



GWA RESOLUTION NO. 25-FY2024

**RELATIVE TO THE APPROVAL OF DESIGN SERVICE CONTRACT FOR THE
GILL BREEZE SUBDIVISION WATER AND WASTEWATER INFRASTRUCTURE
PROJECT, GWA PROJECT NO. 22401**

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

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

WHEREAS, The Gill Breeze Subdivision located in Yigo, Guam does not have access to water utilities or wastewater disposal systems; and

WHEREAS, the lack of access to water and wastewater utilities for proper sanitation poses a major health risk to the residents of the Gill Breeze Subdivision; and

WHEREAS, the U.S. Environmental Protection Agency (US EPA) has expended considerable resources to address this issue and approved the use of US EPA grant funding to resolve this long-standing issue for this underserved community; and

WHEREAS, the intent of the project is to provide the Gill Breeze Subdivision with properly designed and constructed water infrastructure and onsite or public wastewater system disposal system to meet the needs of the residents; and

WHEREAS, GWA advertised the Request for Proposal (RFP-01-ENG-2024) soliciting a statement of qualification from experienced and qualified engineering firms to provide engineering design services for the Gill Breeze Subdivision Water and Wastewater Infrastructure project; and

1 **WHEREAS**, Request for Proposal (RFP) packages were downloaded by multiple
2 interested parties, from which GWA received proposal submittals from four (4) engineering
3 firms before the RFP submittal deadline of March 12, 2024; and
4

5 **WHEREAS**, the GWA Selection Committee reviewed and evaluated all four (4)
6 proposals, making a top three (3) ranking list of the most qualified firm (SEE EXHIBIT A –
7 Evaluation Summary), which indicated Duenas Camacho & Associates, Inc. (“DCA”) as the
8 highest ranked firm; and
9

10 **WHEREAS**, the GWA Selection Committee submitted for the General Manager’s
11 (“GM”) determination of selection, the ranking of firms evaluated from which GWA could
12 begin scope and fee negotiations with the selected firm (SEE EXHIBIT B – GM
13 Determination); and
14

15 **WHEREAS**, after selection, GWA engineering began and completed extensive
16 negotiations with DCA on the proposed Scope and Fees (SEE EXHIBIT C – Scope and Fee
17 Proposal) for the Gill Breeze Subdivision Water and Wastewater Infrastructure Design Services,
18 resulting in a final proposal of a total of Three Million Three Hundred Ninety-Six Thousand One
19 Hundred Three Dollars and Zero Cents (\$3,396,103.00); and
20

21
22 **WHEREAS**, GWA Management seeks CCU approval of DCA’s Scope and Fee Proposal
23 for the Design Services, for a total of Three Million Three Hundred Ninety-Six Thousand One
24 Hundred Three Dollars (\$3,396,103.00), plus a ten percent (10%) contingency of Three Hundred
25 Thirty-Nine Thousand Six Hundred Ten Dollars and Thirty Cents (\$339,610.30), to bring the
26 total authorized funding amount to Three Million Seven Hundred Thirty-Five Thousand Seven
27 Hundred Thirteen Dollars and Thirty Cents (\$3,735,713.30).
28

29 **WHEREAS**, funding for this project will be from the USEPA Grant funds awarded to
30 GWA for this project; and
31

1 **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities
2 does hereby approve the following:

- 3 1. The recitals set forth above hereby constitute the findings of the CCU.
4 2. The CCU finds that the terms of the Scope and Fee Proposal as described in
5 EXHIBIT C, are fair and reasonable.
6 3. The CCU hereby authorizes the management of GWA to accept the Scope and
7 Fee Proposal from DCA in the amount of Three Million Three Hundred
8 Ninety-Six Thousand One Hundred Three Dollars (\$3,396,103.00).
9 4. The CCU hereby further approves the funding total of Three Million Three
10 Hundred Ninety-Six Thousand One Hundred Three Dollars (\$3,396,103.00),
11 plus a ten percent (10%) contingency of Three Hundred Thirty-Nine
12 Thousand Six Hundred Ten Dollars and Thirty Cents (\$339,610.30), to bring
13 the total authorized funding amount to Three Million Seven Hundred Thirty-
14 Five Thousand Seven Hundred Thirteen Dollars and Thirty Cents
15 (\$3,735,713.30).
16 5. The CCU further approves management to duly notify the Public Utilities
17 Commission that this contract will exceed One Million Dollars
18 (\$1,000,000.00), and is funded by USEPA Grant Funds.

