Repaired, Rehabilitated, or Replaced within 18 or 24 months from identification, as applicable, an explanation of why they were not Repaired, Rehabilitated, or Replaced and description of the actions or a schedule to Repair, Rehabilitate, or Replace the Acute Defect(s) as soon as possible.

f. A summary of the systematic review, pursuant to Paragraph 23.c, of Force Main operating data, which at a minimum includes pump run times, discharge pump rates and pump speed, pump suction and discharge pressures, flow rates, and performance indicators (including excessive noise, vibrations, and leakage), all of which may have revealed Force Main performance issues.

g. A description of any non-compliance with the requirements of this Consent Decree that occurred during the reporting period and an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If GWA violates, or has reason to believe that it may violate, any requirement of this Consent Decree, GWA shall notify the United States of such violation and its likely duration, in writing, within ten (10) business days of the Day GWA first becomes aware of the violation, with an explanation of the violation's likely cause and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If any event occurs, or may occur, that might delay the performance of any obligation under this Consent Decree, GWA shall provide notice orally or by electronic transmission to EPA and the United States, within 72 hours or two (2) business days of when GWA first knew that such event might cause a delay, whichever period of time is longer. Within seven (7) Days thereafter, GWA shall provide in writing to EPA an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent, minimize or mitigate the delay or the effect thereof, and a schedule for implementation of any such measures; and a statement as to whether, in the opinion

of GWA, such event may cause or contribute to an endangerment to public health, welfare or the environment.

h. Whenever any violation of this Consent Decree or any of the applicable NPDES Permits or any other event affecting GWA's performance under this Consent Decree, or the performance of its POTW, may pose an immediate threat to the public health or welfare or the environment, GWA shall notify EPA orally and by e-mail as soon as possible, but no later than 24 hours after GWA first knew of the violation or event. If the cause of a violation or event cannot be fully explained at the time the report is due, GWA shall so state in the report. GWA shall investigate the cause of the violation or event and shall then submit an amendment to the report, including a full explanation of the cause of the violation or event, within thirty (30) Days of the Day GWA becomes aware of the cause of the violation or event. Nothing in this Paragraph relieves GWA of its obligation to provide the notice required by Section VIII (Force Majeure).

49. Annual Meeting. At a mutually agreeable date in March of each year after the Effective Date, the Parties shall meet, either in person or via teleconference, to review GWA's compliance with the requirements of the Consent Decree and to discuss the status of the work being performed by GWA pursuant to the Decree and interim milestones and compliance milestones set forth in the Decree. Two weeks before the scheduled annual meeting, GWA shall provide EPA a proposed agenda addressing issues to be discussed.

50. Each report submitted by GWA under this Section shall be signed by an official of GWA and include the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

> Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

51. The reporting requirements of this Consent Decree do not relieve GWA of any reporting obligations required by the Act or implementing regulations, or by any other federal, State, or local law, regulation, permit, or other requirement.

52. Any information provided pursuant to this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

VII. STIPULATED PENALTIES

53. GWA shall be liable for stipulated penalties to the United States for violations of this Consent Decree as specified below, unless excused under Section VIII (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

54. Interim Effluent Limits. The following stipulated penalties shall accrue per violation for each violation of an interim effluent limit or monitoring requirement established pursuant to Paragraph 33 (a violation of a weekly or monthly average limit, or a monitoring requirement, shall be considered a single violation):

Penalty Per Violation	Period of Noncompliance
$500	Daily Maximum Limit or Monitoring Requirement
$1,000	Weekly Average Limit
$1,500	Monthly Average Limit

55. Gravity Main Rehabilitation or Replacement. GWA's failure to meet a target to Rehabilitate or Replace Gravity Mains pursuant to Paragraph 12.b shall result in a stipulated penalty as follows:

Feet Not Completed	Penalty Per Foot
Up to and including 5000 feet	$6
Over 5000 feet	$12

56. For failure to clean the required minimum miles of Gravity Mains in any year as set forth in Paragraph 35, GWA shall be liable for a stipulated penalty of $3,500 per mile below the annual performance requirement.

57. SSOs.

a. For each SSO that reaches waters of the United States, GWA shall pay a stipulated penalty in the amount of $750 for SSOs under 1,000 gallons, $1,000 for SSOs between 1,000 and 10,000 gallons, $4,000 for SSOs between 10,000 and 100,000 gallons, and $10,000 for SSOs over 100,000 gallons. For each SSO that does not reach waters of the United States, GWA shall pay a stipulated penalty in the amount of $200 for SSOs under 1,000 gallons, $750 for SSOs between 1,000 and 10,000 gallons, $3,000 for SSOs between 10,000 and 100,000 gallons, and $8,000 for SSOs over 100,000 gallons. Notwithstanding the foregoing, GWA shall not be liable for stipulated penalties under this Paragraph if GWA demonstrates that an SSO was caused by vandalism or a contractor not working for GWA; and GWA demonstrates that it has used all reasonable measures to prevent said SSO and properly respond, including limiting public contact.

b. For failure to respond to an SSO in accordance with the SSO Response Plan after approval by EPA pursuant to Paragraph 37, GWA shall pay a stipulated penalty of $1,000 per SSO.

58. Compliance Milestones.

a. The following stipulated penalties shall accrue per violation per Day for each violation of the compliance milestones identified in subparagraph b of this Paragraph.

Penalty Per Violation Per Day	Period of Noncompliance
$750	1st through 30th Day
$1,000	31st through 60th Day
$1,500	61st Day and beyond

b. List of Compliance Milestones.

(1) Failure to Repair, Rehabilitate, or Replace Acute Defects pursuant to Paragraph 12.a.

(2) Failure to submit a Long-Term Gravity Main Plan pursuant to Paragraph 13.a.

(2) Failure to complete Capacity Assurance Projects pursuant to Paragraph 15.

(3) Failure to complete implementation of the Force Main Action Plan pursuant to Paragraph 21.

(4) Failure to complete any Pump Station Priority Project pursuant to Paragraph 25, or failure to complete any Pump Station improvement work pursuant to Paragraph 30.

(5) Failure to submit a feasibility study for secondary treatment upgrades to the Hagåtña WWTP pursuant to Paragraph 32.

(6) Failure to implement an approved Industrial Pretreatment Program pursuant to Paragraph 39.

(7) Failure to implement an approved FOG control program pursuant to Paragraph 40.

59. Interim Milestones.

a. The following stipulated penalties shall accrue per violation per Day for each violation of the requirements identified in subparagraph b of this Paragraph.

Penalty Per Violation Per Day	Period of Noncompliance
$500	1st through 30th Day
$750	31st through 60th Day
$1,000	61st Day and beyond

b. List of Interim Milestones.

(1) Failure to complete CCTV inspections, failure to assess CCTV inspections, or failure to submit a Gravity Main Condition Assessment Report pursuant to Paragraph 11.

(2) Failure to submit a Gravity Main Work Plan pursuant to Paragraph 12.c.

(3) Failure to submit a Capacity Evaluation Report pursuant to Paragraph 15.

(4) Failure to submit a Capacity Assurance Report pursuant to Paragraph 16.

(5) Failure to submit a Force Main inventory pursuant to Paragraph 17.

(6) Failure to complete a Force Main condition assessment pursuant to Paragraph 18.

(7) Failure to submit:

- a Force Main Assessment Report pursuant to Paragraph 19;
- a Force Main Action Plan pursuant to Paragraph 20;
- a Force Main Spill Contingency Plan pursuant to Paragraph 22;
- a Force Main O&M Program pursuant to Paragraph 23.

(8) Failure to submit Pump Station Preliminary Work Plans pursuant to Paragraph 27.

(9) Failure to submit Pump Station condition assessments pursuant to Paragraph 29.

(10) Failure to clean 60 "unique miles" of Gravity Mains annually pursuant to Paragraph 34.

(11) Failure to implement the Hot Spot Cleaning Program pursuant to Paragraph 35.

(12) Failure to develop and implement the Asset Management Program pursuant to Paragraph 38.

(13) Failure to submit a proposed Industrial Pretreatment Program pursuant to Paragraph 39.

(14) Failure to submit a FOG control program manual pursuant to Paragraph 4040.

60. Reporting and Implementation Requirements. The following stipulated penalties shall accrue per violation per Day for each violation of the reporting requirements of Paragraph 37 (SSO and Bypass reporting) or Section VI (Reporting Requirements), and for each failure to implement any deliverable approved or conditionally approved pursuant to Section V.E (Approval of Deliverables/Permits) that is not specifically listed in Paragraph 58.b (Compliance Milestones) or 59.b (Interim Milestones):

Penalty Per Violation Per Day	Period of Noncompliance
$500	1st through 30th Day
$1,000	31st through 60th Day
$1,250	61st Day and beyond

61. Stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

62. GWA shall pay any stipulated penalty within thirty (30) Days of receiving the United States' written demand.

63. The United States may, in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due it under this Consent Decree.

64. Stipulated penalties shall continue to accrue as provided in Paragraph 61, during

any Dispute Resolution, but need not be paid until the following:

a. If the dispute is resolved by agreement of the Parties or by a decision of EPA that is not appealed to the Court, GWA shall pay accrued penalties determined to be owing, together with interest, to the United States within thirty (30) Days of the Effective Date of the agreement or the receipt of EPA's decision or order.

b. If the dispute is appealed to the Court and the United States prevails in whole or in part, GWA shall pay all accrued penalties determined by the Court to be owing, together with interest, within sixty (60) Days of receiving the Court's decision or order, except as provided in subparagraph c of this Paragraph.

c. If any Party appeals the District Court's decision, GWA shall pay all accrued penalties determined to be owing, together with interest, within fifteen (15) Days of receiving the final appellate court decision.

65. GWA shall pay stipulated penalties owing to the United States by FedWire Electronic Funds Transfer ("EFT") to the DOJ account, in accordance with instructions provided to GWA by the Financial Litigation Unit ("FLU") of the United States Attorney's Office for the District of Guam after the Effective Date. The payment instructions provided by the FLU will include a Consolidated Debt Collection System ("CDCS") number, which GWA shall use to identify all payments required to be made in accordance with this Consent Decree. The FLU will provide the payment instructions to:

Taling M Taitano
Chief Financial Officer
Guam Waterworks Authority
Ste 200, Gloria B. Nelson Public Service Building
688 Route 15
Mangilao, Guam 96913
(671) 300-6860
tmtaitano@guamwaterworks.org

on behalf of GWA. GWA may change the individual to receive payment instructions on its behalf by providing written notice of such change to DOJ and EPA in accordance with Section XIII (Notices).

66. At the time of payment, GWA shall send notice that payment has been made: (i) to EPA via email at cinwd_acctsreceivable@epa.gov or via regular mail at EPA Cincinnati Finance Office, 26 W. Martin Luther King Drive, Cincinnati, Ohio 45268; and (ii) to DOJ via email or regular mail in accordance with Section XIII; and (iii) to EPA in accordance with Section XIII. Such notice shall state that the payment is for stipulated penalties owed pursuant to the Consent Decree in *United States v. Guam Waterworks Authority and Government of Guam*, shall state the violation(s) for which the penalties are being paid, and shall reference the civil action number, CDCS Number and DOJ case number DJ 90-5-1-1-11696.

67. If GWA fails to pay stipulated penalties according to the terms of this Consent Decree, GWA shall be liable for interest on such penalties, as provided for in 28 U.S.C. § 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States from seeking any remedy otherwise provided by law for GWA's failure to pay any stipulated penalties.

68. The payment of penalties and interest, if any, shall not alter in any way Defendant's obligation to complete the performance of the requirements of this Consent Decree.

69. Non-Exclusivity of Remedy. Stipulated penalties are not the United States' exclusive remedy for violations of this Consent Decree. Subject to the provisions of Section XI (Effect of Settlement/Reservation of Rights), the United States expressly reserves the right to seek any other relief it deems appropriate for GWA's violation of this Decree or applicable law, including but not limited to an action against Defendant(s) for statutory penalties, additional

injunctive relief, mitigation or offset measures, and/or contempt. However, the amount of any statutory penalty assessed for a violation of this Consent Decree shall be reduced by an amount equal to the amount of any stipulated penalty assessed and paid pursuant to this Consent Decree.

