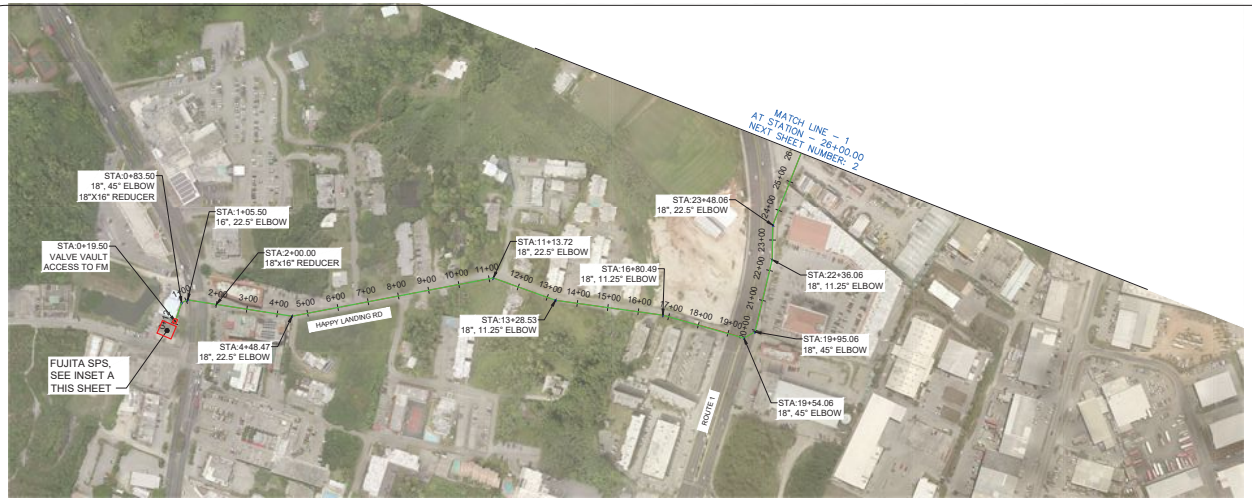
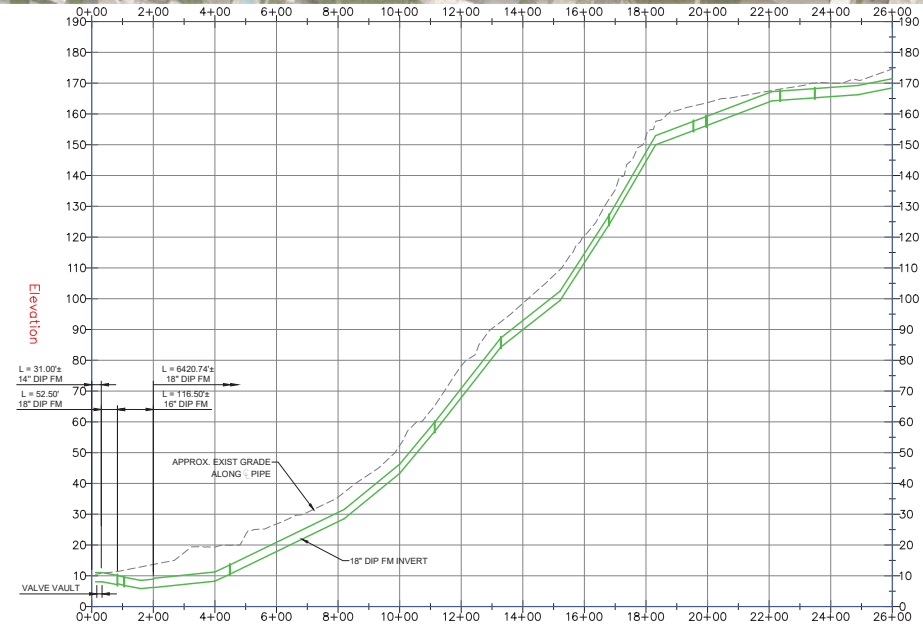
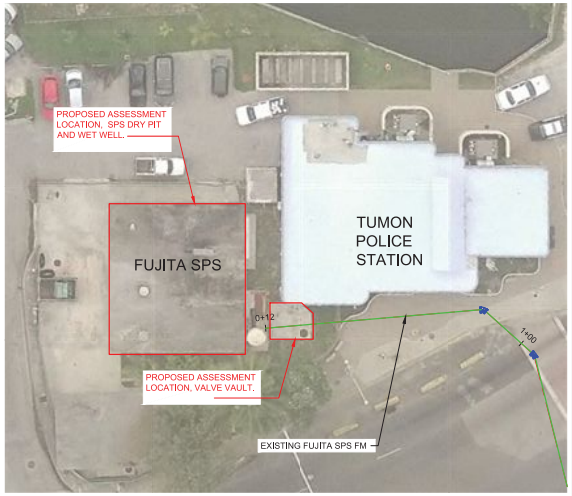




PLAN AND PROFILE

Scale: 1" = 200'



INSET A

Scale: 1" = 20'

General Notes

No.	Revision/Issue	Date

Firm Name and Address

Project Name and Address

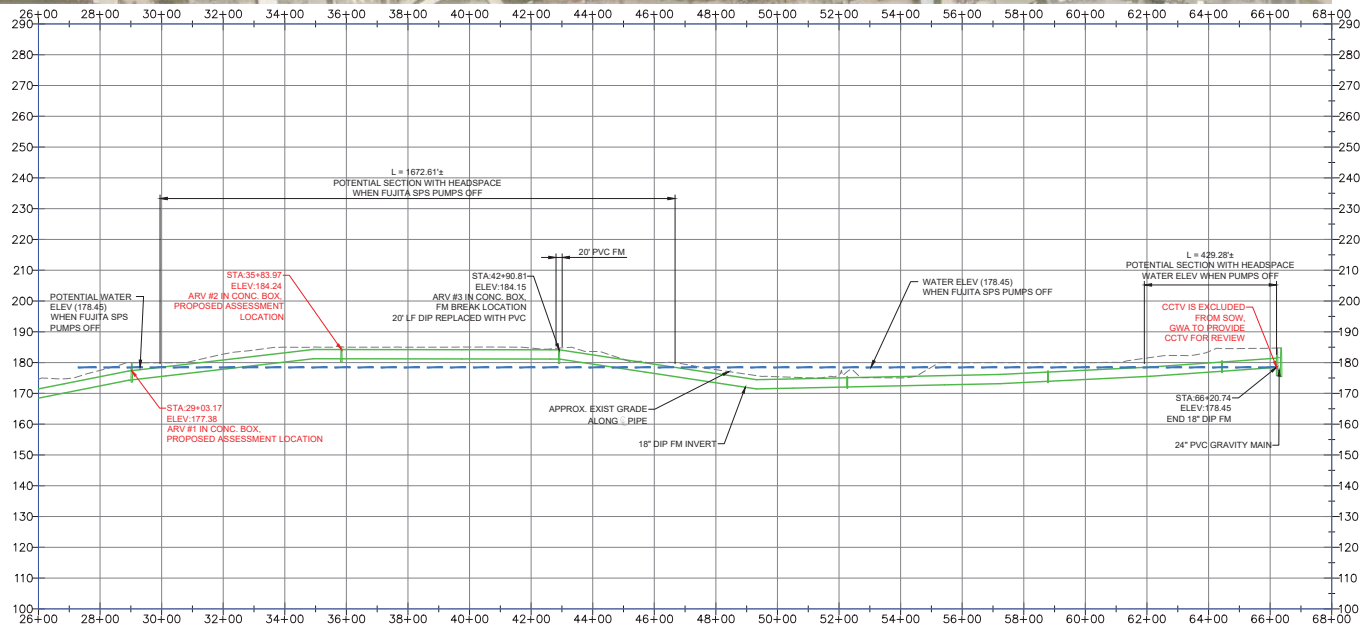
FUJITA SPS REDUNDANT FM
TUMON, GUAM

Project

Date 12/21/20

Scale 1" = 200'

Figure 1a



PLAN AND PROFILE

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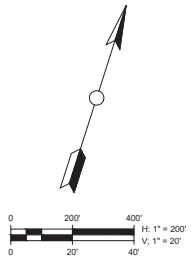


General Notes

No.	Revision/Issue	Date

Firm Name and Address

Project Name and Address

FUJITA SPS REDUNDANT FM
TUMON, GUAM

Project

Date

Scale 1" = 200'

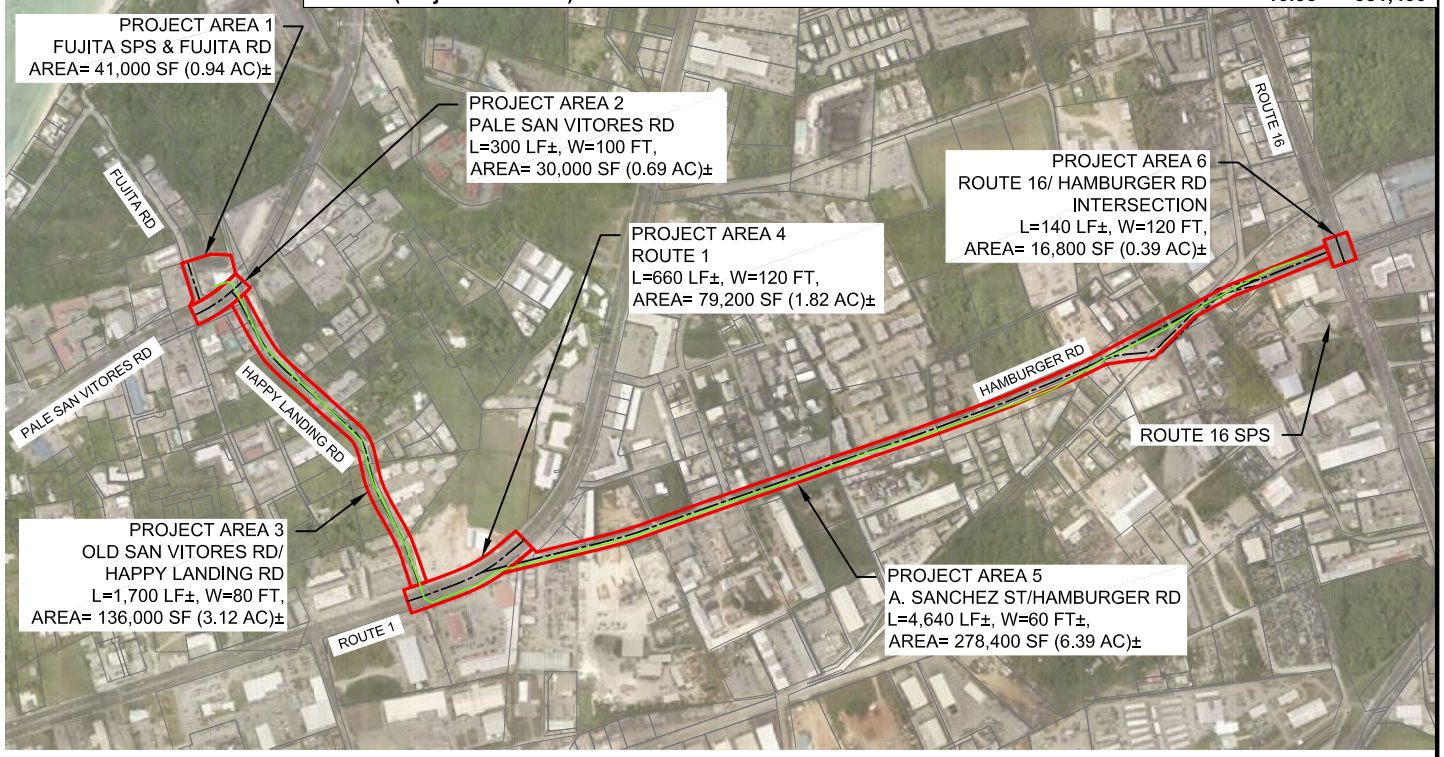
Sheet

Figure 1b

Page 4

Fujita Sewer Pump Station Redundant Force Main
GWA Project No. S20-003-EPA
Guam Waterworks Authority
RFP-03-ENG-2020

Project Area	Description	Length (ft)	Width (ft)	Area (ac)	Area (SF)
1	Fujita SPS & Fujita Rd	-	-	0.94	41,000
2	Pale San Vitores Rd between Fujita Rd and Happy Landing Rd	300	100	0.69	30,000
3	Happy Landing Rd between Pale San Vitores and Route 1	1,700	80	3.12	136,000
4	Route 1 between Happy Landing Rd and Hamburger Rd	660	120	1.82	79,200
5	Hamburger Rd between Route 1 and Route 16	4,640	60	6.39	278,400
6	Route 16 and Hamburger Rd Intersection	140	120	0.39	16,800
	Total Project Area along existing FM Alignment (Project Areas 1-6)			**13.35**	**581,400**



LEGEND:

- Project Areas along Existing Fujita SPS FM
- Roadway Centerline
- Existing Fujita SPS FM
- Parcels

0 800' 1600'

1" = 800'

Figure 2
Project Limits

Issue Status: Proposal

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V. SERVICES

A. GENERAL REQUIREMENTS

Unless otherwise agreed upon between GWA and the DESIGN CONSULTANT, the DESIGN CONSULTANT shall meet the following general requirements.

1. Responsibility of the DESIGN CONSULTANT
    a. The DESIGN CONSULTANT shall be responsible for the professional and technical accuracy and the coordination of all surveys, drawings, specifications, and other work of materials furnished under a contract. The DESIGN CONSULTANT without additional cost to the GWA, shall correct and revise all errors or deficiencies the work.
    b. Neither the GWA's review, approval, or acceptance of non-payment for any of the service required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause of action arising out of DESIGN CONSULTANT's performance of this contract, and the land surveyor shall be and remain liable to GWA for all costs of any kind which were incurred by GWA as a result of their negligent performance of any of the services furnished under this contract.
    c. DESIGN CONSULTANT is responsible for securing approvals for entry onto private property, if required.
2. Responsibility of GWA
    a. To furnish the DESIGN CONSULTANT with the available as-built drawings and any conducted closed-circuit television (CCTV) of existing facilities covered by the PROJECT that are available in GWA files, draft engineering details, current wastewater system hydraulic model, flow monitoring data, maintenance, and operation records.
    b. GWA shall provide, if requested, access to GWA facilities. GWA operations staff may or may not be available to provide limited traffic control, manual operation of pumps, opening of manholes and vaults, and site access to GWA facilities as requested.

3. Comply with the Guam Board of Registration for Professional Engineers, Architects and Land Surveyors ("PEALS") Law and related laws. Additionally, the DESIGN CONSULTANT shall provide professional engineering design services consistent with the Standard of Care in the Agreement as it relates to wastewater collection and pumping systems, instrumentation control and monitoring systems, wastewater piping, and shore infrastructures.

4. Design Parameters:

    The design shall be in accordance with the applicable criteria, regulations, and standards of the following and all parties which have interest or relevance in this PROJECT:

    a. American Association of State and Highway Transportation Officials (AASHTO)
    b. American Concrete Institute (ACI)
    c. American National Standard Institution (ANSI)
    d. American Society for Testing and Materials (ASTM) International
    e. American Water Works Association (AWWA)

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f. Association for the Advancement of Cost Engineering International (AACE)

g. Guam Building Code/International Building Code (IBC)

h. Guam Department of Public Works

i. Guam Environmental Protection Agency (GEPA)

j. Guam Fire Department (GFD)

k. Guam Historic Resources Division (GHRD) / State Historic Preservation Office (SHPO)

l. Guam Waterworks Authority (GWA)

m. National Association of Sewer Service Companies (NASSCO)

n. National Environmental Policy Act (NEPA)

o. National Fire Protection Association (NFPA)

p. National Sanitation Foundation (NSF)

q. United States Army Corp of Engineers (USACE)

r. United States Environmental Protection Agency (USEPA)

s. US Fish and Wildlife Services (USFWS)

All standards shall be of the most current edition, unless otherwise specified, adopted by Guam law, or as approved by GWA.

5. Contract design drawings shall be completed in AutoCAD 2019 or an earlier version and be able to translate into an Environmental Systems Research Institute (ESRI) geographic information systems (GIS) mapping format. For GIS data, GWA uses the following projection:

a. Projection: World Geodetic System (WGS) 1984, Universal Transverse Mercator (UTM) Zone 55 North (WGS_1984_UTM_Zone_55N)

b. False_Easting: 500000.00000000

c. False_Northing: 0.00000000

d. Central_Meridian: 147.00000000

e. Scale_Factor: 0.99960000

f. Latitude_Of_Origin: 0.00000000

g. Linear Unit: Meter.

6. Submittals, General Requirements

a. All computations, specifications, reports and other written or typewritten documents shall be done on 8-1/2” by 11” sheets. Figures and maps included in reports shall be on 8-1/2” by 11” or 11” by 17” sheets, with exceptions to be approved by GWA. Documents shall be submitted neatly bound with appropriate covers as required by GWA.

b. All engineering plans shall be done on 11” by 17” and 22” by 34” sheets.

c. All electronic files shall be submitted on CDs, DVDs, or flash drives in Microsoft Word, Microsoft Excel, Adobe Acrobat, AutoCAD or ESRI GIS formats, or in other electronic file formats as approved by GWA.

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7. Construction Cost Limitations

   The PROJECT shall be designed to permit construction of the complete system within a construction budget to be provided by the GWA after acceptance of the "Design Criteria". If the DESIGN CONSULTANT during the preliminary cost analysis finds that the improvements cannot be built within the allotted amount, the matter shall be brought to the attention of the General Manager immediately. The General Manager may upon receipt of such notification, authorize a change in scope of materials as required to reduce the estimated construction cost to an amount within the funds available as authorized by law or he may elect to adjust the estimated construction budget. DESIGN CONSULTANT shall prepare a detailed construction cost estimate for the system.

B. SCOPE OF SERVICES

The DESIGN CONSULTANT shall comply with the Guam Board of Registration for Professional Engineers, Architects and Land Surveyors (PEALS) Law and related laws. The DESIGN CONSULTANT shall provide professional engineering design services consistent with the Standard of Care required under the Agreement as it relates to wastewater collection and pumping systems, instrumentation control and monitoring systems, wastewater piping, and shore infrastructures and ensure that all required services can be performed at a high-quality standard. The procurement of services of subconsultant design firms to meet the requirements of this PROJECT is included. GWA reserves the right to review and approve the DESIGN CONSULTANT and subconsultants.

Scope of consultant services shall be first conducted during the assessment, preliminary design, design, and construction of a redundant force main (Phase I). After construction of Phase I is complete, the services shall be repeated for the assessment and rehabilitation or relocation of the existing force main (Phase II). Construction may be further phased, dependent on funding availability.

The scope of DESIGN CONSULTANT services anticipated for this PROJECT includes, but is not limited to:

1. Project Management
2. Civil Engineering
3. Structural Engineering
4. Mechanical Engineering
5. Geotechnical Investigation and Engineering
6. Land Surveying
7. Electrical/Power Engineering
8. Instrumentation & Control Engineering
9. Supervisory Control and Data Acquisition (SCADA)
10. Archaeological Monitoring and Data Recovery Plan
11. Condition Assessment
12. Hydraulic Modeling and Analysis
13. Construction Cost Estimating
14. Scheduling
15. Permitting

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16. Bidding Support
17. Engineering Support During Construction

Exclusions to the scope of services include the following:

1. Flow monitoring
2. Manhole and pipe inspections
3. Support studies for NEPA documentation
4. Record Drawing (As-built Preparation).

C. SCOPE OF WORK

1. TASK 1 – PROJECT MANAGEMENT

   The Task 1 is expected to span the entire life of the PROJECT, from the contract Notice to Proceed (NTP) date through post- construction and final commissioning. This task shall be on a lump sum basis. The fee is based on a period of performance of 31 months from NTP. Assumed durations include 10 months for preliminary design, 7 months for design; 2 months for bidding; 19 months for construction.

   a. Subtask 1.1 - Project Management Plan

      DESIGN CONSULTANT shall prepare a Project Management Plan that includes:

      (1) Project Description
      (2) Scope of Work (from contract)
      (3) Work Plan
      (4) Progress Evaluation
      (5) Quality Assurance and Quality Control Plan
      (6) Risk Management
      (7) Scope Change
      (8) Communication Plan
      (9) Documentation Plan
      (10) Subcontractors and Organizational chart

   b. Subtask 1.2 - Project Schedule

      DESIGN CONSULTANT shall submit a project schedule that meets required milestones for approval. Update schedule at all phases of the PROJECT, including monthly meetings, dates for completion of engineering design studies, permitting, milestone tasks, and dates for review periods. The schedule shall be based on the proposed target dates. DESIGN CONSULTANT shall notify GWA if the target dates can be accomplished.

   c. Subtask 1.3- Progress Reports

      DESIGN CONSULTANT shall submit monthly progress/status reports to support monthly billings. Reports must reflect monthly invoices and earned value reporting including include projected spending and earned value curves.