19
20 **RESOLVED**, that the Chairman certified and the Board Secretary attests to the adoption
21 of this Resolution.

22
23 **DULY AND REGULARLY ADOPTED**, this 27th day of August 2024.

24
25 Certified by:

26 
27 _____

28 **JOSEPH T. DUENAS**

29 Chairperson

25 Attested by:

26 
27 _____

28 **PEDRO ROY MARTINEZ**

29 Secretary

30 //

31
32 //

SECRETARY'S CERTIFICATE

I, Pedro Roy Martinez, Board Secretary of the Consolidated Commission on Utilities as evidenced by my signature above do hereby certify as follows:

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

AYES: 4
NAYS: 0
ABSENT: 1
ABSTAIN: 0



///

///

///

///

///

///

///



GUAM WATERWORKS AUTHORITY

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

April 18, 2024

To: Jeanet Babauta Owens
Assistant General Manager, Engineering

From: Josephine E. Smith, PMBA
Chairperson, Consultant Selection Board

Subject: RFP-01-ENG-2024
Gill Breeze Subdivision Water and Wastewater Infrastructure
GWA Project No. 22401

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


EVALUATION COMMITTEE MEMBERS	
Name	Title
Vincent EC Pangelinan	Operations and Maintenance Manager
Garrett K.A. Yeoh	Senior Engineer
George J. Watson	Senior Engineer
Rylma Nida A. Carino	Junior Engineer
Jude G. Calvo	Planner IV

Offerors	Evaluation Score					Total	Rank
1. Duenas, Camacho & Associates, Inc.	87	76	81	93	81	418	1
2. EMPSCO	90	75	83	92	75	415	2
3. GHD Inc.	84	76	79	91	75	405	3
4. E.M. Chen & Associates, Inc.	85	78	78	90	73	404	4

Scores were evaluated based on the sum of individual scores. The recommendation of the Evaluation Committee is shown in the ranking above.

For your review and approval. Notification letters will be issued thereafter.

Approved by:



Jeanet Babauta Owens



GUAM WATERWORKS AUTHORITY

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

MEMORANDUM

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

From: Jeanet Babauta Owens *J. Owens*
Assistant General Manager, Engineering

Subject: RFP-01-ENG-2024
Gill Breeze Subdivision Water and Wastewater Infrastructure
GWA Project No. 22401

Date: April 19, 2024

The Selection Committee has completed all necessary actions for selecting the most qualified consultants for the referenced solicitation. All proposals were reviewed and scored according to the conditions established in the solicitation. The Evaluation Summary is attached for your information.

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

1. Duenas, Camacho & Associates, Inc.
2. EMPSCO
3. GHD Inc.

Concurred:

Vincent E. Guerrero

 Vincent E. Guerrero
 Supply Management Administrator

4/22/2024

 Date

GENERAL MANAGER'S DETERMINATION

Consultant Firm Selected:

Duenas Camacho & Assoc.

Remarks:

Miguel C. Bordallo

 Miguel C. Bordallo, P.E.
 General Manager

2024.4.22

 Date



July 29, 2024
Miguel C. Bordallo, P.E.
General Manager, Guam Waterworks Authority
Gloria B. Nelson Public Service Building
688 Route 15
Mangilao, Guam, 96913

Attn: George Watson, GWA Project Engineer

Subject: **Request for Proposal RFP-01-ENG-2024 Gill Breeze Subdivision Water and Wastewater Infrastructure GWA Project No. 22401**

Re: **Fee Proposal, Supporting Narrative**

Hafa Adai Mr. Watson,

At GWA's request Dueñas, Camacho & Associates (DCA) is providing supporting narrative for the proposed subject project fee.