VIII. FORCE MAJEURE

70. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of GWA, of any entity controlled by GWA, or of GWA's contractors, that delays or prevents the performance of any obligation under this Consent Decree despite best efforts of GWA to fulfill the obligation. The requirement that GWA exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any reasonably foreseeable potential force majeure event and best efforts to address the effects of any potential force majeure event (a) as it is occurring and (b) following the potential force majeure, such that the delay and any adverse effects of the delay are minimized to the maximum extent practicable. "Force Majeure" does not include financial inability to perform any obligation under this Consent Decree.

71. If any event occurs or has occurred that falls within Section VIII (Force Majeure) of this Consent Decree that may delay the performance of any obligation under this Consent Decree, GWA shall provide notice orally or by electronic transmission to EPA and the United States, within 72 hours or two (2) business days of when GWA first knew that the alleged force majeure event might cause a delay, whichever period of time is longer. Within seven (7) Days thereafter, GWA shall provide in writing to EPA an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; GWA's rationale for attributing such delay to a force majeure event; and a statement as to whether, in the opinion of GWA, such event may cause or

contribute to an endangerment to public health, welfare or the environment. EPA may, in its unreviewable discretion, extend the time for the written explanation. GWA shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude GWA from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. GWA shall be deemed to know of any circumstance of which GWA, any entity controlled by GWA, or GWA's contractors knew or should have known.

72. If EPA agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. EPA will notify GWA in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

73. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify GWA in writing of its decision.

74. If GWA elects to invoke the dispute resolution procedures set forth in Section IX (Dispute Resolution), it shall do so no later than fifteen (15) Days after receipt of EPA's notice. In any such proceeding, GWA shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and

that GWA complied with the requirements of Paragraphs 71 and 72. If GWA carries this burden, the delay at issue shall be deemed not to be a violation by GWA of the affected obligation of this Consent Decree identified to EPA and the Court.

IX. DISPUTE RESOLUTION

75. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. Defendants' failure to seek resolution of a dispute under this Section shall preclude Defendants from raising any such issue as a defense to an action by the United States to enforce any obligation of Defendants arising under this Decree.

76. Informal Dispute Resolution. Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when either Defendant sends the United States a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed twenty (20) Days from the date the dispute arises, unless that period is modified by written agreement by the relevant Parties. If the relevant Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States shall be delivered in writing and considered binding unless, within thirty (30) Days after the conclusion of the informal negotiation period, the notifying Defendant invokes formal dispute resolution procedures as set forth below.

77. Formal Dispute Resolution. The notifying Defendant shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by serving on the United States a written Statement of Position regarding the matter in dispute. The notifying Defendant's Statement of Position shall not raise any issue not raised in its Notice of Dispute described in Paragraph 76. The Statement of Position shall include, but need not be limited to,

any factual data, analysis, or opinion supporting the Defendant's position and any supporting documentation relied upon by the Defendant.

78. The United States shall serve its Statement of Position within forty-five (45) Days of receipt of the notifying Defendant's Statement of Position. The United States' Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. The United States' Statement of Position shall be binding on the Defendant, unless the Defendant files a motion for judicial review of the dispute in accordance with the following Paragraph.

79. The notifying Defendant may seek judicial review of the dispute by filing with the Court and serving on the United States, in accordance with Section XIII (Notices), a motion requesting judicial resolution of the dispute. The motion must be filed within thirty (30) Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of the notifying Defendant's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree. The motion may not raise any issue not raised in GWA's Statement of Position pursuant to Paragraph 77, unless the United States raises a new issue of law or fact in its Statement of Position.

80. The United States shall respond to the notifying Defendant's motion within the time period allowed by the Local Rules of this Court. The notifying Defendant may file a reply memorandum, to the extent permitted by the Local Rules.

81. Standard of Review.

a. Disputes Regarding Schedules and Deadlines in Deliverables. In any dispute for which the notifying Defendant seeks judicial review concerning the adequacy or appropriateness of a schedule or deadline in a deliverable submitted for EPA's review and approval, or for a schedule or deadline to which GWA seeks a change pursuant to Paragraph 476, the notifying Defendant shall bear the burden of demonstrating by a preponderance of the evidence that the notifying Defendant's position on the issues in dispute should prevail over the United States' position because it is more consistent with the objectives of this Consent Decree.

b. Other Disputes. Judicial review of all other disputes shall be governed by applicable principles of law.

82. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of the Defendant(s) under this Consent Decree, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 65. If the notifying Defendant does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section VII (Stipulated Penalties).

X. INFORMATION COLLECTION AND RETENTION

83. The United States and its representatives, including attorneys, contractors, and consultants, shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times, upon presentation of credentials, to:

a. monitor the progress of activities required under this Consent Decree;

b. verify any data or information submitted to the United States in accordance with the terms of this Consent Decree;

c. obtain samples and, upon request, splits of any samples taken by a GWA

or its representatives, contractors, or consultants;

d. obtain documentary evidence, including photographs and similar data; and

e. assess GWA's compliance with this Consent Decree.

84. Upon request, GWA shall provide EPA or its authorized representatives splits of any samples taken by GWA. Upon request, EPA shall provide GWA splits of any samples taken by EPA.

85. Until two years after the termination of this Consent Decree, GWA shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that document GWA's performance of its obligations under this Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the United States, GWA shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

86. At the conclusion of the information-retention period provided in the preceding Paragraph, GWA shall notify the United States at least ninety (90) Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States, GWA shall deliver any such documents, records, or other information to EPA. GWA may assert that certain documents, records, or other information is privileged under the attorney-client privilege or any other privilege recognized by federal law. If GWA asserts such a privilege, it shall provide the following: (a) the title of the document, record, or information; (b) the date of the document, record, or information; (c) the

name and title of each author of the document, record, or information; (d) the name and title of each addressee and recipient; (e) a description of the subject of the document, record, or information; and (f) the privilege asserted by GWA. However, GWA may make no claim of privilege or protection regarding any data regarding GWA's POTW, including all sampling, analytical, monitoring, scientific, chemical or engineering data. The United States reserves the right to challenge any claim of privilege regarding documents, records, or other information created or generated pursuant to the requirements of this Consent Decree.

87. GWA may also assert that information required to be provided under this Section is protected as Confidential Business Information ("CBI") under 40 C.F.R. Part 2. As to any information that GWA seeks to protect as CBI, it shall follow the procedures set forth in 40 C.F.R. Part 2.

88. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States pursuant to applicable federal laws, regulations, or permits, nor does it limit or affect any duty or obligation of either Defendant to maintain documents, records, or other information imposed by applicable federal or State laws, regulations, or permits.

XI. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

89. This Consent Decree resolves only the civil claims of the United States for the violations alleged in the Complaint filed in this action through the date of lodging of this Consent Decree only with respect to the injunctive relief set forth in Section V (Compliance Measures). The United States specifically reserves all rights to seek civil penalties for each of the violations alleged in the Complaint and further injunctive relief for those alleged violations, including implementation of the approved Force Main Action Plan, completion of Tier 2, 3, and 4 Pump Station Projects, Gravity Main Replacement or Rehabilitation of at least 35 additional "unique

miles," additional wet and dry flow monitoring for the Tumon Basin, and upgrading the Hagåtña WWTP to secondary treatment.

90. The United States reserves all legal and equitable remedies available to enforce the provisions of this Consent Decree. This Consent Decree shall not be construed to limit the rights of the United States to obtain penalties or injunctive relief under the Act or implementing regulations, or under other federal laws, regulations, or permit conditions, except as expressly stated in Paragraph 89. The United States further reserves all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, GWA's Facility, whether related to the violations addressed in this Consent Decree or otherwise.

91. GWA reserves all legal and equitable defenses to enforcement of the provisions of this Consent Decree, subject to the procedures set forth in Sections VIII (Force Majeure) and IX (Dispute Resolution).

92. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, civil penalties, other appropriate relief relating to the Facility or a GWA's violations, GWA shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been brought in the instant case, except with respect to claims that have been specifically resolved pursuant to Paragraph 89. Nothing in this Consent Decree shall constitute an admission of any fact or of any liability, or a waiver of any right, except as expressly stated herein.

93. This Consent Decree is not a permit, or a modification of any permit, under any

federal, State, or local laws or regulations. The Defendants are responsible for achieving and maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and the Defendants' compliance with this Consent Decree shall be no defense to any action commenced by the United States pursuant to any such laws, regulations, or permits, except as set forth herein. The United States does not, by its consent to the entry of this Consent Decree, warrant or aver in any manner that Defendants' compliance with any aspect of this Consent Decree will result in compliance with provisions of the Act, 33 U.S.C. §§ 1251-1388, or with any other provisions of federal, State, or local laws, regulations, or permits.

94. Nothing in this Consent Decree limits the rights or defenses available under CWA Section 309(e), 33 U.S.C. § 1319(e), in the event that the laws of the Territory, as currently or hereafter enacted, may prevent GWA from raising the revenues needed to comply with this Decree.

95. This Consent Decree does not limit or affect the rights of the Defendants or of the United States against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against the Defendants, except as otherwise provided by law.

96. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

XII. COSTS

97. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States shall be entitled to collect the costs (including attorneys' fees) incurred in any action necessary to collect any stipulated penalties due but not paid by GWA.

XIII. NOTICES

98. Unless otherwise specified in this Decree, whenever notifications, submissions, or

communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

As to the United States by email:	eescdcopy.enrd@usdoj.gov Re: DJ # 90-5-1-1-11696
As to the United States by mail:	EES Case Management Unit Environment and Natural Resources Division U.S. Department of Justice P.O. Box 7611 Washington, D.C. 20044-7611 Re: DJ # 90-5-1-1-11696
As to EPA by email:	***
As to EPA by mail:	Section Chief Water Section Enforcement Division (ENF -*-*) U.S. Environmental Protection Agency, Region IX 75 Hawthorne Street San Francisco, CA 94105
As to GWA:	Theresa G. Rojas, Esq. Legal Counsel Guam Waterworks Authority Ste. 200, Gloria B. Nelson Public Service Building 688 Route 15 Mangilao, Guam 96913 tgrojas@guamwaterworks.org
As to Government of Guam:	Graham Botha Deputy Attorney General Office of the Attorney General of Guam 590 S. Marine Corps Drive, Ste. 801 Tamuning, Guam 96913 gbotha@oagguam.org Jeffrey Moots Legal Counsel Office of the Governor of Guam PO Box 2950 Hagåtña, Guam 96932 jeffrey.moots@guam.gov

99. Any Party may, by written notice to the other Parties, change its designated notice

recipient or notice address provided above.

100. Notices submitted pursuant to this Section shall be deemed submitted upon mailing or sending via email, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XIV. EFFECTIVE DATE

101. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket.

XV. RETENTION OF JURISDICTION

102. The Court shall retain jurisdiction over this Consent Decree until termination of the Consent Decree, for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Sections IX (Dispute Resolution) and XVI (Modification), or effectuating or enforcing compliance with the terms of this Decree.

XVI. MODIFICATION

103. Nonmaterial modifications to this Consent Decree, including any attached Appendices, made by agreement of the Parties must be in writing and are effective when signed by the Parties. Material modifications to this Consent Decree, including any attached Appendices, made by agreement of the Parties must be in a writing signed by the Parties, and are effective upon approval by the Court.

104. Whether modifications are appropriately categorized as material or non-material shall be decided on a case by case basis. If the parties cannot agree whether a particular modification is material or non-material, the position of the United States will prevail.