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d. Subtask 1.4 – Meetings and Coordination

Attend regularly scheduled meetings and coordinate with entities within and, as appropriate, outside the PROJECT team. Identify and facilitate milestone meetings.

(1) Coordinate and communicate with local and federal agencies, including GEPA, DPW, GHRD/SHPO, USFWS throughout the course of the PROJECT to ensure review and permitting process adheres to the project schedule.

(2) Facilitate and record kickoff and regular project meetings.

(3) Design review (30%, 60%, 90% and 100%) meetings shall be covered under Task 3.

e. Deliverables:

(1) Project Management Plan

(2) Project Schedule

(3) Progress Reports

(4) Meeting Minutes.

2. TASK 2 - PRELIMINARY DESIGN

Task 2 will be on a lump sum basis.

a. Subtask 2.1 - Research and Field Investigation

The DESIGN CONSULTANT shall gather data and conduct research and field investigations to assess the existing force main, nearby gravity lines and manholes, the main pump facility, and related structures and components to achieve high quality design solutions and alternatives. Field investigation will include both ground level reconnaissance and confined space-entry. Efforts may include, but are not limited to, the following:

(1) Review as-built/record drawings

(2) Review easement locations and property records

(3) Review maintenance history

(4) Review pump station and force main inspection data

(5) Review pump station operation data

(6) Review flow monitoring data

(7) Review current and future flow projections from GWA's hydraulic flow models. Currently GWA's hydraulic models are being updated and will be provided to the DESIGN CONSULTANT for use for the PROJECT.

(8) Review other documents and information relevant to the PROJECT.

(9) Interviews with GWA staff

(10) Perform assessments and other permitting-related activities, as required by the appropriate archaeological and environmental regulatory agencies.

(11) Prepare and submit permits as needed for the site investigation work.

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(12) Conduct condition assessment of the pump station pipes, valves, fittings, and force main.

(a) The condition assessment will be performed in one phase. The preliminary condition assessment will take advantage of existing location where the existing FM is accessible. A follow-up assessment will be performed during the construction of the redundant FM and take advantage of access to the existing FM is excluded from the scope of work.

(b) The condition assessment will include measurement of soil resistivity, dissolved sulfide, ultrasonic testing, visual inspection, soil sampling review of historical records, and interviews with GWA operators.

(c) Prepare a report that presents a presents the collected field data and provides conclusions on the condition of the FM. Recommendations for corrective action will be incorporated into the design.

(13) Review inspection data of pipes and manholes to be provided by GWA.

(14) Location and layout of nearby existing utilities within the proposed force main locations to avoid utility conflicts will be based on the best available data and a topographic survey.

(15) Evaluate redundant force main options based on the findings and recommend the most feasible alternative to move forward with design.

(16) Investigate the current condition of existing force main. If repair/relocation is needed, then provide options and recommend the most feasible alternative to move forward with design.

(17) Geotechnical Exploration

The geotechnical scope of work is to obtain information on the subsurface materials to formulate a summary of the soil/rock conditions for the proposed WWPS improvement project. To accomplish these objectives, the scope will include:

(a) Research and review of available in-house soils boring data and geologic information in the vicinity of the project site.

(b) Coordinate staking of borehole locations and verification of the presence and locations of underground utilities.

(c) Mobilization/demobilization of a truck mounted drill rick and two operators to and from the project site

(d) Traffic control management (flagmen, signs, and barricades).

(e) GEPA and DPW permitting associated with geotechnical exploration.

(f) Decontamination of the drilling equipment and supplies prior to field exploration work

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(g) Drilling and sampling of 12 test borings to depths of about 15 to below the existing ground surface for logging and analyses. Drilling and sampling of one test boring to the depth of about 40 feet at the Fujita SPS site for a potential structure. The borings will be drilled in an accessible area using a truck-mounted drill rig.

(h) Laboratory testing of selected samples obtained during the filed exploration as an aid in classifying the materials and evaluating their engineering properties.

(i) Analyses of the field and laboratory data to formulate geotechnical engineering recommendations pertaining to the design of foundations, earthwork, and pavements for the proposed project.

(j) Preparation of a formal geotechnical engineering report summarizing the work on the project and presenting geotechnical findings and recommendations.

(k) Coordination, quality assurance, client/design team consultation, drafting word processing and clerical support.

(l) Review of plans and specifications for general conformance with the geotechnical recommendations.

(18) Archaeological monitoring services will be provided to support the geotechnical investigation as required by the Guam SHPO to monitor impacts of the PROJECT on cultural resources in the PROJECT area. This will be performed as additional services once identified as required by SHPO.

(19) Exclusions:

(a) Inspections of pipes and manholes conducted in accordance with NASSCO standards.

(b) Pot-holing services

(c) Support studies (e.g., biological surveys, cultural resource surveys, etc.) for NEPA documentation.

(20) Notwithstanding anything in this Agreement, the DESIGN CONSULTANT shall have no responsibility for the discovery, presence, handling, removal, or disposal of, or exposure of persons to hazardous materials in any form, at the Fujita SPS.

b. Subtask 2.2 – Easement and Land Acquisition Assistance

(1) Research and verification of existing and required new easements is necessary for the force main design. Land acquisition may also be required for the force main design. DESIGN CONSULTANT will be responsible for developing the necessary plans for:

(a) obtaining new easements,

(b) revising existing easements, or

(c) obtaining property transfers.

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(2) The DESIGN CONSULTANT will assist GWA in the preparation of plans under the direction of a professional land surveyor licensed in Guam. GWA will be responsible for the submission and recording of property transfers with the Department of Land Management.

c. Subtask 2.3 - Design Alternatives Report

(1) The DESIGN CONSULTANT shall develop a Design Alternatives Report (DAR) that includes, as a minimum, the following information:

(a) A list of all data gathered and analyzed from Data Research

(b) A summary of findings and conclusions from Field Investigation

(c) The alternatives analysis shall include, but not be limited to, the following items:

1. Additional investigation requirements
2. Cultural resource and historical survey requirements
3. Construction cost estimates
4. Construction schedules
5. Construction implementation (equipment staging, traffic control, sewer bypass requirements, pump station modifications, etc.)
6. Land acquisition requirements
7. Permitting requirements
8. Horizontal Directional Drilling

(2) At least (2) design alternatives, with a recommendation from the DESIGN CONSULTANT

GWA will decide on the final design alternative. As part of the SRF Grant conditions, the DAR will be forwarded to USEPA for concurrence.

d. Subtask 2.4 – Basis of Design Report

Develop a Basis of Design (BOD) Report that will include key information pertaining to any related geotechnical, civil, structural, electrical, and instrumentation design criteria for the modification of Fujita SPS, to be submitted for review and approval by GWA. Design will be in accordance with the applicable standards noted above. The Basis of Design Report at the minimum shall address the following:

(1) Geotechnical

(a) Geotechnical considerations

(b) Geotechnical investigation and report.

(2) Civil and Process Mechanical

(a) Review latest Water Resource Master Plan updates

(b) Current and projected flow rates

(c) Redundant force main to accommodate existing and projected flow rates and existing pump capacities

1. Modifying the existing pumps is excluded from this scope of work.

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(d) Changes to hydraulic system curves, pump capacities, electrical demands, and generator requirements

(e) Maintaining pump station operations while connecting the redundant force main and valves

(f) Ease of redirecting flow between existing and redundant force mains

(g) Surrounding infrastructure, utility, and easement considerations

(h) Plan and profiles, by-pass pumping (if required), and traffic control

(i) Construction Cost Estimates - Develop a Class 4 cost estimate according to the AACE International Cost Estimates Classification System. All cost will be in current US dollars and escalated to the estimated midpoint of construction.

(3) Structural

(a) Conformance with seismic and wind loads for Guam

(b) Structural modifications

(4) Electrical and Instrumentation and Control

(a) Adjustment of existing instrumental controls, VFDs, etc. to accommodate new system curves and capacities

(5) Architectural and Mechanical (ventilation and plumbing)

(a) These services are excluded from the scope of work.

(6) Permitting

(a) This scope of work assumes that USEPA will prepare a Categorical Exclusion for NEPA compliance and that no local environmental documentation or other NEPA documentation will be required.

(b) This scope of work assumes all meetings will be virtual between DESIGN CONSULTANT, GWA, GEPA and/or USEPA.

(c) DESIGN CONSULTANT will support USEPA preparation of a NEPA Categorical Exclusion as requested. Support may include revision of the project description, alternatives, BMPs, affected environment, and potential environmental impacts (based on the Alternatives Screen Report) as necessary to provide USEPA with input for the Categorical Exclusion. DESIGN CONSULTANT will coordinate with GWA, GEPA, and USEPA to provide supporting analysis and documentation as requested.

(d) DESIGN CONSULTANT will attend and, if requested, present at meetings with local and federal agencies and other interested parties, such as GWA, DPW, Guam EPA, USEPA, and interested members of the community. The scope of work includes up to five (5) online meetings with interested agencies and other interested stakeholders to discuss the environmental review process and analysis.

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(e) The scope of work assumes field surveys and modeling for NEPA compliance (e.g., biological resources, wetlands, archaeological/cultural resources, traffic, noise, etc.) is not required as requested by GWA. If field surveys or modeling are required later, they can be added to the scope of work for an additional fee.

(f) This scope of work assumes the Notice of Intent and Storm Water Pollution Prevention Plan to support the National Pollutant Discharge Elimination System (NPDES) Construction General Permit will be prepared by the construction contractor and is not part of this scope of work.

(7) Deliverables:

Provide deliverables in accordance with GWA Guidelines.

(a) Public easement plat

(b) Flow analysis and collected flow data

(c) Geotechnical report

(d) Design Alternatives Report

(e) Basis of Design Report (BODR)

(f) Pre-Design workshop with GWA project team to review approach, methodologies, findings, and determine design basis

(g) Four hard copies and a digital copy of the deliverables listed above was assumed.

e. Task 2 includes travel for one civil engineer, one structural engineer and one corrosion engineer to conduct the site investigation.

3. TASK 3 – DESIGN

Task 3 will be on a lump sum basis. After the final BODR is approved, the DESIGN CONSULTANT shall perform the following tasks to achieve the Final Design documents. Design shall conform with GWA Design Guidelines.

a. Subtask 3.1 – Meetings

The DESIGN CONSULTANT shall conduct monthly design review meetings with GWA to review the design process, each design discipline status and issues, and project schedule. And conduct design workshops at each milestone of development at 30%, 60%, 90%, and 100%. Prepare and submit all design review meeting agendas and minutes to GWA project team.

b. Subtask 3.2 – Permitting

DESIGN CONSULTANT shall incorporate permitting requirements during design and provide support to obtain the required construction permits signatures and approvals ready for construction. In addition, the DESIGN CONSULTANT shall:

(1) Identify all permits required. Assist owner in preparing and obtaining all preconstruction permits. Permitting agencies may include the USACE, GEPA, Coastal Management, Department of Parks and Recreation, and the USFWS.

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(2) Comply with the NEPA in accordance with grant conditions.

(a) This scope of work assumes that USEPA will prepare a Categorical Exclusion for NEPA compliance and that no local environmental documentation will be required. If USEPA later determines that a NEPA Environmental Assessment would be required (or an Environmental Impact Assessment is required by GEPA), this scope of work can be modified as necessary to provide additional documentation for an additional fee.

(b) DESIGN CONSULTANT will support USEPA preparation of a NEPA Categorical Exclusion as requested. Support may include revision of the project description, alternatives, BMPs, affected environment, and potential environmental impacts (based on the Alternatives Screen Report) as necessary to provide USEPA with input for the Categorical Exclusion. DESIGN CONSULTANT will coordinate with GWA, GEPA, and USEPA to provide supporting analysis and documentation as requested.

(3) The scope of work assumes archival research and preparation of an Archaeological Monitoring and Data Recovery Plan (AMDRP) is required. The Guam SHPO may require preparation of an AMDRP prior to any ground disturbance.

(4) Coordinate with relevant agencies such as the GEPA, DPW, etc. at the 60%, 90%, and 100% submittals. This includes submitting design documents and maintaining communication throughout the duration of the PROJECT and incorporating any relevant regulation requirements in the design.

(5) Exclusions:

(a) Permit fees; to be paid by the CONTRACTOR.

c. Subtask 3.3 - Design Documents

DESIGN CONSULTANT shall:

(1) Coordinate with and incorporate information from Program Manager.

(2) Conduct appropriate boundary and topographic surveys as necessary. This task will include data collection, horizontal and vertical control and boundary study, topographic survey, computation, AutoCAD mapping, translation to GIS mapping format, field check and utility inverts.

(3) Finalize equipment and instrument list.

(4) Finalize the engineering report developed from the BODR that documents all disciplines design basis, engineering calculation, final cost estimate, control narrative and supportive data. Three hard copies and a digital copy.

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(1) Prepare progress (30%) plans, specifications, Class 3, (AACE) construction cost estimate, and contract documents, conforming to the GWA and Program Management Design Guidelines as to what should be included in this submittal. Additionally, include profiles, by-pass pumping (if required), and traffic control. Four hard copies of the design documents (2 sets of 36”x24” sized drawings and 2 sets of 11”x17” sized drawings) and a digital copy of the design documents are required.

(2) Allow three weeks for GWA to review 30% design. Incorporate adjudicated comments into the design and submit a formal response to each comment.

(3) Prepare progress (60%) plans, specifications, Class 2, (AACE) construction cost estimate, and contract documents, conforming to the GWA and Program Management Design Guidelines as to what should be included in this submittal. Additionally, include profiles, by-pass pumping (if required), and traffic control. Four hard copies of the design documents (2 sets of 36”x24” sized drawings and 2 sets of 11”x17” sized drawings) and a digital copy of the design documents are required.

(4) Allow three weeks for GWA to review 60% design. Incorporate adjudicated comments into the design and submit a formal response to each comment.

(5) Prepare progress (90%) plans, specification, Class 1 (AACE) construction cost estimate, and contract documents, conforming to the GWA Design Guidelines. Four hard copies of the design documents (2 sets of 34”x22” sized drawings and 2 sets of 11”x17” sized drawings) and a digital copy of the design documents are required. A copy of the documents will be provided to USEPA for review.

(6) Allow three weeks for GWA to review 90% design. Incorporate adjudicated comments into the design and submit a formal response to each comment.

(7) Prepare final (100%) “Issued for Bid” plans, specifications, and contract documents, conforming to GWA and Program Management Design Guidelines. Four hard copies of the design documents (2 sets of 34”x22” sized drawings and 2 sets of 11”x17” sized drawings) an AutoCAD 2019, 2020 GWA GIS Mapping and a digital copy of the design documents are required. A copy of the documents will be provided to USEPA for review.

(8) Follow all laws of Guam relative to procurements.

(9) Utilize GWA’s latest procurement templates and ensure that no conflict exists between the procurement templates and any material or subject in the documents being produced. GWA’s templates will control in the event of conflict such as between liquidated damages provisions, payment terms, etc.

(10) Prepare permit applications for all local authorities, highway departments, and other pipeline utilities.

(11) Provide digital copies of the final design documents

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(12) All cost estimates shall conform to the guidelines of the AACE. During the design process, DESIGN CONSULTANT shall immediately notify the GWA when any design decision causes a significant cost increase to the PROJECT.

(13) Provide deliverables in accordance with GWA Guidelines. One hardcopy set of submittals and an electronic copy shall be submitted for all deliverables, not previously specified.

(14) Final design drawings shall also be submitted via electronic PDF and AutoCAD 2019 or earlier version.

(15) The design will not be considered complete until all comments have been addressed and the design is completed and submitted to GWA for final approval.

(16) It is anticipated that GWA will use a design-bid-build procurement method. Construction documents must be finalized prior to commencement of the formal bidding process, which has a target start date of January 2022.

4. TASK 4 - CONTRACT BIDDING SUPPORT

Task 4 will be on a time and materials basis. The DESIGN CONSULTANT shall provide the following services:

a. Pre-Bid Meeting agenda and sign-in sheets, coordinate and facilitate the meeting with GWA, and record meeting minutes.

b. Compile request for clarification, provide input and prepare addenda as needed

c. Attend bid evaluation conference

d. Review, evaluate and certify bid tabulations

e. Make recommendation for construction contract award.

5. TASK 5 - ENGINEERING SUPPORT DURING CONSTRUCTION

Task 5 will be on a time and materials basis.

The DESIGN CONSULTANT shall:

a. Coordinate preparation of final (100%) “Issued for Construction” conformed plans and specifications incorporating addenda and changes during the bid phase with the CONSTRUCTION MANAGER (CM).

b. Assist in preconstruction and partnering conferences.

c. Attend weekly progress meetings, if requested by the CM or GWA.

(1) Ten (10) progress meetings are included in this scope of work If additional meetings are required, a separate scope and fee will be provided.

d. Review contractor submittals (e.g., product data, shop drawings, design calculations, samples, test results, and other data) required to be submitted by the contractor for conformance with contract documents, if requested by the CM.

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(1) Twenty (20) submittal reviews are included in this scope of work. It is assumed each submittal will have 3 reviews iterations. If additional submittals are required for review, a separate scope and fee will be provided.

e. Evaluate substitution requests to determine acceptability of substitute materials and equipment proposed by contractor, if requested by the CM.

(1) Five (5) substitution request reviews are included in this scope of work. It is assumed each substitution request will have 3 reviews iterations. If additional substitution requests are required for review, a separate scope and fee will be provided.

f. Site visits by qualified personnel to ensure construction complies with basis of design is excluded from the scope of work and assumed to be provided by others (e.g., CM).

g. Review requests for additional information, change orders, schedule of values, and contractor's schedule and provide responses/comments, if requested by the CM.

(1) Fifteen (15) reviews are included in this scope of work. If additional reviews are required, a separate scope and fee will be provided.

h. Limited Condition Assessment During Construction

(1) It is assumed the current condition of existing force main can be assessed during the excavation for the redundant FM. The condition assessment will be limited to visual observations and photo documentation and provided to the DESIGN CONSULTANT. The DESIGN CONSULTANT shall review limits of rehabilitation or replacement of the existing force main based the limited condition assessment during construction.

i. Modifications to the contract documents based on the condition assessment of the existing force main during the construction is included in the scope of work. The modifications are limited to the Civil plans and specifications.

j. Exclusions:

(1) Perform preliminary and final inspections and submit punch list. To be provided by the CM.

(2) Provide Final Record Drawings based on marked-up construction drawings. To be provided by the Contractor.

(3) A complete condition assessment to include travel for a corrosion engineer, soil testing and pipe thickness testing, etc. is excluded from the scope of work. If GWA requires a complete condition assessment of the existing conditions or it is determined during construction that a complete condition assessment is warranted, a separate fee proposal will be provided.

(4) Archaeological services during construction are excluded from the scope of work.

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k. 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 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. The DESIGN CONSULTANT 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. DESIGN CONSULTANT shall not have the authority to stop the work of the construction contractor. In no event shall DESIGN CONSULTANT 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 of them to carry out construction work under contract with GWA.

D. DESIGN AND CONSTRUCTION PERIOD

The DESIGN CONSULTANT shall recommend a construction contract period for this facility based upon required completion dates, actual availability of labor, materials, equipment, and shipping. The following tentative schedule shall be finalized after award of this design services contract. Actual project completion date to be determined based on selected design.

Action Item	Date
Execution of Contract, Initial NTP	6/2022
Complete design	5/2023
GWA submit 100% construction plans, specifications and bid documents to USEPA	5/2023
USEPA approval of construction plans, specifications and bid documents	5/2023
GWA issue IFB and advertise for construction	5/2023
Open bids, evaluate and select apparent low bidder	6/2023
Award contract/ Notice-to-Proceed to Contractor	7/2023
Anticipated project completion	1/2025

Progress payments shall be made monthly by percent complete on lump sum tasks and unit costs or rates for time and materials tasks deemed acceptable to GWA and the DESIGN CONSULTANT.

A project schedule is provided as Attachment C.

