

1 **GUAM CONSOLIDATED COMMISSION ON UTILITIES**

2 **RESOLUTION NO. 22- FY2016**

3 **RELATIVE TO APPROVAL OF THE GROUNDWATER WELLS (A-02, A-07, A-12, D-**
4 **05, AND F-03) REHABILITATION DESIGN CONTRACT WITH AECOM**
5 **PROJECT W16-001-EPA**

6
7 **WHEREAS**, under 12 G.C.A. § 14105, the Consolidated Commission on Utilities
8 (“CCU”) has plenary authority over financial, contractual and policy matters relative to the
9 Guam Waterworks Authority (“GWA”); and

10
11 **WHEREAS**, the Guam Waterworks Authority (“GWA”) is a Guam Public Corporation
12 established and existing under the laws of Guam; and

13
14 **WHEREAS**, GWA has received a grant from USEPA under the State Revolving Fund
15 program to repair and rehabilitate the water and wastewater system infrastructure; and

16
17 **WHEREAS**, five (5) groundwater wells that are critical to the water production system,
18 which are located in the villages of Agana, Dededo, and Finegayan, have been inoperable for a
19 significant period of time; and

20
21 **WHEREAS**, this time of inoperability has inhibited the full optimization of the island’s
22 system water pressure and contributed to supply deficiencies; and

23
24 **WHEREAS**, the cause of removal from service may be the consequence of either
25 collapsed well casings and screens, improper boring diameters, or pump failures; and

26
27 **WHEREAS**, GWA and USEPA agree that efforts to rehabilitate, repair or replace the
28 aforementioned wells are necessary to provide additional redundancy and reliability to the
29 island’s water system; and

30 //

31 //

1 **WHEREAS**, performing a scope of services that includes subsurface investigation,
2 general civil, geotechnical, mechanical, and electrical engineering design and analysis is
3 necessarily the initial step in order to return the aforementioned wells into service; and
4

5 **WHEREAS**, GWA has advertised the Request for Proposal (RFP-02-ENG-2016)
6 soliciting a statement of qualifications from experienced and qualified engineering firms to
7 provide engineering design services for the Groundwater Wells A-02, A-07, A-12, D-05, and F-
8 03 Rehabilitation Project; and
9

10 **WHEREAS**, Request for Proposal (RFP) packages were downloaded by eighteen (18)
11 interested parties, from which GWA received proposal submittals from three (3) engineering
12 firms before the RFP submittal deadline; and
13

14 **WHEREAS**, the GWA A-E Selection Committee reviewed and evaluated the three (3)
15 proposals (see EXHIBIT A-Evaluation Score) and recommends to award a contract to the firm
16 AECOM and any successor at interest thereto (see EXHIBIT B- Evaluation Summary and GM
17 Determination); and
18

19 **WHEREAS**, AECOM and GWA negotiated the scope and fee for the Engineering
20 services to be provided in the fixed fee amount of One Million Thirty Six Thousand Five
21 Hundred Fifty Seven Dollars and Thirty Cents (\$1,036,557.30) with subsurface analysis and
22 design service options related to Construction Procurement and Engineering Services in the
23 amount of Five Hundred Seventy Four Thousand One Hundred Eighteen Dollars and Sixty One
24 Cents (\$574,118.61) should these service options be needed on a time and materials basis (see
25 EXHIBIT C – Fee Proposal); and
26

27 **WHEREAS**, the subsurface analysis and design service options noted above are viewed
28 by GWA Engineering as potentially necessary based on several factors, 1) the ambiguity of
29 existing well conditions, 2) available water quantity and quality at the well sites, 3) the discovery
30 of archaeological and cultural resources within the wells' vicinities, and 4) the need for
31 engineering services during construction; and
32

1 **WHEREAS**, these options for design services are based on negotiated Time and
2 Materials rates for services rendered; and

3
4 **WHEREAS**, GWA Management seeks approval of the fee proposal amount of One
5 Million Six Hundred Ten Thousand Six Hundred Seventy Five Dollars and Ninety One Cents
6 (\$1,610,675.91), plus a ten percent (10%) contingency of One Hundred Sixty One Thousand
7 Sixty Seven Dollars and Sixty Cents (\$161,067.60), for a total amount of One Million Seven
8 Hundred Seventy One Thousand Seven Hundred Forty Three Dollars and Fifty One Cents
9 (\$1,771,743.51); and

10
11 **WHEREAS**, funding for this project will be from the USEPA Grant and, if necessary,
12 GWA Bond Funds with an estimated project budget for well investigation and analysis,
13 Engineering design and rehabilitation, design service options during construction, and final
14 groundwater well construction of Eight Million Two Hundred Fifteen Thousand Dollars and
15 Zero Cents (\$8,215,000.00); and,

16
17 **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities
18 does hereby approve the following:

- 19 1. The recitals set forth above hereby constitute the findings of the CCU.
- 20 2. The CCU finds that the terms of the fee proposal submitted by AECOM are fair
21 and reasonable.
- 22 3. The CCU finds that the terms and conditions set by GWA relative to
23 commencement of work activities are fair and reasonable and serve as a measure
24 of Quality Assurance/Quality Control (QA/QC).
- 25 4. The CCU hereby authorizes the management of GWA to enter into a contract
26 with AECOM in the amount of One Million Six Hundred Ten Thousand Six
27 Hundred Seventy Five Dollars and Ninety One Cents (\$1,610,675.91) from which
28 Five Hundred Seventy Four Thousand One Hundred Eighteen Dollars and Sixty
29 One Cents (\$574,118.61) will be on a Time and Materials basis.
- 30 5. The CCU hereby further approves the total funding amount for this project of One
31 Million Six Hundred Ten Thousand Six Hundred Seventy Five Dollars and
32 Ninety One Cents (\$1,610,675.91) , plus a ten percent (10%) contingency of One

1 Hundred Sixty One Thousand Sixty Seven Dollars and Sixty Cents (\$161,067.60),
2 to bring the total authorized funding amount to a maximum of One Million Seven
3 Hundred Seventy One Thousand Seven Hundred Forty Three Dollars and Fifty
4 One Cents (\$1,771,743.51).

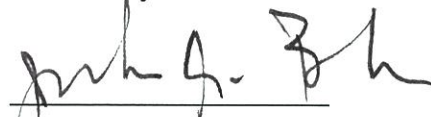
5
6 **RESOLVED**, that the Chairman certified and the Board Secretary attests to the adoption
7 of this Resolution.

8
9 **DULY AND REGULARLY ADOPTED**, this 22nd day of March, 2016.

10
11 Certified by:

Attested by:

12 

13 

14 **JOSEPH T. DUENAS**
15 Chairperson

16 **J. GEORGE BAMBA**
17 Secretary

18 I, J. George Bamba, Board Secretary of the Consolidated Commission on Utilities as
19 evidenced by my signature above do hereby certify as follows:

20 The foregoing is a full, true and accurate copy of the resolution duly adopted at a regular
21 meeting by the members of the Guam Consolidated Commission on Utilities, duly and
22 legally held at a place properly noticed and advertised at which meeting a quorum was
23 present and the members who were present voted as follows:

24 AYES: _____ 4 _____

25 NAYS: _____ 0 _____

26 ABSTENTIONS: _____ 0 _____

27 ABSENT: _____ 1 _____



28 ///

29 ///

30 ///




GUAM WATERWORKS AUTHORITY

Gloria B. Nelson Public Service Building • 688 Route 15 • Mangilao, Guam 96913

January 26, 2016

To: Thomas F. Cruz, P.E., Chief Engineer

From: 
Gloria P. Bensen
Chairperson, Consultant Selection Board

Subject: RFP-02-ENG-2016
Design Services for Groundwater Wells A-02, A-07, A-12, D-05, and F-03
Rehabilitation
GWA Project No. W16-001-EPA

The following information is intended to document the evaluation process undertaken for the referenced solicitation.