105. Any request by Defendants for a modification pursuant to this Section XVI must be accompanied by the basis for the request and a description of how GWA intends to comply

with the proposed modified requirement, schedule or deadline, along with any supporting documentation. If applicable and appropriate to the modification request, a request for a modification may be based, among other things, on: (a) an integrated plan developed in accordance with Clean Water Act Section 402(s); or (b) a current Financial Capability Assessment (based on EPA's Combined Sewer Overflows—Guidance for Financial Capability Assessment and Schedule Development, referenced at EPA 832-B-97-004 and dated February of 1997, and EPA's Financial Capability Assessment Framework, dated November 24, 2014, or subsequent versions thereof in effect on the Day that the request is submitted to EPA).

106. Any disputes concerning modification of this Decree shall be resolved pursuant to Section IX (Dispute Resolution), provided, however, that, instead of the burden of proof provided by Paragraph 81, the Party seeking the modification bears the burden of demonstrating that it is entitled to the requested modification in accordance with Federal Rule of Civil Procedure 60(b).

XVII. TERMINATION

107. After GWA has completed the requirements of Section V (Compliance Requirements), has thereafter maintained continuous satisfactory compliance with this Consent Decree for a period of not less than twelve (12) consecutive months, and has paid any accrued stipulated penalties as required by this Consent Decree, GWA may serve upon the United States a Request for Termination, stating that GWA has satisfied those requirements, together with all necessary supporting documentation.

108. Following receipt by the United States of GWA's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether GWA has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States agrees that the Decree may be terminated, the Parties

shall submit, for the Court's approval, a joint motion or stipulation for termination of the Decree.

109. If the United States does not agree that the Decree may be terminated, GWA may invoke Dispute Resolution under Section IX of this Consent Decree. However, GWA shall not seek Dispute Resolution of any dispute regarding termination until sixty (60) Days after service of its Request for Termination.

XVIII. PUBLIC PARTICIPATION

A. Consent Decree Lodging.

110. This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. The Defendants consent to entry of this Consent Decree without further notice and agree not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Decree, unless the United States has notified the Defendants in writing that it no longer supports entry of the Decree.

B. Public Outreach, Engagement, and Participation by GWA.

111. Fourteen (14) days prior to any public meeting held by the Guam's Consolidated Commission on Utilities or Guam's Public Utilities Commission where projects required under Section V (Compliance Requirements) of this Consent Decree may be discussed, GWA shall post prominent notice on its website and social media pages of: (a) the time, date, and location of the public meeting; (b) a list of the relevant meeting topics; and (c) a one (1) paragraph summary of how the public may submit questions, comments, or concerns regarding the meeting topics to GWA prior to the meeting. If any member of the public submits, at or before any such public meeting, a comment regarding any of the projects required under Section V (Compliance

Requirements) of this Consent Decree, GWA shall consider and respond to such comments (i) orally at the public meeting; and (ii) in writing within thirty (30) days of the public meeting. Within thirty (30) days of sending (by e-mail or paper mailing) a written response to such public commenter, GWA shall prominently post on its website (a) a summary of the public comment; and (b) its written response to the comment.

112. GWA shall on at least a monthly basis (i) post, to each of its social media pages, one (1) status update about GWA's progress or completion of projects required under Section V (Compliance Requirements) of this Consent Decree; and (ii) briefly summarize, in its internal weekly employee newsletter/update, a status update regarding progress or completion of projects required under Section V (Compliance Requirements). GWA should aim to provide informational or educational project updates for projects that have an impact on human health and the environment, and are of interest to the public. GWA may use its discretion in selecting compliance projects to include in said updates.

113. Nothing herein is intended to limit additional public outreach, engagement, or participation by GWA, Guam's Consolidated Commission on Utilities, or Guam's Public Utilities Commission.

XIX. SIGNATORIES/SERVICE

114. Each undersigned representative of the Defendants and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

115. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. The Defendants agree to accept service of process by the Court's electronic filing service or by mail with respect to all matters arising under or relating to this

Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons. The Defendants need not file an answer to the Complaint in this action unless or until the Court expressly declines to enter this Consent Decree, in which case Defendant's answer would be due 30 Days following the Court's order.

XX. INTEGRATION

116. This Consent Decree constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Decree and supersedes all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. Other than deliverables that are subsequently submitted and approved pursuant to this Decree, the Parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Consent Decree.

XXI. JUDGMENT

117. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a judgment of the Court as to the United States and the Defendants. The Parties recognize that final resolution of the claims set forth in the Complaint will require further remedial action.

XXII. HEADINGS

118. Headings to the Sections and Subsections of this Consent Decree are provided for convenience and do not affect the meaning or interpretation of the provisions of this Consent Decree.

XXIII. APPENDICES

119. The following Appendices are attached to and part of this Consent Decree:

"Appendix A" is a list of pipe segments that are inaccessible for CCTV inspection; and

"Appendix B" is a map of the Sewer Capacity Assurance Projects, Route 1 – Dededo.

Dated and entered this 9th day of August, 2024

FRANCES M. TYDINGCO-GATEWOOD
CHIEF JUDGE

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States v. Guam Waterworks Authority and the Government of Guam*, Civil No. 24-00004.

FOR THE UNITED STATES OF AMERICA:

TODD KIM
Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice

BETHANY ENGEL
Digitally signed by BETHANY ENGEL
Date: 2024.01.30 16:57:07 -05'00'

Date

BETHANY ENGEL
KAYCI G. HINES
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20044-7611
Telephone: 202-514-6892

SHAWN N. ANDERSON
United States Attorney
Districts of Guam and the NMI

MIKEL W. SCHWAB
Assistant United States Attorney
Suite 500, Sirena Plaza
108 Hernan Cortez
Hagåtña, Guam 96910
Telephone: 671-472-7332

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States v. Guam Waterworks Authority and the Government of Guam*, Civil No. 24-00004.

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY:

SYLVIA QUAST Digitally signed by SYLVIA QUAST Date: 2023.10.31 12:07:32 -07'00'

Date

SYLVIA QUAST
Regional Counsel
U.S. Environmental Protection Agency, Region IX

OF COUNSEL:
JANET MAGNUSON
Assistant Regional Counsel
U.S. Environmental Protection Agency, Region IX
Office of Regional Counsel

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States v. Guam Waterworks Authority and the Government of Guam*, Civil No. 24-00004 .

FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE:

JOSEPH THEIS
Digitally signed by JOSEPH THEIS
Date: 2023.12.08 08:49:22 -05'00'

12/08/23
DATE

JOSEPH G. THEIS
Acting Director
Office of Civil Enforcement
Water Enforcement Division
U.S. Environmental Protection Agency

CHRISNA BAPTISTA
Digitally signed by CHRISNA BAPTISTA
Date: 2023.12.04 14:53:42 -05'00'

12/4/23
DATE

CHRISNA BAPTISTA
Attorney Advisor
Office of Civil Enforcement
Water Enforcement Division
U.S. Environmental Protection Agency

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States v. Guam Waterworks Authority and the Government of Guam*, Civil No. 24-00004.

FOR THE GUAM WATERWORKS AUTHORITY:

Date

MIGUEL C. BORDALLO, P.E.
General Manager

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States v. Guam Waterworks Authority and the Government of Guam*, Civil No. 24-00004.

FOR THE GOVERNMENT OF GUAM:

10/23/23
Date

DOUGLAS B. MOYLAN
ATTORNEY GENERAL OF GUAM

Date

LOU LEON GUERRERO
GOVERNOR OF GUAM

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of *United States v. Guam Waterworks Authority and the Government of Guam,* Civil No. 24-00004..

FOR THE GOVERNMENT OF GUAM:

Date

DOUGLAS B. MOYLAN
ATTORNEY GENERAL OF GUAM

10/24/23
Date

LOURDES A. LEON GUERRERO
GOVERNOR OF GUAM

Exhibit D

ATTACHMENT 1
TASK ORDER FORM

Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System
Repair, Rehabilitation, and Replacement Project

Task Order No. [02], consisting of 6 pages.

In accordance with Paragraph 1.01 of the Agreement Between Owner and Engineer for Professional Services – Task Order Edition, dated [ ] ("Agreement"), Owner and Engineer agree as follows:

1. Background Data

a.	Effective Date of Task Order:	
b.	Owner:	Guam Waterworks Authority
c.	Engineer:	Brown and Caldwell
d.	Specific Project (title):	Sewer Gravity, Force Main, and Pump Station Assessment, Capacity Verification, and Design Services
e.	Specific Project (description):	Provide GWA with gravity sewer, force main, and pump station assessment and design in Agat-Santa Rita and Umatac-Merizo.

2. Services of Engineer

A. The specific services to be provided or furnished by Engineer under this Task Order are:

SCOPE OF WORK

This Task Order 2 ("TO No. 2") will be performed by Brown and Caldwell ("Engineer") under the GWA ID/IQ Project Management/Construction Management for Islandwide sewer Collection/Transmission System, Repair, Rehabilitation, and Replacement contract ("Contract"). TO No. 2 consists of the assessment and design of the Gravity Sewer, Force Main, and Pump Stations identified in Attachments A, B, and C for the Agat-Santa Rita and Umatac-Merizo areas.

The scope of work for TO No. 2 is outlined below and is further defined in Attachments D, E, and F.

1. Phase 1 – Gravity Sewer
   A. Project Management
   B. Gravity main Condition Inspection and Assessment
   C. Agat-Santa Rita/Umatac-Merizo Condition Assessment Report
   D. Additional Gravity Main Condition Assessment Report
   E. Acute and Short-Term Gravity Main Work Plan
   F. Capacity Verification
   G. Long-Term Gravity Main Work Plan

H. Preliminary Engineering/Basis of Design
I. 30% Design
J. 60% Design
K. 90% Design
L. 100% Design
M. Construction Bid Support and Support During Construction

2. Phase 2 – Force Mains
A. Project Management
B. Force Main Inspection
C. Force Main Assessment Report
D. Force Main Capacity Verification
E. Preliminary Design/Basis of Design Report
F. 30% Design
G. 60% Design
H. 90 % Design
I. 100% Design
J. Construction Bid Support and Support During Construction

3. Phase 3 – Pump Stations
A. Project Management
B. Pump Station Preliminary Plan
C. Pump Station Condition Assessment
D. Pump Station Capacity Verification
E. Preliminary/Basis of Design
F. 30% Design
G. 60% Design
H. 90% Design
I. 100% Design
J. Support During Construction

The scope of work for each phase in Attachments D, E, and F indicate Engineer Responsibilities, Owner Responsibilities, and Deliverables.

The execution of TO No. 2 authorizes the Engineer to proceed with items 1.A to 1.H, 2.A to 2.E, and 3.A to 3.E above and as defined in Attachments D, E, and F. Engineer shall begin work on the remaining scope items list above only after an amendment to TO No. 2 is executed, which will be negotiated between the Owner and the Engineer.

B. All of the services included above comprise Basic Services for purposes of Engineer's compensation under this Task Order.

3. Additional Services

Additional Services that may be authorized or necessary under this Task Order are set forth as Additional Services in Part 2—Additional Services, of Exhibit A, "Engineer's Services for Task Order," of the Agreement modified for this specific Task Order, and attached to and incorporated as part of this Task Order.

