Memorandum
MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT

Reviewed by: _____ Date: 4/12/19
General Manager

DATE: April 12, 2019

TO: General Manager

FROM: Senior Engineer

SUBJECT: Execution of Agreement for Construction Quality Assurance Services for Module 6 Liner Project

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RECOMMENDATION: That the Board authorize the execution of an agreement with Geo-Logic Associates, of Grass Valley, CA, to provide Construction Quality Assurance Services during construction of Module 6 liner project at the Monterey Peninsula Landfill site. The cost for the required services will be billed on a time and materials basis, with a not-to-exceed prevailing wage amount of **$306,319**. Funds have been included in the Capital Outlay portion of the Budget for FY 2018/19 and will be included in the Preliminary Budget for FY 2019/20 for this work.

BACKGROUND

At the March 22, 2019 meeting the Board awarded a contract for the construction of the Module 6 Landfill Liner Project to the low bidder, Wood Brothers Inc. of Lemoore, CA in the amount of $3,610,881. The proposed 14-acre Module 6 will have a composite liner meeting the requirements of Title 27 of the California Code of Regulations and will be similar to the liners constructed for Modules 3, 4, and 5.

State regulations require that a qualified third-party independent civil engineering firm be retained to perform Construction Quality Assurance (CQA) Monitoring and Reporting for the construction of a lined landfill module. CQA services shall be provided in accordance with a regulatory approved CQA Plan.

PROJECT OVERVIEW

The consultant's work will consist of performing CQA Services during construction of the Module 6 composite landfill liner at the Monterey Peninsula Landfill site. The consultant will be required to retain a qualified geosynthetic materials testing laboratory to perform testing of the high-density polyethylene (HDPE) Geomembrane as described in the CQA Plan.

The performance of CQA activities shall be sufficient to verify that all constructed facilities and related materials comply with the following:

- CQA Plan
- Construction Plans and Specification
- Waste Discharge Requirements Order No. R3-2006-0017
- Title 27, Division 2, of the California Code of Regulations
- Subtitle D of the Resource Conservation and Recovery Act

The CQA Plan sets forth the responsibilities and procedures to evaluate whether the installation of the general earthwork, clay liner, geomembrane, geosynthetic clay liner (GCL), geotextile, pipe, gravel, and other components of

the project are in accordance with the regulations and Special Provisions and Construction Drawings. Implementation the CQA Plan will ensure that Module 6 is constructed in accordance with the design plans and specifications.

RECEIPT OF PROPOSALS

On March 1, 2019, a Request for Proposals was distributed to potential CQA consultants. One proposal was received on the due date of March 19, 2019 from Geo-Logic Associates in the amount of $306,319.

CONSULTANT SELECTION

The proposal was reviewed and evaluated by staff based on the following evaluation criteria:

1. **Specialized Experience and Technical Competence**: Extent of the proposed Project Team's qualifications and specialized experience directly related to conducting CQA Services at municipal solid waste landfills in California.
2. **Project Understanding and Approach/Work Plan**: Extent to which the firm's proposal demonstrates a thorough understanding of the required scope-of-work and the proposed method to accomplish the work, including where appropriate demonstrated capability to explore and develop innovative or advanced techniques. In addition, lead members of staff at Geo-Logic were involved in the CQA work for Module 5 construction.
3. **Recommendations from References**: The Project Team's performance on recent and relevant work, including such factors as control of costs, quality of work, ability to meet schedule, cooperation and responsiveness.
4. **Proposed Budget**: The ability to complete this project within the original approved budget must be demonstrated. Contracts for professional services are not subject to bidding but are awarded based on demonstrated competence and on the professional qualifications necessary for the satisfactory services required.

The proposal submitted by Geo-Logic has been judged by staff to be responsive and in the best interests of the District, based on the following criteria:

- Geo-Logic is highly qualified to perform this work and has significant specialized experience directly related to conducting CQA Services at municipal solid waste landfills in California.
- Geo-Logic staff is familiar with the Monterey Peninsula's and provided CQA services for the Module 5 liner construction.
- Geo-Logic's proposed Project Team is strong and has a long-term track record.
- Geo-Logic's cost proposal is realistic for the level of effort required to complete the scope of work.