EVALUATION COMMITTEE MEMBERS	
Name	Title
Calvin Yam	Senior Engineer
Delfyn Quitlong	Associate Engineer
Ron Topasna	O&M Manager, Water Production
Joseph Claveria	PMO, Brown & Caldwell

Consultant	Evaluation Score				DBE	Total	Rank
1. EMPSCO Engineering Consultants	50	87	60	69	5	271	3
2. AECOM	81	86	100	93	5	365	1
3. GHD	72	80	85	91	0	328	2

Scores were evaluated based on sum of the individual scores plus additional five points for firms meeting DBE qualifications. The recommendation of the evaluation committee is shown in the ranking above.

Please review and approve at your earliest convenience so that we may proceed with the notification letters.




GUAM WATERWORKS AUTHORITY

"Better Water. Better Lives."
Gloria B. Nelson Public Service Building
688 Route 15, Mangilao, Guam 96913

MEMORANDUM

To: Miguel C. Bordallo, P.E., General Manager

From: Thomas F. Cruz, P.E., Chief Engineer 

Subject: Evaluation Summary for RFP-02-ENG-2016
Design Services for Groundwater Wells A-02, A-07, A-12, D-05, and F-03
Rehabilitation
GWA Project No. W16-001-EPA

Date: January 26, 2016

The Selection Committee has completed all necessary actions for selecting the most qualified consultant for the referenced solicitation. All proposals were reviewed and scored according to the conditions established in the solicitation and shortlisted firms were interviewed.

The committee recommends the following top three (3) firms in order of preference for the project:

1. AECOM
2. GHD
3. EMPSCO Engineering Consultants

The evaluation summary sheet is attached for your information.

GENERAL MANAGER'S DETERMINATION

Consultant Firm Selected:

AECOM

Remarks:



MIGUEL C. BORBALLO
 General Manager

1.28.16

 Date

March 10, 2016

The Guam Waterworks Authority
 c/o Miguel Bordallo, P.E., General Manager, or
 Thomas F. Cruz, P.E., Chief Engineer
 Engineering Division, Room 202
 Gloria B. Nelson Public Service Building
 688 Route 15, Mangilao, GU 96913

Subject: Scope of Work and Fee Proposal for the RFP-02-ENG-2016 Groundwater Wells A-02, A-07, A-12, D-05, and F-03 Rehabilitation Project; GWA Project No. W16-001-EPA Project.

Håfa Adai,

AECOM is pleased to submit a scope of work and fee proposal for the subject project. The goal of the project is to rehabilitate or replace five groundwater wells (A-02, A-07, A-12, D-05 and F-03) owned by the Guam Waterworks Authority (GWA) in accordance with the United States Environmental Protection Agency (USEPA) State Revolving Fund (SRF) Grant No. SRF 96902611-3 W6. The scope of work is divided into 9 tasks as outlined in RFP-02-ENG-2016. The scope of services includes well condition assessments identifying groundwater well deficiencies, field investigation including pumping tests and water quality analysis, evaluating alternative solutions, developing engineering design documents, and providing bid and construction support services for the groundwater wells rehabilitation effort.

The five groundwater wells were drilled between the mid-1960s and early 1970s, and require several upgrades to meet current GWA standards. A typical GWA well site consists of one well, one well head, an air relief valve, a check valve, a bypass line with valve, and a flow meter. Buildings on the well site are used to house the emergency generator, electrical equipment and/or chlorination equipment. The permitted flow of the five groundwater wells range from 113 gpm to 241 gpm. The depth of the groundwater wells range from 170 ft to 492 ft. The following is a summary of the groundwater wells included as part of this rehabilitation project:

Well Name	Region	Date Drilled	Capacity (gpm)	EPA Permit (gpm)	Depth (ft)	Horse Power	Status
A-02	Agana	1965	210	241	170	40	Hard broke well; Inactive
A-07	Agana	1967	210	113	187	N/A	Hard broke well; Inactive
A-12	Agana	1973	330	176	338	50	Stand-by; service reservoir under construction.
D-05	Dededo	1965	165	166	410	50	Hard broke well; Inactive
F-03	Finegayan	1972	200	142	492	50	Operating below permit limit; collapsed casing; Active

As indicated in RFP-02-ENG-2016, since this is a federally funded project, AECOM will comply with federal regulation 40 CFR Part 33 – Participation by Disadvantaged Business Enterprises. The “Fair Share” objectives established by GWA for professional services is 1% for Minority Business Entities and 1% for Women Business Entities.



A scoping meeting was held between Brown and Caldwell and AECOM on February 2, 2016 and a subsequent negotiation meeting was held on March 4, 2016. The following is a summary of the scope of work used in the preparation of the fee:

1. Task 1 – Project Management
 - a. Task 1 will be on a lump sum basis.
 - b. Task 1 will span the design phase of the project from Notice to Proceed (NTP) to the submission of the final design. The fee is based on a period of performance of 16 months assuming NTP for the design is provided on June 1, 2016. Project management for bid support services and construction support services are covered in Task 8 and Task 9, respectively.
 - i. AECOM will prepare a Project Management Plan (PMP) in accordance with the GWA Program Management Manual. The PMP will include the project description, scope of work, Work Plan, list of subconsultants and organization chart.
 - ii. AECOM will prepare, update and submit a project schedule. The project schedule will include the design, bidding and construction phases of project, monthly meetings, milestone tasks and deadlines, and review periods.
 - iii. Throughout the project, AECOM will routinely evaluate if the target dates will be accomplished and notify GWA immediately of any delay in schedule is likely.
 - c. AECOM will prepare and submit monthly progress reports to support monthly billings.
 - d. For meetings, AECOM will provide the following:
 - i. Conduct regularly schedule progress meetings, assumed to be bi-weekly during the design phase.
 - ii. Coordinate and attend meetings with other agencies and entities as appropriate for project.
 - iii. Conduct milestone meetings (30%, 90%, and Final) with GWA.
 - iv. Provide meeting minutes to document meetings.
2. Task 2 – Desktop Condition Assessment
 - a. Task 2 will be on a lump sum basis.
 - b. AECOM will perform desktop condition assessment on the current status of the wells to be rehabilitated.
 - c. AECOM will obtain available reports, studies, record drawings, maintenance and repair history, operation data, down-hole video inspections, and conduct interviews with GWA Staff to develop an understanding of the water quality, well construction (well casing, well screen, well pump and motor), discharge piping and related facilities (emergency generator and chlorination systems) of the five wells in the project from GWA, the Guam Environmental Protection Agency (GEPA) and the Water and Environmental Research Institute (WERI).
 - d. Consistent with the professional standard of care and unless otherwise specifically provided herein, AECOM shall be entitled to rely upon the accuracy of data and information provided by GWA or others without independent review or evaluation.