4. Owner's Responsibilities

Owner shall have those responsibilities set forth in Article 2 and Exhibit B of the Agreement, under this Task Order, subject to the following: None

5. Task Order Schedule

In addition to any schedule provisions provided in Exhibit A under this Task Order or elsewhere, the parties shall meet the following schedule:

Party	Action	Schedule
Engineer	**Conduct and complete require CCTV inspections of Gravity Mains and provide data to Owner for submittal to USEPA.**	**By March 7, 2025**
Engineer	**Conduct meetings and Assist Owner with review and assessment of CCTV.**	**Within 30 days of completion of CCTV**
Engineer	**Assist Owner with compiling and reporting CCTV assessment, through the Gravity Main Condition Assessment Report to be delivered to USEPA.**	**Within 12 months of Effective Date of Task Order.**
Owner	**Assist Engineer with requested data, as necessary.**	**Within 14 days of receipt from Engineer.**
Owner	**Submit any additional CCTV completed to Engineer, for assessment and reporting.**	**Within 14 days of receipt of additional CCTV data.**
Engineer	**Conduct and complete assessment of pump stations and ejector stations and their associated force mains within scope.**	**Within 180 days of Effective Date of Task Order.**

6. Payments to Engineer

A. Owner shall pay Engineer for services rendered under this Task Order based on the attached approved Task Order No. 2 Scope of Work and Fee

Description of Service	Amount	Basis of Compensation
1. Phase 1 – Gravity Sewer		
a. Task 1 – Project Management	$146,423	Lump Sum
b. Task 2 – Gravity Main Condition Inspection and Assessment	$557,873	Lump Sum
c. Task 3 – Agat-Santa Rita/Umatac-Merizo Condition Assessment Report	$103,133	Lump Sum
d. Task 4 – Additional Gravity Main Condition Assessment Report	$179,057	T&M
e. Task 5 – Acute and Short-Term Gravity Main	$94,378	Lump Sum

Work Plan		
f. Task 6 – Capacity Verification	$34,536	Lump Sum
g. Task 7 – Long-Term Gravity Main Work Plan	$107,331	Lump Sum
h. Task 8 – Preliminary Engineering/Basis of Design	$1,046,118	T&M
2. Phase 2 – Force Main		
a. Project Management	$143,811	Lump Sum
b. Force Main Inspection	$259,887	Lump Sum
c. Force Main Assessment Report	$68,233	Lump Sum
d. Force Main Capacity Verification	$32,643	Lump Sum
e. Preliminary Design/Basis of Design Report	$251,192	T&M
3. Phase 3 – Pump Station		
a. Project Management	$131,564	Lump Sum
b. Pump Station Preliminary Plan	$73,986	Lump Sum
c. Pump Station Condition Assessment	$167,781	Lump Sum
d. Pump Station Capacity Verification	$34,490	Lump Sum
e. Preliminary Design/Basis of Design Report	$331,813	T&M
TOTAL COMPENSATION (lines 1, 2, and 3)	$3,764,249	
GRT (5.263%)	$198,113	
Grand Total Task Order 2	$3,962,362	

Compensation items and totals based in whole or in part on Hourly Rates or Direct Labor are estimates only. Lump sum amounts and estimated totals included in the breakdown by phases incorporate Engineer's labor, overhead, profit, reimbursable expenses (if any), and Consultants' charges, if any. For lump sum items, Engineer may alter the distribution of compensation between individual phases (line items) to be consistent with services actually rendered, but shall not exceed the total lump sum compensation amount unless approved in writing by the Owner.

B. The terms of payment are set forth in Article 4 of the Agreement and in the applicable governing provisions of Exhibit C of the Agreement.

7. Consultants retained as of the Effective Date of the Task Order: Not Applicable

8. Other Modifications to Agreement and Exhibits:

a. The following replaces and supersedes Agreement, Article 6, Paragraph 6.02.A:

For each design performed or furnished, Engineer shall be responsible for Design Services during Construction as well as all duties required in performance of the Engineer as the Construction/Project manager as defined in the Scope of Work and/or Task Order. Engineer, as

both designer and Construction/Project Manager, shall be responsible for design and Shop Drawing review, review and response to Requests for Information and Contractor claims, Construction Contract administration, processing of Change Orders and submittals, revisions to the Construction Contract Documents during construction, construction observation and review, review of Contractor's payment applications, and all other necessary Construction Phase administrative, engineering, and professional services.

b. The following replaces and supersedes Agreement, Article 7, Paragraph 7.01.A.15

Construction Management – Represent the owner's interest and provide technical expertise in the oversight of the project, directly for the owner. Primary duties shall be to observe and monitor contractor activities at a construction site to meet a project's goals, plans, specifications, schedule, and safety standards as defined in the Task Order.

9. Attachments: ATTACHMENT A – October 9, 2024, Brown and Caldwell, Task Order No. 2 Scope of Work and Fee Proposal.

10. Other Documents Incorporated by Reference: Not Applicable

11. Terms and Conditions

Execution of this Task Order by Owner and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Task Order signed by Owner.

The Effective Date of this Task Order is [ ]

OWNER: Guam Waterworks Authority	ENGINEER:
By: _____	By: _____
Print Name: MIGUEL C. BORDALLO, P.E.	Print Name: _____
Title: General Manager	Title: _____
	Engineer License or Firm's Certificate No. (if required): _____
	State of: _____
DESIGNATED REPRESENTATIVE FOR TASK ORDER:	DESIGNATED REPRESENTATIVE FOR TASK ORDER:
Name: _____	Name: _____
Title:	

_____	Title: _____
Address: _____	Address: _____
E-Mail Address: _____	Email Address: _____
Phone: _____	Phone: _____

Engineering Department Approval:

By: _____
BRETT RAILEY, P.E.
GWA Acting Asst. General Manager - Engineering

Certified Funds Available:

By: _____
TALING M. TAITANO, CPA, CGFM
GWA Chief Financial Officer

Approved as to Form:

By: _____
THERESA G. ROJAS, ESQ.
GWA Legal Counsel

Contract Amount: **$** 3,962,362.00
Contingency: **$** _____
Amount Certified: **$** 3,962,362.00
Funding Source: Bond, IFCIP

Attachment A

Task Order No. 2 - Sewer Gravity, Force Main, and Pump Station Assessment, Capacity Verification, and Design Services

Task Order 2 - Phase 1: Gravity Sewer Mains

This document accompanies Task Order 2 of S22-02-BND Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Island-wide Sewer Collection/Transmission system Repair, Rehabilitation, and Replacement Project.

Phase 1 of Task Order 2 of the Sewer Repair, Rehabilitation, and Replacement Indefinite Delivery/Indefinite Quantity (IDIQ) consists of:

- Gravity sewer CCTV condition assessment
- Assessment reporting
- Hydraulic modelling
- Capacity Evaluation
- Design services through construction for the replacement of gravity sewer segments identified in the 2018 WRMPU with capacity issues, and trenchless rehabilitation for segments with significant structural defects.

Elements of this phase are further described below and are separated into individual tasks. Assumptions, inclusions, and exclusions are listed in the subtasks below.

Task 1 - Project Management

1. Project Management Plan: Prepare a Project Management Plan (PMP) that includes the following elements:
   a. Project Description
   b. Scope of work
   c. Work Plan
   d. Typical monthly progress report
   e. Quality Assurance and Quality Control Plan
   f. Communication Plan
   g. Documentation Plan
   h. Subcontractors and organizational chart
2. Project Schedule: Submit a schedule that meets required milestones. Update schedule at all phases of the project, including monthly meetings, dates for completion of engineering design studies, milestone tasks, and dates for review periods. The schedule may include program development (owner's requirements) and environmental permit approvals. The schedule will be based on the proposed target dates.
3. Progress Reports: Submit monthly progress/status reports to support monthly billings.
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. Prepare meeting minutes.
5. Coordinate and communicate with local and federal agencies, including Guam Environmental Protection Agency (GEPA), Department of Public Works (DPW), Department of Parks and Recreation (DPR), US Fish and Wildlife Services (USFWS) throughout the course of the project to ensure review and permitting process adheres to project schedule.

Task 2: Gravity Main Condition Inspection and Assessment

Perform closed-circuit television (CCTV) inspection and assessment documentation, in accordance with the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Condition Program (PACP), on gravity sewer mainline segments listed in Attachments A, B, and C, (approximately 24,000 lf). Additionally, inspect, assess, and document all accessible manholes along the gravity sewer lines in Attachments A, B, and C in accordance with NASSCO's Manhole Assessment and Condition Program (MACP). Phase 1 includes the following:

1. Conduct field sewer CCTV and Manhole inspections
    a. Obtain sufficient condition data and an understanding of the gravity sewer pipe system failure modes.
    b. Prior to work, secure DPW Highway Encroachment permit.
    c. Provide roadway traffic control.
2. CCTV Inspection and Cleaning
    a. Perform the inspection in accordance with NASSCO PACP.
    b. Television inspection equipment shall have accurate footage counter that will display on the monitor and record the camera distance from the centerline of the starting manhole. The camera shall be of the remotely operated pan and tilt type. The rotating camera and light head configuration shall have the capability of panning 360° with pan and tilt capability, providing a full view of the pipe to ensure complete inspection of the mainline pipe and service laterals.
    c. Prior to performing CCTV inspection activities, consultant shall clean the sewer lines(s) to be televised.
    d. Just prior to performing the video inspection procedure, water must be introduced into the nearest upstream manhole until observed at the nearest downstream manhole. This will ensure that any pipe segments with bellies are easily identified during CCTV inspection.
    e. Fats, Oil, and Grease (FOG) shall be evacuated, as much as practical, from the pipeline and the pipeline kept clear of any FOG during the CCTV inspection process.
    f. Main Line Inspection
        i. Prior to the beginning of each CCTV inspection, manhole identification numbers, as provided by GWA, shall be displayed in the title and shall become a part of the video record.
        ii. Perform the inspection on all mainline sections from manhole to manhole
        iii. The interior of the pipe shall be carefully inspected to determine the location and extent of all NASSCO defects.
        iv. Immediately notify GWA of any identified acute defects (NASSCO Structural Grade 5 defects).
        v. Identify locations where clean water is leaking into the sewers.
        vi. Locate service connections

Assumptions

1. Sewer manholes are easily accessible and are not buried, paved over, or welded.
2. Access to sewer easements is maintained and accessible with CCTV and cleaning vehicles/equipment.
3. GIS locations of assets to be inspected are generally accurate.
4. Cleaning required for CCTV inspection can be achieved with a maximum of three passes with standard jetting equipment. Removal of encrustations is excluded.
5. Cleaning debris can be disposed at the Umatac-Merizo WWTP and/or the Tipalao Septic Receiving Station.
6. More than one attempt from each direction to CCTV a segment is excluded if hindered by reasons beyond Consultant's control.

Consultant Responsibilities/Deliverables:

1. Furnish a video file of each CCTV inspection in standard NASSCO PACP/MACP format
2. Furnish pictures of each manhole inspection in standard NASSCO MACP format
3. Furnish PACP/MACP inspection reports in PDF format, including NASSCO ratings
4. Furnish a summary sheet, in excel format, of all inspections

GWA Responsibilities:

1. Provide updated GIS, with current Asset IDs, for all gravity sewer main pipelines and manholes included in the work area.
2. If needed, clear access paths for sewer lines within sewer easements.
3. Assist, as necessary, in securing the DPW highway encroachment permit.

Task 3 – Agat-Santa Rita/Umatac-Merizo Condition Assessment Report

Prepare and submit a Gravity Main Condition Assessment Report for the gravity sewer pipelines and manholes in Attachments A, B, and C. This task will involve analyzing the CCTV data from Phase 1 and determining the structural and operational conditions, failure modes, and make recommendations for additional cleaning need (if any), maintenance, repair, rehabilitation, or replacement of system assets, as needed.

Evaluate the sewer assets' likelihood of failure (LoF) and consequence of failure (CoF),and provide recommendations for repair or rehabilitation timeline. Consultant shall work with GWA to develop risk criteria.

Include an Association of Cost Engineering International (AACEI) Class 5 Conceptual opinion of Probable Construction Cost (OPCC) estimate for repairs, rehabilitation, and replacements.

Upon completion of the Condition Assessment Report, provide a GIS shapefile containing structural and operational defects and condition ratings. Additionally, the GIS shapefile will include modifications to the sewer collection system connectivity based upon discrepancies observed in the field. Discrepancies will be recorded separately and summarized in a brief GIS discrepancy report.

Assumptions

1. Likelihood of Failure criteria will be based solely upon the structural condition rating determined during condition assessment.
2. Report will be prepared in consultant's standard template format, unless otherwise requested.

