

1 **GUAM CONSOLIDATED COMMISSION ON UTILITIES**

2 **RESOLUTION NO. 15-FY2017**

3 **RELATIVE TO APPROVAL OF THE PROGRAM MANAGEMENT /**
4 **CONSTRUCTION MANAGEMENT CONTRACT FOR THE OFFICE OF ECONOMIC**
5 **ADJUSTMENT “GUAM WATER AND WASTEWATER INFRASTRUCTURE**
6 **IMPROVEMENTS”**

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**, the U.S. Government determined that the island of Guam was the preferred
15 alternative for the relocation of Marine Corps forces from Japan, and as required under the 2014
16 National Defense Authorization Act, through the Department of Defense (DoD) Economic
17 Adjustment Committee, an “implementation plan” to address the assistance needed for public
18 infrastructure; and
19

20 **WHEREAS**, collaborative discussions between GWA, the CCU, the Office of the
21 Governor of Guam, DoD, USEPA and the Office of Economic Adjustment (OEA) resulted in
22 GWA being deemed the proper entity to serve as “owner and operator” of the Guam civilian
23 water and wastewater projects which are necessary given the impacts associated with the
24 Marines Corps relocation to Guam; and
25

26 **WHEREAS**, OEA will grant funding to GWA to manage the implementation of three
27 projects, namely (1) the NDWWTP Treatment Upgrades which will convert the plant from
28 advance primary treatment to secondary treatment, (2) the GWA Interceptor Sewer
29 Refurbishment (AAFB to NDWWTP) to rehabilitate sewer lines ranging in sizes from 18 inches
30 to 42 inches, and (3) the NGLA Monitoring System Expansion/Rehabilitation which is a project
31 that intends to refurbish up to twelve existing monitoring wells and installation of up to seven
32 new monitoring wells; and

1 **WHEREAS**, an intergovernmental support team consisting of individuals from
2 GWA/CCU, OEA, Department of the Navy, USEPA and the Office of the Governor of Guam
3 will provide support to GWA in their efforts to implement the three above noted projects; and
4

5 **WHEREAS**, in addition to the support from the intergovernmental support team, the
6 implementation and execution of the projects through GWA will be managed by a Program
7 Management/Construction Management (PM/CM) team for which funding is allotted from the
8 OEA grant; and
9

10 **WHEREAS**, the qualifications for the PM/CM who shall provide support services
11 related to project management, design, construction and operational needs as part of execution of
12 these projects requires the PM/CM to have ten years of experience managing projects delivered
13 under a Design-Bid-Build (D-B-B) and Design-Build (D-B) methodology, and to have
14 successfully completed similar projects at a value of \$100 million or higher; and
15

16 **WHEREAS**, GWA has advertised the Request for Proposal (RFP-01-ENG-2017)
17 soliciting a statement of qualification from experienced and qualified engineering firms to
18 provide project management/construction management services for the Guam Civilian water and
19 wastewater projects; and
20

21 **WHEREAS**, Request for Proposal (RFP) packages were downloaded by over twenty
22 interested parties, from which GWA received proposals from five (5) architecture - engineering
23 (A-E) firms before the RFP submittal deadline; and
24

25 **WHEREAS**, the GWA A-E Selection Committee reviewed and evaluated the five (5)
26 proposals (see EXHIBIT A - Evaluation Scores) and generated a short list of the top three (3)
27 firms who were then requested as part of the RFP process to participate in "in-person" interviews
28 to conduct a presentation on their experience and qualifications, as well as answer questions
29 from the GWA A-E Selection Committee; and
30

31 **WHEREAS**, the GWA A-E Selection Committee conducted an evaluation of the short
32 listed firms, taking into account their presentation and responses to question, and generated a

1 ranking list (see EXHIBIT B – Interview Evaluation Scores) for the General Manager, which
2 recommended to award a contract to the firm Brown and Caldwell (see EXHIBIT C – GM
3 Determination); and

4
5 **WHEREAS**, GWA and Brown and Caldwell negotiated the scope and fee for the project
6 management / construction management and other related services to be provided in the fixed fee
7 amount of Fourteen Million Seven Hundred Ninety Thousand Three Hundred Forty-Six Dollars
8 and Zero Cents (\$14,790,346) (see Exhibit D – Scope and Fee) for the program of improvements
9 contemplated under the OEA grant for all three (3) projects; and

10
11 **WHEREAS**, GWA Management seeks CCU approval of the fee proposal amount of
12 Fourteen Million Seven Hundred Ninety Thousand Three Hundred Forty-Six Dollars
13 (\$14,790,346.00), plus a five percent (5%) contingency of Seven Hundred Thirty-Nine
14 Thousand Five Hundred Seventeen Dollars and Thirty Cents (\$739,517.30) for a total amount
15 of Fifteen Million Five Hundred Twenty-Nine Thousand Eight Hundred Sixty-Three Dollars
16 and Thirty Cents (\$15,529,863.30); and

17
18 **WHEREAS**, funding for this contract will be from Office of Economic Adjustment grant
19 proceeds and if necessary or applicable the 2010, 2013, and 2016 Bond funds as an alternate
20 funding source; and,

21
22 **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities
23 does hereby approve the following:

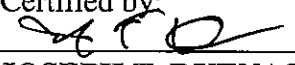
- 24 1. The recitals set forth above hereby constitute the findings of the CCU; and
- 25 2. The CCU finds that the terms of the fee proposal submitted by Brown and
26 Caldwell are fair and reasonable (EXHIBIT D).
- 27 3. The CCU finds that the terms and conditions set by GWA relative to
28 commencement of work activities are fair and reasonable and serve as a
29 measure of Quality Assurance/Quality Control (QA/QC).
- 30 4. The CCU hereby authorizes the management of GWA to enter into a contract
31 with Brown and Caldwell in the amount of Fourteen Million Seven Hundred
32 Ninety Thousand Three Hundred Forty-Six Dollars (\$14,790,346.00).


1 5. The CCU hereby further approves the total funding amount for this project of
2 Fourteen Million Seven Hundred Ninety Thousand Three Hundred Forty-Six
3 Dollars (\$14,790,346.00), plus a five percent (5%) contingency of Seven
4 Hundred Thirty-Nine Thousand Five Hundred Seventeen Dollars and Thirty
5 Cents (\$739,517.30) for a total amount of Fifteen Million Five Hundred
6 Twenty-Nine Thousand Eight Hundred Sixty-Three Dollars and Thirty Cents
7 (\$15,529,863.30).