- e. Based on the desktop condition assessment, AECOM will identify data gaps and develop a work plan for Task 3 – Field Investigation, Task 4 – Water Quantity and Quality Analysis, and Task 5 – Geophysical Investigation
3. Task 3 – Field Investigation
- a. Task 3 will be on a lump sum basis.
 - b. AECOM will conduct reconnaissance level field observations limited to details exposed to view at ground level to determine or identify the following at the five well sites:
 - i. Existing conditions/status of the well system, disinfection system and emergency power generation system.
 - ii. Potential defects or factors contributing to failure of the well
 - c. Task 3 includes travel for one well design engineer, one electrical engineer and one structural engineer to conduct the field investigation.
 - d. Allied Pacific Environmental Consulting (APEC)/Allied Pacific Drilling, Inc. (APDI), a sub-consultant to AECOM will conduct a down-hole video survey at each of the five wells and will include the following:
 - i. Mobilization to each of the five wells.
 - ii. Removal of existing pump and motor from standby/active wells in coordination with GWA.
 - iii. Removal/fishing for existing pump and motor from hard-broke/inactive wells.
 - iv. Air-lifting to clean existing well prior to video inspection.
 - e. AECOM will consolidate, analyze and summarize field observations and down-hole video survey data provided by APEC/APDI.
 - f. Notwithstanding anything in this Agreement, AECOM shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure to persons to hazardous materials in any form, at the five well sites.
 - g. AECOM will submit one digital copy of data, findings and results to GWA.
4. Task 4 – Water Quantity and Quality Analysis
- a. As discussed during the scoping meeting, pumping tests originally stated in the RFP to occur during the construction phase will be conducted during the design phase under Task 4.
 - b. This task includes pumping tests to determine the production capacity of the well to be used for design and water quality tests to determine potential contaminants of concern at each of the five wells.
 - c. Task 4 will be on both a lump sum and time and materials (T&M) basis, refer to Attachment A.
 - d. Task 4 includes travel for one hydrogeologist to oversee this task.
 - e. Pumping tests and water quality tests to be conducted by APEC/APDI, a sub-consultant to AECOM.
 - i. The pumping tests will include the following:
 - 1.) Planning, materials acquisition, labor & materials for pump, motor, sounding tube, drop wire, pump column, check and gate valve, sample tap, flow meter and discharge line installation and

- removal.
- 2.) Mobile crane, flatbed for hauling materials (pump column, pump and motor, fittings etc.) portable generator and fuel, electrical hook up, pump start/control box with sub-monitor pump protection, technician to monitor generator and collect depth to water, flow measurements, and chloride samples at the required intervals for 36 hours for each well.
 - 3.) It is assumed existing power and well equipment will not be functional or available for use in the pumping tests.
- f. Depending on the findings from the well down-hole video survey conducted in Task 3, two scenarios may follow for Task 4 at each well.
- i. Scenario 1: Existing well can be used for testing
 - 1.) Mobilize equipment to well site.
 - 2.) If existing pump, motor and other objects cannot be removed, and pump test(s) can still be conducted, proceed with the pumping test(s).
 - 3.) If removal of existing pump, motor and other objects and pumping test(s) cannot be achieved, proceed with Scenario 2.
 - 4.) Obtain necessary permits and approvals from GEPA for pumping test(s) and water quality test(s).
 - 5.) Conduct 36 hour pumping test(s) including proper discharge of pumping test water in accordance with GEPA regulations and requirements.
 - a.) This fee assumes the pumping test water will not require special treatment, handling or permitting requirements.
 - 6.) Conduct water sampling and testing for a complete physical, chemical and microbiological analyses in accordance with GEPA regulations and requirements. Water quality sampling to be conducted at the end of pumping test(s).
 - 7.) Sampling and testing procedures will be outlined in the Work Plan and will include the appropriate container, preservation conditions, and holding time requirements for each test. Because of the lack of accredited laboratories on Guam, it is anticipated that water samples will be shipped to an off-island laboratory such as Test America or ALS Laboratory Group. The holding time for samples for certain analytes may be an issue depending on the selected test method, particularly with the shipping time required and will be flagged as necessary.
 - 8.) Secure well in accordance with GEPA regulations and requirements and demobilize from the well site.
 - 9.) Reinstall existing pump and motor from standby/active wells when testing is completed. To be coordinated and completed to the satisfaction of GWA.
 - 10.) Properly dispose of pump, motor and debris from hard-broke/inactive wells. GWA approval will be required prior to

disposal of any well equipment.

- ii. Scenario 2: Pilot bore hole to be drilled and used for testing:
 - 1.) Mobilize equipment to well site.
 - 2.) Obtain necessary permits and approvals from GEPA for drilling a pilot bore hole, pumping test(s) and water quality test(s).
 - 3.) Abandon existing well in accordance with GEPA regulations and requirements.
 - 4.) Drill pilot bore hole in accordance with GEPA regulations and requirements.
 - 5.) Conduct geophysical investigation, see Task 5.
 - 6.) Conduct 36 hour pumping test(s) and provide proper discharge of test water in accordance with GEPA regulations and requirements.
 - 7.) Conduct water sampling and testing for a complete physical, chemical and microbiological analyses in accordance with GEPA regulations and requirements. Water quality sampling to be conducted at the end of pumping test(s).
 - 8.) Secure pilot bore hole in accordance with GEPA regulations and requirements and demobilize from the well site. Pilot bore hole is anticipated to be used as the new well location for design and construction.
 - 9.) Reinstall existing pump and motor from standby/active wells when testing is completed. To be coordinated and completed to the satisfaction of GWA.
 - 10.) Properly dispose of pump, motor and debris from hard-broke/inactive wells. GWA approval will be required prior to disposal of any well equipment.
- g. AECOM will consolidate, analyze and summarize the data, findings, and results of pumping tests and water quality tests provided by APEC/APDI.
- h. AECOM will submit one digital copy of data, findings and results to GWA.
- i. For budgeting purposes, this fee assumes Scenario 2 applies to all five wells. Actual field conditions will dictate if Scenario 1 applies and the appropriate time and materials rates will be utilized.

5. Task 5 – Geophysical Investigation

- a. Task 5 will be on a time and materials basis.
- b. AECOM will compile and review available geological reports and data for each of the five well sites.
- c. The geophysical investigation will be conducted by APEC/APDI, as a subconsultant to AECOM.
- d. As discussed during the negotiation meeting, a geophysical investigation will be conducted if a pilot bore hole is required in Task 4.
 - i. The geophysical investigation will include the following:
 - 1.) A down-hole video survey of the pilot bore hole to determine the distribution, extent and nature of the underlying rocks and



- geologic structures, and
 - 2.) Conductivity testing to evaluate the vertical limits of the freshwater lens and determine the position of the screen.
 - ii. Exclusions:
 - 1.) Electric-logging (E-log) suite of geophysical logging tools is excluded from this scope of work.
 - e. AECOM will compile, analyze and summarize the data, findings, and results of geophysical investigation.
 - f. AECOM will submit one digital copy of data, findings and results to GWA.
- 6. Task 6 – Design Alternatives Report (DAR)
 - a. Task 6 will be on a lump sum basis.
 - b. AECOM will summarize the data, findings and conclusions from Tasks 2, 3, 4 and 5 in the DAR.
 - c. The DAR will include a comparison of feasible design alternatives for the rehabilitation or replacement of wells A-02, A-07, A-12, D-03, and F-05 and their associated control, disinfection and emergency power systems.
 - d. The alternatives analysis will consist of the following comparison items:
 - i. Available space
 - ii. Condition assessment
 - iii. Well design requirements
 - iv. Water quantity
 - v. Water quality
 - vi. Geophysical conditions
 - vii. Cultural resource and historical survey requirements
 - viii. Conceptual construction cost estimates
 - ix. Conceptual construction schedules
 - x. Construction implementation (equipment staging, traffic control, building modifications, etc.)
 - xi. Permitting requirements
 - e. The DAR will recommend a final alternative for each of the five wells.
 - f. Deliverables
 - i. The DAR will include a draft and final submittal.
 - ii. Five (5) hard copies of the DAR for each submittal.
 - iii. One (1) CD or DVD of the Final DAR in PDF format.
 - g. After written approval of the Final DAR by the Chief Engineer, AECOM may proceed with Task 7. As part of the SRF grant conditions, the Final DAR will be forwarded by GWA to USEPA for concurrence.
- 7. Task 7 – Design
 - a. Task 7 will be on a lump sum basis.
 - b. Topographical surveys
 - i. Will be conducted by AECOM at each of the five well sites.