Consultant Responsibilities/Deliverables

1. Draft Condition Assessment Report. Submit an electronic PDF file of the draft report for review and comment. The report will include the following:
   a. NASSCO PACP structural and operational overall condition ratings for gravity sewer lines.
   b. NASSCO MACP structural and operational overall condition ratings for manholes.
   c. Identify and prioritize sewer lines and manholes for rehabilitation, repair, or replacement, including acute defects.
   d. Provide maps showing the sewer lines and manholes prioritized for repair, rehabilitation, and replacement.
   e. Provide estimated cost for the sewer lines and manholes recommended for repair, rehabilitation, or replacement
   f. Work with GWA to develop CoF criteria, weights, and rankings.
   g. Final Condition Assessment Report. The final report will address client comments on draft and will be submitted as an electronic PDF file.
2. GIS Database shapefile that includes the following asset attribute information:
   a. NASSCO PACP structural and operational condition ratings for gravity sewer mains
   b. NASSCO MACP structural and operational condition ratings for manholes

GWA Responsibilities

1. Provide Condition Assessment Report Template, if available.
2. Provide comments on the Draft Condition Assessment Report.
3. Provide input and make final decision on risk criteria and ratings for consequence of failure analysis

Task 4 – Additional Gravity Main Condition Assessment Report

The intent of this task is to develop a Gravity Main Condition Assessment report for gravity sewer assets outside the Phase 1 and Phase 2 areas. Additional sewer segments beyond the areas contained in Attachments A, B, and C of Phases 1 and 2 shall be as specified and directed by GWA. Under this Phase, consultant will review GWA provided CCTV videos and completed PACP/MACP inspection forms to evaluate conditions, perform a LoF and CoF analyses, and make recommendations for repair, rehabilitation, and/or replacement. Consultant does not take responsibility for the accuracy and completeness of the information contained in the NASSCO Inspection Forms.

Assumptions

1. Assessments for assets outside Attachments A, B, and C are limited to 100,000 LF of gravity sewer pipe and associated manholes.
2. NASSCO Inspection Forms will be provided as PDF files and in GIS Shapefile database.
   a. Consultant will rely on the completed NASSCO Inspection Forms to perform the LoF and CoF analyses. It is acknowledged that conditions may have changed since the date of inspection, but the assessment and recommendation shall be based on the inspection data provided.
   b. CCTV videos will be reviewed to determine the appropriate remedy - repair, rehabilitation, or replacement.
3. Consultant is not liable for the accuracy and completeness of the information contained in the furnished NASSCO Inspection Forms.
4. CoF criteria defined in Task 2 will be applied to this task.
5. All CCTV videos and NASSCO Inspection Forms to be included in this report will be provided to Consultant by May 9, 2025, which is nine (9) months after the Effective Date of GWA's Consent Decree.
6. The Final Condition Assessment report for gravity mains will be submitted by February 9, 2026, which is nine (9) months after receiving the last NASSCO Inspection Form and 18 months from the Consent Decree Effective Date.
7. The party performing the CCTV inspection will identify and report to GWA, any acute defects during data collection. Consultant is not liable for the failure to report acute defects of assets outside of Attachments A, B, and C.

Consultant Responsibilities/Deliverables

1. Draft Condition Assessment Report. Submit an electronic PDF file of the draft report for review and comment. The report will include the following:
   a. NASSCO PACP structural and operational overall condition ratings for gravity sewer lines
   b. NASSCO MACP structural and operational overall condition ratings for manholes.
   c. LoF and CoF analyses for each asset.
   d. Identify and prioritize sewer lines and manholes for rehabilitation, repair, or replacement
   e. Provide maps showing the sewer lines and manholes prioritized for repair, rehabilitation, and replacement
   f. Provide estimated cost for the sewer lines and manholes recommended for repair, rehabilitation, or replacement

2. Final Condition Assessment Report. Final report will address client comments on draft and will be submitted as an electronic PDF file.

GWA Responsibilities

1. Provide GIS database with completed NASSCO PACP and MACP structural and operational condition grades for each asset.
2. Provide PDF files of completed NASSCO PACP and MACP forms to be included in this Condition Assessment Report.
3. Provide CCTV video files for all assets that are included in this task.

Task 5 – Acute and Short-Term Gravity Main Work Plan

Upon GWA approval of the Gravity Main Condition Assessment reports, prepare and submit a Gravity main Work Plan for review and approval that organizes all necessary Gravity Main Repair, Rehabilitation, and Replacement work recommended in the Assessment Reports. The Gravity Main Work Plan shall include a prioritization list and project packages that prioritizes segments with acute defects, segments that eliminate SSOs, and segments that reduce I&I.

Assumptions

1. Prioritization and packaging will be based on LoF and CoF results from the Condition Assessment Report(s).
2. Prioritization and packaging is limited to the assets contained in the Condition Assessment Report(s). Assets not included in the Condition Assessment Report(s) are excluded from CIP packaging.

Consultant Responsibilities

1. Acute and Short-Term Gravity Main Work Plan
    a. Using the results and recommendations in the Gravity Main Assessment Report(s), develop a 5-year CIP program that prioritizes all acute defects and short-term repair, rehabilitation, and replacement work.
        i. Acute defects shall be prioritized first and scheduled to be completed no later than 24 months after they are identified.
        ii. Work with GWA on identifying project financing mechanisms, budgets, and schedule to develop project packages.
        iii. Perform an AACEI Class 5 cost estimate for project packages.
        iv. Develop a design and construction schedule for the CIP program such that the projects included in this Gravity Main Work Plan are completed within 5-years of the report submittal date.

Deliverables

1. Draft Acute Defects Gravity Main Work Plan in electronic format.
2. Final Acute Defects Gravity Main Work Plan in electronic format.
3. Final Microsoft Project (.msp) file for Acute Defects schedule.
4. Draft Gravity Main Work Plan in electronic format.
5. Final Gravity Main Work Plan in electronic format.
6. Final Microsoft Project (.msp) file for 5-year Gravity Main CIP schedule.

GWA Responsibilities

1. Review and comment on Draft Gravity Main Work Plan within 30 days.
2. Identify and establish financing mechanisms and budgets to implement 5-year CIP program.

Task 6 – Capacity Verification

Review the DRAFT Capacity Evaluation Report (completed under separate project) for the gravity main sewer lines identified in Attachments A, B, and C based on the latest flow metering data. The Capacity Evaluation Report shall be supplemented with a technical memorandum (TM) documenting this verification. The TM will validate the capacity of sewer mains within the areas shown in Attachments A, B, and C and identify current or future flow bottlenecks within the project scope. This TM shall include a hydraulic assessment and a Flow Model update to determine hydraulic capacity of the project scope areas and confirm areas of the scope of work expected to cause or contribute to SSOs that will be eliminated through repair/rehabilitation/replacement under this Task Order.

Assumptions

1. Flow model calibration used as the basis for the Storm Technical Memorandum and recent work in the Central Basin shall be relied on for this Task; flow metering for the segments in Attachments A, B, and C is excluded.

Consultant Responsibilities/Deliverables

1. Perform a hydraulic assessment of the gravity sewer mains identified in Attachments A, B, and C using existing data.
   a. Submit a Flow Model update for the gravity sewer mains identified in Attachments A, B, and C.
   b. Flow Model will incorporate physical changes to the wastewater collection system, changes to capacity, and new data gathered through December 31, 2022
   c. Flow Model will incorporate newly collected survey data for the sewer segments, such as invert elevations, pipe sizes, and pipe material.
2. Draft and Final Capacity Assurance Report(s) that includes the results of the hydraulic assessment and flow model.

GWA Responsibilities

1. Provide requested information related to the gravity sewer model, including changes to the system since 2012.

Task 7 – Long-Term Gravity Main Work Plan

Upon approval of the Gravity Main Condition Assessment Report(s) and after reviewing the Draft Capacity Evaluation Report, develop a long-term Gravity Main Work Plan that:

1. Identifies and schedules the design and construction of all necessary Long-Term Gravity Main Rehabilitation and Replacement work based on the Condition Assessment Report and GWA's Draft Capacity Evaluation Report
2. Meets the capacity criterion established in the Storm Technical Memorandum dated January 4, 2023.
3. Proposes an annual commitment of Gravity Main rehabilitation or replacement of at least three (3) miles per year.
4. The Long-Term Gravity Main Work Plan shall also consider the results from GWA's Capacity Evaluation Report

Assumptions

1. Work Plan will be submitted in consultant's standard deliverable format.

Consultant Responsibilities/Deliverables

1. Draft Long Term Gravity Main Plan
   a. Assets will be prioritized based on LoF and CoF results from the Condition Assessment Report(s).

   b. Develop distinct Capital Improvement Project (CIP) summaries that describe logical grouping of main repair/rehabilitation/replacement projects, scopes of work, design, and construction packages. CIP summaries and packages shall consider: financing constraints, economic feasibility, type of construction, and proximity of assets.
   c. Draft Long Term Gravity Main Plan shall include maps indicating the locations and assets included in each CIP project.
   d. Consultant shall evaluate alternative contracting methods (design-bid-build, design-build, etc) to successfully execute the Long-Term Gravity Main Work Plan and provide a recommendation.
   e. Consultant shall perform an AACEI Class 5 estimate for each recommended CIP.
   f. Cost estimate shall include adjustments for inflation to the year the CIP is scheduled to be contracted.
   g. The draft Long-Term Gravity Main Work Plan will be submitted in two documents:
   h. Brief Technical Memorandum outlining the prioritization considerations, and:
   i. CIP packaging method.
2. Final Long Term Gravity Main Plan
   a. Incorporate GWA's comments from the Draft Long Term Gravity Main Plan into a Final Long Term Gravity Main Plan.

GWA Responsibilities

1. Provide financing information to inform the packaging and scheduling of CIPs.
2. Review and comment on Draft Long-Term Gravity Main Work Plan.

Task 8 –Preliminary Engineering/Basis of Design

Define objective, design criteria, and methodology that shall be used to prepare the design to repair, rehabilitate, or replace gravity sewer mains and manholes within Attachments A, B, and C, or as directed by GWA.

Assumptions (applicable to Tasks 8 through 12)

1. Sewer lines within Attachments A, B, and C identified in the 2018 Water Resources Master Plan (WRMP) that have inadequate capacity can be upsized using open-cut replacement methods. Other sewer lines within the Task Order scope can be rehabilitated using trenchless technologies, such as CIPP.
   a. Approximately 11,000 LF of pipe identified in the 2018 WRMP must be upsized due to capacity issues. Replacement for this pipe will be open-cut excavation.
   b. Approximately 13,000 LF of other pipe sections will be CIPP.
2. All lines identified in Attachment A, B, and C are in existing right of way or an easement. Review of easements and property records are excluded. Any pipeline realignment is assumed to be within existing ROW or utility easements.
3. Design will show existing water, storm, and telecommunication utilities, but will not show any relocation or re-alignment for any conflicts.
4. Design is scoped as a design-bid-build method of delivery.
5. Open-cut replacement design assumes maximum depth of 17 feet and excavatable soil conditions. Unusual soil conditions or consolidated formation excavation are not considered.
6. Dewatering performance specification is included but means and methods will be provided by contractor.
7. Geotechnical investigations conducted to design the gravity sewer repair, rehabilitation, or replacement will also include gathering data relative to the design portions of Phase 2 (Forcemains) and Phase 3 (Pump stations) of Task Order 2, unless otherwise stated by GWA.
8. Planimetric and topographic field survey conducted to design the gravity sewer repair, rehabilitation, or replacement will also include gathering data relative to the design portions of

Phase 2 (Forcemains) and Phase 3 (Pump stations) of Task Order 2, unless otherwise stated by GWA.

Exclusions (applicable to Tasks 8 through 12)

1. Permitting and land acquisition for pipe realignment.
2. Permitting and environmental study requirements for stream crossings.
3. Landscaping, including tree cutting, relocation, or vegetation restoration.
4. Stream restoration.
5. Property and land acquisition.
6. Biological Assessments. If required by USFWS or Guam Department of Agriculture, a biological assessment will be added through a task order amendment.
7. Preparation of an Archaeological Monitoring and Discovery Plan (AMDP) and archaeological monitoring is excluded to conduct geotechnical investigations. Consultant shall first consult with the Guam State Historic Preservation Office (SHPO) to determine archaeological requirements. The task order shall be amended as necessary based on SHPO's requirements.