Alt, Assessment and BOD	\$ 530,568.00
Water System Design	\$ 975,947.00
Waste Water System Design	\$ 1,389,588.00
Post Design*	\$ 500,000.00
Total:	\$ 3,396,103.00

1. The projected infrastructure for this project is over 26,000f of water and sewer line, 1 new water pump station, up to two sewer lift stations and/or a new package wastewater treatment plant to serve the Gill Breeze area. The rough order magnitude of construction for this is at \$50M. Design fees range typically ranges between 6-12% not including post design or environmental works. DCA's design fee includes environmental works and is at 6%. This is within industry standards.
2. In 2022, DCA negotiated the Adacao Water and WW improvements with a design fee of \$1.6M. This project is at 90% design with an estimated construction cost of \$24M. Our proposed design fee for subject project is in the same order as Adacao.
3. We have estimated 375 design sheets for this project. This equates to \$6,300/sheet which is within industry standards.
4. This fee proposed is approximately \$280,000 (8%) less that our initial fee.

We believe the proposed fee fees are fair and reasonable.

Sincerely,

Kenneth M. Rekdahl, P.E.
Vice-President
Dueñas, Camacho & Associates, Inc.

1.	Introduction.....	2
1.1.	Water	2
1.2.	Wastewater	3
1.3.	Alternative Analysis	6
2.	Post Assessment	6
2.1.	Easement and Land Acquisition Assistance	6
2.2.	Environmental and Biological.....	7
2.3.	Topographic and As-Built Survey:	7
2.4.	Geotechnical Investigations	8
3.	Design.....	8
3.1.	Water/Wastewater Pump Stations	8
3.2.	Water	9
3.3.	Wastewater Collection	9
3.4.	Wastewater Treatment	9
3.5.	Water/Wastewater	10
	Civil	10
	Structural	10
	Mechanical.....	10
	Electrical.....	10
	Instrumentation and Control.....	11
3.6.	Drawings, Specifications, Cost Estimates, Construction Schedule	11
4.	Construction Bid Support	13
5.	Services During Construction	13
6.	Design Schedule	14

Exhibits

Exhibit A	Water Option 1
Exhibit B	Water Option 2
Exhibit C	Sewer Option 1
Exhibit D	Sewer Option 2
Exhibit E	Sewer Option 3

Design Schedule

1. Introduction

The Gill Breeze Subdivision does not have water utilities or wastewater disposal systems. The lack of proper sanitation poses a major health risk for residents. The intent of the project is to provide water service to this area and provide onsite or public wastewater disposal systems.

This project will provide the engineering design, construction bid support, and associated services to accomplish the following goals:

1. Design a potable water system.
2. Evaluate wastewater disposal options.
3. Design the selected wastewater disposal option.

1.1. Water

Two projected options for booster pump station and waterline locations are identified below and shown in Exhibits A and B.

Water Option 1: Construction of a water main from the Santa Rosa Tank and future booster pump to the top of Mt. Santa Rosa to connect to the Gill Breeze water system. An easement will be required for this option.

Waterline	15,000	ft
Pump Station	1	
Bld	6,400	sqft
Total hp	40	hp
Power needs		
Standby Power	TBD	
New Lot Purchase	40,000	sqft
New Easement	30,000	sqft

Estimated Infrastructure Needs

Water Option 2: Construction of a water main from a hydrant on Gayinero Road to the Gill Breeze water system. A booster pump station and land will be required for this option. From the evaluations, the A/E firm shall develop plans and specifications to implement the improvements, which may include new water lines, new booster

stations, new control valves, valve vaults, flow metering, SCADA, and all other required system upgrades necessary for the system to function properly. Topographical survey, boundary survey, property acquisition, and construction support services will be required under this task.