APPENDIX B: FEE DETAIL

Fujita Sewer Pump Station Redundant Force Main **Guam Waterworks Authority**

		Personnel Hours								Budget					
	Rate ($/HR)	$282	$263	$217	$196	$183	$109	$84							
	Task Description	Principal	Engineer IV	Engineer III	Engineer II	Engineer I	CADD Technician	Clerical	Total Hours	Labor	Subconsultants	Other Direct Costs	Taxes	Total	Notes/Assumptions
Task 1 - Project Management (Lump Sum)															
1.1	**Project Management Plan**	-	-	-	16	-	-	32	48	$ 5,824	$ -	$ 12	$ 307	$ 6,143.04	Includes preparation and maintenance of plan.
1.2	**Project Schedule**	-	-	-	11	-	-	-	11	$ 2,161	$ -	$ 30	$ 115	$ 2,306.15	Assumed 10 months for Pre-design and Design.
1.3	**Progress Reports and Administration**	10	-	-	42	-	-	42	94	$ 14,590	$ -	$ 20	$ 769	$ 15,378.91	Assumed 10 months from Pre-design and Design. Include contract administration, budget tracking, invoicing, etc.
1.4	**Regular Progress Meetings**	-			44	-	-	22	66	$ 10,487	$ -	$ 30	$ 553	$ 11,069.95	Assumed 10 monthly meetings for pre-design and design phase. Meetings for permitting coordination, design review, bidding support, and construction support are included in separate tasks.
	Subtotal	**10**	**-**	**-**	**113**	**-**	**-**	**96**	**219**	**$ 33,062**	**$ -**	**$ 92**	**$ 1,744**	**$ 34,898.04**	
Task 2 - Preliminary Design															
2.1	**Research and Field Investigation**	8	48	8	96	16	16	8	200	$ 40,820	$ 128,157	$ 9,270	$ 9,376	$ 187,623.64	
2.1.1	Gather and review data.	8	8	8	24	16	16	-	80	$ 15,480	$ -	$ 320	$ 831	$ 16,631.28	GWA to provide available record drawings, property records, maintenance history, inspection data, flow monitoring data. Excluded from scope of work: Pipeline and manhole inspection, and pot-holing.
2.1.2	Field Investigation	-	32	-	32	-		-	64	$ 14,707	$ -	$ 8,580	$ 1,225	$ 24,511.90	Includes travel for 2 staff for 4 days, site visits and interviews with GWA
2.1.3	Condition Assessment	-	8	-	32	-	-	-	40	$ 8,391	$ 110,910	$ 190	$ 6,285	$ 125,776.71	Subconsultants: V&A and APEC. Includes travel for 1 subconsultant to perform condition assessment, testing, sampling, and report preparation.
2.1.4	Environmental surveys	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Excluded from SOW.
2.1.5	AMDRP	-	-	-	8	-	-	8	16	$ 2,242	$ 17,247	$ 180	$ 1,035	$ 20,703.76	Subconsultant: SEARCH; Includes archival research, preparation of AMDRP support in DAR and preparation of monitoring reports. Daily monitoring rate is separate from this item.
2.2	**Easement and Land Acquisition Assistance**	-	-	-	8	-	-	-	8	$ 1,572	$ 14,572	$ 120	$ 855	$ 17,119.54	Subconsultant: Guam Surveyor
2.3	**Design Alternatives Report**	-	24	40	96	-	24	40	224	$ 39,828	$ -	$ 3,500	$ 2,279	$ 45,607.43	
2.3.1	Hydraulic Modeling	-	12	24	48	-	-	-	84	$ 17,797	$ -	$ 3,300	$ 1,110	$ 22,206.25	GWA to provide Hydraulic Model (InfoSWMM) currently being updated by others. Hydraulic model to be updated based on field investigation data. Includes review of model setup. Assumed maximum of 3 scenarios.
2.3.2	Alternatives Analysis and Report	-	12	16	48	-	24	40	140	$ 22,032	$ -	$ 200	$ 1,169	$ 23,401.18	Include up to 3 alternatives for analysis
2.4	**Basis of Design Report**	**20**	**26**	**18**	**101**	**50**	**-**	**24**	**239**	**$ 47,368**	**$ 113,710**	**$ 780**	**$ 8,514**	**$ 170,371.43**	**Improvements along existing FM alignment; Includes Surveying, Geotech, Archaeological Monitoring.**
2.4.1	Topographic Survey	-	-	-	32	-	-	-	32	$ 6,286	$ 59,110	$ 20	$ 3,441	$ 68,857.18	Subconsultant: Guam Surveyor
2.4.2	Geotechnical Investigation and Report	-	8	-	8	-	-	-	16	$ 3,677	$ 49,600	$ 30	$ 2,804	$ 56,110.69	Subconsultant: GeoEngineering & Testing; Assumed 12 borings. Includes permitting, traffic control, drilling, lab testing, and report. Excludes Archaeological Monitoring.
2.4.3	Archaeological Monitoring for Geotech Investigation	-	-	-	5	-	-	-	5	$ 982	$ 5,000	$ -	$ 315	$ 6,296.90	Subconsultant: SEARCH; Assumed SHPO to require support to Geotech; 5 work days.
2.4.4	Engineering Basis of Design	16	16	16	48	48	-	16	160	$ 31,727	$ -	$ 670	$ 1,704	$ 34,100.93	Includes Civil, Struc, Mechanical, Process, Elec, and I&C disciplines.
2.4.6	Pre-Design Workshop	4	2	2	8	2	-	8	26	$ 4,696	$ -	$ 60	$ 250	$ 5,005.74	1 virtual meeting, 2 hours; no travel.
	Subtotal	**28**	**98**	**66**	**301**	**66**	**40**	**72**	**671**	**$ 129,588**	**$ 256,440**	**$ 13,670**	**$ 21,024**	**$ 420,722.05**	

APPENDIX B: FEE DETAIL

Fujita Sewer Pump Station Redundant Force Main **Guam Waterworks Authority**

		Personnel Hours								Budget					
Rate ($/HR)		$282	$263	$217	$196	$183	$109	$84							
Task Description		Principal	Engineer IV	Engineer III	Engineer II	Engineer I	CADD Technician	Clerical	Total Hours	Labor	Subconsultants	Other Direct Costs	Taxes	Total	Notes/Assumptions
Task 3 - Design (Lump Sum)															
3.1	**Design Meetings and Workshops**	6	12	-	24	6	-	24	72	$ 12,671	$ -	$ 110	$ 672	$ 13,453.03	Assumed 3 design workshops at 2 hours; 60%, 90%, 100%; no travel.
3.2	**Permitting**	1	-	-	44	16	20	12	93	$ 15,035	$ -	$ 1,100	$ 849	$ 16,983.61	Includes support for USEPA CATEX preparation and permit agency design reviews and meetings.
3.2.1	Permit Agency Review	-	-	-	16	-	-	-	16	$ 3,143	$ -	$ 1,010	$ 218	$ 4,371.60	DPW, GEPA, GPA, SHPO, etc. Permit fees are excluded from the SOW.
3.2.2	NEPA CATEX Support	1	-	-	4	16	20	12	53	$ 7,177	$ -	$ 50	$ 380	$ 7,607.20	Update project description, alternatives, BMPs, description of affected environment and potential impacts as necessary to support USEPA preparation of a NEPA Categorical Exclusion; coordinate with GWA, GEPA, and USEPA to provide supporting analysis and documentation as requested.
3.2.3	Meetings and Coordination with local and federal agencies	-	-	-	24	-	-	-	24	$ 4,715	$ -	$ 40	$ 250	$ 5,004.81	Virtual Meetings, no travel.
3.3	**Design**	172	182	42	493	287	740	80	1,941	$ 342,258	$ -	$ 3,070	$ 18,164	$ 363,492.41	
3.3.1	**30% Design**	**50**	**53**	**12**	**144**	**85**	**222**	**24**	**535**	**$ 100,708**	**$ -**	**$ -**	**$ 5,297**	**$ 106,005.17**	Includes Civil, Arch, Struc, Mechanical, Process, Elec, and I&C disciplines.
3.3.1.1	Civil	-	19	-	18	61	95	-	193	$ 30,041	$ -	$ -	$ 1,580	$ 31,621.68	
3.3.1.2	Architectural	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	
3.3.1.3	Structural	-	6	-	17	-	32	-	-	$ 8,413	$ -	$ -	$ 442	$ 8,855.01	
3.3.1.4	Process	-	4	-	16	-	31	-	51	$ 7,581	$ -	$ -	$ 399	$ 7,979.32	
3.3.1.5	Mechanical	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	
3.3.1.6	Electrical	22	-	-	37	-	40	-	99	$ 17,842	$ -	$ -	$ 938	$ 18,780.65	
3.3.1.7	Instrumentation	8	-	-	24	-	24	-	56	$ 9,592	$ -	$ -	$ 505	$ 10,096.54	
3.3.1.8	Specifications	8	8	8	8	8	-	24	64	$ 11,141	$ -	$ -	$ 586	$ 11,726.69	
3.3.1.9	Cost Estimate	4	8	4	8	16	-	-	40	$ 8,593	$ -	$ -	$ 452	$ 9,045.43	
3.3.1.9	QA/QC	8	8	-	16	-	-	-	32	$ 7,505	$ -	$ -	$ 395	$ 7,899.85	
3.3.1	**60% Design**	**50**	**53**	**12**	**144**	**85**	**222**	**24**	**590**	**$ 100,708**	**$ -**	**$ 860**	**$ 5,342**	**$ 106,910.40**	Includes Civil, Struc,Process, Elec, and I&C disciplines.
3.3.1.1	Civil	-	19	-	18	61	95	-	193	$ 30,041	$ -	$ 580	$ 1,611	$ 32,232.19	
3.3.1.2	Architectural	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Excluded from SOW.
3.3.1.3	Structural	-	6	-	17	-	32	-	55	$ 8,413	$ -	$ -	$ 442	$ 8,855.01	
3.3.1.4	Process	-	4	-	16	-	31	-	51	$ 7,581	$ -	$ -	$ 399	$ 7,979.32	
3.3.1.5	Mechanical	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Excluded from SOW.
3.3.1.6	Electrical	22	-	-	37	-	40	-	99	$ 17,842	$ -	$ -	$ 938	$ 18,780.65	
3.3.1.7	Instrumentation	8	-	-	24	-	24	-	56	$ 9,592	$ -	$ -	$ 505	$ 10,096.54	
3.3.1.8	Specifications	8	8	8	8	8	-	24	64	$ 11,141	$ -	$ 270	$ 600	$ 12,010.89	
3.3.1.9	Cost Estimate	4	8	4	8	16	-	-	40	$ 8,593	$ -	$ 10	$ 453	$ 9,055.96	
3.3.1.10	QA/QC	8	8	-	16	-	-	-	32	$ 7,505	$ -	$ -	$ 395	$ 7,899.85	
3.3.2	**90% Design**	**50**	**53**	**12**	**144**	**85**	**222**	**24**	**590**	**$ 100,708**	**$ -**	**$ 980**	**$ 5,349**	**$ 107,036.71**	Includes Civil, Struc,Process, Elec, and I&C disciplines.
3.3.2.1	Civil	-	19	-	18	61	95	-	193	$ 30,041	$ -	$ 610	$ 1,612	$ 32,263.76	
3.3.2.2	Architectural	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Excluded from SOW.
3.3.2.3	Structural	-	6	-	17	-	32	-	55	$ 8,413	$ -	$ -	$ 442	$ 8,855.01	
3.3.2.4	Process	-	4	-	16	-	31	-	51	$ 7,581	$ -	$ -	$ 399	$ 7,979.32	
3.3.2.5	Mechanical	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Excluded from SOW.
3.3.2.6	Electrical	22	-	-	37	-	40	-	99	$ 17,842	$ -	$ -	$ 938	$ 18,780.65	
3.3.2.7	Instrumentation	8	-	-	24	-	24	-	56	$ 9,592	$ -	$ -	$ 505	$ 10,096.54	
3.3.2.8	Specifications	8	8	8	8	8	-	24	64	$ 11,141	$ -	$ 360	$ 605	$ 12,105.63	
3.3.2.9	Cost Estimate	4	8	4	8	16	-	-	40	$ 8,593	$ -	$ 10	$ 453	$ 9,055.96	
3.3.2.10	QA/QC	8	8	-	16	-	-	-	32	$ 7,505	$ -	$ -	$ 395	$ 7,899.85	
3.3.3	**Final Design**	**22**	**23**	**6**	**61**	**32**	**74**	**8**	**226**	**$ 40,134**	**$ -**	**$ 1,230**	**$ 2,176**	**$ 43,540.13**	Includes Civil, Struc,Process, Elec, and I&C disciplines.
3.3.3.1	Civil	-	6	-	6	20	32	-	64	$ 9,902	$ -	$ 770	$ 561	$ 11,233.01	
3.3.3.2	Architectural	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Excluded from SOW.
3.3.3.3	Structural	-	2	-	6	-	11	-	19	$ 2,906	$ -	$ -	$ 153	$ 3,058.91	
3.3.3.4	Process	-	1	-	5	-	10	-	16	$ 2,337	$ -	$ -	$ 123	$ 2,460.21	
3.3.3.5	Mechanical	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Excluded from SOW.
3.3.3.6	Electrical	7	-	-	12	-	13	-	32	$ 5,751	$ -	$ -	$ 303	$ 6,054.00	
3.3.3.7	Instrumentation	3	-	-	8	-	8	-	19	$ 3,291	$ -	$ -	$ 173	$ 3,464.49	
3.3.3.8	Specifications	2	2	4	4	4	-	8	24	$ 4,145	$ -	$ 440	$ 241	$ 4,825.90	
3.3.3.9	Cost Estimate	2	4	2	4	8	-	-	20	$ 4,297	$ -	$ 20	$ 227	$ 4,543.77	
3.3.3.10	QA/QC	8	8	-	16	-	-	-	32	$ 7,505	$ -	$ -	$ 395	$ 7,899.85	
Subtotal		**179**	**194**	**42**	**561**	**309**	**760**	**116**	**2,106**	**$ 369,964**	**$ -**	**$ 4,280**	**$ 19,685**	**$ 393,929.05**	

APPENDIX B: FEE DETAIL

Fujita Sewer Pump Station Redundant Force Main **Guam Waterworks Authority**

		Personnel Hours								Budget					
Rate ($/HR)		$282	$263	$217	$196	$183	$109	$84							
Task Description		Principal	Engineer IV	Engineer III	Engineer II	Engineer I	CADD Technician	Clerical	Total Hours	Labor	Subconsultants	Other Direct Costs	Taxes	Total	Notes/Assumptions
Task 4 - Bid Support (T&M)															
4.1	Prebid Conference	-	-	-	8	-	-	4	12	$ 1,907	$ -	$ 10	$ 101	$ 2,017.50	
4.2	Addenda/IFB Drawings	4	6	8	8	8	24	24	82	$ 12,107	$ -	$ 380	$ 657	$ 13,143.34	Assumed issuance of bid addendum for Contract Documents
4.3	Bid Review	4	-	-	8	-	-	-	12	$ 2,700	$ -	$ -	$ 142	$ 2,841.97	
	Subtotal	**8**	**6**	**8**	**24**	**8**	**24**	**28**	**106**	**$ 16,713**	**$ -**	**$ 390**	**$ 900**	**$ 18,002.81**	
Task 5 - Engineering Support During Construction (T&M)															
5.1	Project Management and Close-out	-	-	-	48	-	-	40	88	$ 12,739	$ -	$ 40	$ 672	$ 13,450.84	Assumed 21 months for Bid and Construction.
5.2	Attend CM Meetings, if requested	-			10	-	-	-	10	$ 1,964	$ -	$ -	$ 103	$ 2,067.79	Assumed 10 progress meetings
5.3	Shop Drawing/Submittal Review	12	-	24	24	-	-	-	60	$ 13,309	$ -	$ 130	$ 707	$ 14,146.13	Assumed 20 submittal reviews.
5.4	Substitution Review	3	-	3	9	-	-	-	15	$ 3,265	$ -	$ 110	$ 178	$ 3,553.02	Assumed 5 substitution reviews.
5.5	Compliance site visit, if requested.	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Excluded from SOW
5.6	RFI/RFC	6	-	6	18	-	-	-	30	$ 6,531	$ -	$ 230	$ 356	$ 7,116.57	Assumed 15 RFI reviews.
5.7	Archaeological Monitoring	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Excluded from the SOW.
5.8	Follow-up Condition Assessment	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Excluded from the SOW.
5.9	Modify existing FM rehab/replace Civil Plans/Specs for Phase 2	10	16	4	26	24	32	8	120	$ 21,552	$ -	$ 250	$ 1,147	$ 22,948.26	
	Subtotal	**31**	**16**	**37**	**135**	**24**	**32**	**48**	**323**	**$ 59,360**	**$ -**	**$ 760**	**$ 3,162**	**$ 63,282.62**	
	Total	**256**	**314**	**153**	**1,134**	**407**	**856**	**360**	**3,425**	**$ 608,688**	**$ 256,440**	**$ 19,192**	**$ 46,515**	**$ 930,834.57**	

Lump Sum	**$**	**849,549.14**
T&M	**$**	**81,285.43**
Total	**$**	**930,834.57**

AECOM (Prime)	$	674,394.73
All Subs	$	256,439.84
Guam Surveyor	$	73,682.48
V&A	$	106,750.00
APEC	$	4,160.00
GeoEngineering & Testing	$	49,600.00
SEARCH	$	22,247.36

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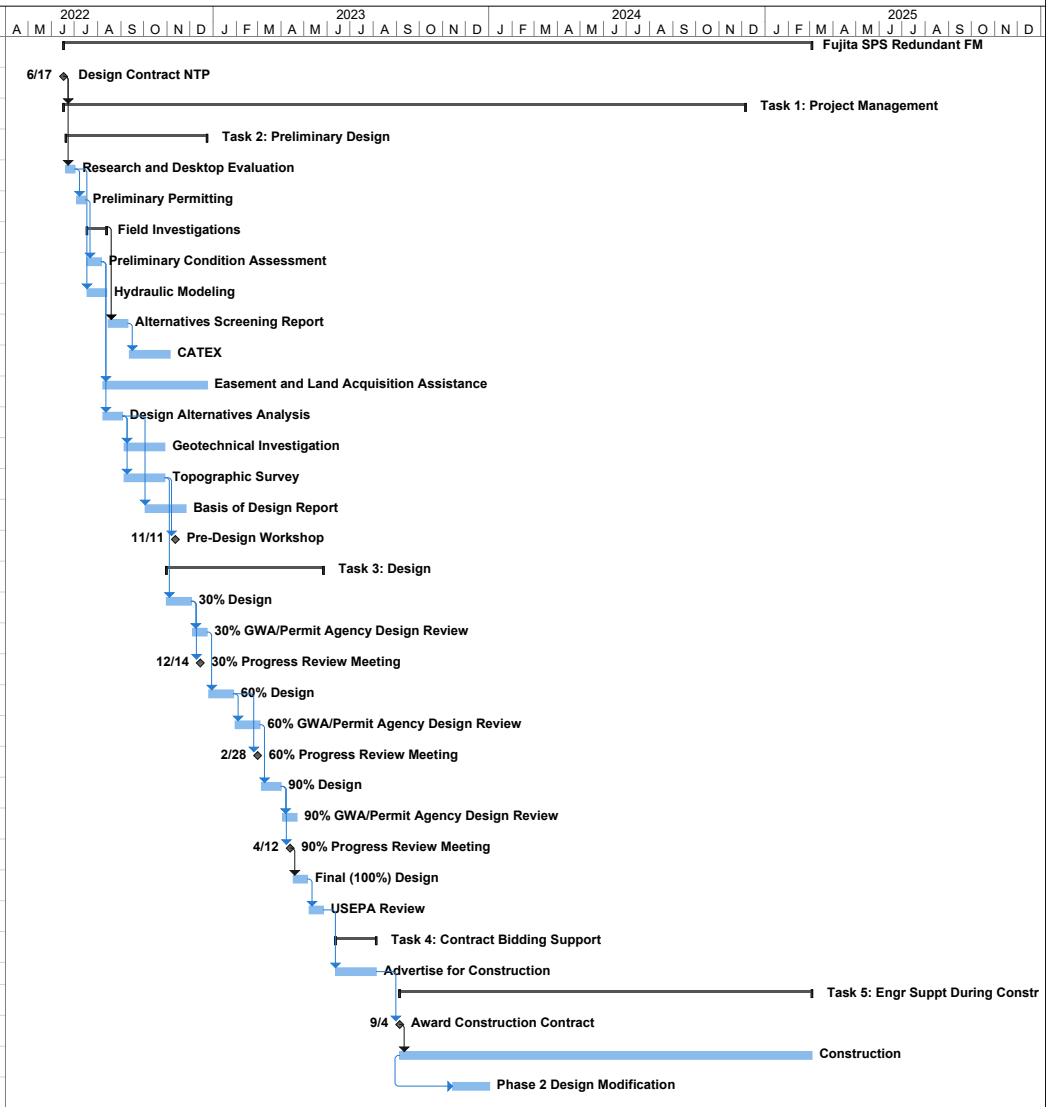
Guam Waterworks Authority, Project No. S20-003-EPA
Design Services for Fujita Sewer Pump Station Redundant Force Main
RFP-03-ENG-2020