8 6. The CCU hereby further approves the funding for this contract will be from
9 Office of Economic Adjustment grant proceeds and if necessary or applicable
10 the 2010, 2013, and 2016 Bond funds as an alternate funding source
11

12 **RESOLVED**, that the Chairman certified and the Board Secretary attests to the adoption
13 of this Resolution.

14 **DULY AND REGULARLY ADOPTED**, this 24th day of January 2017.

15 Certified by:
16 
17 **JOSEPH T. DUENAS**
18 Chairperson

15 Attested by:
16 
17 **J. GEORGE BAMBA**
18 Secretary

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

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

25 AYES: 5
26 NAYS: 0
27 ABSTENTIONS: 0
28 ABSENT: 0
29
30
31
32

Exhibit A (1 of 1)




GUAM WATERWORKS AUTHORITY

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

November 28, 2016

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

From: Gloria P. Bensen 
Chairperson, Consultant Selection Board

Subject: RFP-01-ENG-2017
Project Management/Construction Management Services for the Guam Water and
Wastewater Infrastructure Improvements
GWA Project No. S17-001-OEA

The following information is intended to document the evaluation process undertaken for the referenced solicitation. The top three (3) firms short listed by the committee for interviews are ranked 1-3 below.

EVALUATION COMMITTEE MEMBERS	
Name	Title
John Davis, P.E.	Engineer Supervisor – CIP Wastewater
Mauryn McDonald, P.E.	Engineer Supervisor – Permits and Inspection
Evangeline Lujan	Senior Regulatory Analyst
Prudencio Aguon	Grants Administrator
David Fletcher	Operations and Maintenance Manager

GROSS SCORE SUMMARY							
Consultant	Evaluation Score					Total	Rank
1. SSFM International Inc.	85	87	55	78	88	393	5
2. Brown and Caldwell	90	94	96	100	97	477	1
3. HDR	85	92	82	77	89	425	3
4. CDM Smith	80	85	77	87	93	422	4
5. Duenas, Camacho & Associates	95	95	94	95	95	474	2

Scores were evaluated based on sum of the individual scores. 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.

Exhibit B (1 of 1)



GUAM WATERWORKS AUTHORITY

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

December 21, 2016

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

From: Gloria P. Bengan 
Chairperson, Consultant Selection Board

Subject: RFP-01-ENG-2017
Project Management/Construction Management Services for the Guam Water and
Wastewater Infrastructure Improvements
GWA Project No. S17-001-OEA

The following information is intended to document the post evaluation scoring process undertaken for the referenced project.

EVALUATION COMMITTEE MEMBERS	
Name	Title
John Davis, P.E.	Engineer Supervisor – CIP Wastewater
Mauryn McDonald, P.E.	Engineer Supervisor – Permits and Inspection
Evangeline Lujan	Senior Regulatory Analyst
Prudencio Aguon	Grants Administrator
David Fletcher	Operations and Maintenance Manager

POST PRESENTATION GROSS SCORE SUMMARY(2 nd Evaluation)							
Consultant	Evaluation Score					Total	Rank
1. Brown and Caldwell	90	97	99	100	99	485	1
2. Duenas, Camacho & Associates	100	96	94	95	96	481	2
3. HDR	85	92	82	79	89	89	3



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 *Thomas F. Cruz*
Subject: RFP-01-ENG-2017
Project Management/Construction Management Services for the Guam Water and Wastewater Infrastructure Improvements
GWA Project No. S17-001-OEA
Date: December 21, 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 evaluation summary sheet is attached for your information.

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

- 1. Brown and Caldwell
- 2. Duenas, Camacho & Associates
- 3. HDR

Concurred: *Vincent E. Guerrero*
VINCENT E. GUERRERO 12-21-2016
Supply Management Administrator Date

GENERAL MANAGER'S DETERMINATION

Consultant Firm Selected:
Brown & Caldwell

Remarks:
Although sufficient reason and justification exists to award to either #1 or #2, and both are highly qualified and acceptable to GWA, I will honor the evaluation and selection committee recommendations. Proposal and fee negotiations will be conducted to give GWA maximum benefit for minimum cost, and there should be no hesitation to press for GWA & terminate if no agreement is reached with #1 ranked firm.
MIGUEL C. BORDALLO, P.E. Date
General Manager *Miguel C. Bordallo* 12-21-16

TFC/gb

Exhibit D (1 of 19)

PM/CM Scope of Services Guam Waterworks Authority Water and Wastewater Infrastructure Improvements The Brown and Caldwell PM/CM Team

Develop and implement a comprehensive Project Management and Construction Management (PM/CM) Program, including directions, procedures, coordination, administration, review and expediting required to assist GWA, its consultants and its designers, construction contractors and/or Design/Builders in accomplishing the completion of the design, permitting, construction, testing, commissioning and startup in a timely, economical and acceptable manner to meet the project's cost, schedule, scope, performance, and quality objectives. Collaborate with GWA and in consultation with the Guam Intergovernmental Support Team (GuIST) on:

- Northern District Wastewater Treatment Plant (NDWWTP) - all phases of design, permitting, construction, testing and startup/commissioning of the project to upgrade the NDWWTP to compliant secondary treatment and to complete the installation of a sewer outfall diffuser.
- Interceptor Sewer – all phases of design, permitting, construction, testing and turnover of the project to rehabilitate approximately 45,000 linear feet of the Interceptor Sewer line from AAFB to the NDWWTP.
- Northern Guam Lens Aquifer (NGLA) Monitoring System – all phases of design, permitting, well drilling, completion and repair, construction, testing and turnover of the project to refurbish six (6) existing wells and install four (4) new monitoring wells.

010 Program Management

010.001 Meetings

Attend, present, prepare for, and take meeting minutes as necessary for:

002. Program Kickoff meeting. Develop a Program Charter, develop Level of Service metrics
003. Bi-Weekly conference calls
004. Quarterly Face-to-Face Workshops with Guam Intergovernmental Support Team (GuIST) held on Guam
005. Component project design and construction kickoff meetings
006. Component project review and progress meetings, and closeout meetings
007. Design review conferences. Present, discuss and resolve design review comments with GWA and designers.

