GET					224.16
		Subtotal for Bottom Line Markups			224.16
		Subtotal for 19.03.RP - Mar 2019 GWM Report			5,612.60
Task 19.04.FS - Jun 2019 GWM					
GEO II	9	HOURS	15	28.61	429.15
GEO III	7	HOURS	15	36.45	546.75
GEO V	6	HOURS	4	49.30	197.20
GEO VII	5	HOURS	4	62.55	250.20
		Subtotal for Labor	38		1,423.30
Total Affiliate Overhead					2,834.60
		Subtotal for Overhead			2,834.60
		Subtotal for Labor	38		4,257.90
		Subtotal for Labor and Overhead			4,257.90
Equipment Consumables		COST	100	1.00	100.00
GWM Field Sampling Equipment		COST	840	1.00	840.00
Health & Safety		HOURS	38	1.10	41.80
Shipping		COST	600	1.00	600.00
		Subtotal for Other Direct Expenses			1,581.80
Analytical Laboratory		COST	2,600	1.00	2,600.00
		Subtotal for Subcontract			2,600.00

auto rental		TRIPS	150	1.00	150.00
hotel		TRIPS	300	1.00	300.00
meals		TRIPS	150	1.00	150.00
		Subtotal for Travel			600.00
		Subtotal for Costs			9,039.70
Hawaii GET					376.05
		Subtotal for Bottom Line Markups			376.05
		Subtotal for 19.04.FS - Jun 2019 GWM			9,415.75
Task 19.04.RP - Jun 2019 GWM Report					
CAD 1	8	HOURS	4	27.47	109.88
CHEM VI	5	HOURS	10	53.71	537.10
GEO V	6	HOURS	10	49.30	493.00
GEO VII	5	HOURS	10	62.55	625.50
		Subtotal for Labor	34		1,765.48
Total Affiliate Overhead					3,500.96
		Subtotal for Overhead			3,500.96
		Subtotal for Labor	34		5,266.44
		Subtotal for Labor and Overhead			5,266.44
Health & Safety		HOURS	20	1.10	22.00
		Subtotal for Other Direct Expenses			22.00

CMLF GWM 2019-2021



Total Price Detail

Lowest Tasks, Change Order 2, without Budget Subtotals, without
Period Subtotals, without Estimating Frequency Subtotals

Description	Per Diem Code	Unit	Quantity	Rate	Price
Subtotal for Costs					5,288.44
Hawaii GET					220.00
Subtotal for Bottom Line Markups					220.00
Subtotal for 19.04.RP - Jun 2019 GWM Report					5,508.44
Task 19.EX - FY2019 EX					
EN VII	4	HOURS	50	71.41	3,570.50
GEO VII	4	HOURS	30	80.59	2,417.70
GEO VII	5	HOURS	54	62.55	3,377.70
			Subtotal for Labor	134	9,365.90
Total Affiliate Overhead					18,648.10
Subtotal for Overhead					18,648.10
			Subtotal for Labor	134	28,014.00
Subtotal for Labor and Overhead					28,014.00
Health & Safety		HOURS	84	1.10	92.40
Subtotal for Other Direct Expenses					92.40
Subtotal for Costs					28,106.40
Hawaii GET					1,169.22
Subtotal for Bottom Line Markups					1,169.22
Subtotal for 19.EX - FY2019 EX					29,275.62
Subtotal for 19					73,911.71
Grand Total					73,911.71