APPENDIX C: Tentative Project Schedule

ID	Task Name	Duration	Start	Finish
1	**Fujita SPS Redundant FM**	**141.4 wks**	**Fri 6/17/22**	**Mon 3/3/25**
2	Design Contract NTP	0 days	Fri 6/17/22	Fri 6/17/22
3	**Task 1: Project Management**	**129 wks**	**Fri 6/17/22**	**Thu 12/5/24**
5	**Task 2: Preliminary Design**	**27 wks**	**Mon 6/20/22**	**Fri 12/23/22**
6	Research and Desktop Evaluation	2 wks	Mon 6/20/22	Fri 7/1/22
7	Preliminary Permitting	2 wks	Mon 7/4/22	Fri 7/15/22
8	Field Investigations	4 wks	Mon 7/18/22	Fri 8/12/22
9	Preliminary Condition Assessment	3 wks	Mon 7/18/22	Fri 8/5/22
10	Hydraulic Modeling	4 wks	Mon 7/18/22	Fri 8/12/22
11	Alternatives Screening Report	4 wks	Mon 8/15/22	Fri 9/9/22
12	CATEX	8 wks	Mon 9/12/22	Fri 11/4/22
13	Easement and Land Acquisition Assistance	20 wks	Mon 8/8/22	Fri 12/23/22
14	Design Alternatives Analysis	4 wks	Mon 8/8/22	Fri 9/2/22
15	Geotechnical Investigation	8 wks	Mon 9/5/22	Fri 10/28/22
16	Topographic Survey	8 wks	Mon 9/5/22	Fri 10/28/22
17	Basis of Design Report	8 wks	Mon 10/3/22	Fri 11/25/22
18	Pre-Design Workshop	0 days	Fri 11/11/22	Fri 11/11/22
19	**Task 3: Design**	**30 wks**	**Mon 10/31/22**	**Fri 5/26/23**
20	30% Design	5 wks	Mon 10/31/22	Fri 12/2/22
21	30% GWA/Permit Agency Design Review	3 wks	Mon 12/5/22	Fri 12/23/22
22	30% Progress Review Meeting	0 days	Wed 12/14/22	Wed 12/14/22
23	60% Design	5 wks	Mon 12/26/22	Fri 1/27/23
24	60% GWA/Permit Agency Design Review	5 wks	Mon 1/30/23	Fri 3/3/23
25	60% Progress Review Meeting	0 days	Tue 2/28/23	Tue 2/28/23
26	90% Design	4 wks	Mon 3/6/23	Fri 3/31/23
27	90% GWA/Permit Agency Design Review	3 wks	Mon 4/3/23	Fri 4/21/23
28	90% Progress Review Meeting	0 days	Wed 4/12/23	Wed 4/12/23
29	Final (100%) Design	3 wks	Mon 4/17/23	Fri 5/5/23
30	USEPA Review	3 wks	Mon 5/8/23	Fri 5/26/23
31	**Task 4: Contract Bidding Support**	**8 wks**	**Mon 6/12/23**	**Fri 8/4/23**
32	Advertise for Construction	8 wks	Mon 6/12/23	Fri 8/4/23
33	**Task 5: Engr Suppt During Constr**	**78 wks**	**Mon 9/4/23**	**Mon 3/3/25**
34	Award Construction Contract	0 days	Mon 9/4/23	Mon 9/4/23
35	Construction	78 wks	Tue 9/5/23	Mon 3/3/25
36	Phase 2 Design Modification	7 wks	Tue 11/14/23	Mon 1/1/24



This is **EXHIBIT B**, consisting of 3 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated October 5, 2022.

Owner's Responsibilities

Article 2 of the Agreement is supplemented to include the following agreement of the parties.

B2.01 In addition to other responsibilities of Owner as set forth in this Agreement, Owner shall at its expense:

A. Provide Engineer with all criteria and full information as to Owner's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility, and expandability, and any budgetary limitations.

B. Give instructions to Engineer regarding Owner's procurement of construction services (including instructions regarding advertisements for bids, instructions to bidders, and requests for proposals, as applicable), Owner's construction contract practices and requirements, insurance and bonding requirements, electronic transmittals during construction, and other information necessary for the finalization of Owner's bidding-related documents (or requests for proposals or other construction procurement documents), and Construction Contract Documents. Furnish copies (or give specific directions requesting Engineer to use copies already in Engineer's possession) of all design and construction standards, Owner's standard forms, general conditions (if other than EJCDC® C-700, Standard General Conditions of the Construction Contract, 2013 Edition), supplementary conditions, text, and related documents and content for Engineer to include in the draft bidding-related documents (or requests for proposals or other construction procurement documents), and draft Construction Contract Documents, when applicable. Owner shall have responsibility for the final content of (1) such bidding-related documents (or requests for proposals or other construction procurement documents), and (2) those portions of any Construction Contract other than the design (as set forth in the Drawings, Specifications, or otherwise), and other engineering or technical matters; and Owner shall seek the advice of Owner's legal counsel, risk managers, and insurance advisors with respect to the drafting and content of such documents.

C. Furnish to Engineer any other available information pertinent to the Project including reports and data relative to previous designs, construction, or investigation at or adjacent to the Site.

D. Following Engineer's assessment of initially-available Project information and data and upon Engineer's request, obtain, furnish, or otherwise make available (if necessary through title searches, or retention of specialists or consultants) such additional Project-related information and data as is reasonably required to enable Engineer to complete its Basic and Additional Services. Such additional information or data would generally include the following:

1. Property descriptions.

2. Zoning, deed, and other land use restrictions.

3. Utility and topographic mapping and surveys.

4. Property, boundary, easement, right-of-way, and other special surveys or data, including establishing relevant reference points.

5. Explorations and tests of subsurface conditions at or adjacent to the Site; geotechnical reports and investigations; drawings of physical conditions relating to existing surface or subsurface structures at the Site; hydrographic surveys, laboratory tests and inspections of samples, materials, and equipment; with appropriate professional interpretation of such information or data.

6. Environmental assessments, audits, investigations, and impact statements, and other relevant environmental, historical, or cultural studies relevant to the Project, the Site, and adjacent areas.

7. Data or consultations as required for the Project but not otherwise identified in this Agreement.

E. Arrange for safe access to and make all provisions for Engineer to enter upon public and private property as required for Engineer to perform services under the Agreement.

F. Recognizing and acknowledging that Engineer's services and expertise do not include the following services, provide, as required for the Project:

1. Accounting, bond and financial advisory (including, if applicable, “municipal advisor” services as described in Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) and the municipal advisor registration rules issued by the Securities and Exchange Commission), independent cost estimating, and insurance counseling services.

2. Legal services with regard to issues pertaining to the Project as Owner requires, Contractor raises, or Engineer reasonably requests.

3. Such auditing services as Owner requires to ascertain how or for what purpose Contractor has used the money paid.

G. Provide the services of an independent testing laboratory to perform all inspections, tests, and approvals of samples, materials, and equipment required by the Construction Contract Documents (other than those required to be furnished or arranged by Contractor), or to evaluate the performance of materials, equipment, and facilities of Owner, prior to their incorporation into the Work with appropriate professional interpretation thereof. Provide Engineer with the findings and reports generated by testing laboratories, including findings and reports obtained from or through Contractor.

H. Provide reviews, approvals, and permits from all governmental authorities having jurisdiction to approve all phases of the Project designed or specified by Engineer and such reviews, approvals, and consents from others as may be necessary for completion of each phase of the Project.

I. Advise Engineer of the identity and scope of services of any independent consultants employed by Owner to perform or furnish services in regard to the Project, including, but not limited to, cost estimating, project peer review, value engineering, and constructability review.

J. If Owner designates a construction manager or an individual or entity other than, or in addition to, Engineer to represent Owner at the Site, define and set forth as an attachment to this Exhibit B the duties, responsibilities, and limitations of authority of such other party and the relation thereof to the duties, responsibilities, and authority of Engineer.

K. If more than one prime contract is to be awarded for the Work designed or specified by Engineer, then designate a person or entity to have authority and responsibility for coordinating the activities among the various prime Contractors, and define and set forth the duties, responsibilities, and limitations of authority of such individual or entity and the relation thereof to the duties, responsibilities, and authority of Engineer as an attachment to this Exhibit B that is to be mutually agreed upon and made a part of this Agreement before such services begin.

L. Inform Engineer in writing of any specific requirements of safety or security programs that are applicable to Engineer, as a visitor to the Site.

M. Examine all alternative solutions, studies, reports, sketches, Drawings, Specifications, proposals, and other documents presented by Engineer (including obtaining advice of an attorney, risk manager, insurance counselor, financial/municipal advisor, and other advisors or consultants as Owner deems appropriate with respect to such examination) and render in writing timely decisions pertaining thereto.

N. Inform Engineer regarding any need for assistance in evaluating the possible use of Project Strategies, Technologies, and Techniques, as defined in Exhibit A.

O. Advise Engineer as to whether Engineer's assistance is requested in identifying opportunities for enhancing the sustainability of the Project.

P. Place and pay for advertisement for Bids in appropriate publications.

Q. Furnish to Engineer data as to Owner's anticipated costs for services to be provided by others (including, but not limited to, accounting, bond and financial, independent cost estimating, insurance counseling, and legal advice) for Owner so that Engineer may assist Owner in collating the various cost categories which comprise Total Project Costs.

R. Attend and participate in the pre-bid conference, bid opening, pre-construction conferences, construction progress and other job related meetings, and Site visits to determine Substantial Completion and readiness of the completed Work for final payment.

S. Authorize Engineer to provide Additional Services as set forth in Part 2 of Exhibit A of the Agreement, as required.

This is **EXHIBIT C**, consisting of 3 page, referred to in and part of the Agreement between Owner and Engineer for Professional Services dated October 5, 2022.

Payments to Engineer for Services and Reimbursable Expenses
COMPENSATION PACKET BC-1: Basic Services – Lump Sum

Article 2 of the Agreement is supplemented to include the following agreement of the parties:

ARTICLE 2 – OWNER'S RESPONSIBILITIES

C2.01 *Compensation for Basic Design Services – Lump Sum Method of Payment*

A. Owner shall pay Engineer for Basic Design Services set forth in Exhibit A as follows:

1. A Lump Sum amount of $930,834.57 based on the following estimated distribution of compensation:

See attached Design Fee Proposal, April 29, 2022.

Engineer may alter the distribution of compensation between individual phases noted herein to be consistent with services actually rendered, but shall not exceed the total Lump Sum amount unless approved in writing by the Owner.

2. The Lump Sum includes compensation for Engineer's services and services of Engineer's Consultants, if any. Appropriate amounts have been incorporated in the Lump Sum to account for labor costs, overhead, profit, expenses (other than any expressly allowed Reimbursable Expenses), and Consultant charges.

3. The portion of the Lump Sum amount billed for Engineer's services will be based upon Engineer's estimate of the percentage of the total services actually completed during the billing period.

4. The basis of any adjustment under this Article may include at the request of the Owner, cost and pricing data pursuant to 2 GAR §3118 and will also be subject to 2 GAR § 5107 Fiscal Responsibility.

B. *Period of Service:* The compensation amount stipulated in Compensation Packet BC-1 is conditioned on a period of service not exceeding _____months. If such period of service is extended, the compensation amount for Engineer's services shall be appropriately adjusted.

Payments to Engineer for Services and Reimbursable Expenses
COMPENSATION PACKET BC-2: Basic Services – Standard Hourly Rates

Article 2 of the Agreement is supplemented to include the following agreement of the parties:

ARTICLE 2 – OWNER'S RESPONSIBILITIES

C2.01 *Compensation For Basic Post-Design Services – Standard Hourly Rates Method of Payment*

A. Owner shall pay Engineer for Basic Post-Design Services set forth in Exhibit A as follows:

1. An amount equal to the cumulative hours charged to the Project by each class of Engineer's personnel times Standard Hourly Rates for each applicable billing class for all services performed on the Project, plus Reimbursable Expenses and Engineer's Consultants' charges, if any.

2. The Standard Hourly Rates charged by Engineer constitute full and complete compensation for Engineer's services, including labor costs, overhead, and profit; the Standard Hourly Rates do not include Reimbursable Expenses or Engineer's Consultants' charges.

3. Engineer's Standard Hourly Rates are indicated in the negotiated Fee Proposal dated April 29, 2022 and included in the total compensation for services under Paragraph C2.01.

4. The total compensation for services under Paragraph C2.01 is estimated to be $930,834.57 based on the following estimated distribution of compensation:

   a. See attached Revised Design Fee Proposal, April 29, 2022.

5. Engineer may alter the distribution of compensation between individual phases of the work noted herein to be consistent with services actually rendered, but shall not exceed the total estimated compensation amount unless approved in writing by Owner.

6. The total estimated compensation for Engineer's services included in the breakdown by phases as noted in Paragraph C2.01.A.3 incorporates all labor, overhead, profit, Reimbursable Expenses, and Engineer's Consultants' charges.

7. The amounts billed for Engineer's services under Paragraph C2.01 will be based on the cumulative hours charged to the Project during the billing period by each class of Engineer's employees times Standard Hourly Rates for each applicable billing class, plus Reimbursable Expenses and Engineer's Consultants' charges.

C2.02 *Compensation For Reimbursable Expenses*

A. Owner shall pay Engineer for all Reimbursable Expenses.

B. Reimbursable Expenses include the following: transportation (including mileage), lodging, and subsistence incidental thereto; providing and maintaining field office facilities including furnishings and utilities; toll telephone calls, mobile phone charges, and courier charges; reproduction of reports, Drawings, Specifications, bidding-related or other procurement documents, Construction Contract Documents, and similar Project-related items; and Consultants' charges. In addition, if authorized in advance by Owner, Reimbursable Expenses will also include expenses incurred for the use of highly specialized equipment.

C. The amounts payable to Engineer for Reimbursable Expenses will be the Project-related internal expenses actually incurred or allocated by Engineer, plus all invoiced external Reimbursable Expenses allocable to the Project, the latter multiplied by a factor of 1.0.

C2.03 *Estimated Compensation Amounts:*

1. Engineer's estimate of the amounts that will become payable for specified services are only estimates for planning purposes, are not binding on the parties, and are not the minimum or maximum amounts payable to Engineer under the Agreement.

2. When estimated compensation amounts have been stated herein and it subsequently becomes apparent to Engineer that the total compensation amount thus estimated will be exceeded, Engineer shall give Owner written notice thereof, allowing Owner to consider its options, including suspension or termination of Engineer's services for Owner's convenience. Upon notice, Owner and Engineer promptly shall review the matter of services remaining to be performed and compensation for such services. Owner shall either exercise its right to suspend or terminate Engineer's services for Owner's convenience, agree to such compensation exceeding said estimated amount, or agree to a reduction in the remaining services to be rendered by Engineer, so that total compensation for such services will not exceed said estimated amount when such services are completed. If Owner decides not to suspend the Engineer's services during the negotiations and Engineer exceeds the estimated amount before Owner and Engineer have agreed to an increase in the compensation due Engineer or a reduction in the remaining services, then Engineer shall be paid for all services rendered hereunder.

D. To the extent necessary to verify Engineer's charges and upon Owner's timely request, Engineer shall make copies of such records available to Owner at cost.

This is **EXHIBIT D has been deleted.**

This is **EXHIBIT E**, consisting of 2 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated October 5, 2022.

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

NOTICE OF ACCEPTABILITY OF WORK

PROJECT: **Fujita Sewage Pump Station Redundant Force Main**
GWA Project No. S20-003-EPA

OWNER: **Guam Waterworks Authority**

CONTRACTOR:

OWNER'S CONSTRUCTION CONTRACT IDENTIFICATION:

EFFECTIVE DATE OF THE CONSTRUCTION CONTRACT:

ENGINEER:

NOTICE DATE:

To: _____
Owner

And To: _____
Contractor

From: _____
Engineer

The Engineer hereby gives notice to the above Owner and Contractor that Engineer has recommended final payment of Contractor, and that the Work furnished and performed by Contractor under the above Construction Contract is acceptable, expressly subject to the provisions of the related Contract Documents, the Agreement between Owner and Engineer for Professional Services dated _____, and the following terms and conditions of this Notice:

CONDITIONS OF NOTICE OF ACCEPTABILITY OF WORK

The Notice of Acceptability of Work ("Notice") is expressly made subject to the following terms and conditions to which all those who receive said Notice and rely thereon agree:

1. This Notice is given with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.

2. This Notice reflects and is an expression of the Engineer's professional opinion.

3. This Notice is given as to the best of Engineer's knowledge, information, and belief as of the Notice Date.

4. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Contractor's work) under Engineer's Agreement with Owner, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Agreement.

5. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract, an acceptance of Work that is not in accordance with the related Contract Documents, including but not limited to defective Work discovered after final inspection, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Construction Contract Documents, or to otherwise comply with the Construction Contract Documents or the terms of any special guarantees specified therein.

6. This Notice does not relieve Contractor of any surviving obligations under the Construction Contract, and is subject to Owner's reservations of rights with respect to completion and final payment.

By: _____

Title: _____

Dated: _____

EXHIBIT F has been DELETED.

This is **EXHIBIT G**, consisting of 1 page, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated October 5, 2022.

Insurance

Paragraph 6.05 of the Agreement is supplemented to include the following agreement of the parties:

G6.05 *Insurance*

A. The limits of liability for the insurance required by Paragraph 6.05.A of the Agreement are as follows:

1. By Engineer:

a.	Workers' Compensation:	Statutory
b.	Employer's Liability:	
	Bodily Injury, each accident:	$100,000
	Bodily injury by disease, each employee:	$100,000
	Bodily injury/disease, aggregate:	$200,000
c.	General Liability --	
	1) Each Occurrence (Bodily Injury and Property Damage):	$1,000,000
	2) General Aggregate:	$2,000,000
d.	Excess or Umbrella Liability	
	Per Occurrence:	$2,000,000
	General Aggregate:	$4,000,000
e.	Automobile Liability --Combined Single Limit (Bodily Injury and Property Damage):	$ 500,000
f.	Professional Liability:	
	Each Claim Made	$2,000,000
	Annual Aggregate	$4,000,000

To maintain, and cause to maintain throughout the life of the contract and up until the project is completely constructed, insurance for the Engineer and the named subs-consultants, in the amounts and types specified below which name Guam Waterworks Authority as an additional insured for the project in a separate endorsement:

1.

2.

3.

B. *Additional Insureds:*

1. The following individuals or entities are to be listed on Engineer's general liability policies of insurance as additional insureds:

Guam Waterworks Authority

2. The Owner shall be listed on Engineer's general liability policy as provided in Paragraph 6.05.B.

This is **EXHIBIT H**, consisting of 1 page, referred to in and part of the **Agreement between Owner and Engineer for Professional Services**
dated October 5, 2022.

Dispute Resolution

Paragraph 6.09 of the Agreement is supplemented to include the following agreement of the parties:

H6.09 Mediation, Decision and Action

A. In the event a claim or controversy is not resolved by mutual agreement, the GWA General Manager shall, after written request by the Contractor for a final decision, promptly issue a written decision. A copy of the decision shall be immediately transmitted to the Contractor by a method that provides evidence of receipt.

B. All claims or controversies that remain unresolved after a final decision by the GWA General Manager shall be submitted to mediation in accordance with the rules of the American Arbitration Association, or other dispute resolution rules accredited on Guam. This agreement to mediate is authorized under 5 GCA §5427 (b) and 2 GAR §9103 (a)(1). The parties shall each pay one-half of the mediation expenses.

C. In the event mediation is not successful, the General Manager's decision remains final and conclusive unless the Contractor files an appeal with the Guam Office of Public Accountability ("OPA") after receipt of the decision. Upon written request by the Contractor, the 60-day appeal period may be extended for a mutually agreed upon tolling period to allow for mediation after the final decision. In the event the dispute is not resolved by the OPA, the Contractor may seek redress through the Guam Government Claims Act and/or the Guam Superior Court.

This is **EXHIBIT I**, consisting of 1 page, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated October 5, 2022.