- ii. The limits of the topographical survey will be the property boundary limits of each well site.
 - iii. The topographical survey scope will include pre-field work planning, as-built conversion, field surveying, post processing, plotting and Civil 3D mapping.
- c. Geotechnical Investigation and Report
 - i. It is assumed no geotechnical investigation and report is required for this project.
- d. Archaeological Monitoring and Data Recovery Plan (AMDRP)
 - i. Will be provided by Garcia and Associates, a sub-consultant to AECOM.
 - ii. Fee includes archival research and preparation of an AMDRP for wells A-02, A-07, A-12, D-03, and F-05. The AMDRP will present the research background of the project area at each well site, propose archaeological monitoring methodology, and describe inadvertent discovery protocols to be followed during construction.
 - iii. It is understood that GWA's Section 106 Consultation with the Guam Historic Resources Division (GHRD) resulted in a determination of "no adverse effect on historic properties" in letter from GHRD dated August 17, 2015.
 - iv. Garcia and Associates will submit a Draft AMDRP to AECOM. AECOM will submit a Draft AMDRP to GHRD for review. Garcia and associates will address review comments and provide a Final AMDRP to be included as part of the Design Documents.
 - v. Deliverables
 - 1.) One (1) CD or DVD of the Draft AMDRP in PDF format.
 - 2.) Five (5) hard copies and One (1) CD or DVD of the Final AMDRP in PDF format.
- e. Design Documents
 - i. As discussed during the scoping meeting, GWA currently has design documents for groundwater wells to be used as a standard. GWA will provide a copy of the standard design documents for reference for this project. The following design elements are to be considered will be confirmed during the design phase:
 - 1.) Improvements are limited to within the existing property limits of wells A-02, A-07, A-12, D-03, and F-05.
 - 2.) Improvements to the existing building structure(s) associated with each well, typically constructed of reinforced concrete blocks.
 - 3.) Improvements to the existing chlorine gas disinfection system for each well.
 - 4.) Improvements to the electrical controls and emergency generator system for each well. Design each well site to be SCADA ready for GWA's implementation.
 - 5.) Site improvements will include security fencing, drainage, and erosion control. Ensure proper erosion control measures are



- included in the design and specifications to prevent contamination of the Northern Guam Lens Aquifer.
- 6.) Design a well system at each of the five well sites that meets GWA's current standards to include pump and motor types, equipment manufacturers, generator sizes, and discharge piping configurations.
 - 7.) It is assumed the well head and discharge piping will not be housed in a building.
- ii. Coordinate with and incorporate information from GWA's Program Manager.
 - iii. Comply with National Environmental Policy Act (NEPA) in accordance with grant conditions.
 - 1.) It is understood that GWA was granted a Categorical Exclusion for the project by the United States Environmental Protection Agency (USEPA) Region 9 for the rehabilitation and potential construction of new wells on the same property as the existing wells in a letter from USEPA Region 9 signed on September 18, 2015.
 - iv. Notify GWA when any design decision causes a significant cost increase to the project.
 - v. It is understood the project will use a design-bid-build procurement method.
 - vi. It is assumed the design documents will include all five well designs as a single package.
- f. Deliverables:
- i. 30% Design
 - 1.) Will include 30% draft design drawings (3 - 11x17, 1 - 22x34), specifications (3 sets, 1 electronic PDF), Class 3 (AACE) construction cost estimate, and contract documents, conforming to the GWA and Program Management Design Guidelines. Additionally, includes construction phasing and construction staging.
 - 2.) Three weeks for GWA to review 30% design. Incorporate adjudicated comments into the design and submit a formal response to each comment.
 - ii. 90% Design
 - 1.) Will include 90% progress drawings (3 - 11x17, 1 - 22x34), specifications (3 sets, 1 electronic PDF), Class 1 (AACE) construction cost estimate, and contract documents, conforming to the GWA and Program Management Design Guidelines.
 - 2.) Three weeks for GWA to review 90% design. Incorporate adjudicated comments into the design and submit a formal response to each comment.
 - iii. Final (100%) "Issued for Bid"
 - 1.) Will includes general terms and conditions, plans and specifications and which also utilize the most recent versions of



- GWA's procurement templates.
- 2.) Five (5) hard copies will be provided for the final deliverable to include One (1) CD or DVD of the Design Documents in PDF and native file format.
 - 3.) Brand name specifications will not be used other than in a manner approved in advance by the GWA General Manager and the GWA legal counsel.
 - 4.) GWA will submit to USEPA for review and concurrence.
- g. Permitting and Utility Clearances
- i. AECOM will assist GWA in preparing permit applications and consultations with local authorities, highway departments and other utilities.
 - 1.) AECOM will assist in preparing the Department of Public Works Highway Encroachment Permit and coordinate design reviews to ensure traffic control plans are acceptable.
 - 2.) AECOM will assist GWA in coordination of design reviews by the Guam Environmental Protection Agency to ensure construction plans conform to Guam Soil Erosion and Sediment Control Regulations and Guam Water Quality Standards requirements.
 - 3.) AECOM will consult with utility (water, sewer, storm water, electrical, communication, fuel) agencies and companies for utility clearances.
 - ii. Exclusions:
 - 1.) Permit fees for construction are excluded from this scope.
- h. GWA Review
- i. Three weeks for GWA review will be allotted for each deliverable.
 - ii. AECOM will coordinate over-the-shoulder reviews, as needed, to help expedite the review process.
- i. Exclusions:
- i. Chlorination is assumed to be the treatment process required at each well site. The design of additional treatment systems to remove contaminants as identified in Task 3 is excluded from this scope of work.
- j. Any reuse of AECOM's prepared Work, except for the specific purposes intended hereunder, will be at GWA's sole risk and without liability or legal exposure to AECOM or its subconsultants.
8. Task 8 – Bid Support Services
- a. Task 8 will be on a time and materials basis.
 - b. Project Management under Task 8 is based on a period of performance of 4 months during the bid phase of this project.
 - c. Pre-bid meeting
 - i. AECOM will prepare meeting agenda and sign-in sheets.
 - ii. AECOM will coordinate and facilitate the meeting with GWA, and record meeting minutes.