Geo-Logic has, in staff's opinion, adequately estimated the amount of field work and hours required to perform the CQA Services.

CONCLUSION

Geo-Logic has submitted the proposal for CQA services which is the most responsive to the District's needs and in the best interest of the District. It is therefore recommended that the Board of Directors authorize the General Manager to execute an agreement with Geo-Logic to provide CQA services during the construction of the Module 6 landfill liner project. The cost for the required services will be billed on a time and materials basis, with a not-to-exceed prevailing wage amount of $306,319. Funds have been included in the Capital Outlay portion of the Budget for FY 2018/19 and will be included in the Preliminary Budget for FY 2019/20 for this work.

David I. Ramirez, P.E

Geo-Logic
ASSOCIATES

March 19, 2019
Proposal No. RM19.1024.PR

Mr. Guy Petraborg, PE, GE
Monterey Regional Waste Management District
14201 Del Monte Boulevard
Marina, CA 93908

Re: Construction Quality Assurance Monitoring Proposal for the Module 6 Landfill Base Liner System

Dear Mr. Petraborg:

Geo-Logic Associates (GLA) is pleased to submit this proposal to the Monterey Regional Waste Management District (MRWMD or District) for Construction Quality Assurance (CQA) Monitoring and Reporting for the construction of the 14-acre Module 6 landfill liner system at the Monterey Peninsula Landfill (MPL). Our proposal is based on: (i) the requirements included in the District's Request for Proposals (RFP) dated March 4, 2019; (ii) information included in the construction documents and CQA Plan for project; (iii) our experience providing construction management and CQA monitoring services for the 23-acre Module 5 project; (iv) our overall experience at the MPL; and (v) our CQA project experience at other northern California landfills and waste disposal facilities.

As described in the following proposal, our project team has the experience and qualifications necessary to provide the CQA services identified in the RFP and to meet the District's objective to obtain Central Coast Regional Water Quality Control Board (CCRWQCB) approval to open Module 6 for waste disposal by October 24, 2019. Because the schedule for this project is aggressive, our approach relies on the following essential and interrelated components:

- An experienced project team who have successfully completed nearly identical projects, who know where bottlenecks may occur in the process and how to avoid or overcome them, and who can anticipate and resolve technical, financial, schedule, engineering, and reporting challenges before they become problems;
- Leveraging our existing professional relationship with CCRWQCB staff and use of CQA monitoring and reporting procedures, field forms, and a Final Certification Report format that have been previously reviewed and accepted by the CCRWQCB. This relationship and use of familiar documents and formats will significantly reduce the amount of time between substantial completion of the project and approval to open Module 6;
- Maintaining constant coordination with the project general contractor and subcontractors, as warranted, to avoid unnecessary impacts to the construction schedule and reduce the potential for change orders/claims;

- Compilation and preparation of the Construction Certification Report "on-the-fly" or concurrently with field CQA monitoring. In this manner, the Draft Construction Certification Report will be substantially complete and ready to submit to the District for review shortly after substantial completion. Because the field and laboratory data will be reviewed and compiled as it is generated, the potential for delay and/or additional review and evaluation at the completion of the project will be minimized; and
- Close communication with the MRWMD and its representatives during all phases of the project so that the District's requirements and goals are fully addressed.

To successfully complete the work, we have assembled a team of professional Geologists, Engineering Geologists, Engineers, and highly experienced CQA personnel. This team has the documented experience necessary to understand the *purpose* of the design, *how* the specified CQA field and laboratory tests relate to the design, *why* the tests are being performed, and *what* the test results mean. In our experience, CQA monitoring and testing just to document compliance with a specification, and in absence of the aforementioned understanding, is likely to result in a variety of project issues either during the project or later when others may review the project data.