010.015 Program Management Plan

Provide a Program Management Plan consisting of sections addressing:

016. Stakeholder Engagement
017. Communication
018. Budget and Cost Monitoring
019. Risk, including an initial Risk Register
020. Quality Management
021. Resource Management Scope
022. Schedule
023. Change Management

Exhibit D (2 of 19)

010.050 Schedule Management

051. Develop, maintain, and update a critical path Master Program Schedule. The Master Schedule will integrate key milestones from the schedules of each individual component project, as prepared and submitted by the selected contractor or Design/Builder. Record and monitor the progress of all Project designs and regulatory approval activities, construction activities, testing, startup and commissioning, and operational impacts. Record and monitor the progress of all component projects. Provide project management and dedicated professional scheduling support, using Primavera P6 software.

010.100 Program Management Information System

101. Document Management Plan. Develop and implement a document management plan. Develop a centralized records management procedure to include a system for central receiving of all project documents and the control, storage, distribution, indexing, and tracking of documents with final distribution to GWA. Provide tracking, management and recordkeeping for all project documentation. Monitor and manage receipt, review, comments, and revisions for all project technical and administrative deliverables. Involve GWA, its consultants and the Intergovernmental Support Team as necessary.
102. Reporting. Generate report formats for stakeholder reporting: monthly status report consisting of: critical path schedule, significant deviations and changes, photographic summary, safety status and incidents, total program costs by project, and project completion reports. Below lists required reports:

Type	Frequency	Context	Recipients
105. Deviations & Change Orders	Included in Monthly Program Progress Report	Details of issue and resulting deviation; probable impacts to scope, cost and schedule; recommendations.	GWA GM, GWA Engineering
106. Photographic Summary	Included in Monthly Program Progress Report	Photographic documentation of all phases of work on each project,	GWA GM, GWA Engineering, Intergovernmental Support Team, OEA, CCU
107. Schedule updates	Included in Monthly Program Progress Report Monthly	Copies of latest Overall Program Schedule, with notes explaining any deviations from the approved schedule	GWA GM, GWA Engineering, Intergovernmental Support Team, OEA, CCU
108. Safety Incidents	Immediately	Telephonic notification and follow up report with details of injuries, property damage, delays, etc. as soon as info is available	GWA GM, GWA Engineering, Intergovernmental Support Team, OEA, CCU

Exhibit D (3 of 19)

110. Safety Status Report	Included in Monthly Program Progress Report	Summary of all safety reviews and findings and recommendations	GWA, Contractor or Design/Builder
111. Program Progress Reports	Monthly	Includes information specified by GWA at Program startup	GWA GM, GWA Engineering, Intergovernmental Support Team
112. Project Completion Report	At each Project's Completion	Provides detailed information to allow GWA to issue the certificate of substantial completion	GWA GM, GWA Engineering, GWA Compliance and Safety, Intergovernmental Support Team, OEA

113. Budget, Cost and Contract Management consisting of: contract management, contractor invoicing, payment records, budget, expenditures, encumbrances, commitments.

010.120 Develop Delivery Strategy

Evaluate alternative delivery strategies as appropriate for

- 121. NDWWTP upgrade,
- 122. Interceptor Trunk sewer rehab.

010.130 Design standards and equipment standards

- 131. Use existing GWA standards as appropriate.
- 132. Confirm applicable design criteria, codes and standards.

010.140 Quality Management

Verify deliverables are properly reviewed, comments addressed and shown in final design.

- 141. Provide Quality Assurance reviews of deliverables.

010.150 Program Management Execution

General: Act on behalf of GWA in the coordination of the design process, as the Owner's representative. Serve as the designated point of contact for the designer(s) under the appropriate Owner-Design Agreement or for the Design/Builder under the appropriate Owner-Design/Builder Agreement. Coordinate and help resolve administrative issues that arise during the design process between the appropriate parties.

- 151. Monitor and report on designer and contractor performance with regard to schedule, quality of work, cost, scope compliance and productivity.
- 152. Coordinate design submittals and review process: Facilitate and coordinate the distribution of design submittals to the appropriate parties for review, comment, and information, including the Intergovernmental Support Team.
- 153. Collect, consolidate and coordinate all review comments so that they are addressed and resolved to GWA's satisfaction. Alert GWA and the Intergovernmental Support Team of any concerns.

Exhibit D (4 of 19)

154. Provide tracking, management and recordkeeping for project documentation. Monitor and coordinate receipt, review, comments, and revisions for project technical and administrative deliverables. Involve GWA, its consultants and the Intergovernmental Support Team as directed.
155. Coordinate and assist GWA in the administration of designer/contractor pay requests, change requests, Requests for Information (RFIs), or change order directives.
156. Coordinate and monitor permitting and approvals required for project execution with local and federal entities, contractors, and GWA.
157. Provide specialized technical support services to GWA and its consultants on a limited basis during project design and construction.
158. Assist GWA in assessing the maintenance and operating costs associated with the O&M plan developed by the contractors for the NDWWTP, outfall diffuser, trunk sewers and monitoring wells.

010.170 Cost Management

171. Review Designer's or Design/Builder's detailed estimate of probable construction cost at the 30 and 90 percent working drawing phase for the NDWWTP and Interceptor Trunk sewer projects. Create estimates for the outfall diffuser and the groundwater monitoring wells and the 30% and 90% working drawing phase.

010.190 Safety

Optional services listed in the following scope details are recommended as additional services requiring written approval from GWA.

191. **Optional Service** - Engage an independent safety consultant to observe and report once per month on construction safety for the NDWWTP, outfall diffuser, and interceptor trunk sewer projects and report findings on safety conditions and contractor performance to GWA's Compliance and Safety Office. The performance of such services shall not relieve the Contractor or Design/Builder of its responsibility for the safety of persons and property and compliance with all statutes, rules, regulations, and orders applicable to the conduct of the work. Furnish GWA and Contractor or Design/Builder with a copy of the monthly safety status report.

010.200 Permitting

201. Monitor, coordinate, and track the permitting process for each component project with local and federal entities so that the Contractor or GWA can obtain the permits. The PM/CM will endeavor to complete the permitting process but final approval and granting of permits is responsibility of the regulating agency and outside the PM/CM's control.
202. Track permits for each component project. Permit tracking consists of application submittal, application completeness determination, progress status and permit approval.
203. Coordinate with design team to monitor that Specific Conditions of each permit are shown in the design/construction drawings. Coordinate with the Contractor and Construction Manager to monitor whether the Specific Conditions of each permit are being constructed as permitted.