Waterline	12,000	ft
Pump Station		
Bld	6,400	sqft
Total hp	30	hp
Break tank	200,000	gal
Power needs		
Standby Power	TBD	
New Lot Purchase	45,000	sqft
New Easement	N/A	sqft

Estimated Infrastructure Needs

1.2. Wastewater

Three projected options for wastewater pump station and sewer location, septic tank and onsite treatment systems are identified below and shown in Exhibits C, D and E.

Wastewater Option 1: Install a public wastewater system and pump station in the Gill Breeze Subdivision. The nearest public wastewater system is located along Gayinero Road, west of the Route 15/Gayinero Road intersection.

Gravity Sewer Line	13,500	ft
Forcemain	5,000	ft
Lift Station-1	6,400	sqft
Total hp	30	hp
Lift Station-2	6,400	sqft
Total hp	30	hp
Power needs		
Standby Power	TBD	
New Lot Purchase	40,000X2	sqft
New Easement	NA	sqft

Estimated Infrastructure Needs

Wastewater Option 2: Installation of septic tank/leaching field systems on Gill Breeze Subdivision lots. The analysis shall include the following considerations:

- A. Current and proposed laws governing septic tank installations and minimum lot sizes.
- B. Current and proposed laws governing the Groundwater Protection Zone.
- C. Impacts that onsite wastewater disposal systems at the Gill Breeze Subdivision may have on the Northern Guam Lens Aquifer in that area, as a drinking water source.

Gravity Sewer Line	NA	ft
Forcemain	NA	ft
Lift Station	NA	sqft
Total hp	NA	hp
Power needs		
Standby Power		
New Lot Purchase	NA	sqft
New Easement	NA	sqst

Estimated Infrastructure Needs

Wastewater Option 3: Install a public wastewater system pump station and centralized wastewater treatment plant in the Gill Breeze Subdivision.

Gravity Sewer Line	9,000	ft
Forcemain	30	ft
Lift Station	Part of WWIP	sqft
New Lot Purchase	Part of WWIP	sqft
Total hp	10	hp
Power needs		
Standby Power	TBD	
Treatment Plant	40	hp
Headworks	15	hp
control/generator		
Treatment Tank/pond	15	hp
Drying Bed	4	ea
Treatment Lot Purchase	174,240 (4 acres)	sqft

Estimated Infrastructure Needs

1. Under this option only limited wastewater characterization will be done. Samples will be collected from influent to the NDWWTP and analyzed and/or send to no less than two package type treatment system suppliers.
2. No outfall or disinfection design will be provided for. It is expected that overland disposal will be the means for effluent discharge.
3. Pre-treatment will consist of mechanical screen and grit removal similar to that of the Baza Gardens pump station.
4. Treatment is anticipated to be secondary package type system similar to the Inarajan WWTP or an extended aeration treatment system.

An initial desktop assessment with site visits and interviews will be conducted. Desktop resources will include GIS data for property boundaries, lidar for contour needs, and aerial imagery for land use.

DCA will deploy aerial drone equipment to better ascertain existing land uses and vegetation types.

Items for to be reviewed though this assessment will include:

- a. Existing GWA systems and operations
- b. Existing site conditions and facilities
- c. Existing site operation
- d. Propose site improvements or development
- e. Preliminary site layout
- f. Existing property ownership and property acquisition needs
- g. Grading requirements
- h. Drainage requirements and stormwater management.
- i. Piping, manhole, and valving requirements
- j. Operational requirements
- k. Fire and emergency storage requirements
- l. Electrical power supply
- m. Construction access
- n. Construction sequencing
- o. Future expandability
- p. Laydown area for proposed and future building infrastructure
- q. Ingress/Egress Requirements

Water and wastewater loadings will be determined using the current and future land uses. Water and wastewater system hydraulic analysis will be performed to determine initial line

sizes and alignment, sewerline slopes, force main location(s). The analysis shall include evaluation of the required storage, fire, and emergency flows for the service zones, reservoir elevations, and system control valve locations. Design consultant shall utilize EPANET or other modeling software (GWA approval is required). The consultant shall use the GWA's hydraulic model as the basis point.