Consultant Responsibilities/Deliverables

Under this task, Consultant shall conduct, as necessary:

1. Research and field investigations: Engineer shall gather data and conduct field investigations to identify existing conditions of the task order scope and aid in identifying optimal solutions. Efforts may include, but are not limited to:
    a. Review of record drawings
    b. Interviews with GWA staff
    c. Consult with SHPO and environmental regulatory agencies to determine permitting requirements for geotechnical investigations.
    d. Conduct field investigations and utility clearances to confirm location and layout of existing utilities within the proposed locations to avoid utility conflicts.
    e. Perform geotechnical explorations, including desktop studies, and reporting.
        i. Geotechnical desktop survey using available existing information to provide preliminary guidance for the project and inform the selection of an appropriate geotechnical investigation.
        ii. Field exploration and soil testing to characterize materials and determine engineering properties of the identified lines in Attachment A, B, and C.
            1) Soil borings will be conducted (one for every 1,000 LF) of pipeline and at each pump station. Borings will be further refined after the geotechnical desktop survey.
        iii. Preparation of Geotechnical Report. The report will include recommendations, summary of surface and subsurface conditions, seismicity, laboratory test data, and a site plan showing the exploratory locations and proposed alignments.
        iv. Geotechnical consultation services to support design development. This shall include ongoing consultation with the project team during design, plan, and specification review, and as requested, attendance of design team meetings.
        v. Geotechnical studies and explorations under this Phase will include information to perform the design activities in Phase 2 and Phase 3 of Task Order No. 2, which are the design of force mains and pump stations, respectively.
    f. Perform planimetric and topographic field survey to include surface features, buildings, driveways, roadways visible infrastructure and utilities, and location of the right of way or easements.
        i. The planimetric and topographic field survey under this Phase will be used in the development of the design documents for Phase 2 and Phase 3 of Task Order No. 2, which are the design of force mains and pump stations, respectively.

g. Identify demolition, grading, and operational requirements.

2. Basis of Design Report (BODR)
   a. After the research and field investigation phase, prepare a BODR to include the following:
      i. Projected flow rates
      ii. Design objectives
      iii. Route/alignment evaluation
      iv. Design Criteria
      v. Design Methodology
      vi. Easement Requirements
      vii. Description of existing wastewater system
      viii. Models and Results from Capacity Evaluation Report
      ix. Surrounding infrastructure, utility, and easement considerations.
      x. Proposed construction schedule with major work items.
      xi. Construction Cost Estimates – Develop a Class 4 cost estimate according to the AACE International Cost Estimates Classification System.

Deliverables

1. Geotechnical Report
2. Basis of Design Report
3. Pre-Design workshop with GWA project team to review approach, methodologies, findings, and determine design basis, including agenda, minutes, and documentation of comments.

GWA Responsibilities

1. Attend Pre-Design workshop.
2. Provide as-builts of existing water and wastewater infrastructure within Attachments A, B, and C.
3. Assist, as needed, with agency coordination and obtaining permits.
4. Review and provide comment(s) on BODR within 30-days.

Phase 9 - 30% Design Documents

Upon approval of the BODR, prepare 30% design drawings to refine and agree upon the general arrangement of the proposed design.

Consultant Responsibilities

1. Conduct monthly design review meetings with GWA to review the design process, status, issues, decision points, and project schedule.
2. 30% Preliminary Design Documents to include the following:
   a. Multidisciplinary plans
   b. Specification list
   c. Erosion Control Plan
   d. By-pass pumping plan (if required)
   e. Traffic Control plan
   f. Class 3 AACEI Preliminary Construction Cost estimate.
3. Initiate communication with Guam Environmental Protection Agency, Departments of Public Works, and other relevant agencies to identify all required permits. Task order will be amended to conduct studies or analyses required by local and Federal agencies.
4. Coordinate with relevant agencies, such as GEPA and DPW, throughout the design process. Incorporate any relevant regulation requirements into the design.

Deliverables

1. 3 sets (11” x 17”) hard copies of the design documents
2. Digital copy of the design documents and cost estimate.

GWA Responsibilities

1. Review and comment on the 30% design submittal and provide comments within 30 days.
2. Provide access to GWA property and easements.
3. Provide as-builts of existing water and wastewater infrastructure within Attachments A, B, and C.
4. Assist, as needed, with agency coordination and obtaining permits.

Task 10 – 60% Design

Refined multidisciplinary plans and specifications to obtain approval from GWA on the complete arrangement of the proposed design.

Consultant Responsibilities/Deliverables

1. 60% Design Documents
    a. Refined multidisciplinary plans and specifications, addressing comments from the 30% design submittal
        i. Detail Drawings
        ii. Plan and Profile Sheets
        iii. GWA Standard Details/ BC Standard Details
        iv. Draft specification sections, with review by BC's Subject Matter Experts
        v. GWA and BC's QA/QC comments on the 30% design submittal shall be reflected on the plans.
2. Class 2 AACEI cost estimate.
    a. Continuous coordination with relevant agencies, including DPW and GEPA.

Deliverables

1. 4 sets (11" x 17") hard copies of the design documents
2. Draft specification sections.
3. 30% Design comment log
4. Digital copy of the design documents and cost estimate.

GWA Responsibilities

1. Review and comment on the 60% design submittal and provide comments within 30 days.
2. Assist, as needed, with agency coordination and obtaining permits.

Task 11 – 90% Design

Completion of all construction documents with the appropriate level of detail, addressing comments from the 60% design submittal

Consultant Responsibilities/Deliverables

1. 90% Design Documents
    a. Plan Sheets
    b. Plan and Profile
    c. Detail Drawings
    d. Revised specifications
    e. BC Standard Detail Drawing/ GWA Standard Details
    f. GWA and BC's QA/QC comments on the 60% design submittal shall be reflected on the plans.
2. Review and prepare contract documents.
3. Class 1 AACEI construction cost estimate

4. Continuous coordination with relevant agencies.

Submittals

1. 4 sets (11" x 17") hard copies of the design documents
2. Revised specifications
3. Digital copy of the design documents and cost estimate
4. 60% Design comment log.

GWA Responsibilities

1. Review and comment on the 90% design submittal and provide comments within 30 days.
2. Assist, as needed, with agency coordination and obtaining permits.
3. Provide front-end document template suited for construction delivery method.

Task 12 – 100% Design

Completion of final documents prepared for bidding.

Consultant Responsibilities/Deliverables

1. 100% Design Documents
    a. Final set of drawings for bidding to include the following:
        i. Plan Sheets
        ii. Plan and Profile
        iii. Detail Drawings
        iv. BC Standard Detail Drawing/ Client Standard Details
        v. GWA and BC's QA/QC comments on the 90% design submittal shall be reflected on the plans.
    b. Finalized Specifications
2. Final construction cost estimate based on quantity takeoffs and requirements of the 100% design plans and specifications.
3. Final coordination and submittal of 100% design documents to relevant agencies.

Deliverables

1. 4 sets (11" x 17") hard copies of the design documents
2. 1 set (24" x 36") hard copy of design documents
3. Digital copy of the design documents and cost estimate.

GWA Responsibilities

1. Provide final approval of design documents and construction costs.

Task 13 – Construction Bid Support and Support During Construction

Provide technical assistance to GWA during construction bidding phase. This task includes technical support in reviewing all submittals and requests submitted by the Contractor during construction.

Consultant Responsibilities/Deliverables

1. Prepare answers to bidders' Requests for Information (RFIs) regarding the bid packages during the bidding phase.
2. Assist GWA in preparing contract solicitation addenda.
3. Coordinate the Pre-Bid Conference, including the preparation of meeting agenda, sign-in sheets, and record minutes and providing formal responses to technical questions.

4. Assist with reviewing construction proposals received. This shall include a bid analysis, review of bid proposal prices, and conformance with contract requirements and the Guam Procurement Code. A letter of recommendation of award shall be prepared.
5. Prepare final “Issued for construction” conformed plans and specifications incorporating addenda and changes during the bid phase.
6. Review shop drawings, design calculations, samples, test results and other data required to be submitted by the contractor for conformance with the contract documents. Document and provide responses to GWA. This shall include assisting the review of the Quality Control Plan for complete content.
7. The design consultant shall chair and record the meeting minutes with any other governmental agencies.
8. Review requests for clarification or interpretation submitted by contractor and provide responses to GWA.
9. Evaluate substitution requests to determine acceptability of substitute materials and equipment proposed by the contractor and provided recommendations to GWA.
10. If requested by the construction or project manager, attend the construction kick off meeting and construction/final inspections.
11. Perform preliminary and final inspections and submit punch list.
12. Provide Final Record Drawings based on marked-up construction drawings (i.e., as-builts).

GWA Responsibilities

1. Provide Engineer with necessary information such as RFIs submitted by the Contractor.

Task Order 2 - Phase 2: Sewer Force Main

This document accompanies Task Order 2 of S22-02-BND Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Island-wide Sewer Collection/Transmission system Repair, Rehabilitation, and Replacement Project.

Phase 2 of the Sewer Repair, Rehabilitation, and Replacement Indefinite Delivery/Indefinite Quantity (IDIQ) Task order 2 involves the assessment, capacity analysis, and design of the force mains associated with Pump Station (PS) 16, and PS 17, located in Umatac and Merizo. Elements of this phase are further described below and are separated into individual tasks below.

Task 1 - Project Management

1. Project Management Plan: Prepare a Project Management Plan (PMP) that includes the following items:
    a. Project Description
    b. Scope of work
    c. Work Plan
    d. Typical monthly progress report and invoicing
    e. Quality Assurance and Quality Control Plan
    f. Communication Plan
    g. Documentation Plan
    h. Subcontractors and organizational chart
2. Project Schedule: Submit a schedule that meets required milestones. Update schedule at all phases of the project, including monthly meetings, dates for completion of engineering design studies, milestone tasks, and dates for review periods. The schedule may include program development (owner's requirements) and environmental permit approvals. The schedule should be based on the proposed target dates.
3. Progress Reports: Submit monthly progress/status reports to support monthly billings.
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. Prepare meeting minutes.
    a. Coordinate and communicate with local and federal agencies, including Guam Environmental Protection Agency (GEPA), Department of Public Works (DPW), Department of Parks and Recreation (DPR), US Fish and Wildlife Services (USFWS) throughout the course of the project to ensure review and permitting process adheres to project schedule.
    b. Meetings will include:
        i. Project Kickoff Meeting
        ii. Monthly Update Meetings
        iii. Report Deliverable Workshop

Task 2 –Force Main Condition Assessment

Consultant shall complete a Force Main condition assessment for the force mains from PS 16 and PS 17. This assessment shall include the force main and appurtenances, such as valves, air relief valves, drains, connection, and connection. At a minimum, the assessment shall:

1. Inspect and determine functionality.

2. Identify effects, such as inoperable valves, exposed corrosion, leaks, cracks, or other conditions that contribute to the failure of the Force Main.
3. Evaluate all metallic appurtenances to determine if corrosion protective measures are necessary.
4. Conduct an external pipe inspection of the exterior of each Force Main wherever the pipe segment is exposed to assess structural damage and the integrity of protective coatings using visual inspection and technology suitable to the pipe. Suitable technology shall be no less than ultrasonic testing, magnetic flux leakage, or broadband electromagnetic testing, or a technology approved by GWA.
5. Conduct pressure monitoring for the PS 17 Force Main to measure the maximum predicted transient pressure that can be expected under normal, peak flow, and emergency conditions.
6. Review operating data available from GWA.
7. Determine the Force Main's probable time of failure based on the condition assessment.