Our proposed CQA Project Manager and CQA Engineer (Richard Mitchell, PG, CEG) served in the same CQA roles for the District's 2012-2013 Module 5 project and he will bring this experience and his relationship with CCRWQCB staff to bear on the Module 6 project. For this project, he will be supported by experienced GLA CQA Monitors Mr. Ben Del-Era and Mr. Mark Berquist. If the project temporarily requires more than two field monitors for any phase of construction, we will draw from our available CQA staff or will use one of the two contingency subcontractor firms identified in the proposal. Geosynthetic testing will be provided by TRI Environmental under subcontract to GLA. GLA maintains two full-service soil laboratories in California and we will use these facilities for the project soil and drain rock testing. If necessary to meet schedule requirements or to perform specialty tests not identified in the RFP, we will subcontract to Cooper Testing Labs for the work.

As required by the RFP, our Section 6 Cost Proposal is sealed and submitted separately. We note that the RFP does not specify whether the MRWMD considers this project to be subject to Prevailing Wage Requirements. In our judgment, compliance with Prevailing Wage requirements was required for the Module 5 project and may reasonably be assumed to be required for the CQA monitors on the Module 6 project. Accordingly, our proposal cost summary and detail tables include both Non-Prevailing Wage and Prevailing Wage estimated costs for comparison.

Section 1 of the attached Proposal includes our statement of compliance with the Section 12 indemnification requirements and the Section 9 insurance requirements. The Debarment Certification is included in Appendix A of the Proposal. GLA does not have any financial, business, or other relationships with the MRWMB or other entities that may have an impact on the outcome of the project. GLA does not have any current clients that may have a financial

interest in the outcome of the project. The proposal terms will remain in effect for 45 days following March 19, 2019.

GLA's Senior Vice President John Hower, PG, CEG has the authority to commit to an Agreement with the District and we look forward to working with the MRWMD on this interesting and challenging project. In the meantime, please feel free to any of the undersigned if you have any questions.

Sincerely,

Geo-Logic Associates, Inc.

John Hower, PG, CEG
Senior Vice President
(909) 626-2282 (x5113)

Michael Yacyshyn, PE
Northern California Regional Manager
(916) 899-9052

Richard Mitchell, PG, CEG
Principal Engineering Geologist
(415) 699-8073

Table 1
SUMMARY OF ESTIMATED CQA COSTS
Monterey Peninsula Landfill Module 6 Expansion Project
Monterey County, California

TASK	DESCRIPTION	ESTIMATED COST	
		Non-Prevailing Wage	Prevailing Wage
1	Project Preparation, Coordination, and Related Activities	$ 13,764.00	$ 13,956.00
2	Field CQA Monitoring During Construction	$ 190,555.00	$ 207,475.00
3	Laboratory Testing	$ 57,892.00	$ 58,208.00
4	Meetings	$ 21,680.00	$ 21,680.00
5	Construction Certification Report	$ 5,000.00	$ 5,000.00
	PROJECT TOTAL	**$ 288,891**	**$ 306,319**
	ENGINEER'S ESTIMATED COST	**$ 4,900,000**	**$ 4,900,000**
	CQA AS A PERCENTAGE OF PROJECT COST	**5.9%**	**6.3%**

NOTES:

1. Tasks 1 through 4 are time and materials not-to-exceed costs. Task 5 is a lump sum cost.
2. See attached Tables 2, 3, 4, and 5 for Tasks 1 through 4 assumptions and cost details.
3. The RFP does not specify whether or not the MRWMD considers this project to be subject to Prevailing Wage Requirements. In our judgment, compliance with Prevailing Wage requirements is likely required for the CQA monitors at the site. Accordingly, this table provides both Non-Prevailing Wage and Prevailing Wage estimated costs.

Geo-Logic
ASSOCIATES

2019 FEE SCHEDULE

PROFESSIONAL STAFF	UNIT RATE
Staff Professional I	$110.00/Hour
Staff Professional II	$123.00/Hour
Staff Professional III	$134.00/Hour
Project Professional I	$150.00/Hour
Project Professional II	$163.00/Hour
Project Professional III	$182.00/Hour
Senior Professional I	$202.00/Hour
Supervising Professional/Senior Professional II	$216.00/Hour
Principal Professional I	$250.00/Hour
Principal Professional II	$285.00/Hour
Court Appearance (Expert Witness, Deposition, etc.; four-hour minimum)	2 x HourlyRate