Exhibit D (5 of 19)

010.300 Construction Management Plan

- 301. Develop and implement the Construction Management Plan including guidelines for project organization and coordination in the field, standard daily operations, change order procedures, GWA's safety requirements, quality, schedule, and cost control.

010.400 Optional Service

- 401. PM/CM Team to assist in conducting NEPA and permitting field investigations and surveys (e.g., protected species surveys, wetland delineations, Essential Fish Habitat surveys, water quality surveys and monitoring, etc.) as needed including diving at diffuser. Requires coordination with USEPA and its consultant.

110 Project 1 – NDWWTP

110.001 Treatment Plant Planning Phase

- 002. Conduct kickoff meeting, regular periodic, and closeout project management meetings.
- 003. In collaboration with GWA, develop RFP and Scope of Work in accordance with Guam Procurement Law and applicable grant conditions for selection of Designer to execute the design of the treatment plant upgrade. Coordinate with GuIST to address stakeholder concerns in development of the RFP. Review the BODR, preliminary engineering studies conducted and the AECOM Implementation Plan, evaluate gaps in the engineering, and recommend steps needed to address gaps and deficiencies in the RFP. Review for operability and maintainability and gauge training needs.
- 004. Assist GWA with soliciting and reviewing proposals to select a highly qualified Designer or Design/Builder. Provide two (2) qualified individuals with appropriate knowledge, experience and expertise during the selection process to review proposals. GWA will make final determination of Designer or Design/Builder.
- 005. In collaboration with GWA, develop the IFB package meeting Guam procurement laws and regulations. Preferred project delivery method is conventional design-bid-build.
- 006. Engage with GWA during contractor selection of a highly qualified contractor. Provide qualified individuals with appropriate knowledge, experience and expertise during the selection process to review proposals and bids. GWA will select the Contractor in compliance with GWA procurement standards.
- 007. Assist GWA and designer with conducting pre-proposal conferences, responding to requests for clarification, requests for information, and issuing amendments in order to obtain complete and responsive proposals.
- 008. Assist GWA in the negotiation of priced proposals and evaluation of non-priced technical proposals.
- 009. Assist GWA in reviewing claims and references, using current Engineering Joint Contract Documents published by the Engineers Joint Contract Documents Committee as standard contract forms, and documenting the negotiations.
- 010. Coordinate with GWA on acquiring boundary and topography from other consultants for acquired property.
- 011. **Optional Service** - conduct an Environmental Investigation in advance of design activities to include MEC Density and Extent of MEC presence.

Exhibit D (6 of 19)

110.100 NDWWTP Design Oversight and Management Phase

101. Coordinate and monitor the design process acting on behalf of GWA as the Owner's representative.
102. Provide technical and constructability reviews of the design at 30, 60, 90 and 100% percent completion.
103. Perform 30%, 60% and 90% operability and maintainability reviews to assess whether designed facility meets GWA requirements. As needed, the review will include recommended steps for keeping current facility operational during construction. Engage key stakeholders in the review process and keep them informed of critical milestone risks and potential risks to project objectives
104. Provide technical guidance and recommendations for the plant upgrade throughout the design process.
105. **Optional Service** - Develop a Value Engineering strategy to be implemented at key points in the design. Assist in development of full life cycle cost development. Make recommendation on possible repurposing of any of the existing facility
106. Conduct design alternatives evaluations – Conduct Business Case Evaluations (BCE's) on
 - 9 mgd versus 12 mgd
 - Conventional activated sludge versus Extended Air Activated Sludge using Oxidation ditches
107. **Optional Service** - Develop construction contract specifications for startup, commissioning, asset data, and preventive maintenance procedures to transfer in a format for inclusion into Lucity software.
108. **Optional Service** - If requested by GWA, prepare bridging documents based on program and facility planning, to be used for procuring a Design/Build Contractor for the development of the improvements. The bridging documents will include preliminary design plans, specifications, calculations, performance criteria and basis of design documents for a procurement package specific to the project acquisition to be conducted.

110.150 NDWWTP Construction Management Phase

151. Observe and monitor the construction process, project correspondence and meetings acting on behalf of GWA as the Owner's representative.
152. Attend kickoff, regular periodic and construction closeout meetings.
153. Develop a CM Quality Assurance Plan.
154. Document site conditions prior to beginning construction
155. Review approved submittals from the Contractor prior to fabrication or installation of materials and equipment
156. Observe, monitor, and document daily field work
157. Review and monitor the Contractor's Quality Control Plan and its implementation
158. Provide in-plant fabrication and/or witness testing at place of manufacture (where applicable)
159. Prepare reports and other record keeping
160. Provide non-conforming and deficient work resolution process
161. Provide recommendations for the administration of construction contracts
162. Develop construction inspection training for GWA staff as requested.

Exhibit D (7 of 19)

163. Engage key stakeholders during construction and keep them informed of critical milestone risks and risks to project objectives.
164. Prepare for and conduct the Preconstruction Conference
165. Perform Preconstruction Administrative Activities
166. Coordinate regulatory and building department inspections
167. Record progress of project. Prepare daily construction reports. Prepare a progress photo log
168. Review, process and maintain logs for material and QA testing
169. Review, process and coordinate RFI's, submittals, shop drawings and maintain logs
170. Schedule monitoring and updates, work with contractor on developing schedule recovery plans.
171. Coordinate plant operations with construction activities for uninterrupted plant operation in connection with shutdowns, tie-ins, shared facilities, including storage areas, staging areas, contractor areas, contractor access, haul roads, crane and equipment locations and material delivery sequencing.
172. Document and track Change Requests, review changes of scope, estimated costs (additive and/or deductive), provide recommendations as appropriate to GWA. Assist GWA with Contractor requests for equitable adjustment and claims. Provide documentation of all relevant issues, detailed analyses, review and evaluation of requests/claims
173. Progress payments and funding requests
174. Perform QA testing for earthworks, concrete, and survey controls
175. Monitor Contractor Quality Control testing
176. Monitor and track Acceptance Testing, witness testing, test report documentation,
177. Inspection, full-time
 - Site fire protective means; environmental protection plan; storm water protection plan; coordinate traffic and security operations at the site.
 - Punch lists
 - Record Drawing updates are being maintained by Contractor
178. Perform special inspection, electrical, structural.
179. Prepare Substantial Completion Report and Certificate. Final payment recommendation
180. Document O&M Manuals, record drawings, training and training materials, warranties, and certifications
181. Coordinate project closeout, record drawings, and document turnover to GWA.
182. Prepare a final report narrative of significant design and construction events and issues to become a historical record for the project. The Final Report shall include the Record Drawings, warranty information, operation and maintenance information, and other pertinent project data.
183. Implement & Maintain Project Controls Records & Document Management and Communication
184. Provide Videography & Live Video Feed
185. Review Payroll Reports and Monitor Compliance with Labor Laws
186. General and Permit Compliance Monitoring
187. Manage Processing and Implementation of Design Changes
188. Oversee CM staff Safety Program and Monitor Contractor Safety Program