Assumptions

1. The force mains and infrastructure for accessing the interior of the force mains are in suitable condition to allow for the inspections described in this proposal to be performed without undue risk to BC personnel, BC subcontractor personnel, and equipment provided and used to deliver services under this task order.
2. The force main is accessible for the Piper device without addition of fitting or valves or other modifications to the existing plumbing tree and that the device can be deployed through removal of the bonnet from an existing check valve.
3. GWA will grant access to use water from sources within the project area for the purposes of inspection operations. Water usage and/or permit fees have been excluded from the proposed fee.
4. GWA shall provide a local disposal site for water and/or materials removed by BC from the pipelines. Disposal fees have been excluded from the proposed fee.
5. DPW Building permit not required.
6. Both pumps at PS 16 and PS 17 are operable and the INGU Pipers tool can be deployed within the pump stations' valve vault box by removing one check-valve and inserting the Pipers tool,
7. A retrieval device can be installed at the terminating manhole of the force main.
8. One pump at both PS can be temporarily shut down so that the inspection equipment may be deployed.
9. Force mains will be inspected by BC using the INGU Pipers screening level to acquire the following data:
    - Acoustic
    - Pressure
    - Magnetometer

Consultant Responsibilities

1. Review Available Information, including, but not limited to:
    a. Record documents of the force mains, as-built drawings, and specifications
    b. Record documents related to prior force main and infrastructure repair, rehabilitation, and replacement
    c. GIS data for force mains, access structures, connections, and other assets.
    d. Operations and maintenance records for the force mains.

e. Force Mains flow rate data, such as expected nominal flow rates, and flow rate hydrographs over 2-weeks of normal operations
f. Access to GWA staff knowledgeable about the force mains' operational and maintenance issues, prior inspections, previous rehabilitations and other GWA and third-party work in the project area.

2. Inspection Planning, In-Person Workshop
    a. BC will perform inspection planning services that includes conducting site visits and preparation of a Work Plan describing the means and methods for the inspections to be performed during the project. BC will include a planned schedule for when the inspections are to be performed and the duration of the inspections.
    b. BC will organize and lead an in-person/remote workshop at GWA facilities. BC Project Management and Technical staff will attend and present at the workshop, with additional BC technical staff attending remotely. The workshop is to be attended by GWA designated sewer collections system operations and maintenance staff, plus GWA engineering and management staff.
    c. The purpose of the workshop will be to inform GWA staff of planned BC work efforts, anticipated results, schedule, clarify roles and responsibilities, and to coordinate GWA and BC communication requirements. During the workshop, BC will engage with GWA staff to provide comments, ask questions about the inspection means and methods to be used for this project, and provide guidance to BC as GWA sees necessary.
3. Permitting
    a. Permitting is assumed to be minimal for this project and limited to Highway Encroachment Permit.
    b. BC will prepare and submit necessary traffic control plans.
4. Force Main Inspections using Pipers Technology
    a. BC will execute the force main inspections according to the Work Plan, using the INGU Pipers tool.
    b. Field services, such as the physical Pipers deployment/capture and traffic control, will be provided by BC and its subcontractors under BC supervision and GWA operator presence, as determined by GWA.
    c. Equipment required for the deployment and capture of the Pipers tool will be provided by BC and its subcontractors under BC supervision.
    d. Pipers setup, Pipers data acquisition, and Pipers data download and field QC verification of the data will be performed by BC staff.
    e. Pre-Inspection Planning and Meeting
        i. Conduct a pre-project planning meeting with BC staff and its subcontractors to plan, prepare, and coordinate the execution of the force main pipeline inspections.
        ii. BC will use the Pipers tool to collect the following data:
            1. Acoustic data for detection and location of pipeline leaks
            2. Acoustic data for detection and location of air pockets or entrained air within the pipeline.
            3. Pressure data for detection of changes in vertical pipeline alignment and presence of deposits within the pipeline.
            4. Magnetometer data for qualitative detection and location of pipeline features, changes in pipe material, or areas of potential wall loss.

5. Data Acquisition, QC Review, and Validation
    a. BC and its subcontractors will conduct the Pipers inspections of the force main pipelines.

b. Deployment and Capture
    i. Pipers inspection tools and Pipers dummy devices to be physically deployed and captured through existing force main infrastructure.
    ii. BC staff will prepare the Pipers tools to acquire data described in 4.e.ii above.
    iii. BC staff will oversee deployment of the Pipers dummy device in the first force main pipeline at the upstream deployment site.
    iv. Once notification is received from the capture team that the Pipers dummy device has been successfully captured, the first Pipers inspection tool will be deployed.
    v. Once notification is received from the capture team that the first Pipers inspection tool has been successfully captured, the second Pipers inspection tool will be deployed.
c. Data Acquisition and Data Validation
    i. Once the second Pipers inspection tool is retrieved, data will be downloaded and QC-reviewed to verify the validity of the data.
    ii. If data are not valid, BC staff will notify deployment team that redeployment is necessary for either or both tools. Data Acquisition steps above will be repeated, as necessary.
    iii. Once valid data are verified for the first force main pipeline, repeat the above for the second force main pipeline.
    iv. Once data are validated for both force main pipelines, capture team will notify deployment team that the inspections are successful, and demobilization may begin.

Deliverables

1. Inspection planning meeting agenda and minutes.
2. Draft and Final Inspection Work Plan.

GWA Responsibilities

1. Obtain USEPA approval of Inspection Work Plan.
2. Participate in site visits.
3. Provide access to the pump stations.
4. Operate pumps, as requested by BC, to deploy and retrieve Pipers tool.

Task 3 – Force Main Condition Assessment Report

Prepare and submit a Force Main Condition Assessment report for the PS 16 and PS 17 force mains. This task will involve analyzing the INGU Pipers data from Task 2. Report will include a description of the field efforts, field observations, and data results. Report will also include a discussion of the results, potential impact of the findings, and recommendations for additional inspections and next steps.

Consultant Responsibilities

1. Data Analysis and Reporting

a. BC staff will assemble and transmit data to INGU. INGU will analyze the acquired data and report results to BC. Draft report on results in PDF format will be delivered to BC for QC-review and comments. INGU Draft Report will include:
    i. Leak Detection – Report of positive identification of leak, detected within the measurement sensitivity of Pipers, and approximate longitudinal position along the pipeline. Listing of detected leaks and locations in table format within PDF report.
    ii. Air/Gas Pocket Detection – Report of positive identification of air pockets or entrained air, detected within the measurement sensitivity of Pipers, and approximate linear location along the pipeline. Listing of detected air pockets or entrained air and locations in table format within PDF report.
    iii. Pressure Data – Report on measured pressure as a function of longitudinal position along the force main pipeline. Graphic comparison of pressure data and expected force main elevations (per record drawings) vs. longitudinal position.
    iv. Magnetic inspection
        1) Report of identified magnetic features, detected within the measurement sensitivity of the Pipers, and approximate longitudinal positions.
        2) Determination whether identified magnetic features are attributable to reductions in pipe wall metal content (e.g., wall-thinning due to corrosion or erosion), or additions in metal content (e.g., repair clamp sleeves installed on the exterior of the pipe).
        3) Determination whether identified magnetic features are attributable to force main features such as joints, valves, etc.
        4) Listing of magnetic and pipeline features and locations in table format within PDF report.
    v. Overview Graph – Graphic comparison of force main elevations vs longitudinal position along the force main with pressure data, location of leaks, location of air pockets and entrained air, and location of magnetic features.
    vi. BC will review the INGU Draft Report and provide comments and corrections. These comments and corrections will be incorporated into an INGU Final Report submitted to BC.

2. Draft Assessment Report
    a. Develop and deliver a Draft Report for GWA review and comment. Report will include:
        i. Description of the field efforts
        ii. Observations during field efforts
        iii. Data results of the inspections.
        iv. Discussion of the results
        v. Potential impact of the findings
        vi. Recommendations for additional inspections/next steps. A copy of the INGU Final Report will be included.
    b. In-Person Workshop
        i. Organize and lead an in-person/remote workshop at GWA facilities to jointly review the Draft Report and discuss BC findings. During the workshop, BC will engage with GWA staff to provide comments, ask questions about the inspection findings, and give guidance to BC as GWA sees necessary.
        ii. BC Project Management and Technical staff will attend and present at the workshop. The workshop is to be attended by GWA designated sewer collections system operations and maintenance staff, plus GWA engineering and management staff.

3. Final Report
    a. Compile GWA Draft Report review comments, incorporate input, then develop and deliver a Final Report.

GWA Responsibilities

1. Review and provide comments on Draft Condition Assessment Report
2. Attend and participate in an in-person/remote workshop
3. Approve the Final Condition Assessment Report

Deliverables

1. Prepare and submit a Draft Condition Assessment Report describing results of the inspections for GWA review and comment
2. Organize and lead an in-person/virtual workshop at GWA facilities to review the Draft Condition Assessment Report and discuss findings.
3. Prepare and submit a Final Report describing the results of the project inspection efforts, including INGU's analysis of the acquired data

Task 4 – Force Main Capacity Verification

Perform a hydraulic analysis for PS 16 and PS 17 force mains. This verification shall include updating flow models and an analysis on future flow discharge from the pump stations to determine required hydraulic capacity of the force mains. The Technical Memorandum (TM) shall include recommendations to upgrade the capacity of the force mains, if necessary.

Assumptions

1. Flow metering for PS 16 and PS 17 force mains is excluded.

Consultant Responsibilities/Deliverables

1. Perform a hydraulic assessment of PS 16 and PS 17 force mains.
2. Submit a Flow Model.
    a. Flow Model will be calibrated according to the Chartered Institution of Water and Environmental Management (CIWEM) Code of Practice for the Hydraulic Modelling of Urban Drainage Systems Version 01 and consistent with the Storm Technical Memorandum.
    b. Flow Model will incorporate physical changes to the wastewater collection system, changes to capacity, and new data gathered through December 31, 2022
    c. Flow Model will be updated with newly collected survey data for the force mains, such as invert elevations, pipe sizes, and pipe material.
3. Draft and Final Hydraulic TMs that include the results of the hydraulic assessment and flow model.

GWA Responsibilities

1. Provide requested information related to the force main sewer model, including changes to the system since 2012.

Task 5 –Preliminary Engineering/Basis of Design

Define objective, design criteria, and methodology that shall be used to prepare the design to repair, rehabilitate, or replace PS 16 and PS 17 sewer force mains and appurtenances.

Assumptions (applicable to Tasks 5 through 10)

1. The force mains for PS 16 and PS 17 are in existing right of way or an easement. Review of easements and property records are excluded. Any realignments will be within existing ROW or utility easements.
2. Design will show existing water, storm, and telecommunication utilities, but will not show any relocation or re-alignment for any conflicts.
3. Design is scoped as a design-bid-build method of delivery.
4. For budgeting purposes, both force mains are assumed to need to open-cut replacement either due to capacity issues or severe structural defects. Design assumes excavatable soil conditions. Unusual soil conditions or consolidated formation excavation are not considered.
5. Dewatering performance specification is included but means and methods will be provided by contractor.
6. Geotechnical investigations for the force main design will be accomplished under Phase 1 of Task Order 2 (Gravity Sewer), unless otherwise stated by GWA.
7. Planimetric and topographic field survey for the force main design will be accomplished under Phase 1 of Task Order 2 (Gravity Sewer), unless otherwise stated by GWA.

Exclusions (applicable to Tasks 5 through 10)

1. Permitting and land acquisition for pipe realignment.
2. Permitting and environmental study requirements for stream crossings.
3. Landscaping, including tree cutting, relocation, or vegetation restoration.
4. Stream restoration work.
5. Property and land acquisition.
6. Biological Assessments. If required by USFWS or Guam Department of Agriculture, a biological assessment will be added through a task order amendment.
7. Preparation of an Archaeological Monitoring and Discovery Plan (AMDP) and archaeological monitoring is excluded to conduct geotechnical investigations. Consultant shall first consult with the Guam State Historic Preservation Office (SHPO) to determine archaeological requirements for performing geotechnical investigations The task order shall be amended as necessary based on SHPO's requirements.
8. Construction management services.