FIELD/LABORATORY STAFF	
Technician I	$84.00/Hour
Technician II	$94.00/Hour
Technician III (or Minimum Prevailing Wage)	$105.00/Hour
Technician IV/Construction Manager	$140.00/Hour
Laboratory Manager	$155.00/Hour
Principal Technician	$165.00/Hour

CADD/GIS	
CADD/GIS/Database Manager I	$110.00/Hour
CADD/GIS/Database Manager II	$120.00/Hour
CADD Designer	$126.00/Hour
GIS Specialist	$145.00/Hour

SUPPORT STAFF	
Administrative Assistant I	$80.00/Hour
Administrative Assistant II	$103.00/Hour
Technical Editor	$100.00/Hour
Senior Technical Editor	$126.00/Hour

*Overtime Premium is 35% of PERSONNEL CHARGE

EQUIPMENT CHARGES	
BAT Permeameter	$200.00/Day
Compaction Testing Equipment & Supplies	$50.00/Day
Peel & Shear Strength Apparatus (FML Seams)	$900.00/Month
Portable Laboratory (8' x 32' trailer) with equipment	$1,200/Month
Portable Laboratory (mobilization / demobilization)	$1,500.00
ReMi/Refraction Seismograph	$600.00/Day
Sealed Single Ring Infiltrometer (SSRI)	$200.00/Day or $750.00/Month
Sealed Double Ring Infiltrometer (SDRI)	Call for Quote
Slope Inclinometer	$250.00/Day

EXPENSES	
Vehicle Use for Field Services	$14.00/Hour or $320.00/week
Soil Sampling Equipment & Drilling Supplies	$5.00/Hour
Groundwater Sampling Equipment and Supplies	$15.00/Hour
Per Diem	Lesser of (Cost +15%) or (Local Government Rate)
Outside Services (Consultants, Surveys, Chemical lab Tests, etc.)	Cost + 15%
Reimbursables (Maps, Photos, Permits, Expendable Supplies, etc.)	Cost + 15%
Outside Equipment (Drill Rig, Backhoe, Monitoring Equipment, etc.)	Cost + 15%

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Geo-Logic
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PERMITS, FEES AND BONDS

The costs of all permits, fees, and performance bonds required by government agencies are to be paid by the Client, unless stated otherwise in an accompanying proposal.

INSURANCE

Geo-Logic Associates, Inc. carries workers' compensation, comprehensive general liability and automobile with policy limits normally acceptable to most clients. The cost for this insurance is covered by the fees listed in this schedule. Cost of any special insurance required by the Client, including increases in policy limits, adding additional insured parties and waivers of subrogation, are charged at cost plus 15%. Unless otherwise stated, such charges are in addition to the estimated or maximum charges stated in any accompanying proposal.

TERMS

Payment is due upon presentation of invoice and is past due thirty (30) days from invoice date. Past due accounts are subject to a finance charge of one and one-half percent (1-1/2%) per month, or the maximum rate allowed by law.

PROPOSAL PERIOD

Unless otherwise stated, a proposal accompanying this schedule is effective for sixty (60) days. If authorization to proceed is not received within this period, Geo-Logic Associates, Inc. reserves the right to renegotiate the fee.