Exhibit D (8 of 19)

189. Project closeout, Punch List Development, record drawings, final report
 190. Coordinate Training and Warranty Period Responses (1 year after construction)
 191. **Optional Service** - If requested by GWA, in addition to testing provided by the contractor and/or Design/Builder, material testing during construction of the improvements can be provided, including but not limited to concrete sampling and testing, testing for soil density, paint and weld testing, and others as required by acceptable engineering industry practices.
- 110.200 NDWWTP Testing, Commissioning, Startup and Training Phase
201. Review and comment on Contractor's submittal for a functional, user-friendly operations and maintenance plan. Supplement the plan as needed to address gaps in the contractor's and design consultant's submittals. O&M plans will provide the capability for the plant to sustain compliant secondary treatment for the long-term.
 202. Concurrent with construction - Coordinate the development of the WWTP testing, startup and commissioning plans by the contractor. Coordinate scheduling of all travel and testing activities well in advance of construction completion. Include warranty protection measures with maintenance. Execute the plan to meet operational and environmental requirements for the plant.
 203. Provide a transition plan that includes training for operational sustainability. This training is in addition to training offered by the contractor and design consultants on specific plant equipment, maintenance and plant function.
 204. Concurrent with construction - develop and execute the operations training plan for the plant.
 205. Determine training certification and GWA funding necessary for plant staff to sustain compliant secondary treatment through its life cycle. Follow-up training as defined during startup.
 206. Concurrent with construction - Develop and execute the maintenance and asset management training plan for the plant. Execute training for other operations and maintenance staff throughout the GWA operations function concurrently with preparation for commissioning.
 207. **Optional Service** - If requested by GWA, asset and maintenance data migration into Lucy in preparation of commissioning.

210 Project 2 – Outfall Effluent Diffuser

210.001 Diffuser Planning Phase

002. Conduct kickoff meeting, regular periodic, and closeout project management meetings.
003. Conduct Materials Integrity Testing of Diffuser
004. Research CCTV, record drawings, and prior design/construction documents to make sure the diffuser is properly installed and anchored and that it will provide the required dilution.
005. Investigate ocean floor and anchoring systems
006. Perform wave force analysis
007. Develop permitting requirements and begin obtaining permits

Exhibit (9 of 19)

210.100 Outfall Diffuser Design Phase

101. Perform the design of the diffuser. The intent is to place the existing diffuser equipment in place and determine the service life of the equipment for future management.
102. Determine non-functional equipment and address the gaps.
103. Prepare drawings and technical specifications. Issue design submittals for GWA review at 30%, 60% and 90% levels of effort.
104. Perform 30%, 60% and 90% operability and maintainability reviews to assure that the designed facility meets the needs of GWA. The review will include provisions for how the current facility will continue operations during construction.
105. In collaboration with GWA, develop the IFB package meeting Guam procurement laws and regulations. Intent is to deliver this project as conventional design-bid-build.
106. Engage with GWA during contractor selection to obtain a highly qualified contractor. Provide two (2) qualified individuals with appropriate knowledge, experience and expertise during the selection process. GWA to select the Contractor in compliance with GWA procurement standards.
107. **Optional Service** - Prepare Bridging Documents for Design/Build Alternative. If requested by GWA, prepare bridging documents based on program and facility planning, to be used in the acquisition of a Design/Build Contractor for the development of the improvements. The bridging documents will include preliminary design plans, specifications, calculations, performance criteria and basis of design documents sufficient for a procurement package specific to the project acquisition to be conducted.

210.150 Outfall Diffuser Construction Management Phase

151. Coordinate the construction process acting on behalf of GWA as the Owner's representative.
152. Attend kickoff, regular periodic and construction closeout meetings.
153. Develop a CM Quality Assurance Plan.
154. Document site conditions prior to beginning construction
155. Review of approved submittals from the Contractor prior to fabrication or installation of materials and equipment
156. Monitor, observe, and document daily field work
157. Review of and Monitoring of the Contractor's Quality Control Plan and its implementation
158. Reports and record keeping
159. Provide non-conforming and deficient work resolution process
160. Provide recommendations for the administration of construction contracts
161. Develop requested construction inspection training for GWA staff.
162. Engage key stakeholders during construction and keep them informed of critical milestone risks and risks to project objectives.
163. Prepare for and conduct the Preconstruction Conference
164. Perform Preconstruction Administrative Activities
165. Record progress of project. Prepare daily construction reports. Prepare a progress photo log
166. Review, process and maintain logs for material and QA testing
167. Review, process and coordinate RFI's, submittals, shop drawings and maintain logs
168. Schedule monitoring and updates, work with contractor on recovery schedules.

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169. Coordinate plant operations with construction activities to make sure of uninterrupted plant operation in connection with shutdowns, tie-ins, shared facilities, including storage areas, staging areas, contractor areas, contractor access, haul roads, crane and equipment locations and material delivery sequencing.
170. Document and track Change Requests, review changes of scope, estimated costs (additive and/or deductive), provide recommendations as appropriate to GWA. Assist GWA with Contractor requests for equitable adjustment and claims. Provide documentation of all relevant issues, detailed analysis, review and evaluation of requests/claims
171. Progress payments and funding requests
172. Monitor and track Acceptance Testing, witness testing, test report documentation,
173. Inspection, full-time
 - Punch lists
 - Record Drawing updates are being maintained by Contractor
174. Prepare Substantial Completion Report and Certificate. Final payment recommendation
175. Document O&M Manuals, record drawings, training and training materials, warranties, and certifications
176. Project closeout, record drawings, and document turnover to GWA.
177. Prepare a final report narrative of significant design and construction events and issues to become a historical record for the project. The Final Report shall include the Record Drawings, warranty information, operation and maintenance information, and all other pertinent project data.
178. Review Contractor's Open Waters Safety Plan and monitor adherence to this plan.
179. **Optional Service** - If requested by GWA, in addition to testing provided by the contractor and/or Design/Builder, material testing during construction of the improvements can be provided, including but not limited to concrete sampling and testing, paint and weld testing, and others as required by acceptable engineering practices.