Limitations of Liability

Paragraph 6.11 of the Agreement is supplemented to include the following agreement of the parties:

A. *Limitation of Engineer's Liability*

1. *Engineer's Liability Limited to Stated Amount, or Amount of Engineer's Compensation:* To the fullest extent permitted by Laws and Regulations, and notwithstanding any other provision of this Agreement, the total liability, in the aggregate, of Engineer and Engineer's officers, directors, members, partners, agents, employees, and Consultants, to Owner and anyone claiming by, through, or under Owner for any and all injuries, claims, losses, expenses, costs, or damages whatsoever arising out of, resulting from, or in any way related to the Project, Engineer's or its Consultants' services. or this Agreement, from any cause or causes whatsoever, including but not limited to the negligence, professional errors or omissions, strict liability, breach of contract, indemnity obligations, or warranty express or implied, of Engineer or Engineer's officers, directors, members, partners, agents, employees, or Consultants, shall not exceed the total amount of $4,000,000.00 or the total compensation received by Engineer under this Agreement, whichever is greater. Higher limits are available for an additional fee.

2. *Exclusion of Special, Incidental, Indirect, and Consequential Damages:* To the fullest extent permitted by Laws and Regulations, and notwithstanding any other provision in the Agreement, consistent with the terms of Paragraph 6.11, the Engineer and Engineer's officers, directors, members, partners, agents, Consultants, and employees shall not be liable to Owner or anyone claiming by, through, or under Owner for any and all claims for or entitlement to special, incidental, indirect, or consequential damages arising out of, resulting from, or in any way related to this Agreement or the Project, from any cause or causes, including but not limited to:

B. *Indemnification by Owner*: To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Engineer and its officers, directors, members, partners, agents, employees, and Consultants from and against any and all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to the Project, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Owner or Owner's officers, directors, members, partners, agents, employees, consultants, or others retained by or under contract to the Owner with respect to this Agreement or to the Project.

EXHIBIT J has been DELETED.

This is **EXHIBIT K**, consisting of 2 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated October 5, 2022.

AMENDMENT TO OWNER-ENGINEER AGREEMENT
Amendment No. 00

The Effective Date of this Amendment is: _____.

Background Data

Owner: Guam Waterworks Authority

Engineer:

Project: Fujita Sewage Pump Station Redundant Force Main
GWA Project No. S20-003-EPA

Nature of Amendment: [Check those that are applicable and delete those that are inapplicable.]

____ Additional Services to be performed by Engineer

____ Modifications to services of Engineer

____ Modifications to responsibilities of Owner

____ Modifications of payment to Engineer

____ Modifications to time(s) for rendering services

____ Modifications to other terms and conditions of the Agreement

Description of Modifications:

Incorporated Guam Procurement Law Clauses

Article 6.07 of the Agreement is supplemented to include the following agreement of the parties:

B. Engineer hereby warrants that it will abide by 5 GCA Section 5630 prohibiting gratuities, kickbacks and favors in relation to the solicitation and execution of this Contract.

C. Engineer hereby warrants that it has not retained any person or entity to solicit or secure this Contract, or paid a contingent fee, commission or brokerage fee as proscribed in 5 GCA Section 5631(a).

D. Engineer hereby warrants that it has not knowingly influence a government employee to breach any of the ethical standards set forth in 5 GCA Chapter 5 Article 11 and in Chapter 11 of the Guam Procurement Regulations.

E. Engineer hereby warrants that no person, providing services on behalf of the Engineer has been convicted of a sex offense under the provisions of Chapter of Title 9 GCA or any offense as defined in Article 2 of Chapter 28, Title 9 GCA; and should any person providing services on behalf of the

Engineer be convicted during the course of this Contract, such person shall be immediately removed from GWA projects and GWA will be informed of the conviction within twenty-four (24) hours.

Agreement Summary:

Original agreement amount:	$_____
Net change for prior amendments:	$_____
This amendment amount:	$_____
Adjusted Agreement amount:	$_____

Change in time for services (days or date, as applicable): _____

The foregoing Agreement Summary is for reference only and does not alter the terms of the Agreement, including those set forth in Exhibit C.

Owner and Engineer hereby agree to modify the above-referenced Agreement as set forth in this Amendment. All provisions of the Agreement not modified by this or previous Amendments remain in effect.

OWNER:	**ENGINEER:**
Guam Waterworks Authority	**AECOM Technical Services, Inc.**
By: _____	By: _____
Print name: MIGUEL C. BORDALLO, P.E.	Print name: **Martin Nakasone**
Title: General Manager	Title: **Area Manager, Hawaii-Pacific Islands**
Date Signed: _____	Date Signed: _____

AECOM
414 W. Soledad Ave.
Suite 708
Hagåtña, GU 96910
www.aecom.com

671-477-8326/7 tel
671-472-8324 fax

April 29, 2022

Miguel Bordallo, P.E., General Manager
Guam Waterworks Authority
Engineering Division, Room 202
Gloria B. Nelson Public Service Building
688 Route 15, Mangilao, GU 96913

Attention: George Watson

Subject: Scope of Work and Fee Proposal for RFP-03-ENG-2020, Fujita Sewer Pump Station Redundant Force Main; GWA Project No. S20-003-EPA.

Håfa Adai,

For the services described herein, AECOM Technical Services, Inc. proposes the fee proposal noted below for Fujita Sewer Pump Station (SPS) Redundant Force Main (FM) Project to provide professional design services.

The scope of work, fee details, and schedule are included in Appendices A, B and C, respectively. The scope of work is based on refinements made during fee and scope negotiations. The fee represents the scope of work associated with improvements to the existing system along the existing Fujita SPS FM alignment. The total fee estimate is $930,834.57 as shown in **Table 1**.

Table 1: Fee Summary

Task No.	Task Name	Fee
1	Project Management	$34,898.04
2	Preliminary Design	$420,722.05
3	Design	$393,929.05
4	Contract Bidding Support	$18,002.81
5	Engineering Support During Construction	$63,282.62
	Total:	$930,834.57

We appreciate the opportunity and look forward to working with the Guam Waterworks Authority on this very important project. If you have any questions regarding this fee proposal, please call me at (808) 529-7219 or Pete Diaz at (671) 477-8325.

Sincerely,

Nakasone, Martin

Digitally signed by Nakasone, Martin
DN: cn=Nakasone, Martin, ou=USHNL1, email=Martin.Nakasone@aecom.com
Date: 2022.04.28 12:50:22 -10'00'

Martin Nakasone
Area Manager,
Hawaii-Pacific Islands
martin.nakasone@aecom.com

Enclosures: Appendix A: Scope of Work
Appendix B: Fee Detail
Appendix C: Schedule

EXHIBIT B

Consent Decree
Table A - Force Mains

1. Hagåtña Main
2. Asan
3. Bayside
4. Pago Double Shaft
5. Mamajanao
6. Barrigada
7. Mangilao
8. Piti
9. Tai Mangilao
10. Pump Station No. 17
11. Paseo De Oro
12. Dairy Road
13. Pump Station No. 16
14. Maite
15. Harmon
16. **Fujita**
17. Route 16
18. Yigo
19. Chaligan
20. Ypao
21. Inarajan Main
22. Southern Link
23. New Chaot
24. Gaan
25. Alupang Cove

EXHIBIT C

Consent Decree
Table B - Tier 1 Sewer Pump Stations

1. Alupang Cove
2. Astumbo #1
3. Astumbo #2
4. Bayside
5. Dairy Road
6. Ejector Station No. 2
7. **Fujita**
8. Harmon
9. Inarajan Main
10. Inarajan Lift Station
11. Machanao
12. Mongmong Toto
13. Pago Double Shaft
14. Piti
15. Pump Station No. 13
16. Pump Station No. 16
17. Pump Station No. 17
18. Pump Station No. 19
19. Pump Station No. 20
20. Route 16
21. Southern Link
22. Talofofo
23. Yigo

EXHIBIT D

AECOM
414 W. Soledad Ave.
Suite 708
Hagåtña, GU 96910
www.aecom.com

671-477-8326/7 tel
671-472-8324 fax

November 9, 2023

Miguel Bordallo, P.E., General Manager
Guam Waterworks Authority
Engineering Division, Room 202
Gloria B. Nelson Public Service Building
688 Route 15, Mangilao, GU 96913

Attention: George Watson

Subject: Scope of Work and Fee Proposal for RFP-03-ENG-2020, Fujita Sewer Pump Station Redundant Force Main; GWA Project No. S20-003-EPA to add Sewer Pump Station (SPS) Assessment and Rehabilitation/Replacement Design Services

Håfa Adai,

For the services described herein, AECOM Technical Services, Inc. proposes the fee proposal noted below for SPS assessment and rehabilitation/replacement design services.

The scope of work, fee details, and schedule are included in Appendices D.1, D.2 and D.3, respectively. The scope of work is based on refinements made during fee and scope negotiations. The fee represents the scope of work associated with SPS condition assessment, SPS rehabilitation/replacement design services, and additional FM condition assessment services at the Fujita SPS. The total fee estimate is $670,764.72 as shown in **Table 1**.

Table 1: Fee Summary

Task No.	Task Name	Fee
1	Project Management	$18,924.11
2	Preliminary Design	$169,181.22
3	Design	$350,358.65
4	Contract Bidding Support	$13,105.13
5	Engineering Support During Construction	$119,195.61
	Total:	$670,764.72

We appreciate the opportunity and look forward to working with the Guam Waterworks Authority on this very important project. If you have any questions regarding this fee proposal, please contact me or Pete Diaz at (671) 477-8325.

Sincerely,

Heather Chin

Heather Chin
Associate Vice President
Hawaii-Pacific Islands
Heather.chin@aecom.com

Enclosures: Appendix D.1: Scope of Work
Appendix D.2: Fee Detail
Appendix D.3: Schedule

AECOM

APPENDIX D.1: ADDITIONAL SCOPE OF WORK

I. PROJECT OBJECTIVES

A. The objectives of the additional scope of work (SOW) are as follows:

1. Conduct and submit a condition assessment of the Fujita Sewer Pump Station (SPS).
2. Submit a design for the rehabilitation of the Fujita SPS to meet Ten States Standards for Wastewater Facilities, good engineering practices, operability and safety requirements.
3. Ensure that the following SPS criteria are included in the design plans and specifications:
    a. Accessibility
        (1) Consider an access road to the SPS with proper turn around clearance, so that vehicles can access the pump station easily and safely.
        (2) Consider worker accessibility to controls, pumps, valves, etc. (e.g., valves are not to be placed in the wet well).
    b. Security measures
        (1) Consider site security and safety measures, lockable doors, fencing with barb wires, gates with chain and padlock, and vegetation clearance around the fencing.
    c. Grit removal such as screening baskets, comminutors, or other devices, to remove and/or comminute grit and large solids contained in the wastewater before it is pumped.
    d. Safety provisions to effectively protect maintenance personnel from hazards (including confined spaces),
    e. Design considerations to include:
        (1) SPS type, structures, pumps, controls, valves, wet wells, safety ventilation, flow measurement and water supply
        (2) Backflow prevention devices to protect potable water sources
        (3) SCADA system
        (4) Pump design to consider multiple units (minimum 2) for redundancy, protection against clogging, pump openings, priming, electrical equipment, intake, dry well dewatering and pumping rates (capacity)
            (a) Pumps to operate within the preferred operating region under normal operating conditions and normal daily flow conditions
            (b) Consider if rehabilitated pumps need a variable frequency drive based on a cost- benefit analysis and ensure each pump has a complete repair kit and the necessary spare parts to resume pump service.
        (5) Wet well design considerations:
            (a) Volume capacity: Design well volume for anticipated wet-weather peak hourly flow conditions and coordinated with pump sizing for the station.

AECOM

1. The effective volume of the wet well shall be based on the design average flow and a filling time not to exceed 30 minutes, unless the facility is designed to provide flow equalization. The pump's manufacturer's duty cycle recommendations shall be utilized in selecting the minimum cycle time. When the anticipated initial flow tributary to the pumping station is less than the design average flow, provisions should be made so that the fill time indicated is not exceeded for initial flows. When the wet well is designed for flow equalization as part of a treatment plant, provisions should be made to prevent septicity.

(b) Divided wet well: Design two interconnected sections would facilitate repairs and cleaning

(c) Floor slope: The wet well floor shall have a minimum slope of 1 : 1 to the hopper bottom. The horizontal area of the hopper bottom shall be no greater than necessary for proper installation and function of the inlet.

(d) Air displacement: Covered wet wells shall have provisions for air displacement to the atmosphere

(6) Corrosion protection

(a) Replace SPS equipment, including wet-well and valve equipment rendered inoperable from corrosion

(b) Provide SPS equipment with adequate corrosion protection

(c) Provide corrosion protection for the receiving manhole

(7) Electrical design to consider adequate electrical panels, lighting, power supply, and power conditioning.

(8) Coordinate future or planned modifications to the influent collection system into the PROJECT.

(9) Force main design to consider velocity, diameter, air and vacuum relief, termination, pipe pressures, utility clearances, friction loses, identification, leakage testing, maintenance, and cover.

(10) Stormwater management at the SPS site to comply with the CNMI/Guam Stormwater Management Manual.

(11) Operational testing and performance period shall be included in the specifications with a specified time frame.

f. Special consideration for submersible pump stations to include pump removal, control and valves during submerged conditions.

g. Alarm systems with backup power source

h. Emergency operations to prevent the discharge of wastewater (sanitary sewer overflows)

(1) Emergency action sheets at the pump station (that identify protocol for specific scenarios including power failure, overflows, alarms, pre-storm, and post-storm response)

(2) Each emergency action sheet shall contain standard operating procedures that include response time, response personnel, chain of notification, response equipment, response procedures with order of operations, safety precautions, and close-out procedures

AECOM

(3) Develop safety placards, standard operation placards (pump rates, pressures, etc.)

i. Operations and maintenance manual

j. Tools and spare parts

II. SERVICES

A. GENERAL REQUIREMENTS

Unless otherwise agreed upon between GWA and the DESIGN CONSULTANT, the DESIGN CONSULTANT shall meet the following general requirements.

1. Responsibility of the DESIGN CONSULTANT

    a. The DESIGN CONSULTANT shall be responsible for the professional and technical accuracy and the coordination of all surveys, drawings, specifications, and other work of materials furnished under a contract. The DESIGN CONSULTANT without additional cost to the GWA, shall correct and revise all errors or deficiencies the work.

    b. Neither the GWA's review, approval, or acceptance of non-payment for any of the service required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause of action arising out of DESIGN CONSULTANT's performance of this contract, and the land surveyor shall be and remain liable to GWA for all costs of any kind which were incurred by GWA as a result of their negligent performance of any of the services furnished under this contract.

    c. DESIGN CONSULTANT is responsible for securing approvals for entry onto private property, if required.

2. Responsibility of GWA

    a. To furnish the DESIGN CONSULTANT with the available as-built drawings and any conducted closed-circuit television (CCTV) of existing facilities covered by the PROJECT that are available in GWA files, draft engineering details, current wastewater system hydraulic model, flow monitoring data, maintenance, and operation records.

    b. GWA shall provide, if requested, access to GWA facilities. GWA operations staff may or may not be available to provide limited traffic control, manual operation of pumps, opening of manholes and vaults, and site access to GWA facilities as requested.

3. Comply with the Guam Board of Registration for Professional Engineers, Architects and Land Surveyors ("PEALS") Law and related laws. Additionally, the DESIGN CONSULTANT shall provide professional engineering design services consistent with the Standard of Care in the Agreement as it relates to wastewater collection and pumping systems, instrumentation control and monitoring systems, wastewater piping, and shore infrastructures.

4. Design Parameters:

    The design shall be in accordance with the applicable criteria, regulations, and standards of the following and all parties which have interest or relevance in this PROJECT:

    a. American Association of State and Highway Transportation Officials (AASHTO)

    b. American Concrete Institute (ACI)

    c. American National Standard Institution (ANSI)

AECOM

d. American Society for Testing and Materials (ASTM) International
e. American Water Works Association (AWWA)
f. Association for the Advancement of Cost Engineering International (AACE)
g. Guam Building Code/International Building Code (IBC)
h. Guam Department of Public Works
i. Guam Environmental Protection Agency (GEPA)
j. Guam Fire Department (GFD)
k. Guam Historic Resources Division (GHRD) / State Historic Preservation Office (SHPO)
l. Guam Waterworks Authority (GWA)
m. National Association of Sewer Service Companies (NASSCO)
n. National Environmental Policy Act (NEPA)
o. National Fire Protection Association (NFPA)
p. National Sanitation Foundation (NSF)
q. United States Army Corp of Engineers (USACE)
r. United States Environmental Protection Agency (USEPA)
s. US Fish and Wildlife Services (USFWS)

All standards shall be of the most current edition, unless otherwise specified, adopted by Guam law, or as approved by GWA.

5. Contract design drawings shall be completed in AutoCAD 2019 or an earlier version and be able to translate into an Environmental Systems Research Institute (ESRI) geographic information systems (GIS) mapping format. For GIS data, GWA uses the following projection:
    a. Projection: World Geodetic System (WGS) 1984, Universal Transverse Mercator (UTM) Zone 55 North (WGS_1984_UTM_Zone_55N)
    b. False_Easting: 500000.00000000
    c. False_Northing: 0.00000000
    d. Central_Meridian: 147.00000000
    e. Scale_Factor: 0.99960000
    f. Latitude_Of_Origin: 0.00000000
    g. Linear Unit: Meter.
6. Submittals, General Requirements
    a. All computations, specifications, reports and other written or typewritten documents shall be done on 8-1/2” by 11” sheets. Figures and maps included in reports shall be on 8-1/2” by 11” or 11” by 17” sheets, with exceptions to be approved by GWA. Documents shall be submitted neatly bound with appropriate covers as required by GWA.
    b. All engineering plans shall be done on 11” by 17” and 22” by 34” sheets.
    c. All electronic files shall be submitted on CDs, DVDs, or flash drives in Microsoft Word, Microsoft Excel, Adobe Acrobat, AutoCAD or ESRI GIS formats, or in other electronic file formats as approved by GWA.

AECOM

7. Construction Cost Limitations

   The PROJECT shall be designed to permit construction of the complete system within a construction budget to be provided by the GWA after acceptance of the "Design Criteria". If the DESIGN CONSULTANT during the preliminary cost analysis finds that the improvements cannot be built within the allotted amount, the matter shall be brought to the attention of the General Manager immediately. The General Manager may upon receipt of such notification, authorize a change in scope of materials as required to reduce the estimated construction cost to an amount within the funds available as authorized by law or he may elect to adjust the estimated construction budget. DESIGN CONSULTANT shall prepare a detailed construction cost estimate for the system.

B. ADDITIONAL SCOPE OF SERVICES

The PROJECT phases would consist of a SPS condition assessment, preliminary design, design, bidding and construction for the rehabilitation of the Fujita SPS in addition to the construction of a redundant force main.

The scope of DESIGN CONSULTANT services anticipated for this modification includes, but is not limited to:

1. Project Management
2. Civil/Process Mechanical Engineering
3. Structural Engineering
4. Mechanical (HVAC, Plumbing, Fire Protection) Engineering
5. Electrical/Power Engineering
6. Instrumentation & Control Engineering
7. Supervisory Control and Data Acquisition (SCADA)
8. Geotechnical Engineering
9. Archaeological investigation to support the Geotechnical services
10. SPS Condition Assessment
11. Pump Station and Pumping System Evaluation, Analysis and Design
12. Hydraulic Modeling and Analysis
13. Construction Cost Estimating
14. Scheduling
15. Permitting
16. Bidding Support
17. Engineering Support During Construction

Exclusions to the scope of services include the following:

1. Rainfall and flow monitoring
2. Manhole and pipe inspections
3. Pressure testing evaluations
4. Support studies for NEPA documentation
5. Record Drawing (As-built Preparation)

AECOM

C. SCOPE OF WORK

1. TASK 1 – PROJECT MANAGEMENT

   The Task 1 is expected to span the entire life of the PROJECT, from the contract modification date through construction. This task shall be on a lump sum basis.

   a. Subtask 1.1 - Project Management Plan

      DESIGN CONSULTANT shall update the Project Management Plan for the modification.

   b. Subtask 1.2 - Project Schedule

      DESIGN CONSULTANT shall submit an updated project schedule that meets required milestones for approval. Update schedule at all phases of the PROJECT, including monthly meetings, dates for completion of engineering design studies, permitting, milestone tasks, and dates for review periods. The schedule shall be based on the proposed target dates. DESIGN CONSULTANT shall notify GWA if the target dates can be accomplished.

   c. Subtask 1.3- Progress Reports

      DESIGN CONSULTANT shall submit monthly progress/status reports to support monthly billings. Reports must reflect monthly invoices and earned value reporting including include projected spending and earned value curves.

   d. Subtask 1.4 – Meetings and Coordination

      Attend regularly scheduled meetings and coordinate with entities within and, as appropriate, outside the PROJECT team. Identify and facilitate milestone meetings. Basis assumes additional staff in addition to the original SOW for this modification.