1.3. Alternative Analysis

An alternative analysis will be conducted on the options listed above. This alternatives analysis will use the following to compare options:

- Capital and operating cost
- Operations complexity
- Future capacity
- Land Requirements
- Environmental Matters (federal and local permitting needs)

These analyses will be presented in a draft Site Assessment and alternatives analysis report (Assessment Report). This report will include:

1. Results from desktop analysis
2. Conceptual system layouts to include waste and wastewater system layout/sizes, pump and lift station location and sizes
3. Construction estimates developed for alternatives comparison
4. Option recommendations
5. Environmental permitting needs
6. Land acquisition needs

A Final Site Assessment and alternatives analysis report (30% Design) will be issued with comments from GWA addressed.

2. Post Assessment

Once GWA approves the Site Assessment and alternatives analysis report DCA will begin the following post assessment activities needed for design development.

2.1. Easement and Land Acquisition Assistance

Research property ownership and begin dialog with owner to secure property. This work will include:

- Property research
- Communication with landowners
- Right of entry letters and coordination
- Draft property mapping
- Encumbrance reports
- Appraisal reports
- Re-zoning support through draft legislation. GLUC support excluded.

Estimated number of lots to be acquired: 3

2.2. Environmental and Biological

Provide environmental services to determine any adverse impact of the project on cultural and biological resources and to make recommendations regarding their historical and biological resources. This shall include a technical report, which defines background research, field methodology, results of survey and mitigation recommendations.

The archeological subconsultant will conduct cultural resource inventory and evaluation of historic resources that might be affected by this project. This will require preparing and submitting an inventory survey plan, conducting inventory survey, and reporting to the Department of Parks and Recreation/Guam Historic Preservation Office and all other required agencies (which may include Department of Agriculture, Guam Environmental Protection Agency, U.S. Fish and Wildlife Services, and etc.) regarding the project and recommendations as to eligibility and effect from the undertaking. The technical report will include background research, field methodology, results of survey and mitigation recommendations.

Biological support will include a site assessment and coordination with local department of agriculture and federal fish and wildlife agencies.

Letters of no significant findings will be prepared for both archeological and biological resources.

If significant findings are present, DCA will work with GWA to identify alternate means or rescope for EA/EIS and further consultation needs.

2.3. Topographic and As-Built Survey:

DCA will conduct topographic surveying and mapping of the project area wherein existing water and sewer facilities are located/situated. DCA will also conduct topographic and as-built surveys and mapping of any additional areas where temporary/new or relocated water and sewer facilities are expected to be located. Survey for new water and sewer lines will be based on a 60ft corridor. Units will be in US Feet

- Areas identified as certain needs for infrastructure and with no adverse land matters will be surveyed immediately after NTP.
- Areas identified in the assessment report and with no adverse land matters will be surveyed immediately after approval of assessment report.
- Remaining areas will be surveyed either upon right of entry or after receiving land ownership.

2.4. Geotechnical Investigations

Geotechnical investigations will be performed to assess the stability of the sub-grade and develop a soils report, including field exploration and laboratory tests, corrosion, and seismic investigations. The geotechnical investigations will assess the general conditions of the project site and provide design recommendations for the proposed water and wastewater system, including the following:

- a. Characterization of earth materials and ground water level
- b. Development of seismic design criteria per 2009 IBC
- c. Determination of bearing pressure and settlement
- d. Lateral earth pressures – static and seismic
- e. Assessment of liquefaction potential
- f. Foundation design of the proposed structures
- g. Earthwork requirements

3. Design

3.1. Water/Wastewater Pump Stations

The Basis of Design Report at the minimum shall address the following:

- Geotechnical report and recommendations
- Structural characteristics (Seismic Zone 4)
- Hydraulic system analysis assumptions
- Site operational flexibility
- Proposed construction schedule with major work items

- Intrusion alarms, site security, site development, maintenance, and all other necessary criteria required for a fully function water booster pump station. If a station is included in the design, conduits for future telecommunications cables (for SCADA, etc.) will be included in the design.
- Design a ventilation system for the pump station with adequate air changes.