310 Project 3 – Interceptor Trunk Sewer

310.001 Trunk Sewer Planning Phase

002. Conduct kickoff meeting, regular periodic, and closeout project management meetings.
003. **Optional Service** - Conduct CCTV and Pole Camera investigations, expand on PG Environmental fieldwork
004. **Optional Service** - Conduct Odalog H₂S testing to quantify the significance of H₂S. The intent is that if H₂S is a significant contributor to the deterioration of the pipeline, it guides the rehabilitation process.
005. Review existing CCTV, record drawings, and prior design/construction documents.
006. Coordinate with DPW and FHWA on Rt. 3 roadwork
007. **Optional Service** - Conduct field survey, manhole locates (obtain horizontal and vertical survey of manholes)
008. **Optional Service** - Conduct Manhole inspection, assessment and repair recommendations

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- 009. Identify phasing and sequencing requirements. Identify access, temporary construction easements, and staging areas for CIPP rehabilitation
 - 010. In collaboration with GWA, develop RFP, IFB and Scope of Work in accordance with Guam Procurement Law and applicable grant conditions for selection of Design/Build Firm to execute the design and construction of the trunk sewer rehabilitation. Coordinate with GulST to address stakeholder concerns in development of the solicitation request.
 - 011. Prepare bridging documents based on program and facility planning, to be used in the acquisition of a Design/Build Contractor for the development of the improvements. The bridging documents consist of preliminary design plans, specifications, calculations, performance criteria and basis of design documents. Review preliminary engineering and field studies conducted and the AECOM Implementation Plan, determine gaps in the engineering, and address gaps and deficiencies in the RFP. Assess the PG Environmental-AECOM concepts.
 - 012. Assist GWA in soliciting and reviewing proposals and bids to obtain highly qualified Design/Builder. Provide two (2) qualified individuals with appropriate knowledge, experience and expertise during the selection process to review proposals. GWA to select Design/Build firm.
 - 013. Assist GWA during solicitations for procurement by participation in pre-proposal conferences, addressing RFIs and amendments, evaluating non-priced proposals and priced proposals, verifying claims and references, negotiating final pricing, using Engineering Joint Contract Documents as standard contract forms, and documenting the negotiations.
- 310.100 Phase 1 Upper Trunk Sewer Design Oversight and Management (Rt. 9)**
- 101. Coordinate the design process acting on behalf of GWA as the Owner's representative.
 - 102. Perform 30%, 60% and 90% design reviews. The review will include provisions for how the current pipelines will continue operations during construction. Engage key stakeholders in the review process and keep them informed of critical milestone risks and risks to project objectives
 - 103. Provide technical guidance and direction throughout the rehabilitation design
 - 104. **Optional Service** - Develop construction contract specifications for the appropriate startup, commissioning, asset data, and preventive maintenance procedures transfer in a format for inclusion into Lucity software.
 - 105. Perform review of design submittals, attend design review meetings
- 310.150 Phase 1 Upper Trunk Sewer Construction Management**
- 151. Coordinate the construction process, project correspondence and meetings acting on behalf of GWA as the Owner's representative.
 - 152. Attend kickoff, regular periodic and construction closeout meetings.
 - 153. Develop a CM Quality Assurance Plan.
 - 154. Document site conditions prior to beginning construction
 - 155. Review of approved submittals from the Contractor prior to fabrication or installation of materials and equipment
 - 156. Monitor, observe, and document daily field work

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157. Review of and Monitoring of the Contractor's Quality Control Plan and its implementation
158. Reports and record keeping
159. Develop non-conforming and deficient work resolution process
160. Provide recommendations for the administration of construction contracts
161. Develop requested construction inspection training for GWA staff.
162. Engage key stakeholders during construction and keep them informed of critical milestone risks and risks to project objectives.
163. Prepare for and conduct the Preconstruction Conference
164. Perform preconstruction administrative activities
165. Coordinate regulatory and building department inspections
166. Record progress of project. Prepare daily construction reports. Prepare a progress photo log
167. Review, process and maintain logs for Material and QA Testing
168. Review and coordinate RFI's, submittals, shop drawings and maintain logs
169. Schedule monitoring and updates, work with contractor on developing recovery schedule plans.
170. Coordinate flow and bypass sewer operations with construction activities to make sure of uninterrupted sewer system flows. Coordinate roadway operations and new road construction with construction activities. Coordinate WWTP plant operations in connection with shutdowns, tie-ins, shared facilities. Coordinate storage areas, staging areas, contractor areas, contractor access, haul roads, crane and equipment locations and material delivery sequencing.
171. Document and track Change Requests, review changes of scope, estimated costs (additive and/or deductive), provide recommendations as appropriate to GWA. Assist GWA with Contractor requests for equitable adjustment and claims. Provide documentation of all relevant issues, detailed analysis, review and evaluation of requests/claims
172. Progress payments and funding requests
173. Monitor and track Acceptance Testing, witness testing, test report documentation,
174. Inspection, full-time
 - Site fire protective means; environmental protection plan; storm water protection plan; coordinate traffic and security operations at the site.
 - Punch lists
 - Record Drawing updates are being maintained by Contractor
175. Prepare Substantial Completion Report and Certificate. Final payment recommendation
176. Document O&M Manuals, record drawings, training and training materials, warranties, and certifications
177. Project closeout, record drawings, and document turnover to GWA.
178. Review Payroll Reports and Monitor Compliance with Labor Laws
179. Project closeout, Punch List Development, record drawings, final report
180. Prepare a final report narrative of significant design and construction events and issues to become a historical record for the project. The Final Report shall include the Record Drawings, warranty information, operation and maintenance information, and all other pertinent project data.