      (1) Coordinate and communicate with local and federal agencies, including GEPA, DPW, GHRD/SHPO, USFWS throughout the course of the PROJECT to ensure review and permitting process adheres to the project schedule.

      (2) Facilitate and record kickoff and regular project meetings.

      (3) Design review (30%, 60%, 90% and 100%) meetings shall be covered under Task 3.

   e. Deliverables:

      (1) Project Management Plan Update

      (2) Project Schedule Update

      (3) Progress Reports

      (4) Meeting Minutes

      (5) Provide deliverables in accordance with GWA Guidelines.

2. TASK 2 - PRELIMINARY DESIGN

   Task 2 will be on a lump sum basis.

   a. Subtask 2.1 – Research and Field Investigation

      (1) Additional FM Condition Assessment

AECOM

(a) Identify defects such as inoperable valves. DESIGN CONSULTANT shall coordinate with GWA Operations and Maintenance on conducting valve tests to document the operational condition of valves at the Fujita SPS.

(b) Evaluate all metallic (cast iron, ductile iron, steel, etc.) and concrete force mains, fittings, and appurtenances to determine whether corrosion protective measures are necessary. Appropriate corrosion protective measures include:

1. Targeted pipeline/component replacement;
2. Adding protective coatings;
3. Installing an internal pipe lining; and
4. Adding targeted cathodic protection.

(c) Exclusion:

1. Pressure testing evaluation requirements are excluded from this scope of work since the existing force main is in the engineering design phase of a construction project.

(2) SPS Condition Assessment

The DESIGN CONSULTANT shall assess the condition of the Fujita SPS through:

(a) Review of prior studies, investigations, condition assessment information, flow monitoring data; existing operation and maintenance data, operation plans, asset management data, and available as-built/record engineering drawings.

(b) Verify how the SPS is collecting operational data (flow and pressure).

(c) Use the data and information from the condition assessment to identify architectural, civil, structural, mechanical, geotechnical, electrical, and instrumentation issues.

(d) Perform assessments and other permitting-related activities, as required by the appropriate archaeological and environmental regulatory agencies.

(e) Prepare and submit permits as needed for the site investigation work.

(f) Review current and future flow projections from GWA's hydraulic flow models. Currently GWA's hydraulic models are being updated and will be provided to the DESIGN CONSULTANT for use for the PROJECT.

(g) Conduct additional topographic survey necessary for the rehabilitation of the Fujita SPS site to meet the project objectives.

(h) Review other documents and information relevant to the PROJECT.

(i) Condition assessment of the Fujita SPS to include:

AECOM

1. On-site visual inspections to be conducted by one civil/process engineer, one structural engineer, one electrical engineer, one mechanical HVAC engineer and one mechanical plumbing/fire protection engineer.
2. Interviews with GWA staff
3. Assessment of architectural and engineered (civil/process, structural, mechanical (HVAC, plumbing, fire protection), electrical, and instrumentation) system.
4. Evaluation the overall performance of the system,
5. Update to the existing asset condition profiles, and
6. Assessment of the rate of deterioration of SPS assets.
7. DESIGN CONSULTANT shall work with GWA Operations and Maintenance to document the operational condition of all pump station existing valves including plug valves, gate valves and check valves.

(3) Deliverables:

(a) One Draft and one Final SPS Condition Assessment Report presenting the collected field data and providing conclusions on the condition of the SPS and recommendations for corrective action to be incorporated into the design.

(b) Three weeks are assumed for GWA to review the Draft SPS Condition Assessment Report. Adjudicated comments to be addressed and incorporated into the final report.

(c) Four hard copies and a digital copy of the deliverables listed above was assumed.

(d) Provide deliverables in accordance with GWA Guidelines.

(4) Exclusions:

(a) Confined space entry

(b) Inspections of pipes and manholes conducted in accordance with NASSCO standards.

(c) Pot-holing services

(d) Rainfall, flow, pressure and monitoring.

(e) Support studies (e.g., biological surveys, cultural resource surveys, etc.) for NEPA documentation.

(5) Notwithstanding anything in this Agreement, the DESIGN CONSULTANT shall have no responsibility for the discovery, presence, handling, removal, or disposal of, or exposure of persons to hazardous materials in any form, at the Fujita SPS.

b. Subtask 2.3 - Design Alternatives Report

(1) The DESIGN CONSULTANT shall incorporate the rehabilitation of the Fujita SPS into the Design Alternatives Report (DAR) for the redundant FM that includes, as a minimum, the following information:

(a) A list of all data gathered

(b) A summary of findings and conclusions from SPS Condition Assessment

AECOM

(c) The alternatives analysis will coincide with the redundant force main modifications and to consider:

1. Additional investigation requirements
2. Cultural resource and historical survey requirements
3. Construction cost estimates
4. Construction schedules
5. Construction implementation (equipment staging, traffic control, sewer bypass requirements, pump station modifications, etc.)
6. Land acquisition requirements
7. Permitting requirements

(2) At least (2) design alternatives, with a recommendation from the DESIGN CONSULTANT. GWA will decide on the final design alternative. As part of the SRF Grant conditions, the DAR will be forwarded to USEPA for concurrence.

(3) Deliverable:

(a) Draft and Final Design Alternatives Report

(b) Three weeks are assumed for GWA to review the Draft SPS Condition Assessment Report. Adjudicated comments to be addressed and incorporated into the final report.

(c) Four hard copies and a digital copy of the deliverables listed above was assumed.

(d) Provide deliverables in accordance with GWA Guidelines.

c. Subtask 2.4 – Basis of Design Report

Develop a Basis of Design (BOD) Report that documents all disciplines design basis, engineering calculation, control narrative and supportive data for this modification to rehabilitate the Fujita SPS, to be submitted for review and approval by GWA. Design will be in accordance with the applicable standards noted above. The Basis of Design Report at the minimum shall address the following:

(1) PROJECT objectives discussed in Section I.

(2) Finalize equipment and instrument list.

(3) Civil and Process Mechanical

(a) Review latest Water Resource Master Plan updates

(b) Identify current and projected flow rates

(c) Perform hydraulic calculations and provide all hydraulic information, including pump curves and system curves using Flygt or Sulzer pumps. Ensure adequate hydraulic capacity for flow and total dynamic head.

(d) Maintain pump station operations during rehabilitation and connecting the redundant force main and valves

(e) Ease of redirecting flow between existing and redundant force mains

(f) Surrounding infrastructure, utility, and easement considerations

AECOM

1. Consider system isolation capability.

(g) Plan and profiles, by-pass pumping (if required), and traffic control

(h) Construction Cost Estimates - Develop a Class 4 cost estimate according to the AACE International Cost Estimates Classification System. All cost will be in current US dollars and escalated to the estimated midpoint of construction.

(4) Structural

(a) Conformance with seismic and wind loads for Guam

(b) Perform structural design and calculations for modifications to the pump station structure, support systems and containments, as required.

(c) Consider material for wet well longevity, with respect to environmental conditions (e.g., water table elevation and groundwater chloride content).

(d) Review lifting system (hoists, beams, etc.) within the pump station to ensure it can safely lift pumps for maintenance purposes.

(5) Electrical and Instrumentation and Control

(a) Consider components that will improve operation and maintenance efficiency, such as soft starters, variable frequency drive, or solar lighting for the site.

(b) Ensure the pump station has adequate instrumentation, such as flow meter, level sensors and alarms.

(c) Designer shall ensure interlock between instrumentation and equipment so that the pump station can be operated as HAND-OFF-AUTO.

(d) Designer shall ensure 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 to the GWA control center or via telephone text of any high-level conditions, pump failures or power outage. Alarms shall be audible and visible alarm.

(e) SCADA shall supply daily operating hours, number of pump starts, wet well levels, flow (instantaneous and average), discharge pressure, high water level alarm, drywell flooding, power failure, low battery, remote signal failure.

(f) Design surveillance camera to monitor project site.

(g) DESIGN CONSULTANT shall specify appropriate level control devices.

(h) Analyze the existing electrical system in the area to determine if an electrical system upgrade is required.

(i) Designer shall review and ensure site is equipped with an onsite generator with sound enclosure and fuel containment, along with 5 days of fuel storage in an above-ground tank.

(j) Perform load calculations to ensure proper size of standby generator.

AECOM

(k) Ensure backup power to lighting, motors, SCADA system, instrumentation, as well as other items necessary for the pump station operations

(l) Include provisions for the location, housing and operations of a SCADA system.

(m) Pump station must have a continuous standby power supply in the form of a fuel-operated standby generator system. Design this standby generator system as part of the Pump Station to supply the same amount of electrical power to the Pump Station (including all pumps, controls, alarms, and support systems) as supplied by GPA.

(n) Ensure the Pump Station has adequate electrical panels, interior and exterior lightings, Automatic Transfer switch and power supply.

(6) Architectural

(a) Consider replacement of existing doors, windows, and louvers.

(b) Consider appropriate signage for the SPS.

(c) Consider cleaning and painting of the SPS structures.

(7) Mechanical (HVAC, plumbing, fire protection)

(a) Design for air conditioning in the electrical and control room.

(b) Design proper ventilation at all other SPS spaces.

(c) Plumbing

1. Ensure potable water washdown, and water spigots with lock.

(d) Fire protection

1. Consider appropriately sized fuel tank to meet PROJECT objectives.

2. Design for not having a fuel day tank.

(8) Corrosion Protection

(a) Ensure replacement or rehabilitation of all corroded equipment relating to the wet-well and pump operations including valves and control panels.

(9) Permitting

(a) This scope of work assumes that USEPA will prepare a Categorical Exclusion for NEPA compliance and that no local environmental documentation or other NEPA documentation will be required. NEPA permitting support is excluded from this modification.

(10) Deliverables:

(a) Draft and Final Basis of Design Report (BODR)

(b) Pre-Design workshop to be conducted with GWA within three weeks to review the Draft BODR's approach, methodologies, findings, and obtain concurrence on design basis.

(c) Four hard copies and a digital copy of the deliverables listed above was assumed.

AECOM

(d) Provide deliverables in accordance with GWA Guidelines

3. TASK 3 – DESIGN

Task 3 will be on a lump sum basis. After the final BODR is approved, the DESIGN CONSULTANT shall perform the following tasks to achieve the Final Design documents. Design shall conform with GWA Design Guidelines.

a. Subtask 3.1 – Meetings

The DESIGN CONSULTANT shall conduct monthly design review meetings with GWA to review the design process, each design discipline status and issues, and project schedule. And conduct design workshops at each milestone of development at 30%, 60%, 90%, and 100%. Prepare and submit all design review meeting agendas and minutes to GWA project team.

b. Subtask 3.2 – Permitting

DESIGN CONSULTANT shall incorporate permitting requirements for services under this modification during design and provide support to obtain the required construction permits signatures and approvals ready for construction . In addition, the DESIGN CONSULTANT shall:

(1) Identify all permits required.

(2) Assist GWA in preparing and obtaining all preconstruction permits. Permitting agencies may include the Coastal Management, Department of Parks and Recreation, Department of Public Works, Guam Board of Registration for Professional Engineers, Architects and Land Surveyors, Guam Environmental Protection Agency, Guam Power Authority, Professional Engineering and Architects United States Army Corp of Engineers, and the United States Fish and Wildlife Service.

(3) Comply with the NEPA in accordance with grant conditions.

(a) This scope of work assumes that USEPA will prepare a Categorical Exclusion for NEPA compliance, and that no local environmental documentation will be required. If USEPA later determines that a NEPA Environmental Assessment would be required (or an Environmental Impact Assessment is required by GEPA), this scope of work can be modified as necessary to provide additional documentation for an additional fee.

(4) Additional topographic survey to be captured the entire SPS site.

(5) The scope of work assumes archival research and preparation of an Archaeological Monitoring and Data Recovery Plan (AMDRP) in the original scope of work would cover the work under this modification.

(6) Coordinate with relevant agencies such as the GEPA, DPW, etc. at the 30%, 60%, and 90% submittals. This includes submitting design documents and maintaining communication throughout the duration of the PROJECT and incorporating any relevant regulation requirements in the design.

(7) Exclusions:

(a) Permit fees; to be paid by the CONTRACTOR.

AECOM

c. Subtask 3.3 - Design Documents

DESIGN CONSULTANT shall:

(1) Prepare progress (30%) plans, specifications, Class 3, (AACE) construction cost estimate, and contract documents, conforming to the GWA and Program Management Design Guidelines as to what should be included in this submittal. Additionally, include profiles, by-pass pumping (if required), and traffic control. Two hard copies of the design documents 2 sets of 11”x17” sized and a digital copy of the design documents are required.

(2) Allow three weeks for GWA to review 30% design. Incorporate adjudicated comments into the design and submit a formal response to each comment.

(3) Prepare progress (60%) plans, specifications, Class 2, (AACE) construction cost estimate, and contract documents, conforming to the GWA and Program Management Design Guidelines as to what should be included in this submittal. Additionally, include profiles, by-pass pumping (if required), and traffic control. Four hard copies of the design documents (2 sets of 36”x24” sized drawings and 2 sets of 11”x17” sized drawings) and a digital copy of the design documents are required.

(4) Allow three weeks for GWA to review 60% design. Incorporate adjudicated comments into the design and submit a formal response to each comment.

(5) Prepare progress (90%) plans, specification, Class 1 (AACE) construction cost estimate, and contract documents, conforming to the GWA Design Guidelines. Three hard copies of the design documents (1 sets of 36”x24” sized drawings and 2 sets of 11”x17” sized drawings) and a digital copy of the design documents are required. A copy of the documents will be provided to USEPA for review.

(6) Allow three weeks for GWA to review 90% design. Incorporate adjudicated comments into the design and submit a formal response to each comment.

(7) Prepare final (100%) “Issued for Bid” plans, specifications and contract documents, conforming to GWA and Program Management Design Guidelines. Four hard copies of the design documents (2 sets of 36”x24” sized drawings and 2 sets of 11”x17” sized drawings) an AutoCAD 2019, 2020 GWA GIS Mapping and a digital copy of the design documents are required. A copy of the documents will be provided to USEPA for review.

(8) Follow all laws of Guam relative to procurements.

(9) Utilize GWA’s latest procurement templates and ensure that no conflict exists between the procurement templates and any material or subject in the documents being produced. GWA’s templates will control in the event of conflict such as between liquidated damages provisions, payment terms, etc.

(10) Prepare permit applications for all local authorities, highway departments, and other pipeline utilities.

(11) Provide digital copies of the final design documents

AECOM

(12) All cost estimates shall conform to the guidelines of the AACE. During the design process, DESIGN CONSULTANT shall immediately notify the GWA when any design decision causes a significant cost increase to the PROJECT.

(13) Provide deliverables in accordance with GWA Guidelines.

(14) One hardcopy set of submittals and an electronic copy shall be submitted for all deliverables, not previously specified.

(15) Final design drawings shall also be submitted via electronic PDF and AutoCAD 2019 or earlier version.

(16) The design will not be considered complete until all comments have been addressed and the design is completed and submitted to GWA for final approval.

(17) It is anticipated that GWA will use a design-bid-build procurement method. Construction documents must be finalized prior to commencement of the formal bidding process, which has a target start date of January 2022.

4. TASK 4 - CONTRACT BIDDING SUPPORT

Task 4 will be on a time and materials basis. The DESIGN CONSULTANT shall provide the following services:

a. Pre-Bid Meeting agenda and sign-in sheets, coordinate and facilitate the meeting with GWA, and record meeting minutes.

b. Compile request for clarification, provide input and prepare addenda as needed

c. Attend bid evaluation conference

d. Review, evaluate and certify bid tabulations

e. Make recommendation for construction contract award.

5. TASK 5 - ENGINEERING SUPPORT DURING CONSTRUCTION

Task 5 will be on a time and materials basis.

The DESIGN CONSULTANT shall:

a. Prepare of final (100%) “Issued for Construction” conformed plans and specifications incorporating addenda and changes during the bid phase with the CONSTRUCTION MANAGER (CM).

b. Assist in preconstruction and partnering conferences.

c. Attend weekly progress meetings, if requested by the CM or GWA.

(1) Ten (10) progress meetings are included in this scope of work If additional meetings are required, a separate scope and fee will be provided.

d. Review contractor submittals (e.g., product data, shop drawings, design calculations, samples, test results, and other data) required to be submitted by the contractor for conformance with contract documents, if requested by the CM.

(1) Twenty (20) submittal reviews are included in this scope of work. It is assumed each submittal will have 3 reviews iterations. If additional submittals are required for review, a separate scope and fee will be provided.

AECOM

e. Evaluate substitution requests to determine acceptability of substitute materials and equipment proposed by contractor, if requested by the CM.

   (1) Five (5) substitution request reviews are included in this scope of work. It is assumed each substitution request will have 3 reviews iterations. If additional substitution requests are required for review, a separate scope and fee will be provided.

f. Site visits by qualified personnel to ensure construction complies with basis of design is excluded from the scope of work and assumed to be provided by others (e.g., CM).

g. Review requests for additional information, change orders, schedule of values, and contractor's schedule and provide responses/comments, if requested by the CM.

   (1) Fifteen (15) reviews are included in this scope of work. If additional reviews are required, a separate scope and fee will be provided.

h. Operational Testing and Performance Period

   (1) DESIGN CONSULTANT to provide technical support to assist GWA in ensuring the Construction Contractor completes the operational testing and performance period successfully. Ten (10) requests for reviews are included in this SOW. Travel is excluded in this scope item.

      (a) **Operational Testing.** Contractor to operate and monitor the Fujita SPS for five (5) consecutive days. During operational testing, Contractor shall demonstrate SPS operation on automatic control without equipment or control failure and with sewage tie-in. The Pump Station mechanical equipment, electrical/control systems, and emergency power equipment shall operate without failure during the operational testing."

      (b) **Performance Period.** For a Pump Station to be considered operational and successfully complete the performance period, all Pump Station equipment and operational systems, including all control, alarm, and SCADA systems, shall operate without failure for six (6) months and shall not result in any SSOs caused by a Pump Station failure within that time period.

i. Force Main Conditional Assessment during Construction

   (1) Conduct a condition assessment of the existing Fujita SPS during the installation of the redundant FM.

   (2) The condition assessment will be performed in one phase. It is assumed safe access to the full circumference of the existing FM is to be provided by the Construction Contractor. It is assumed a total of five (5) locations will be assessed. All permitting, excavation, traffic control, dewatering, maintenance of the access pit, backfill and restoration of surface features shall be the responsibility of the Construction Contractor.

   (3) The condition assessment shall include photograph documentation, ultrasonic wall thickness measurements, pit depth measurements, soil sampling from each assessment location, and a Draft and Final report documenting the assessment results, condition rating, recommendations for repair, rehabilitation or replacement.

j. Exclusions:

   (1) Perform preliminary and final inspections and submit punch list. To be provided by the CM.

AECOM

(2) Provide Final Record Drawings based on marked-up construction drawings. To be provided by the Contractor.

(3) Archaeological services during construction are excluded from the scope of work.

k. 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 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. The DESIGN CONSULTANT 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. DESIGN CONSULTANT shall not have the authority to stop the work of the construction contractor. In no event shall DESIGN CONSULTANT 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 of them to carry out construction work under contract with GWA.