- d. AECOM will compile requests for clarification and prepare addenda as needed.
 - i. 10 addenda; 2 addenda per well site are included in this scope of work.
 - e. AECOM will attend a bid evaluation conference, review, evaluate, and certify bid tabulations and make a recommendation for construction contract award.
9. Task 9 – Construction Support Services
- a. Task 9 will be on a time and materials basis.
 - b. Project Management under Task 9 is based on a period of performance of 16 months during the construction phase of this project.
 - c. AECOM understands a third party Construction Management (CM) firm will be procured during construction.
 - d. Task will be on a time and materials basis.
 - e. AECOM will provide the following:
 - i. Prepare final (100%) "Issued for Construction" conformed plans and specifications incorporating addenda, change orders and changes during the bid phase.
 - 1.) Deliverables
 - a.) To be provided in accordance with GWA Guidelines.
 - b.) Five (5) hard copies will be provided.
 - c.) One (1) CD or DVD of the Design Documents in PDF and native file format.
 - ii. Attend weekly construction progress meetings as required by the CM.
 - 1.) A total of 64 meetings are included in this scope of work.
 - iii. Perform field observations as required by the CM and submit field reports documenting any findings
 - 1.) A total of 20 field observations and field reports are included in this scope.
 - iv. Review contractor submittals, request for information, change orders and contractor's schedule and provide responses/comments, as requested by the CM. Documents for review included in the scope include
 - 1.) A total of 30 Shop Drawings Submittals.
 - 2.) A total of 30 Request for Information.
 - 3.) A total of 15 Change Orders.
 - v. Oversee start-up activities by the Contractor, perform final inspections and submit punch list, as requested by the CM.
 - 1.) Includes travel for one well design engineer and one electrical engineer for 5 days.
 - vi. Provide Final Record Drawings based on marked-up construction drawings.
 - 1.) Deliverables
 - a.) To be provided in accordance with GWA Guidelines.
 - b.) Five (5) hard copies will be provided.
 - c.) One (1) CD or DVD of the Design Documents in PDF and



native file format.

- f. Provide archaeological services as required by GHRD to monitor impacts of the project on cultural resources at each of the five well sites. These services will be performed once identified as required by GHRD.
 - i. Archaeological monitoring will be provided by Garcia and Associates, a sub-consultant to AECOM.
 - ii. Assumptions
 - 1.) Ground disturbance requiring archaeological monitoring associated with each well site is anticipated to require one half-day for one archaeological monitor.
 - iii. Prepare and submit an archaeological monitoring report following construction to GHRD.
 - iv. Exclusions:
 - 1.) Archaeological services beyond archaeological monitoring (e.g. data/burial recovery) are excluded from this scope of work.
- g. GWA agrees that in accordance with generally accepted construction practices, the construction contractor will be required to assume sole and complete responsibility for job site conditions during the course of construction of the Project, including safety of all persons and property, and that this requirement shall be made to apply continuously and not be limited to normal working hours. AECOM shall not have control over or charge of, and shall not be responsible for, construction means, methods, techniques, sequences or procedures, as these are solely the responsibility of the construction contractor. AECOM shall not have the authority to stop the work of the construction contractor. In no event shall AECOM be liable for the acts or omissions of any construction contractors, their subcontractors, any of their agents or employees, or any other persons or entities performing any work related to this project, or for the failure of any them to carry out construction work under contract with GWA.

The estimated lump sum fee for Tasks 1, 2, 3, 6, 7 and a portion of Task 4 of this project is \$1,036,557. The estimated time and materials fee for Tasks 5, 8 9 and a portion of Task 4 is \$574,119 for a total fee of \$1,610,676. A fee breakdown is provided as Attachment A.

It is our understanding that progress payments shall be made on a monthly basis by percent complete on lump sum tasks and unit costs or rates for time and materials tasks deemed acceptable to GWA and AECOM.

As discussed in the scoping meeting, the tentative schedule provided in the RFP is obsolete. Assuming NTP for the design contract is provided by June 1, 2016, the following schedule is anticipated for this project is as follows:



<u>Action Item</u>	<u>Date</u>	<u>Duration (Calendar Days)</u>	<u>Calendar Days after NTP</u>
Execution of Contract, NTP	Jun. 2016		
USEPA Approval	Aug. 2017	443	443
Complete Design	Sept. 2017	31	474
GWA issue IFB and advertise for construction	Oct. 2017	21	495
Open bids, evaluate and select low bidder	Oct. 2017	21	516
USEPA approval of Contractor	Nov. 2017	21	537
Award Contract	Dec. 2017	21	558
NTP to Contractor	Jan. 2008	28	586
Anticipated project complete	Apr. 2019	455	1041

A project schedule is provided as Attachment B.

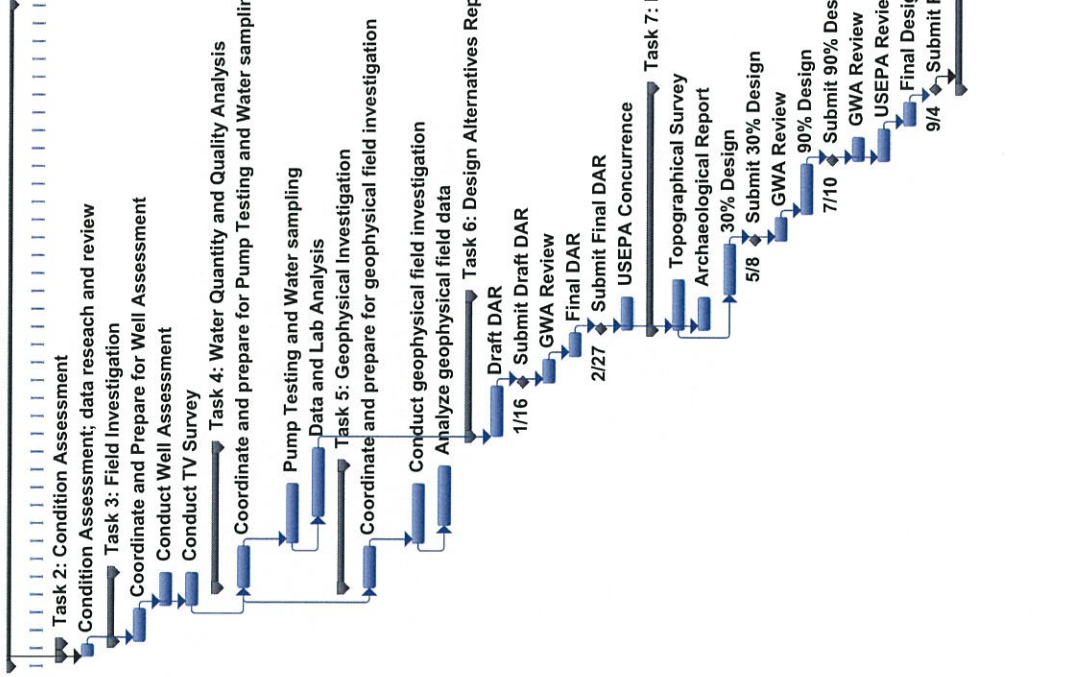
Thank you for this exciting opportunity to serve you, and we look forward to successfully working with you on this project. If you have any questions or require additional information, please do not hesitate to contact me or Pete Diaz at 671.477.8327.

Sincerely yours,
AECOM Technical Services, Inc.