181. **Optional Service** - If requested by GWA, in addition to testing provided by the contractor and/or Design/Builder, material testing during construction of the improvements can be provided, including but not limited to concrete sampling and testing, testing for soil density, paint and weld testing, and others as required by acceptable engineering practices.

410 Project 4 – Groundwater Monitoring Wells

410.001 Monitoring Wells Planning Phase

002. Conduct kickoff meeting, regular periodic, and closeout project management meetings
- Kickoff meeting
 - Periodic Meetings
 - Closeout meeting
003. Review budget and prioritize actions:
- Staff will review list of equipment from client, prior cost estimates and grant proposal submittal to determine what items can be performed.
 - One meeting with USGS/WERI/GWA for priority locations and equipment per site
004. New wells: determine how many new wells are possible. Develop list of preferred locations based on available budget and minimizing MEC/UXO work. Prioritize preferred well locations based on data from Dept. of Defense, WERI and USGS.
- No permitting effort is included in this task
 - Task will support meetings and reports from Task 003
 - One meeting with USGS/WERI/GWA
005. Well rehabilitations: develop priority list based on value of data, or data needs.
- Task will support meetings and reports from Task 003
 - Determine if all well rehabilitation work is possible based on available budget and new well plan.
 - One meeting with USGS/WERI/GWA
006. Develop implementation plan with schedule, sequence, decision points.
- Draft and final plan will be submitted
007. Conduct MEC initial investigation at the sites selected for new well placement. The intent is to minimize MEC work by identifying the new well locations closest to existing roadway access.
- 4 New Wells on DoD Property require ESS Compliance
 - 3 locations (100ft x 100ft screening)
 - 1 location (near MSA 2,500 linear feet, 12 feet wide, 100ft x 100ft pad)
 - After Action Report for screening/clearance work
 - Travel and per diem for UXO Tech II personnel
008. Conduct down-hole CCTV of existing wells to be rehabilitated.
- Rehab wells - 13 each
 - Reporting/editing video
009. Determine non-functional equipment on wells to be rehabilitated and develop prioritized list of work required to address the deficiencies.

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- Coordinate with WERI/USGS for site visit and equipment check during next quarterly data collection by WERI/USGS
- Review existing analyses
- Report of equipment status
- Performed in conjunction with Task 005

410.100 Monitoring Well Design Phase

101. Prepare design drawings for the new monitoring wells. Issue design submittals for GWA review at 30%, 60% and 90% levels of effort.
102. Develop rehabilitation plan for existing wells. Prepare drawings and technical specifications.
103. In collaboration with GWA, develop the IFB package for installation of new wells and rehabilitation of existing wells meeting Guam procurement laws and regulations. Intent is to deliver this project as conventional design-bid-build.
104. Engage with GWA during contractor selection of a highly qualified contractor. Provide two (2) qualified individuals with appropriate knowledge, experience and expertise during the selection process to review proposals and bids. GWA to select the Contractor in compliance with GWA procurement standards.
105. Assist GWA during solicitations for procurement by participation in pre-proposal conferences, addressing RFIs and amendments, evaluating non-priced proposals and priced proposals, verifying claims and references, negotiating final pricing, using Engineering Joint Contract Documents as standard contract forms, and documenting the negotiations.

410.150 Monitoring Well Construction Management Phase

151. Coordinate the construction process acting on behalf of GWA as the Owner's representative.
 - Rehab of 6 wells
 - Install 4 new wells
152. Attend kickoff, regular periodic and construction closeout meetings.
 - kickoff meeting
 - Rehab wells periodic meetings
 - New well install periodic meetings
 - closeout meetings
153. Develop a CM Quality Assurance Plan.
 - Assumes development of Draft and Final documents
154. Documentation of site conditions prior to beginning construction
 - Site Survey (6 rehab) -
 - Site Report (technical memo with photos)
 - Site Access coordination (DOD base access)
155. Review of approved submittals from the Contractor prior to fabrication or installation of materials and equipment
 - Rehab wells
 - New wells

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156. Coordinate, inspection, observe, and document daily field work Monitor, observe, and document daily field work
 - rehab wells
 - New wells
 - Geologist oversight
157. Review of and Monitoring of the Contractor's Quality Control Plan (QCP) and its implementation
 - Two review phases of Contractor QCP
158. Materials testing
 - Well Materials Testing
 - concrete
 - Coatings testing
159. Reports and record keeping
 - weekly reports
160. Provide non-conforming and deficient work resolution process
 - Vendor/subcontractor compliance issues
161. Provide recommendations for the administration of construction contracts
 - Compliance with contract review/subcontractor
162. Develop any desired construction inspection training for GWA staff. Engage key stakeholders during construction and keep them informed of critical milestone risks and risks to project objectives.
 - Review specs/plans, provide insight on drilling methods, counting supplies/materials, units being used, etc.
163. Coordinate regulatory and building department inspections
 - Monitor contractor's permitting process and inspections with government agencies
164. Record progress of project. Prepare daily construction reports. Prepare a progress photo log
 - Construction inspector and Project Manager (PM) will complete daily reports and photos on selected CM software package and place in PMIS (EADOCS)
165. Review and coordinate RFI's, submittals, shop drawings
166. Schedule monitoring and updates, work with contractor on recovery schedules.
 - PM review of compliance with work schedule
167. Coordinate Base access with Andersen Air Force Base. Coordinate storage areas, staging areas, contractor areas, contractor access, haul roads, crane and equipment locations and material delivery sequencing.
 - Base access coordination
168. Document and track Change Requests, review changes of scope, estimated costs (additive and/or deductive), provide recommendations as appropriate to GWA. Assist GWA with Contractor requests for equitable adjustment and claims. Provide documentation of all relevant issues, detailed analysis, review and evaluation of requests/claims
169. Progress payments and funding requests
170. Monitor and track Acceptance Testing, witness testing, test report documentation,
 - Oversight of testing and reporting

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171. Inspection, full-time; Site environmental protection plan; storm water protection plan; coordinate traffic and security operations at the site, Punch lists, Record Drawing updates are being maintained by Contractor
 - Well Rehab
 - New Well Install
172. Prepare Substantial Completion Report and Certificate. Final payment recommendation
173. Document O&M Manuals, record drawings, training and training materials, warranties, and certifications
 - Training and information will be given to operators of wells
174. Project closeout, record drawings, and document turnover to GWA.
175. Prepare a final report narrative of significant design and construction events and issues to become a historical record for the project. The Final Report shall include the Record Drawings, warranty information, operation and maintenance information, and all other pertinent project data.
 - All as-built information will be submitted to GWA for distribution to stakeholders needing the information
 - Up to 5 copies of all documentation will be produced
 - All electronic copies will be on CD
 - Hard copies will be spiral or 3-ring bound
176. **Optional Service** - If requested by GWA, in addition to testing provided by the contractor and/or Design/Builder, material testing during construction of the improvements can be provided, including but not limited to concrete sampling and testing, testing for soil density, paint and weld testing, and others as required by acceptable engineering practices.
 - Placeholder for any necessary testing to be performed by CM or its consultants during construction phase.