3.2. Water

- Water booster station criteria shall include site location, current and future system demand requirement, pump and motor sizing, VFD requirements, pump skid unit requirements, pump system control, flow metering and pressure indicator instrumentation, power requirements and power surge protection, site access, emergency power, SCADA,
- Proposed locations for system control valves (PRV, PRSV, etc.), including the need for new waterline in the system to convey to water to service zone(s).

3.3. Wastewater Collection

- Perform hydraulic calculations and provide all hydraulic information, including pump curves and system curves using Flygt or Sulzer pumps. These pump manufacturers are required, as GWA's critical spare parts inventory consists of Flygt and Sulzer parts.
- Design a solids removal system/screening for the pump station with the intention to prevent large solids from damaging pumps and consider the need for grinder pumps.
- Design a permanent lifting system within the pump station to lift up pumps for maintenance purposes.
- Design pump station to include worker accessibility to controls, pumps, valves, etc. (e.g., valves are not to be placed in the wet well).
- Design a ventilation system for the pump station with adequate air changes.
- Recommend other components that will improve operation and maintenance efficiency, such as variable frequency drive, solar lighting or reusable materials.

3.4. Wastewater Treatment

Septic tank and leaching field systems

Septic tank and leaching field systems shall be designed per applicable standards and requirements including Guam Environmental Protection Agency and Department of Public Works regulations.

Central Treatment plant

Central treatment process will consist of a secondary treatment plan process to using extended aeration and/or treatment pond system. Pretreatment will consist of screening and grit removal using system currently within the GWA wastewater treatment systems. Solids handling will be provided by drying beds or offsite disposal. Effluent disposal will consist of onsite percolation.

3.5. Water/Wastewater

Civil

- a) Design access road to pump station with proper turn around clearance, so that vehicles can access the pump station easily and safely.
- b) Provide fencing to pump station site. The fenced area should enclose at least the controls and space for a portable generator pad.
- c) Provide storm water control and drainage system, as necessary.

Structural

- a) Perform structural design and calculation for the pump station structure, support system and containments, as required.
- b) Consider material for wet well longevity, with respect to environmental conditions (e.g., water table elevation and groundwater chloride content).

Mechanical

- a) Perform building mechanical analysis for HVAC, potable water supply and wastewater disposal
- b) Perform stand -by power analysis
- c) Perform energy saving analysis on building mechanical system.

Electrical

- a) Analyze the existing electrical system in the area to determine if an electrical system upgrade is required.
- b) Perform load calculations to size a backup power generator.
- c) Design an onsite generator equipped with sound enclosure and fuel containment. Provide at least 5 days of fuel storage in an above-ground tank, 7 days is preferred.

- d) Provide power to lighting, motors, SCADA system, instrumentation, as well as other items necessary for the pump station operations
- e) SCADA system for pump station. Include provisions for the location, housing and operations of the SCADA system.
- f) If a station is included in the design, conduits for future telecommunications cables (for SCADA, etc.) will be included in the design.

Instrumentation and Control

- a) Design the pump station with adequate instrumentation, such as flow meter, level sensors, and alarms.
- b) Design interlock between instrumentation and equipment so that the pump station can be operated as HAND-OFF-AUTO.
- c) Design a SCADA compatible pump controller and electrical panel with modem capable of communicating either wireless or by wired data service connection with GWA central data. The design will have an automatic level control. The controller will notify GWA via telephone text of any high-level conditions, pump failures or power outage.