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2019 FEE SCHEDULE

SOIL TESTING	TEST METHOD	UNIT RATE
Atterberg Limits (LL, PL, and PI)	D4318	$155.00/Test
California Bearing Ratio (excluding moisture-density curve)	D1883	$258.00/Point
Chloride Content		$52.00/Test
Corrosivity Series (resistivity, pH, sulfate, chloride)		$175.00/Test
Consolidation Test (without rate data – up to 8 loading increments)	D2435	$155.00/Test
Consolidation Test (single point)	D2435	$98.00/Test
Consolidation Test Rate Data (per load increment)	D2435	$62.00/each
Direct Shear Test (at natural moisture)	D3080	$67.00/Point
Direct Shear Test (saturated – strain rate 0.0084 inch/min.)	D3080	$77.00/Point
Direct Shear Test (saturated, recycled – strain rate 0.0084 inch/min.)	D3080	$124.00/Point
Direct Shear Test (consolidated drained)	D3080	$180.00/Point
Direct Shear Test (consolidated drained, residual)	D3080	$206.00/Point
Direct Shear Test (large shear box, 12 x 12)	D3080	$309.00/Point
Expansion Index Test	D4829	$129.00/Test
Expansion Index (cement or lime treated sample)	D4829	$180.00/Test
Grain-Size Mechanical Analysis - Sand-Clay, including Hydrometer	D422/D6913	$155.00/Test
Grain-Size Mechanical Analysis - Gravel-Clay, including Hydrometer	D422/D6913	$206.00/Test
Harvard Miniature Compaction Test		$258.00/Test
Mechanical Analysis, Percent Passing #200	D1140/C117	$77.00/Test
Mechanical Analysis - Sand or Gravel (no wash)	D422/C136	$88.00/Test
Mechanical Analysis - Sand and Gravel	D422/C136	$160.00/Test
Mechanical Analysis - Sand or Gravel	D422/C136	$124.00/Test
Mechanical Analysis - Minus 3" to 200 Sieve, Full Sieve	D422/C136	$160.00/Test
Moisture Content	D2216/D4643	$17.00/Test
Moisture Density Curve for Compacted Fill (4-inch Mold)	D698	$155.00/Test
Moisture Density Curve for Compacted Fill (6-inch Mold)	D698	$180.00/Test
Moisture-Density Curve for Compacted Fill (4-inch Mold)	D1557	$170.00/Test
Moisture-Density Curve – Compacted Fill (6-inch Mold)	D1557	$206.00/Test
Moisture-Density Curve – Lime or Cement Treated (4-inch Mold)	D1557	$216.00/Test
Moisture-Density Curve – Lime or Cement Treated (6-inch Mold)	D1557	$258.00/Test
Moisture-Density Single Point	T272	$82.00/Test
Moisture-Density Curve	Cal 216	$180.00/Test
Organic Matter	D2974	$88.00/Test
Permeability (falling head)	CAL220	$185.00/Test
Permeability (flexible wall)	D5084	$309.00/Test
Permeability (rigid wall - constant head pressure, 2" to 8" mold)	D2434	$309.00/Test
Permeability (rigid wall - constant head pressure, 12" mold)	D2434	$474.00/Test
Permeability (additional consolidation stresses)		$98.00/stage
Permeability (air)	D6539	$335.00/Test
Pinhole Dispersion Test; 4 increments (remold sample)	D4647	$412.00/Test
Resistance Value	D2844	$216.00/Test
Resistance Value – Lime or Cement Treated	D2844/CA301	$268.00/Test
Resistivity & pH Test	Cal 532 or 643	$93.00/Test
Sand Equivalent	Caltrans 217/D2419	$77.00/Test
Soil pH	D4972	$21.00/Test
Specific Gravity - Fine-Grained Soils	D854	$77.00/Test
Sulfate Content		$52.00/Test

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SOIL TESTING (continued)	TEST METHOD	UNIT RATE
Triaxial Compression Test (CD)	D4767 (modified)	$592.00/Point
Triaxial Compression Test (CU with pore pressure)	D4767	$438.00/Point
Triaxial Compression Test (UU)	D2850	$129.00/Test
Triaxial Compression Test [Stage (Progressive) Test; CU]	D4767	$1,030.00/Set
Unconfined Compression Test (undisturbed sample)	D2166	$93.00/Test
Unit Dry Weight and Moisture Content (undisturbed sample)	D7263/D2216	$23.00/Test

All test methods are ASTM unless otherwise noted.

Special sample preparation and laboratory testing not listed above will be charged at applicable personnel rates.

All laboratory test rates are for standard turn-around time and normal reporting procedures. Rush orders will be subject to a 25 percent premium. Manpower requirements or test protocol may preclude the granting of a rush request.