Rae M. Loui, PE
Vice President, Business Unit Leader
808.529.7221
rae.loui@aecom.com

	Subtotal	8	182	68	28	4		142	432	\$ 65,502.00	\$ -	\$ -	\$ 1,000.00	\$ 2,770.92	\$ 69,272.92	
(Lump Sum)																
	Interviews	-	32	16	16	-	-	-	64	\$ 11,808.00	\$ -	\$ -	\$ 100.00	\$ 496.17	\$ 12,404.17	
	Task 3, 4 and 5	4	8	24	40	-	-	-	76	\$ 15,192.00	\$ -	\$ -	\$ 100.00	\$ 637.17	\$ 15,929.17	
	Task 3, 4 and 5	8	16	24	40	-	-	40	128	\$ 21,048.00	\$ -	\$ -	\$ 100.00	\$ 881.17	\$ 22,029.17	
	Subtotal	12	56	64	96	-	-	40	268	\$ 48,048.00	\$ -	\$ -	\$ 300.00	\$ 2,014.50	\$ 50,362.50	
(Lump Sum)																
	Geological Assessment	40	24	80	-	-	-	-	144	\$ 33,408.00	\$ 12,000.00	\$ -	\$ 1,200.00	\$ 1,942.00	\$ 48,550.00	Includes travel for 1 well design & engineer for 1 week.
	Initial down-hole video survey	-	8	8	-	-	-	-	16	\$ 3,168.00	\$ -	\$ 54,700.00	\$ 200.00	\$ 2,419.50	\$ 60,487.50	Subconsulting budget includes Item APEC/APDI.
	Task 3 data to GWA	4	8	24	-	-	32	-	68	\$ 12,408.00	\$ -	\$ -	\$ 100.00	\$ 521.17	\$ 13,029.17	
	Task 3 data to GWA	2	4	-	2	-	-	4	16	\$ 2,424.00	\$ -	\$ -	\$ 300.00	\$ 113.50	\$ 2,837.50	
	Subtotal	46	44	112	2	32	-	4	244	\$ 51,408.00	\$ 12,000.00	\$ 54,700.00	\$ 1,800.00	\$ 4,996.17	\$ 124,904.17	
Quality Analysis (Lump Sum)																
	Scoping Meeting	-	96	96	-	-	-	-	192	\$ 38,016.00	\$ 5,000.00	\$ -	\$ 1,400.00	\$ 1,850.67	\$ 46,266.67	Per scoping meeting, well pump & includes travel for 1 hydrogeologist
	Geological Data	4	8	24	-	40	-	-	76	\$ 13,512.00	\$ -	\$ -	\$ 200.00	\$ 571.33	\$ 14,283.33	
	Water Quality Testing	-	8	32	-	40	-	-	80	\$ 14,304.00	\$ -	\$ -	\$ 100.00	\$ 600.17	\$ 15,004.17	
	Water Quality Results	4	8	24	-	-	-	-	36	\$ 7,992.00	\$ -	\$ -	\$ 200.00	\$ 341.33	\$ 8,533.33	
	Task 4 data to GWA	2	4	-	2	-	-	4	16	\$ 2,424.00	\$ -	\$ -	\$ 300.00	\$ 113.50	\$ 2,837.50	
	Subtotal	10	124	176	2	80	-	4	400	\$ 76,248.00	\$ 5,000.00	\$ -	\$ 2,200.00	\$ 3,477.00	\$ 86,925.00	
Quality Analysis (T&M)																
	Well Construction	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ 88,170.00	\$ -	\$ 3,673.75	\$ 91,843.75	Subconsulting budget includes Item APEC/APDI. For budgeting purpose only for all wells. If existing well, no charge.
	Well Installation and Drilling	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ 133,905.37	\$ -	\$ 5,579.39	\$ 139,484.76	Subconsulting budget includes Item APEC/APDI.
	Well Completion	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ 1,812.50	\$ -	\$ 75.52	\$ 1,888.02	Subconsulting budget includes Item APEC/APDI.
	Well Completion	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ 29,000.00	\$ -	\$ 1,208.33	\$ 30,208.33	Subconsulting budget includes Item APEC/APDI.
	Well Completion from hard-broke wells	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ 1,500.00	\$ -	\$ 62.50	\$ 1,562.50	Subconsulting budget includes Item APEC/APDI.
	Well Completion and well site/Demob	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ 12,500.00	\$ -	\$ 520.83	\$ 13,020.83	Subconsulting budget includes Item APEC/APDI.
	Subtotal	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ 266,887.87	\$ -	\$ 11,120.33	\$ 278,008.20	
Well Completion (T&M)																
	Geological reports and data	4	24	24	-	-	-	-	52	\$ 10,584.00	\$ -	\$ -	\$ 100.00	\$ 445.17	\$ 11,129.17	
	Geophysical Investigation	2	16	40	-	-	-	-	58	\$ 12,492.00	\$ -	\$ 29,000.00	\$ 100.00	\$ 1,733.00	\$ 43,325.00	Subconsulting budget includes Item APEC/APDI.
	Task 4 data to GWA	4	8	24	16	32	-	-	84	\$ 15,288.00	\$ -	\$ -	\$ 100.00	\$ 641.17	\$ 16,029.17	
	Task 4 data to GWA	2	4	-	2	-	-	4	16	\$ 2,424.00	\$ -	\$ -	\$ 100.00	\$ 105.17	\$ 2,629.17	
	Subtotal	12	52	88	18	32	-	4	210	\$ 40,788.00	\$ -	\$ 29,000.00	\$ 400.00	\$ 2,924.50	\$ 73,112.50	
Report (DAR) (Lump Sum)																
	Report (DAR)	16	40	48	-	120	32	40	296	\$ 46,296.00	\$ -	\$ -	\$ 300.00	\$ 1,941.50	\$ 48,537.50	
	Task 4 data to GWA	8	24	24	-	64	24	24	168	\$ 25,752.00	\$ -	\$ -	\$ 300.00	\$ 1,085.50	\$ 27,137.50	
	Subtotal	24	64	72	-	184	56	64	464	\$ 72,048.00	\$ -	\$ -	\$ 600.00	\$ 3,027.00	\$ 75,675.00	
Well Completion (Lump Sum)																
	Well Completion and Data Recovery Plan	40	16	-	-	-	40	-	96	\$ 18,672.00	\$ 5,000.00	\$ 30,600.00	\$ 700.00	\$ 2,290.50	\$ 57,262.50	AECOM to conduct survey, include days.
	Well Completion	-	16	-	-	-	-	-	16	\$ 2,592.00	\$ -	\$ 4,409.00	\$ 300.00	\$ 304.21	\$ 7,605.21	Subconsulting budget includes Item Garcia and Associates.
	Well Completion	28	32	48	124	144	240	92	708	\$ 105,852.00	\$ -	\$ -	\$ 650.00	\$ 4,437.58	\$ 110,939.58	
	Well Completion	10	10	20	72	80	104	48	344	\$ 50,904.00	\$ -	\$ -	\$ 250.00	\$ 2,131.42	\$ 53,285.42	
	Issue for Bid	14	14	24	40	40	88	28	248	\$ 38,436.00	\$ -	\$ -	\$ 200.00	\$ 1,609.83	\$ 40,245.83	
	Issue for Bid	4	8	4	12	24	48	16	116	\$ 16,512.00	\$ -	\$ -	\$ 200.00	\$ 696.33	\$ 17,408.33	
	Issue for Bid	10	10	20	72	80	104	48	344	\$ 50,904.00	\$ -	\$ -	\$ 250.00	\$ 2,131.42	\$ 53,285.42	
	Issue for Bid	14	14	24	40	40	88	28	248	\$ 38,436.00	\$ -	\$ -	\$ 200.00	\$ 1,609.83	\$ 40,245.83	
	Issue for Bid	4	8	4	12	24	48	16	116	\$ 16,512.00	\$ -	\$ -	\$ 200.00	\$ 696.33	\$ 17,408.33	
	Issue for Bid	28	32	48	124	144	240	92	708	\$ 105,852.00	\$ -	\$ -	\$ 650.00	\$ 4,437.58	\$ 110,939.58	
	Issue for Bid	10	10	20	72	80	104	48	344	\$ 50,904.00	\$ -	\$ -	\$ 250.00	\$ 2,131.42	\$ 53,285.42	
	Issue for Bid	14	14	24	40	40	88	28	248	\$ 38,436.00	\$ -	\$ -	\$ 200.00	\$ 1,609.83	\$ 40,245.83	
	Issue for Bid	4	8	4	12	24	48	16	116	\$ 16,512.00	\$ -	\$ -	\$ 200.00	\$ 696.33	\$ 17,408.33	
	Issue for Bid	10	10	20	72	80	104	48	344	\$ 50,904.00	\$ -	\$ -	\$ 250.00	\$ 2,131.42	\$ 53,285.42	
	Issue for Bid	14	14	24	40	40	88	28	248	\$ 38,436.00	\$ -	\$ -	\$ 200.00	\$ 1,609.83	\$ 40,245.83	
	Issue for Bid	4	8	4	12	24	48	16	116	\$ 16,512.00	\$ -	\$ -	\$ 200.00	\$ 696.33	\$ 17,408.33	
	Issue for Bid	-	24	-	-	40	-	-	64	\$ 9,408.00	\$ -	\$ -	\$ 50.00	\$ 394.08	\$ 9,852.08	Assume assistance with preparing bid.
	Subtotal	180	216	240	620	760	1,240	460	3,716	\$ 559,932.00	\$ 5,000.00	\$ 35,009.00	\$ 4,300.00	\$ 25,176.71	\$ 629,417.71	
Well Completion (T&M)																
	Well Completion	-	8	-	-	-	-	8	16	\$ 1,992.00	\$ -	\$ -	\$ 100.00	\$ 87.17	\$ 2,179.17	Labor based on entire project cycle hours each month.
	Well Completion	4	8	4	4	-	-	8	28	\$ 4,728.00	\$ -	\$ -	\$ 50.00	\$ 199.08	\$ 4,977.08	Include contract administration, buy order.
	Well Completion	8	8	16	24	40	-	40	136	\$ 20,520.00	\$ -	\$ -	\$ 50.00	\$ 857.08	\$ 21,427.08	Assumed 10 addenda, 2 per well sit
	Well Completion	2	8	4	8	4	-	20	46	\$ 6,504.00	\$ -	\$ -	\$ 50.00	\$ 273.08	\$ 6,827.08	
	Well Completion	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	Well Completion	14	32	24	36	44	-	76	226	\$ 33,744.00	\$ -	\$ -	\$ 250.00	\$ 1,416.42	\$ 35,410.42	
(T&M)																
	Meetings	-	16	-	-	-	-	16	32	\$ 3,984.00	\$ -	\$ -	\$ 100.00	\$ 170.17	\$ 4,254.17	Labor based 16 months Construction
	Meetings	-	64	-	-	-	-	64	256	\$ 15,744.00	\$ -	\$ -	\$ 400.00	\$ 880.67	\$ 16,424.67	Include contract administration, buy order.
	Meetings	4	8	8	16	24	32	24	116	\$ 16,752.00	\$ -	\$ -	\$ 100.00	\$ 702.17	\$ 17,554.17	Assumed 64 meetings at 1 hour ea
	Meetings	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	Meetings	-	8	-	-	-	-	8	16	\$ 1,992.00	\$ -	\$ 5,310.00	\$ 100.00	\$ 308.42	\$ 7,710.42	Assumed report covers all 5 well sit
	Meetings	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	Subconsulting budget includes Item Garcia and Associates.
	Meetings	-	8	-	-	-	-	8	16	\$ 1,992.00	\$ -	\$ 4,770.00	\$ 100.00	\$ 285.92	\$ 7,147.92	Assumed two callout at \$477 per da
	Meetings	16	24	30	-	60	-	30	160	\$ 26,118.00	\$ -	\$ -	\$ 100.00	\$ 1,092.42	\$ 27,310.42	Subconsulting budget includes Item Garcia and Associates.
	Meetings	16	24	30	-	60	-	30	160	\$ 26,118.00	\$ -	\$ -	\$ 100.00	\$ 1,092.42	\$ 27,310.42	Assumed 30 shop drawings reviews
	Meetings	8	16	16	16	30	-	16	102	\$ 16,908.00	\$ -	\$ -	\$ 100.00	\$ 708.67	\$ 17,716.67	Assumed 30 RFI reviews.
	Meetings	8	24	16	16	-	-	-	64	\$ 12,672.00	\$ -	\$ -	\$ 100.00	\$ 537.17	\$ 13,309.17	Assumed 15 change order reviews.
	Meetings	40	24	40	-	-	-	-	104	\$ 24,048.00	\$ 10,000.00	\$ -	\$ 900.00	\$ 1,456.17	\$ 36,404.17	Assumed 20 field observations, 4 pe
	Meetings	4	8	8	16	24	32	24	116	\$ 16,752.00	\$ -	\$ -	\$ 100.00	\$ 702.17	\$ 17,554.17	Includes travel for one well design & engineer for 1 week.