APPENDIX D.2: FEE DETAIL

Fujita Sewer Pump Station Rehabilitation **Guam Waterworks Authority**

		Personnel Hours								Budget					
	Rate ($/HR)	$288	$269	$222	$201	$187	$112	$86							
	Task Description	Principal	Engineer IV	Engineer III	Engineer II	Engineer I	CADD Technician	Clerical	Total Hours	Labor	Subconsultants	Other Direct Costs	Taxes	Total	Notes/Assumptions
Task 1 - Project Management (Lump Sum)															
1.1	**Project Management Plan**	-	-	4	-	-	-	16	20	$ 2,264.00	$ -	$ 6.60	$ 119.43	$ 2,390.03	Update for new SOW
1.2	**Project Schedule**	-	-	4	-	-	-	-	4	$ 888.00	$ -	$ 13.20	$ 47.40	$ 948.60	Update for new SOW
1.3	**Progress Reports and Administration**	4	-	21	-	-	-	32	57	$ 8,566.00	$ -	$ 9.24	$ 451.06	$ 9,026.30	Assumed additional 7 months from Pre-design and Design for new SOW. Include contract administration, budget tracking, invoicing, etc.
1.4	**Regular Progress Meetings**	-	-	28	-	-	-	-	28	$ 6,216.00	$ -	$ 15.40	$ 327.77	$ 6,559.17	Assumed additional 7 monthly meetings for pre-design and design phase. Meetings for permitting coordination, design review, bidding support, and construction support are included in separate tasks.
	Subtotal	**4**	**-**	**57**	**-**	**-**	**-**	**48**	**109**	**$ 17,934.00**	**$ -**	**$ 44.44**	**$ 945.67**	**$ 18,924.11**	
Task 2 - Preliminary Design															
2.1	**Research and Field Investigation**	36	-	72	52	16	24	-	200	$ 42,484.00	$ 2,000.00	$ 15,439.62	$ 3,151.98	$ 63,075.60	
2.1.1	Review SPS Data	4	-	8	20	16	-	-	48	$ 9,940.00	$ 600.00	$ 1,000.50	$ 607.03	$ 12,147.53	Review data applicable to SPS Rehabilitation to include Civil, Architectural, Structural, Process Mechanical, Building Mechanical, Electrical and Instrumentation. Subconsultant: WMES for mechanical services.
2.1.2	Additional FM Condition Assessment	-	-	32	-	-	-	-	32	$ 7,104.00	$ -	$ 36.52	$ 375.59	$ 7,516.11	Identify inoperable valves; determine appropriate corrsion protective measures.
2.1.3	SPS Condition Assessment	32	-	32	32	-	24	-	120	$ 25,440.00	$ 1,400.00	$ 14,402.60	$ 2,169.36	$ 43,411.96	Includes travel for Civil/Process, Structural, Electrical for 4 days, site visits and interviews with GWA staff. Subconsultant: WMES for mechanical services.
2.2	**Design Alternatives Report**	**6**	**16**	**56**	**80**	**16**	**-**	**16**	**190**	**$ 38,912.00**	**$ -**	**$ 488.40**	**$ 2,072.46**	**$ 41,472.86**	
2.2.1	Hydraulic Modeling	-	16	48	-	-	-	-	64	$ 14,960.00	$ -	$ 103.40	$ 792.33	$ 15,855.73	Additional modeling effort. Assumed maximum of 3 scenarios for SPS Rehab.
2.2.2	Alternatives Analysis and Report	6	-	8	80	16	-	16	126	$ 23,952.00	$ -	$ 385.00	$ 1,280.13	$ 25,617.13	Include up to 3 alternatives for analysis
2.4	**Basis of Design Report**	**10**	**16**	**26**	**34**	**26**	**-**	**24**	**136**	**$ 26,716.00**	**$ 30,735.00**	**$ 3,951.96**	**$ 3,229.80**	**$ 64,632.76**	**Improvements along existing FM alignment; Includes Surveying, Geotech, Archaeological Monitoring.**
2.4.1	Topographic Survey	-	-	8	-	-	-	-	8	$ 1,776.00	$ 10,250.00	$ 1,030.28	$ 686.76	$ 13,743.04	Additional survey for SPS site rehabilitation. Subconsultant: Guam Surveyor
2.4.2	Geotechnical Investigation and Report	-	8	-	8	-	-	-	16	$ 3,760.00	$ 15,485.00	$ 1,555.10	$ 1,094.09	$ 21,894.19	Subconsultant: Geo-Engineering & Testing; Replaced three 15-ft borings with 40-ft deep borings Includes permitting, traffic control, drilling, lab testing, and report. Excludes Archaeological Monitoring.
2.4.3	Archaeological Monitoring for Geotech Investigation	-	-	-	-	-	-	-	-	$ -	$ 3,000.00	$ 334.98	$ 175.42	$ 3,510.40	Subconsultant: SEARCH; Assumed SHPO to require support to Geotech; additional 3 work days.
2.4.4	Engineering Basis of Design	8	8	16	24	24	-	16	96	$ 18,696.00	$ 1,400.00	$ 956.20	$ 1,107.35	$ 22,159.55	Includes Civil, Struc, Mechanical, Process, Elec, and I&C disciplines. Subconsultant: WMES for mechanical services.
2.4.5	Pre-Design Workshop	2		2	2	2	-	8	16	$ 2,484.00	$ 600.00	$ 75.40	$ 166.18	$ 3,325.58	1 virtual meeting, additional team for SPS Rehab; no travel. Subconsultant: WMES for mechanical services.
	Subtotal	**52**	**32**	**154**	**166**	**58**	**24**	**40**	**526**	**$ 108,112.00**	**$ 32,735.00**	**$ 19,879.98**	**$ 8,454.24**	**$ 169,181.22**	
Task 3 - Design (Lump Sum)															
3.1	**Design Meetings and Workshops**	6	-	6	15	6	-	3	36	$ 7,455.00	$ -	$ 79.20	$ 396.30	$ 7,930.50	Additional hours for SPS Rehabilitation SOW. Assumed 3 design workshops at 2 hours; 60%, 90%, 100%; no travel.
3.2	**Permitting**	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Includes support for USEPA CATEX preparation and permit agency design reviews and meetings.
3.2.1	Permit Agency Review	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Covered under Original SOW
3.2.2	NEPA CATEX Support	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Covered under Original SOW
3.2.3	Meetings and Coordination with local and federal agencies	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Covered under Original SOW

APPENDIX D.2: FEE DETAIL

Fujita Sewer Pump Station Rehabilitation **Guam Waterworks Authority**

		Personnel Hours								Budget					
	Rate ($/HR)	$288	$269	$222	$201	$187	$112	$86							
Task Description		Principal	Engineer IV	Engineer III	Engineer II	Engineer I	CADD Technician	Clerical	Total Hours	Labor	Subconsultants	Other Direct Costs	Taxes	Total	Notes/Assumptions
3.3	**Design**	149	135	52	367	334	530	88	1,655	$ 293,924.00	$ 10,000.00	$ 3,285.25	$ 16,159.21	$ 323,368.46	
3.3.1	**30% Design**	**43**	**25**	**22**	**123**	**110**	**159**	**32**	**514**	**$ 89,846.00**	**$ 3,000.00**	**$ 369.74**	**$ 4,903.15**	**$ 98,118.89**	Includes Civil, Arch, Strue, Mechanical, Process, Elec, and I&C disciplines.
3.3.1.1	Civil	-	7	-	7	29	40	-	83	$ 13,193.00	$ -	$ 59.84	$ 697.10	$ 13,949.94	
3.3.1.2	Architectural	-	7	-	7	24	37	-	75	$ 11,922.00	$ -	$ -	$ 627.10	$ 12,549.10	
3.3.1.3	Structural	2	3	-	9	-	18	-	32	$ 5,208.00	$ -	$ -	$ 273.94	$ 5,481.94	
3.3.1.4	Process	-	4	-	4	17	24	-	49	$ 7,747.00	$ -	$ -	$ 407.49	$ 8,154.49	
3.3.1.5	Mechanical	-	-	2	-	-	-	-	2	$ 444.00	$ 3,000.00	$ 300.00	$ 196.93	$ 3,940.93	Subconsultant: WMES for mechanical services.
3.3.1.6	Electrical	16	-	-	26	-	26	-	68	$ 12,746.00	$ -	$ -	$ 670.44	$ 13,416.44	
3.3.1.7	Instrumentation	5	-	-	14	-	14	-	33	$ 5,822.00	$ -	$ -	$ 306.24	$ 6,128.24	
3.3.1.8	Specifications	8		8	32	16	-	24	88	$ 15,568.00	$ -	$ 6.60	$ 819.22	$ 16,393.82	
3.3.1.9	Cost Estimate	4		4	12	24	-	-	44	$ 8,940.00	$ -	$ 3.30	$ 470.42	$ 9,413.72	
3.3.1.9	QA/QC	8	4	8	12	-	-	8	40	$ 8,256.00	$ -	$ -	$ 434.27	$ 8,690.27	
3.3.2	**60% Design**	**43**	**45**	**12**	**99**	**94**	**159**	**24**	**476**	**$ 84,502.00**	**$ 3,000.00**	**$ 728.01**	**$ 4,640.90**	**$ 92,870.91**	Includes Civil, Strue, Process, Elec, and I&C disciplines.
3.3.2.1	Civil	-	7	-	7	29	40	-	83	$ 13,193.00	$ -	$ 155.21	$ 702.12	$ 14,050.33	
3.3.2.2	Architectural	-	7	-	7	24	37	-	75	$ 11,922.00	$ -	$ -	$ 627.10	$ 12,549.10	
3.3.2.3	Structural	2	3	-	9	-	18	-	32	$ 5,208.00	$ -	$ -	$ 273.94	$ 5,481.94	
3.3.2.4	Process	-	4	-	4	17	24	-	49	$ 7,747.00	$ -	$ -	$ 407.49	$ 8,154.49	
3.3.2.5	Mechanical	-	-	-	-	-	-	-	-	$ -	$ 3,000.00	$ 300.00	$ 173.58	$ 3,473.58	Subconsultant: WMES for mechanical services.
3.3.2.6	Electrical	16	-	-	26	-	26	-	68	$ 12,746.00	$ -	$ -	$ 670.44	$ 13,416.44	
3.3.2.7	Instrumentation	5	-	-	14	-	14	-	33	$ 5,822.00	$ -	$ -	$ 306.24	$ 6,128.24	
3.3.2.8	Specifications	8	8	8	8	8	-	24	64	$ 11,400.00	$ -	$ 264.00	$ 613.53	$ 12,277.53	
3.3.2.9	Cost Estimate	4	8	4	8	16	-	-	40	$ 8,792.00	$ -	$ 8.80	$ 462.92	$ 9,263.72	
3.3.2.10	QA/QC	8	8	-	16	-	-	-	32	$ 7,672.00	$ -	$ -	$ 403.55	$ 8,075.55	
3.3.3	**90% Design**	**43**	**45**	**12**	**99**	**94**	**159**	**24**	**476**	**$ 84,502.00**	**$ 3,000.00**	**$ 839.33**	**$ 4,646.75**	**$ 92,988.08**	Includes Civil, Strue, Process, Elec, and I&C disciplines.
3.3.3.1	Civil	-	7	-	7	29	40	-	83	$ 13,193.00	$ -	$ 178.53	$ 703.34	$ 14,074.87	
3.3.3.2	Architectural	-	7	-	7	24	37	-	75	$ 11,922.00	$ -	$ -	$ 627.10	$ 12,549.10	
3.3.3.3	Structural	2	3	-	9	-	18	-	32	$ 5,208.00	$ -	$ -	$ 273.94	$ 5,481.94	
3.3.3.4	Process	-	4	-	4	17	24	-	49	$ 7,747.00	$ -	$ -	$ 407.49	$ 8,154.49	
3.3.3.5	Mechanical	-	-	-	-	-	-	-	-	$ -	$ 3,000.00	$ 300.00	$ 173.58	$ 3,473.58	Subconsultant: WMES for mechanical services.
3.3.3.6	Electrical	16	-	-	26	-	26	-	68	$ 12,746.00	$ -	$ -	$ 670.44	$ 13,416.44	
3.3.3.7	Instrumentation	5	-	-	14	-	14	-	33	$ 5,822.00	$ -	$ -	$ 306.24	$ 6,128.24	
3.3.3.8	Specifications	8	8	8	8	8	-	24	64	$ 11,400.00	$ -	$ 352.00	$ 618.16	$ 12,370.16	
3.3.3.9	Cost Estimate	4	8	4	8	16	-	-	40	$ 8,792.00	$ -	$ 8.80	$ 462.92	$ 9,263.72	
3.3.3.10	QA/QC	8	8	-	16	-	-	-	32	$ 7,672.00	$ -	$ -	$ 403.55	$ 8,075.55	
3.3.4	**Final Design**	**20**	**20**	**6**	**46**	**36**	**53**	**8**	**189**	**$ 35,074.00**	**$ 1,000.00**	**$ 1,348.17**	**$ 1,968.41**	**$ 39,390.58**	Includes Civil, Strue, Process, Elec, and I&C disciplines.
3.3.4.1	Civil	-	2	-	2	10	13	-	27	$ 4,266.00	$ -	$ 794.97	$ 266.21	$ 5,327.18	
3.3.4.2	Architectural	-	2	-	2	8	12	-	24	$ 3,780.00	$ -	$ -	$ 198.83	$ 3,978.83	
3.3.4.3	Structural	1	1	-	3	-	6	-	11	$ 1,832.00	$ -	$ -	$ 96.36	$ 1,928.36	
3.3.4.4	Process	-	1	-	1	6	8	-	16	$ 2,488.00	$ -	$ -	$ 130.87	$ 2,618.87	
3.3.4.5	Mechanical	-	-	-	-	-	-	-	-	$ -	$ 1,000.00	$ 100.00	$ 57.86	$ 1,157.86	Subconsultant: WMES for mechanical services.
3.3.4.6	Electrical	5	-	-	9	-	9	-	23	$ 4,257.00	$ -	$ -	$ 223.92	$ 4,480.92	
3.3.4.7	Instrumentation	2	-	-	5	-	5	-	12	$ 2,141.00	$ -	$ -	$ 112.62	$ 2,253.62	
3.3.4.8	Specifications	2	2	4	4	4	-	8	24	$ 4,242.00	$ -	$ 440.00	$ 246.27	$ 4,928.27	
3.3.4.9	Cost Estimate	2	4	2	4	8	-	-	20	$ 4,396.00	$ -	$ 13.20	$ 231.92	$ 4,641.12	
3.3.4.10	QA/QC	8	8	-	16	-	-	-	32	$ 7,672.00	$ -	$ -	$ 403.55	$ 8,075.55	
3.3.5	**Emergency Operations**	**4**	**8**	**16**	**24**	**24**	**16**	**-**	**92**	**$ 17,960.00**	**$ -**	**$ 147.25**	**$ 952.44**	**$ 19,059.69**	
3.3.5.1	Emergency Action Plans	4	4	16	24	-	16	-	64	$ 12,396.00	$ -	$ 147.25	$ 659.77	$ 13,203.02	
3.3.5.2	Safety Placards	-	4	-	-	24	-	-	28	$ 5,564.00	$ -	$ -	$ 292.67	$ 5,856.67	
	Subtotal	**159**	**143**	**74**	**406**	**364**	**546**	**91**	**1,783**	**$ 319,339.00**	**$ 10,000.00**	**$ 3,511.70**	**$ 17,507.95**	**$ 350,358.65**	

APPENDIX D.2: FEE DETAIL

Fujita Sewer Pump Station Rehabilitation **Guam Waterworks Authority**

		Personnel Hours								Budget					
	Rate ($/HR)	$288	$269	$222	$201	$187	$112	$86							
Task Description		Principal	Engineer IV	Engineer III	Engineer II	Engineer I	CADD Technician	Clerical	Total Hours	Labor	Subconsultants	Other Direct Costs	Taxes	Total	Notes/Assumptions
Task 4 - Bid Support (T&M)															
4.1	Prebid Conference	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Covered under Original SOW.
4.2	Addenda/IFB Drawings	4	6	8	8	8	24	24	82	$ 12,398.00	$ -	$ 52.25	$ 654.88	$ 13,105.13	Assumed issuance of bid addendum for Contract Documents
4.3	Bid Review	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Covered under Original SOW.
	Subtotal	**4**	**6**	**8**	**8**	**8**	**24**	**24**	**82**	**$ 12,398.00**	**$ -**	**$ 52.25**	**$ 654.88**	**$ 13,105.13**	
Task 5 - Engineering Support During Construction (T&M)															
5.1	Project Management and Close-out	-	-	20	-	-	-	-	20	$ 4,384.50	$ -	$ -	$ 230.62	$ 4,615.12	Additional hours to coordinate additional support.
5.2	Attend CM Meetings, if requested	-	-	10	-	-	-	-	10	$ 2,220.00	$ -	$ -	$ 116.77	$ 2,336.77	Assumed 10 progress meetings
5.3	Shop Drawing/Submittal Review	8	-	-	28	4	-	-	40	$ 8,680.00	$ 800.00	$ 207.88	$ 509.58	$ 10,197.46	Assumed 20 submittal reviews.
5.4	Substitution Review	4	-	-	8	2	-	-	14	$ 3,134.00	$ 400.00	$ 147.25	$ 193.63	$ 3,874.88	Assumed 5 substitution reviews.
5.5	Compliance site visit, if requested.	-	-	-	-	-	-	-	-	$ -	$ -	$ -	$ -	$ -	Excluded from SOW
5.6	RFI/RFC	6	-	-	20	4	-	-	30	$ 6,496.00	$ 800.00	$ 302.75	$ 399.69	$ 7,998.44	Assumed 15 RFI reviews.
5.7	Operational Testing and Performance Period Support	3	-	27	-	-	-	-	30	$ 6,858.00	$ -	$ 74.25	$ 364.64	$ 7,296.89	Assumed 10 reviews.
5.8	Force Main Condition Assessment	-	-	16	-	-	-	-	16	$ 3,552.00	$ 75,000.00	$ 182.60	$ 4,141.44	$ 82,876.04	Assumed assessment of existing FM exposed during construction at 5 locations.
	Subtotal	**21**	**-**	**73**	**56**	**10**	**-**	**-**	**160**	**$ 35,324.50**	**$ 77,000.00**	**$ 914.73**	**$ 5,956.38**	**$ 119,195.61**	
	Total	**240**	**181**	**366**	**636**	**440**	**594**	**203**	**2,660**	**$ 493,107.50**	**$ 119,735.00**	**$ 24,403.10**	**$ 33,519.12**	**$ 670,764.72**	

Lump Sum	**$**	**538,463.98**
T&M	**$**	**132,300.74**
Total	**$**	**670,764.72**

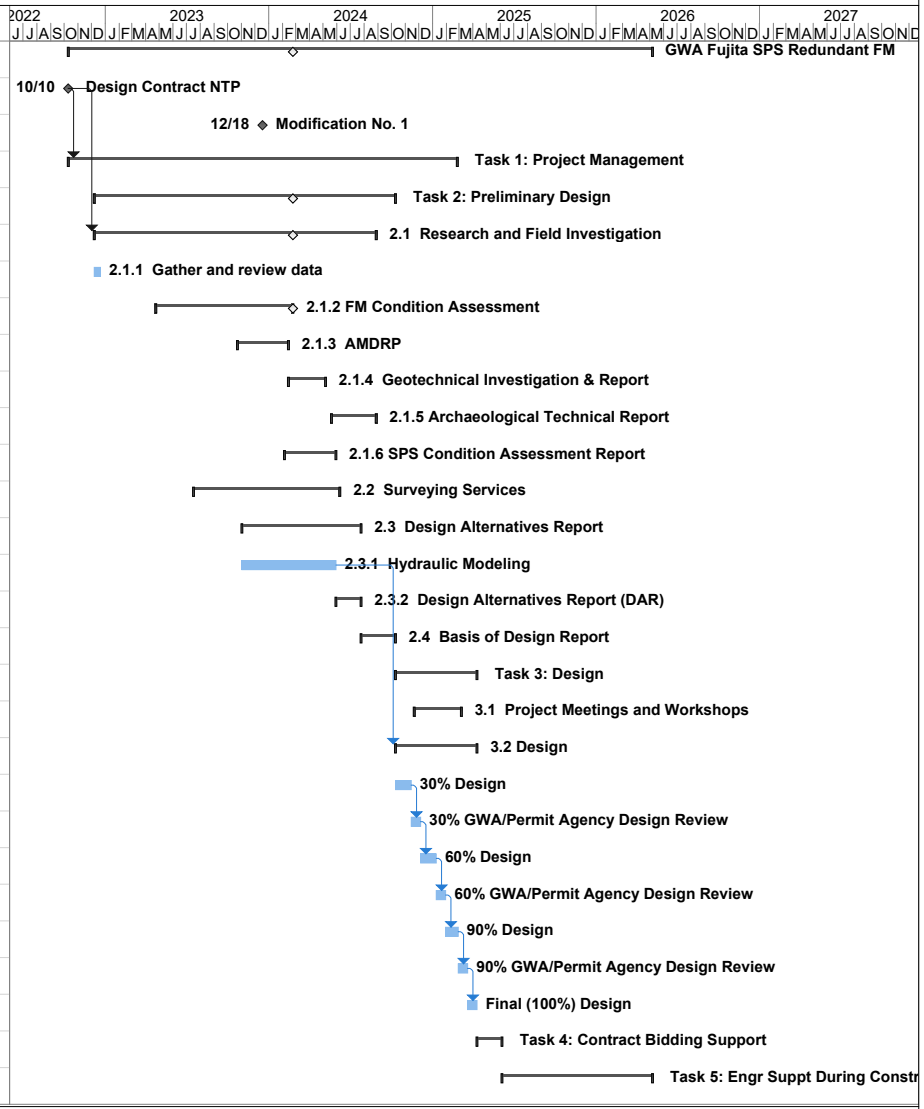
AECOM (Prime)	$	551,029.72
All Subs	$	119,735.00
Guam Surveyor	$	10,250.00
V&A	$	75,000.00
APEC	$	-
Geo-Engineering & Testing	$	15,485.00
SEARCH	$	3,000.00
WMES	$	16,000.00