Geo-Logic
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2019 FEE SCHEDULE

AGGREGATE TESTING	TEST METHOD	UNIT RATE
Clay Lumps and Friable Particles	C142	$82.00/Test
Crushed Particles (Fractured Faces)		$98.00/Test
Durability Index – Fine	D3744	$124.00/Test
Durability Index – Coarse	D3744	$144.00/Test
Flat and Elongated Particles	CRD119, 120	$108.00/Test
Injurious Organic Matter	C40	$62.00/Test
Insoluble Residue in Carbonate Aggregates	D3042	$283.00/Test
Lightweight Pieces in Aggregate	C123	$98.00/Test
Los Angeles Abrasion Test (500 revolutions)	C131	$165.00/Test
Los Angeles Abrasion Test (1000 revolutions)	C535	$185.00/Test
Mechanical Analysis - Sand or Gravel (dry sieve)	C136	$72.00/Test
Mechanical Analysis (wash 200 sieve)	C117	$67.00/Test
Mechanical Analysis (fine with wash 200 sieve)	C136	$103.00/Test
Rapid Determination of Carbonate Content of Rock	4373	$124.00/Test
Sample Crushing		$88.00/Hour
Sand Equivalent	D2419	$77.00/Test
Specific Gravity, Bulk, SSD with Absorption	C128/C127	$113.00 Each
Sulfate Soundness, per sieve size	C88	$139.00/Test

ROCK TESTING	TEST METHOD	UNIT RATE
Density	D7263	$36.00/Test
Density, Porosity, Specific Gravity, Water Content		$113.00/Test
Indirect Tensile Strength (Brazilian), Single Break	D3967	$57.00/Test
Indirect Tensile Strength (Brazilian), 10-15 Breaks	D3967	$216.00/Test
Point Load Index, Single Break	D5731	$36.00/Test
Point Load Index, 10-15 Breaks	D5731	$185.00/Test
Rip-Rap (wet / dry, 10 cycles)	D5318	$1,030.00/Test
Rip-Rap (freeze / thaw, 10 cycles)	D5312	$824.00/Test
Rip-Rap (specific gravity)	D6473	$113.00/Test
Rip-Rap Soundness (sodium)	D5240	$412.00/Test
Rock Joint Direct Shear		$268.00/Point
Rock Joint Direct Shear, additional normal load		$98.00/Test
Slake Durability	D4644	$206.00/Test
Triaxial Compression, with Young's modulus and Poisson's ratio		$510.00/point
Uniaxial Strength (peak only; 2.5" maximum)	D7012	$134.00/Test
Uniaxial Strength (with stress-strain curve)		call for quote
Uniaxial Strength (with stress-strain curve, add modulus and Poisson ratio)		call for quote
Rock preparation, cutting, and grinding		$88.00/Hour

All test methods are ASTM unless otherwise noted.

Special sample preparation and laboratory testing not listed above will be charged at applicable personnel rates.

All laboratory test rates are for standard turn-around time and normal reporting procedures. Rush orders will be subject to a 25 percent premium. Manpower requirements or test protocol may preclude the granting of a rush request.

Geo-Logic
ASSOCIATES

2019 FEE SCHEDULE

GEOSYNTHETIC MATERIALS	TEST METHOD	UNIT RATE
Seam Coupon Series (thickness, peel, and shear)		
Set of 5 each (Quantity 1-10)	D6392	$77.00/Test
Set of 5 each (Quantity 10 or more)	D6392	$57.00/Test
Asperity Height	GRI GM12	$36.00/Test
Liner Puncture Testing up to 350 psi		$268.00/Test
Liner Puncture Testing over 350 psi		$422.00/Test
Large Scale Direct Shear (ASTM D5321 and D6321)		
Geosynthetic vs Geosynthetic – Method A		$216.00/Point
Soil vs Geosynthetic Friction – Method B		$268.00/Point
GCL Internal Shear		$319.00/Point
Shear Speed (<0.04)		$113.00/Point
(Shear rate dependent on soil drainage characteristics and engineering specifications)		
Substrate Remolding Fee		$62.00/Test
Additional Saturation Time (>24 hours)		$62.00/Day
GCL Testing		
Index Flux Testing	D5887	$278.00/Test
Fluid Loss	D5891	$77.00/Test
Swell Index	D5890	$72.00/Test
Mass per Unit Area	D5993	$72.00/Sample
Custom Liner Testing		call for quote

All test methods are ASTM unless otherwise noted.

Special sample preparation and laboratory testing not listed above will be charged at applicable personnel rates.

All laboratory test rates are for standard turn-around time and normal reporting procedures. Rush orders will be subject to a 25 percent premium. Manpower requirements or test protocol may preclude the granting of a rush request.