Task 1: Project Management
Bi-weekly Progress Meeting (Design Phase)



Task	Start Date	End Date	Duration
Task 1: Project Management	5/11/16	5/11/17	1.6 wks
Task 2: Condition Assessment	5/11/16	5/17/16	7.2 wks
Task 3: Field Investigation	5/22/16	5/28/16	8 wks
Task 4: Water Quantity and Quality Analysis	5/29/16	6/4/16	7 wks
Task 5: Geophysical Investigation	6/5/16	6/11/16	7 wks
Task 6: Design Alternatives Report	6/12/16	6/18/16	6 wks
Task 7: Design Documents	6/19/16	7/1/16	13 wks
Task 8: Bid Support Services	7/2/16	7/18/16	16 wks
Construction NTP	7/18/16	8/18/16	31 wks
Construction Cc	8/18/16	8/18/19	91 days

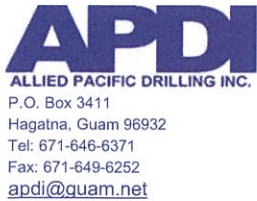


Exhibit C (15 of 17)

PRICE PROPOSAL

Pete Diaz, P.E.
Project Manager, Pacific District
AECOM
414 West Soledad Avenue, Suite 708, GCIC Bldg.
Hagatna, Guam. 96910

Date	Proposal No.	Validity
10-Mar-16	Rev CP 031016-01	30 days

Project #	Terms	Project Duration
GWA Well Rehab	Net 45	TBA

Point of Contact:	Attention: Pete Diaz
Contact Info:	pete.diaz@aecom.com
Project:	GWA GW Wells Rehabilitation Project