AECOM

Guam Waterworks Authority
Fujita Sewage Pump Station Redundant Force Main

Appendix D.3 Project Schedule (Revised as of 11/9/23)

ID	Task Name	Duration	Start	Finish
1	**GWA Fujita SPS Redundant FM**	**186.6 wks**	**Mon 10/10/22**	**Wed 5/6/26**
2	Design Contract NTP	0 days	Mon 10/10/22	Mon 10/10/22
3	Modification No. 1	0 days	Mon 12/18/23	Mon 12/18/23
4	**Task 1: Project Management**	**124.2 wks**	**Mon 10/10/22**	**Mon 2/24/25**
7	**Task 2: Preliminary Design**	**96.2 wks**	**Wed 12/7/22**	**Wed 10/9/24**
8	2.1 Research and Field Investigation	90 wks	Wed 12/7/22	Tue 8/27/24
9	2.1.1 Gather and review data	2 wks	Wed 12/7/22	Tue 12/20/22
10	2.1.2 FM Condition Assessment	44 wks	Mon 4/24/23	Fri 2/23/24
18	2.1.3 AMDRP	16.4 wks	Mon 10/23/23	Tue 2/13/24
22	2.1.4 Geotechnical Investigation & Report	11.8 wks	Wed 2/14/24	Mon 5/6/24
30	2.1.5 Archaeological Technical Report	14.4 wks	Mon 5/20/24	Tue 8/27/24
34	2.1.6 SPS Condition Assessment Report	16.6 wks	Mon 2/5/24	Wed 5/29/24
42	**2.2 Surveying Services**	**47 wks**	**Mon 7/17/23**	**Fri 6/7/24**
45	**2.3 Design Alternatives Report**	**38 wks**	**Thu 11/2/23**	**Wed 7/24/24**
46	2.3.1 Hydraulic Modeling	30 wks	Thu 11/2/23	Wed 5/29/24
47	**2.3.2 Design Alternatives Report (DAR)**	**8 wks**	**Thu 5/30/24**	**Wed 7/24/24**
53	**2.4 Basis of Design Report**	**11 wks**	**Thu 7/25/24**	**Wed 10/9/24**
57	**Task 3: Design**	**26 wks**	**Thu 10/10/24**	**Wed 4/9/25**
58	3.1 Project Meetings and Workshops	15 wks	Wed 11/20/24	Wed 3/5/25
62	3.2 Design	26 wks	Thu 10/10/24	Wed 4/9/25
63	30% Design	5 wks	Thu 10/10/24	Wed 11/13/24
64	30% GWA/Permit Agency Design Review	3 wks	Thu 11/14/24	Wed 12/4/24
65	60% Design	5 wks	Thu 12/5/24	Wed 1/8/25
66	60% GWA/Permit Agency Design Review	3 wks	Thu 1/9/25	Wed 1/29/25
67	90% Design	4 wks	Thu 1/30/25	Wed 2/26/25
68	90% GWA/Permit Agency Design Review	3 wks	Thu 2/27/25	Wed 3/19/25
69	Final (100%) Design	3 wks	Thu 3/20/25	Wed 4/9/25
70	**Task 4: Contract Bidding Support**	**8 wks**	**Thu 4/10/25**	**Wed 6/4/25**
72	**Task 5: Engr Suppt During Constr**	**48 wks**	**Wed 6/4/25**	**Wed 5/6/26**



GUAM WATERWORKS AUTHORITY
"Better Water, Better Lives."
Gloria B. Nelson Public Service Building| 688 Route 15 | Mangilao, Guam 96913
Tel: (671) 300-6846/7

Issues for Decision

Resolution No. 05- FY2024
Relative to Approval of Additional Funding for the Yigo Sewer Pump Station Flood Mitigation and Facility Rehabilitation Construction Project, GWA Project No. S18-001-BND

What is the project's objective and is it necessary and urgent?
The Yigo SPS rehabilitation was to mitigate flooding impacts on operations. Equipment was raised off the ground floor, a service platform was installed, and removable flood barriers were provided for doorways.

An increase in contract cost is requested for Change Order No. 3, for cleaning after flooding caused by Typhoon Mawar. An increase in contract cost for Change Order no. 4 is requested for safety improvements (including painting trip hazards yellow and installing a chain at a fall hazard) and the replacement of instrumentation damaged during flooding (including an autodialer).

Damage caused by Typhoon Mawar was included in Federal Emergency Management Agency damage assessments and reimbursement will be requested.

Where is the project located?
Project site is located in Chalan Nanalao, Yigo (see map).

How much will it cost?

Original Contract:	$928,884.74
Change Order No. 1 (approved):	$184,491.28
Current approved contract cost	$1,113,376.02

This resolution:

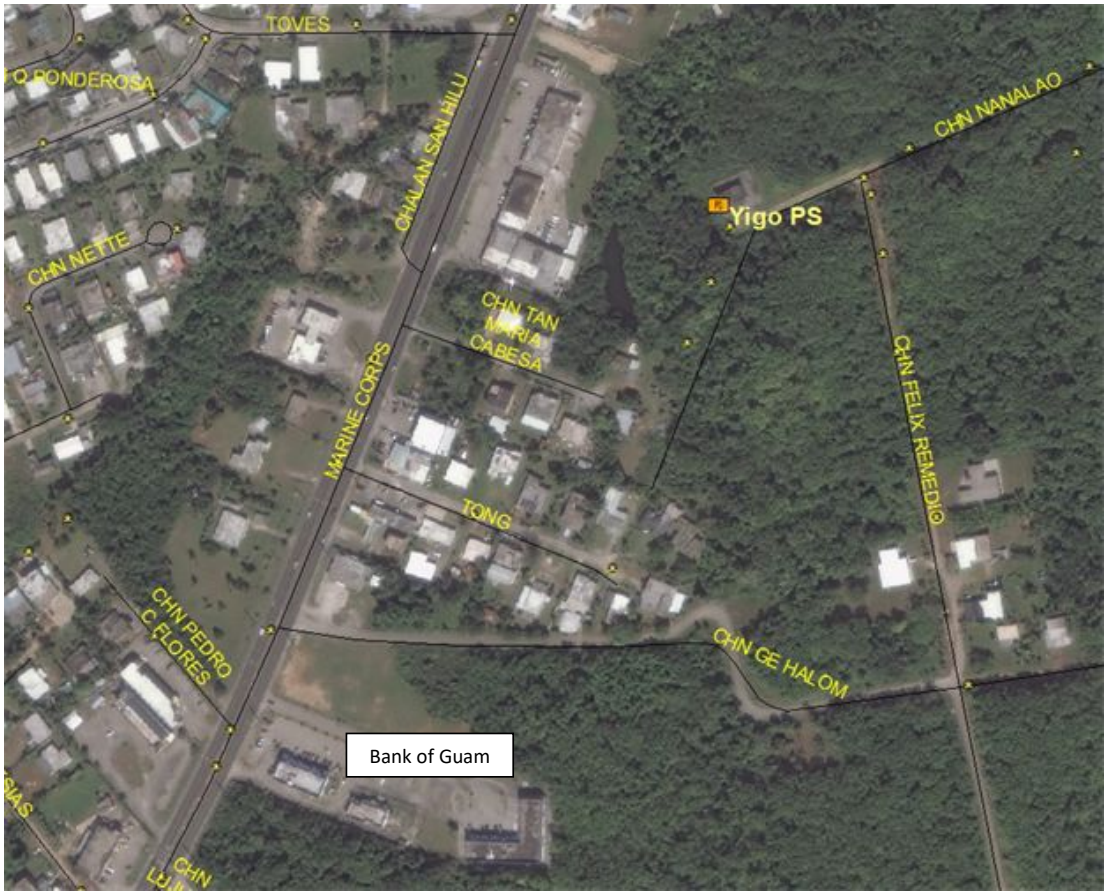
Change Orders No. 3:	$14,753.48
Change Order No. 4:	$70,000.00
Total contract cost:	$84,753.48

The Public Utilities Commission (PUC) approved Change Order No. 1 under GWA Docket 23-05, for a total contract cost of $1,113, 376.02 with a 20% contingency of $222,685.20. The requested funding increase for Change Orders No. 3 and No. 4 of $84,753.48 is within the PUC contingency amount of $222,686.20. Therefore, PUC approval is not required for Change Orders No. 3 and 4.

When will it be completed?
Project completion is dependent on parts are delivered. Once the parts are delivered, installation and commissioning should take no longer than 2 months.

What is the funding source?
Bonds

The RFP/BID responses (if applicable): NA



Yigo Sewage Pump Station Location

CONSOLIDATED COMMISSION ON UTILITIES
Guam Power Authority | Guam Waterworks Authority
P.O. Box 2977 Hagatna, Guam 96932 | (671)649-3002 | guamccu.org

GWA RESOLUTION NO. 05-FY2024

RELATIVE TO THE APPROVAL OF ADDITIONAL FUNDING FOR THE YIGO SEWER PUMP STATION FLOOD MITIGATION AND FACILITY REHABILITATION CONSTRUCTION PROJECT, GWA PROJECT NO. S18-001-BND

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, GWA's public wastewater collection/transmission system, consisting of gravity mains, manholes, laterals, force mains, sewer pump stations (SPS), and other related appurtenances, are in need of repair, rehabilitation, or replacement; and

WHEREAS, the Yigo SPS, owned and operated by GWA, is located within a known flood area and the SPS building, including the wet well, dry well, and upper levels of the SPS, floods during extreme or heavy weather events; and

WHEREAS, due to age, use, and flooding, the condition of the SPS deteriorated requiring replacement or rehabilitation of electrical panels, instrumentation, controls, power sources, ventilation, and other miscellaneous building improvements for operation and safety concerns; and

WHEREAS, in order to address these concerns GWA entered into a contract for design services with AECOM Technical Services on July 31, 2018, and final design was completed in July 2019, and put out for Invitation to Bid on December 17, 2020; and

WHEREAS, after the bidding and review process was completed, GWA entered into a construction contract (see Exhibit A) with IAN Corporation ("IAN") on April 26, 2021, in the amount of Nine Hundred Twenty-Eight Thousand Eight Hundred Eighty-Four Dollars and Seventy-Four Cents ($928,884.74); and

WHEREAS, during the construction process, additional safety and operability concerns of the current SPS were identified, which led to some additional changes in design and the construction for the Motor Control Center (MCC), Hoist, and Platform, with the approval of Change Order No. 1 (see Exhibit B) in the amount of One Hundred Eighty-Four Thousand Four Hundred Ninety-One Dollars and Twenty-Eight Cents ($184,491.28), it will increase the total authorized funding amount to One Million One Hundred Thirteen Thousand Three Hundred Seventy-Six Dollars and Two Cents ($1,113,376.02); and

WHEREAS, during the construction of the designed rehabilitation, due to a combination of unforeseen delays and the aforementioned design changes, the contract time with IAN was extended to August 19, 2023, via Change Order No. 2 (see Exhibit C); and

WHEREAS, on May 24, 2023, Guam was hit by Super Typhoon Mawar, causing damage to the Yigo SPS, as well as causing further delays for the project; and

WHEREAS, in response to the damages and delays caused by Super Typhoon Mawar, Change Order No. 3 (see Exhibit D) in the amount of Fourteen Thousand Seven Hundred Fifty-Three Dollars and Forty-Eight Cents ($14,753.48) for typhoon recovery, cleanup cost and a time extension of 30 days to September 18, 2023.

WHEREAS, after Typhoon Mawar recovery work was completed and the MCC and redesigned platform were installed, the remaining work for installation of the Supervisory Control and Data Acquisition (SCADA) system required the replacement of necessary existing instrumentation (including autodialers) that were no longer operational following Super Typhoon Mawar; and

WHEREAS, to purchase the autodialer instrumentation, address some safety concerns that were not included in the original scope, and the additional time needed to procure and install the aforementioned instrumentation, Change Order No. 4 in an amount not to exceed Seventy Thousand Dollars and No Cents ($70,000.00) is necessary and is being negotiated to complete the project and avoid additional delays (see Exhibit E); and

WHEREAS, GWA Management seeks CCU approval of the additional funding for Change Order No. 3 in the amount of Fourteen Thousand Seven Hundred Fifty-Three Dollars and Forty-Eight Cents ($14,753.48), and for Change Order No. 4 in an amount not to exceed Seventy Thousand Dollars and No Cents ($70,000), for a total funding authorization increase of Eighty-Four Thousand Seven Hundred Fifty-Three Dollars and Forty-Eight Cents ($84,753.48); and

WHEREAS, Change Orders No. 3 and No. 4 would bring the total approved contract amount to One Million One Hundred Ninety-Eight Thousand One Hundred Twenty-Nine Dollars and Fifty Cents ($1,198,129.50); and

WHEREAS, the funding for this project will be from GWA Bond funds; and

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

1. The recitals set forth above hereby constitute the findings of the CCU.
2. The CCU finds that the funding authorization increase as described Change Order No. 3 in Exhibit D to be fair, reasonable, and needed to complete the work under this contract.
3. The CCU finds that the funding authorization increase for Change Order No. 4, which has a cost estimate in Exhibit E to be fair, reasonable, and needed to complete the work under this contract.
4. The CCU hereby authorizes the management of GWA to execute Change Order No. 3 in the amount of Fourteen Thousand Seven Hundred Fifty-Three Dollars and Forty-Eight Cents ($14,753.48).
5. The CCU hereby authorizes the management of GWA to execute Change Order No. 4 in an amount not to exceed Seventy Thousand Dollars and No Cents ($70,000.00).

6. The CCU hereby authorizes the total funding amount of this contract to be One Million One Hundred Ninety-Eight Thousand One Hundred Twenty-Nine Dollars and Fifty Cents ($1,198,129.50).
7. The CCU hereby further approves the funding for Change Orders No. 3 and No. 4 from GWA Bond MP-WW-Pump-01 funds.

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

DULY AND REGULARLY ADOPTED, this 28th day of November 2023.

Certified by: Attested by:

_____ _____
JOSEPH T. DUENAS **PEDRO ROY MARTINEZ**
Chairperson Secretary

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: _____
NAYS: _____
ABSENT: _____
ABSTAIN: _____

EXHIBIT A

PROJECT OVERVIEW

(CONSTRUCTION CONTRACT)

Project:	**YIGO SEWER PUMP STATION FLOOD MITIGATION AND FACILITY REHABILITATION**
Project Number:	S18-001-BND
IFB Number:	IFB-01-ENG-2021
Contractor:	IAN Corporation
Contract Amount:	$928,884.74
Approved Contingency:	** *Contingency to be certified as needed* **
Total Amount to be Certified:	$928,884.74
Funding Source:	GWA Bond 2020 – MP-WW-PUMP-01 Lift Station Rehabilitation/Replacement Program
Bid Acceptance:	March 19, 2021
USEPA Approval:	N/A
CCU Resolution:	N/A
PUC Notification/Approval:	N/A
Request to Award:	April 16, 2021
Notice of Award Decision:	April 20, 2021

Note:

Other documents pertaining to this project are available at Engineering folder *\\168.123.192.22\Engineering\Project Information\CIP Projects - Wastewater\Yigo SPS Flood Mitigation and Facility Rehabilitation\Construction\Procurement*

Prepared by:

Gloria P. Bensan Digitally signed by Gloria P. Bensan Date: 2021.04.23 14:10:24 +10'00'

GLORIA P. BENSAN

AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and between the GUAM WATERWORKS AUTHORITY ("Owner") and IAN CORPORATION ("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Base Bid Work is generally described as follows:

1. Yigo Sewer Pump Station: demolition of existing building features and equipment, including the existing power pole and power meter, plumbing fixtures and piping, water service piping, electrical system, ventilation system, building fascia and monorail beam and construction of rehabilitation and flood mitigation features including structural wall repairs, flood barrier gates, raised louver sills, cantilever monorail beam, elevated platforms, ventilation system, site work, site water piping, utility tie-in connections, protective coatings, electrical system, instrumentation and controls, testing, startup, and appurtenant work, as shown and specified, complete and operable, in accordance with the Contract Documents.

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: *Yigo Sewer Pump Station Flood Mitigation and Facility Rehabilitation; GWA Project No. S18-001-BND.*

ARTICLE 3 – ENGINEER

3.01 The part of the Project that pertains to the Work has been designed by AECOM Technical Services, Inc.

3.02 The Owner has retained Name ("Engineer") to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Days*

A. The Work for the Yigo Sewer Pump Station Flood Mitigation and Facility Rehabilitation Base Bid will be substantially completed within 360 calendar days from Notice to Proceed

issuance as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 390 days after the date when the Contract Times commence to run.

B. Parts of the Work shall be substantially completed on or before the following Milestone(s):

1. Milestone 1 [event & date/days] NA
2. Milestone 2 [event & date/days] NA
3. Milestone 3 [event & date/days] NA

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner **$3,000.00** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner **$3,000.00** for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.
4. Milestones: Contractor shall pay Owner $ NA for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for achievement of Milestone 1, until Milestone 1 is achieved.

4.04 *Special Damages*

A. In addition to the amount provided for liquidated damages, Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.

B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

A. For all Work other than Unit Price Work, a lump sum of: $928,884.74.

All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.

B. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item):

Unit Price Work					
Item No.	Description	Unit	Estimated Quantity	Unit Price	Extended Price
Total of all Extended Prices for Unit Price Work (subject to final adjustment based on actual quantities)					$

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

C. Total of Lump Sum Amount and Unit Price Work (subject to final Unit Price adjustment) $928,884.74.

D. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 15th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of

Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract

   a. __90__ percent of Work completed (with the balance being retainage). And

   b. __90__ percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to __100__ percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less __200__ percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

7.01 All amounts not paid when due shall bear interest at the rate of __6__ percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.

B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.

F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

A. The Contract Documents consist of the following:

1. This Agreement (pages 1 to 8, inclusive).
2. Performance bond (pages 1 to 3, inclusive).
3. Payment bond (pages 1 to 3, inclusive).
4. Other bonds.
   a. ___ (pages ___ to ___, inclusive).
5. General Conditions (pages 1 to 65, inclusive).
6. Supplementary Conditions (pages 1 to 11, inclusive).
7. Specifications as listed in the table of contents of the Project Manual.
8. The Drawings listed on the attached sheet index.
9. Addenda (numbers 0 to ___, inclusive).
10. Exhibits to this Agreement (enumerated as follows):
    a. Contractor's Bid (pages 1 to 9, inclusive).

11. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
    a. Notice to Proceed.
    b. Work Change Directives.
    c. Change Orders.
    d. Field Orders.

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 *Other Provisions*

A. Owner stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the Engineers Joint Contract Documents Committee®, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on 4-26-2021 (which is the Effective Date of the Contract).

OWNER:	CONTRACTOR:
GUAM WATERWORKS AUTHORITY	IAN CORPORATION
By: MIGUEL C. BORDALLO, P.E.	By: IAN J. CHONG
Title: General Manager	Title: President
	(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)
Attest:	Attest:
Title:	Title: Corporate Secretary
Address for giving notices:	Address for giving notices:
Gloria B Nelson Public Service Building	P.O. Box 26764 GMF
688 Route 15	Barrigada, Guam 96921
Mangilao, Guam 96913	
	License No.: Certificate No. R-0620-0066 *(where applicable)*

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

CERTIFIED FUNDS AVAILABLE:	APPROVED AS TO FORM:
By:	By:
TALING M. TAITANO, CPA, CGFM GWA Chief Financial Officer	KELLY O. CLARK GWA General Counsel
Date: 4/26/2021	Date: 4/23/21

Contract Amount: $928,884.74
Amount Certified: $928,884.74
Funding Source: 2020 Bond MP-WW-Pipe-01 Lift Station Rehabilitation/Replacement Program

***contingency to be identified as needed*