Assumptions:

Program Management

1. Program duration 58 months
2. Assume 5 working days per week
3. Assume 8 hours per working day
4. Bi-weekly conference calls, assume 116 total
5. Quarterly meetings, assume 20 total
6. There will be four (4) projects: NDWWTP, Outfall Diffuser, Interceptor Trunk Sewer, and Monitoring Wells
7. Program Management Plan will be done to BC typical standards.
8. Schedule will be prepared using Primavera P6 software. Two (2) licenses plus one training class open to GWA and the PM/CM Team.
9. PMIS will be based on SharePoint and EADOCS for document management and Microsoft Office products for reporting and financial management.
10. A monthly report will be issued consisting of: project and budget status, project progress, schedule updates, change orders and deviations, select photographs, and safety status.
11. Project closeout reports will be issued for the four (4) projects

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12. Delivery strategy is pre-established at: NDWWTP, Outfall Diffuser, and Monitoring Wells will be design-bid-build, Interceptor Trunk Sewer will be design/build.
13. The PM/CM Team will perform the necessary designs for the Outfall Diffuser and the Monitoring Wells. A designer will be procured for the NDWWTP and Interceptor Trunk Sewer projects.
14. Opinions of probable construction costs by the PM/CM will be based on review of the designer's 30% and 90% design level of effort for the NDWWTP and Interceptor Trunk Sewer.
15. Opinions of probable construction costs by the PM/CM for the Outfall Diffuser and the Monitoring Wells will be prepared at the 30% and 90% design level of effort.
16. The PM/CM will engage the services of an independent safety consultant on a once a month basis through a total of 30 months of construction. Construction period includes the NDWWTP, Outfall Diffuser and the Interceptor Trunk Sewer.
17. All NEPA permitting processes will be done by others (USEPA).
18. Territory and local permitting applications will be prepared and followed-through by the designers. The PM/CM will monitor and track permitting.
19. Environmental impact studies and environmental protection plans for each of the four (4) projects is not required.
20. Negotiations of construction change orders for each of the four (4) projects whose value exceeds \$50,000 will be performed as additional services.
21. Construction inspection training for GWA staff is limited to 24 hours of class time per project.
22. Labor compliance and review of certified payroll will be by GWA.

NDWWTP

23. Land surveying boundary and topography for acquisition property at the NDWWTP will be performed by others. The PM/CM Team will rely on GWA to provide this information prior to designer selection.
24. The NDWWTP construction will be performed in two phases. First phase is Site Preparation, clearing and grading. Duration is 6 months. Second phase is the vertical construction of the plant. Duration is 24 months.
25. Only a single Earthcam - ConstructionCam Lite HD w/shipping and 36 months of service will be provided at the NDWWTP construction site.
26. Selected Designer will use the GWA NDWWTP Facility Plan as the basis for the design.
27. Contractor will conform to the design concept at NDWWTP and no claims elevate to the GWA Attorney regarding possible actions to be taken in the event of non-compliance by the Contractor.

Outfall Effluent Diffuser

28. Use the existing outfall diffuser piping and appurtenances. The PM/CM team is to design accommodating the existing equipment and materials for Contractor to install.
29. Outfall diffuser will be installed along its original intended alignment with only minor adjustments necessary resulting from preconstruction inspection.
30. Outfall diffuser on-water/in-water construction period is two (2) weeks. Total construction time is seven (7) weeks.

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Interceptor Trunk Sewer

31. Interceptor trunk sewer will be issued for design/build
32. Interceptor trunk sewer will be one project done in two phases with one design/builder
33. Interceptor Trunk Sewer construction period is 23 months.
34. Interceptor Trunk Sewer rehabilitation is 45,000 linear feet. All manholes (approximately 155) are identified, located and cleared for vehicle access.
35. Pipeline condition assessment will be performed by the Design/Builder.
36. Inspection on the Interceptor Trunk Sewer may occasionally occur 24-hours per day for limited periods during CIPP liner wet-out and inversion. There is no need for full-time 24-hours per day inspection during curing.
37. There is no need for 24-hours per day inspection for bypass pumping.
38. Contractor for Interceptor Trunk Sewer will run two simultaneous crews.

Groundwater Monitoring Wells

39. The PM/CM Team will rely on existing reports provided by GWA as to proposed new well priorities, existing condition of the monitoring wells requiring rehabilitation, and priorities of wells for rehabilitation.
40. Access to well sites is obtained from Anderson Air Force Base.
41. GWA is the lead on rehabilitation and installation of monitoring wells. Comments and suggestions by other stakeholders will be acted upon only at the direction of GWA.
42. Rehabilitation of six (6) wells and installation of four (4) new wells.
43. Monitoring wells installation and rehabilitation construction duration is 7 months.

Brown and Caldwell PM/CM Fee Estimate
Summary of Costs

Rev6, 1/12/17

010	Program Management	\$5,327,239
110	Project 1 - NDWWTP	\$5,898,900
210	Project 2 - Outfall Effluent Diffuser	\$406,356
310	Project 3 - Interceptor Trunk Sewer	\$1,966,089
410	Project 4 - Groundwater Monitoring Wells	\$600,103

Subtotal	\$14,198,687
GRT Tax @ 4.167%	\$591,659
TOTAL	\$14,790,346

Optional Work	
Program Management	\$471,040
NDWWTP	\$433,740
Outfall Effluent Diffuser	\$108,000
Trunk Sewer	\$849,134
Subtotal	\$1,861,914
GRT Tax @ 4.167%	\$77,586
TOTAL	\$1,939,500