Item	Work Description/Equipment	Estimated Qty.	Unit	Unit Cost	Amount
1	Task 3: Mobilization for down-hole video.	1	ls	\$4,000.00	\$4,000.00
2	Task 3: Remove existing pump, and motor from standby/active wells and reinstall when testing completed.	2	ea	\$7,600.00	\$15,200.00
3	Task 3: Remove (Fish for) existing pump and motor from hard-broke/inactive wells.	3	day	\$2,750.00	\$8,250.00
4	Task 3: Use air-lifting to clean existing well prior to down-hole video inspection	5	day	\$2,950.00	\$14,750.00
5	Task 3: Down-hole video inspection of existing well.	5	ea	\$2,500.00	\$12,500.00
6	Task 4/Scenario 1: Conduct 36 hr. pump test with existing well.		ea	\$15,534.00	
7	Task 4/Scenario 2: Abandon existing hard-broke/inactive well (A-07, D-05, F-03) prior to drilling pilot bore hole.	1,089	lf	\$20.00	\$21,780.00
8	Task 4/Scenario 2: Drill 12" rotary air pilot bore hole adjacent to existing well.	1,597	lf	\$70.21	\$112,125.37
9	Task 5/Scenario 2: Mobilization for geophysical investigation.	1	ls	\$4,000.00	\$4,000.00
10	Task 5/Scenario 2: Conduct geophysical investigation on pilot bore hole to include conductivity profiling.	5	ea	\$5,000.00	\$25,000.00
11	Task 4/Scenario 2: Conduct 36 hr. pump test with pilot bore hole.	5	ea	\$17,634.00	\$88,170.00
12	Task 4: GEPA Permitting	5	ea	\$362.50	\$1,812.50
13	Task 4: Water quality sampling and testing by a certified laboratory.	5	ea	\$5,800.00	\$29,000.00
14	Task 4: Properly dispose of pump, motor and debris from hard-broke/inactive well (A-07, D-05, F-03).	3	ea	\$500.00	\$1,500.00
15	Task 4: Secure existing well and well site and demobilize.	5	ea	\$2,500.00	\$12,500.00
Subtotal:					350,587.87

Special Notes:

a The above quantities and depths were derived from the GWA RFP and correspondence with the client.
 b APDI will provide all the planning, permitting, materials, and labor associated with the items above.
 c Item 2: Removal and reinstallation of function well equipment to be coordinated with and completed to the satisfaction of GWA.
 d Item 3: APDI will spend at most 1 day on fishing the existing pump, motor and debris at a hard-broke well.
 e Item 5: Video inspection well aid in determining if pumping test and water quality sampling will be conducted with the existing well (Scenario 1) or with a pilot bore hore (Scenario 2).
 f For budgeting purposes, Scenario 2 is assumed to be required for all five wells. Actual field conditions will dictate if Scenario 1 applies and will be charged by the appropriate rates indicated above.
 g Item 6: Unit cost assumes no power is available at the site and the existing pump will not be used during the pumping test.
 h Item 7: Assumed GEPA requirement for inactive wells prior to drilling pilot bore hole. Assumed standby/active wells will not be abandoned under this project.
 i Item 10: Geophysical investigation to include video inspection of the pilot bore hole and conductivity profile testing.
 j Item 13: Water quality analysis to be in accordance with GEPA regulations and requirements.
 k Item 14: GWA approval will be required prior to disposal of any well equipment.
 l Item 15: Includes monument and pedestal to secure the well.
 m Unforeseen problems encountered while drilling or scope items not covered in the items above will require negotiation.
 n Work required on weekends/holidays will be charged an additional \$175/hr.
 o APDI will exercise all caution to prevent sub-surface conditions (metal debris) that may damage equipment. Damage to equipment due to unforeseen conditions will require negotiation.
 p Standby time caused by others will be charged at \$375/hour.

Please sign at the space provided below for your acceptance and fax back to us.	GRAND TOTAL	\$ 350,587.87
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Tom Polevich - President
Submitted by: _____

Approval by (Client) _____ Date _____



23 February 2015

Agapito (Pete) Diaz, P.E.
Project Manager, Pacific District
AECOM
Office: 671.477.8327
Fax: 671.472.8324
pete.diaz@aecom.com

RE: Cost Proposal for Archaeological Services for the Groundwater Wells A-02, A-07, A-12, D-05, and F-03 Rehabilitation Project.

Dear Mr. Diaz,

Thank you for contacting Garcia and Associates (GANDA) to request this cost proposal for archaeological services for the Groundwater Wells A-02, A-07, A-12, D-05, and F-03 Rehabilitation Project. We understand your request to include three work tasks: 1) preparation of an Archaeological Monitoring and Data Recovery Plan (AMDRP), 2) archaeological monitoring during the construction phase of the project, and 3) production of the archaeological report. These three work tasks are discussed below, and associated costs are presented in the attached table.

Task 1: Archaeological Monitoring and Data Recovery Plan (AMDRP)

GANDA will conduct archival research and prepare a AMDRP for the groundwater well rehabilitation project. The AMDRP will present the research background of the project area, propose archaeological monitoring methodology, and describe inadvertent discovery protocols to be followed during construction. GANDA will submit the Draft AMDRP to AECOM in PDF format within four (4) weeks of the notice-to-proceed for submittal to the Guam Historic Resources Division (GHRD) for the required review process. GANDA will address any review comments, and the revised document will be submitted as a Final AMDRP.

Task 2: Archaeological Monitoring

GANDA will conduct on-site archaeological monitoring during the construction phase of the project in order to monitor impacts on cultural resources. Since ground disturbance associated with the project is expected to entail a half day of drilling at each well site, we are providing half day and full day unit costs for archaeological monitoring. These costs assume one (1) on-site archaeological monitor will be sufficient for this work scope.

Task 3: Archaeological Monitoring Report

It is our expectation that GHRD will require an archaeological monitoring report following construction. Task 3 covers post-fieldwork lab work and preparation of the technical report to present results of archaeological monitoring. *[Please note that reporting on archaeological services beyond archaeological monitoring (e.g., data/burial recovery) will need to be budgeted and renegotiated*



separately.] GANDA will submit the draft report to the client to submit to GHRD for the required review process. Following receipt of GHRD review comments, GANDA will prepare and submit a final report.

Project Cost:

Costs for tasks associated with archaeological support are presented in the table below.

Task	Description	Unit Cost*	Units	Total
1. AMDRP	Preparation of AMDRP, Draft and Final GHRD submittals.	\$4,409	1	\$4,409
2. Archaeological Monitoring	One half day for one (1) archaeological monitor.	\$477 <i>(per half day)</i>	TBD	TBD
	One full day for one (1) archaeological monitor.	\$740 <i>(per full day)</i>	TBD	TBD
3. Archaeological Report	Post-field lab work and preparation of draft and final technical reports.	\$5,310	1	\$5,310

*Includes Guam Gross Receipts Tax (GRT)

Assumptions:

- If highly significant or unusual archaeological deposits or human remains are encountered during construction, consultation must be initiated with GHRD by AECOM for which detailed testing and data recovery and/or burial removal and analysis, **not covered under these rates**, may be required.
- Our archaeological monitoring costs assume one mobilization per call-out and at least 24 hour scheduling notice.

Thank you for considering GANDA for archaeological support of your project. Please feel free to contact me at 488-2005 or ccraft@garciaandassociates.com with any comments or questions.

Sincerely,

Cacilie Craft, MA, RPA
Project Manager, Archaeologist
Garcia and Associates
ccraft@garciaandassociates.com
(671) 488-2005