3.6. Drawings, Specifications, Cost Estimates, Construction Schedule.

Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, required permits, and all other documents necessary for project construction. Design drawings shall be completed in AUTO CAD 2019. Infrastructure will also be translated into separate ESRI water and wastewater shapefiles.

- a. The design plans will include water and wastewater systems, as indicated in the Basis of Design Report. The plan will also include necessary erosion control measures such as erosion control seeding, silt fencing, protection of stockpiled materials, and other necessary measures to mitigate the impact of erosion and sedimentation.
- b. Based on the Basis of Design report approved by GWA, DCA will prepare and submit the following:
 - i. Multidiscipline plans to the 30% (preliminary design), 60%, 90%, and 100% (Final) completion levels.
 - ii. Specifications at 60%, 90%, and 100% completion levels, which will include front end documents and technical specifications applicable to the indicated completion levels. The Specification shall

include GWA standard specifications provided by the Project Team. DCA shall propose any changes to GWA's front end documents for Legal Counsel review.

- iii. Construction cost estimate update at 60% completion level. This estimate will be a Class 3 estimate in accordance with the AACE International Cost Estimate Classification System. All costs will be in current dollars and escalated to the estimated midpoint of construction.
 - iv. Final construction cost estimate based on quantity takeoffs and the requirements of the 90% design plans and specifications. This estimate will be a Class 2 estimate in accordance with the AACE International Cost Estimate Classification System. All costs will be in current dollars and escalated to the estimated midpoint of construction.
 - v. Final construction cost estimate based on quantity takeoffs and the requirements of the 100% design plans and specifications. This estimate will be a Class 1 estimate in accordance with the AACE International Cost Estimate Classification System. All costs will be in current dollars and escalated to the estimated midpoint of construction.
 - vi. DCA shall coordinate with relevant agencies such as Guam Environmental Protection Agency, Department of Public Works, and other relevant agencies at the 30%, 60%, 90%, and 100% submittals. This includes submitting design documents (full size plans and specifications at each phase) and maintaining communication throughout the duration of the project and incorporating any relevant regulation requirements in the design.
- c. Deliverables to GWA will be provided in accordance with the following:
- i. 30% phase
 - (1) 4 sets (11"x17") hard copies of the design documents
 - (2) Digital copy of the design documents
 - (3) Digital copy of the Basis of Design
 - ii. 60% phase
 - (1) 4 sets (11"x17") hard copies of the design documents
 - (2) Digital copy of the design documents
 - iii. 90% phase
 - (1) 4 sets (11"x17") hard copies of the design documents

- (2) Digital copy of the design documents
- iv. Final, 100% phase (“Issued For Bid”)
 - (1) 4 sets (11”x17”) hard copies of the design documents
 - (2) Digital copy of the design documents

4. Construction Bid Support

1. Assist with preparing answers to questions regarding the bid packages during the bidding phase.
2. Assist with the Pre-Bid Conference and respond to technical question involving design and specifications that prospective bidders may have at the Pre-Bid Conference, including the preparation of meeting minutes and providing formal responses to technical questions.
3. Assist with preparation of bid addenda.
4. Assist with reviewing construction proposals received. This shall include a bid analysis, review of bid proposal prices, and conformance with contract requirements and the Guam Procurement Code. A letter of recommendation of award shall be prepared.

5. Services During Construction

1. Review of shop drawings, material submittals, samples, test results, and other data required to be submitted by the contractor for conformance with the contract documents. Document and provide responses to GWA. This shall include assisting in the review of the Quality Control Plan for complete content. DCA with GWA’s input shall address GEPA’s concerns and requirements, if any. DCA shall chair and record the meeting minutes with any other governmental agencies.
2. Review requests for clarification or interpretation submitted by contractor and provide responses to GWA.
3. Evaluate substitution requests to determine acceptability of substitute materials and equipment proposed by the contractor and provides recommendations to GWA.

4. If requested by the construction or project manager, attend the construction kickoff meeting and construction/final inspections.

6. Design Schedule

See attached