Consultant Responsibilities/Deliverables

Under this task, Consultant shall conduct, as necessary:

1. Research and field investigations: Engineer shall gather data and conduct field investigations to identify existing conditions of the task order scope and aid in identifying optimal solutions. Efforts may include, but are not limited to:
    a. Review of record drawings
    b. Interviews with GWA staff
    c. Consult with SHPO and environmental regulatory agencies to determine permitting requirements for geotechnical investigations.

d. Conduct field investigations and utility clearances to confirm location and layout of existing utilities within the proposed locations to avoid utility conflicts.
e. Geotechnical investigations
f. Perform planimetric and topographic field survey to include surface features, buildings, driveways, roadways visible infrastructure and utilities, and location of the right of way or easements.
g. The planimetric and topographic field survey under this Phase will be used in the development of the design documents for Phase 2 and Phase 3 of Task Order No. 2, which are the design of force mains and pump stations, respectively.
h. Identify demolition, grading, and operational requirements.

2. Basis of Design Report (BODR)
    a. After the research and field investigation phase, prepare a BODR to include the following:
        i. Projected flow rates
        ii. Design objectives
        iii. Route/alignment evaluation
        iv. Design Criteria
        v. Design Approach
        vi. Easement Requirements
        vii. Description of existing wastewater system
        viii. Models and Results from Capacity Evaluation Report
        ix. Surrounding infrastructure, utility, and easement considerations.
        x. Proposed construction schedule with major work items.
        xi. Construction Cost Estimates – Develop a Class 4 cost estimate according to the AACE International Cost Estimates Classification System.
3. Conduct a pre-design workshop to review approach, methodologies, findings, and determine design basis. Prepare workshop agenda, minutes, and documentation of comments.

Deliverables

1. Geotechnical Report
2. Basis of Design Report
3. Pre-Design workshop agenda, minutes, and documentation of comments.

GWA Responsibilities

1. Attend Pre-Design workshop.
2. Provide as-builts of existing water and wastewater infrastructure within Attachments A, B, and C.
3. Provide access to GWA facilities related to PS 16 and PS 17 force mains.
4. Assist, as needed, with agency coordination and obtaining permits.
5. Review and provide comment(s) on BODR within 30-days.

Task 6 –30% Design Documents

Upon approval of the BODR, prepare 30% design drawings to refine and agree upon the general arrangement of the proposed design.

Consultant Responsibilities/Deliverables

1. Conduct monthly design review meetings with GWA to review the design process, status, issues, decision points, and project schedule.
2. 30% Preliminary Design Documents to include the following:
    a. Multidisciplinary plans
    b. Specification list
    c. Erosion Control Plan
    d. By-pass pumping plan (if required)
    e. Traffic Control plan
    f. Class 3 AACEI Preliminary Construction Cost estimate.
3. Initiate communication with Guam Environmental Protection Agency, Departments of Public Works, and other relevant agencies to identify all required permits. Task order will be amended to conduct studies or analyses required by local and Federal agencies.
4. Coordinate with relevant agencies, such as GEPA and DPW, throughout the design process. Incorporate any relevant regulation requirements into the design.

Submittals

1. 4 sets (11" x 17") hard copies of the 30% design documents
2. Digital copy of the 30% design documents

GWA Responsibilities

1. Review and comment on the 30% design submittal and provide comments within 30 days.
2. Provide access to GWA property and easements.
3. Provide as-builts of existing water and wastewater infrastructure within Attachments A, B, and C.
4. Assist, as needed, with agency coordination and obtaining permits.

Task 7 – 60% Design

Refined multidisciplinary plans and specifications to obtain approval from the client on the complete arrangement of the proposed design.

Consultant Responsibilities

1. 60% Design Documents
    a. Refined multidisciplinary plans and specifications, addressing comments from the 30% design submittal
        i. Detail Drawings
        ii. Plan and Profile Sheets
        iii. GWA Standard Details/ BC Standard Details
        iv. Draft specification sections, with review by BC's subject matter experts
        v. GWA and BC's QA/QC comments on the 30% design submittal shall be reflected on the plans.
2. Cost estimate update and shall be a Class 2 estimate in accordance with the AACE International Cost Estimate Classification System.
3. Continuous coordination with relevant agencies.

Deliverables

1. 4 sets (11" x 17") hard copies of the 60% design documents
2. Draft specification sections.
3. 30% Design comment log
4. Digital copy of the 60% design documents and cost estimate.

GWA Responsibilities

1. Review and comment on the 60% design submittal and provide comments within 30 days.
2. Assist, as needed, with agency coordination and obtaining permits.

Task 8 – 90% Design

Completion of all construction documents with the appropriate level of detail, addressing comments from the 60% design submittal

1. 90% Design Documents
    a. Plan Sheets
    b. Plan and Profile
    c. Detail Drawings
    d. Revised specifications
    e. BC Standard Detail Drawing/ GWA Standard Details
    f. GWA and BC's QA/QC comments on the 60% design submittal shall be reflected on the plans.
2. Review and prepare contract documents.
3. Class 1 AACEI construction cost estimate
4. Continuous coordination with relevant agencies.

Submittals

1. 4 sets (11" x 17") hard copies of the 90% design documents
2. Revised specifications
3. Digital copy of the 90% design documents and cost estimate
4. 60% Design comment log.

GWA Responsibilities

1. Review and comment on the 90% design submittal and provide comments within 30 days.
2. Assist, as needed, with agency coordination and obtaining permits.
3. Provide front-end document template suited for construction delivery method.

Task 9 – 100% Design

Completion of final documents prepared for bidding.

Consultant Responsibilities/Deliverables

1. 100% Design Documents
    a. Final set of drawings for bidding to include the following:
        i. Plan Sheets
        ii. Plan and Profile

iii. Detail Drawings
iv. BC Standard Detail Drawing/ Client Standard Details
v. GWA and BC's QA/QC comments on the 90% design submittal shall be reflected on the plans.

b. Finalized Specifications

2. Final construction cost estimate based on quantity takeoffs and requirements of the 100% design plans and specifications.
3. Final coordination and submittal of 100% design documents to relevant agencies.

Deliverables

1. 4 sets (11" x 17") hard copies of the design documents
2. 1 set (24" x 36") hard copy of design documents
3. Digital copy of the design documents and cost estimate.

GWA Responsibilities

1. Provide final approval of design documents and construction costs.

Task 10 – Construction Bid Support and Support During Construction

Provide technical assistance to GWA during construction bidding phase. This task includes technical support in reviewing all submittals and requests submitted by the Contractor during construction.

Consultant Responsibilities/Deliverables

1. Prepare answers to bidders' Requests for Information (RFIs) regarding the bid packages during the bidding phase.
2. Assist GWA in preparing contract solicitation addenda.
3. Coordinate the Pre-Bid Conference, including the preparation of meeting agenda, sign-in sheets, and record minutes and providing formal responses to technical questions.
4. Assist with reviewing construction proposals received. This shall include a bid analysis, review of bid proposal prices, and conformance with contract requirements and the Guam Procurement Code. A letter of recommendation of award shall be prepared.
5. Prepare final "Issued for construction" conformed plans and specifications incorporating addenda and changes during the bid phase.
6. Review shop drawings, design calculations, samples, test results and other data required to be submitted by the contractor for conformance with the contract documents. Document and provide responses to GWA. This shall include assisting the review of the Quality Control Plan for complete content.
7. The design consultant shall chair and record the meeting minutes with any other governmental agencies.
8. Review requests for clarification or interpretation submitted by contractor and provide responses to GWA.
9. Evaluate substitution requests to determine acceptability of substitute materials and equipment proposed by the contractor and provided recommendations to GWA.
10. If requested by the construction or project manager, attend the construction kick off meeting and construction/final inspections.
11. Perform preliminary and final inspections and submit punch list.

12. Provide Final Record Drawings based on marked-up construction drawings (i.e., as-builts).

GWA Responsibilities

1. Provide Engineer with necessary information such as RFIs submitted by the Contractor.

Task Order 2 - Phase 3: Sewage Pump Stations

This document accompanies Task Order 2 of contract S22-02-BND Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Islandwide Sewer Collection/Transmission system Repair, Rehabilitation, and Replacement Project.

Phase 3 of the Sewer Repair, Rehabilitation, and Replacement Indefinite Delivery/Indefinite Quantity (IDIQ) Task order 2 involves Pump Station (PS) 16, PS 17, Ejector Station (ES) 3, and ES 6. For those PS and ES, this phase consists of pump station condition assessment, hydraulic modelling, and design services through construction. Elements of this phase are further described below and are separated into individual tasks.

Task 1 - Project Management

1. Project Management Plan: Prepare a Project Management Plan (PMP) that includes the following items:
    a. Project Description
    b. Scope of work (from contract)
    c. Work Plan
    d. Typical monthly progress report
    e. Quality Assurance and Quality Control Plan
    f. Communication Plan
    g. Documentation Plan
    h. Subcontractors and organizational chart
2. Project Schedule: Submit a schedule that meets required milestones. Update schedule at all phases of the project, including monthly meetings, dates for completion of engineering design studies, milestone tasks, and dates for review periods. The schedule may include program development (owner's requirements) and environmental permit approvals. The schedule should be based on the proposed target dates.
3. Progress Reports: Submit monthly progress/status reports to support monthly billings.
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. Prepare meeting minutes.
    a. Coordinate and communicate with local and federal agencies, including Guam Environmental Protection Agency (GEPA), Department of Public Works (DPW), Department of Parks and Recreation (DPR), US Fish and Wildlife Services (USFWS) throughout the course of the project to ensure review and permitting process adheres to project schedule.

Task 2 –Pump Station Preliminary Plan

Develop and submit a work plan for PS 16, PS 17, ES 3, and ES 6 that establishes a preliminary design schedule that prioritizes Pump Station improvements based on current known conditions for each of these four Pump Stations.

The work plan shall include an estimated scope of work for each pump station to bring each pump station into compliance with the acceptance criteria delineated in the Consent Decree (CD), schedule of the condition assessment, and schedule of key implementation dates.

Assumptions

1. GWA will conduct EPA Coordination.

Consultant Responsibilities/Deliverables

1. Preliminary Work Plan shall include an estimated scope of work for each pump station based on the known conditions to bring each pump station into compliance with the acceptance criteria set under CD Paragraph V.A 31. Consultant shall:
    a. Review existing condition assessment information and prior studies.
    b. Review of existing operations plans, operational data, and asset management data.
    c. Review available engineering drawings.
    d. Interview pump station operators, maintenance, and engineering staff.
2. The preliminary work plan shall include a schedule for a pump station condition assessment that identifies key implementation dates for the following milestones:
    a. Execute design contract
    b. Compete Condition Assessment
    c. Issue a notice to proceed with design
    d. Execute construction contract
    e. Issue a notice to proceed with construction
    f. Complete Construction
3. Scheduling shall be in accordance with the timeline mentioned in Consent Decree Paragraph V.A 30.

Deliverables:

1. Draft Pump Station Preliminary Work Plan.
2. Final Pump Station Preliminary Work Plan.

GWA Responsibilities

3. Provide all data, drawings, and information relating to the pump stations.
4. Provide opportunities to interview GWA operation staff.
5. Review and provide comments for the Engineer to adjust work plans if necessary.

Task 3 – Sewage Pump Station Condition Assessment

Assess the condition of PS 16, PS 17, ES 3, and ES 6 through observation, direct inspection, investigation, and monitoring. This task will develop and utilize the assessment to identify operation issues, evaluate the overall performance of the system, update station condition profiles, and assess the rate of deterioration of the pump station assets.

Assumptions

1. GWA has adequate records of pump information, such as manufacturer, year installed, and pump characteristics.
2. Assessment of generators is limited to determining generator’s capacity for normal and peak-flow operations, and fuel storage capacity.

Exclusions

1. Coordination with USEPA.
2. Removal or extraction of pump station components, such as pumps.

Consultant Responsibilities

1. Inspect each pump station and ejector station using modern industry standard technologies, tool, and practices, to perform:
    a. Structural Assessment
    b. Mechanical Assessment
    c. Electrical Assessment
    d. Civil Assessment
2. Comprehensive analysis of the pump's characteristics including:
    a. Designed Horsepower
    b. Power Demands
    c. Designed Flows
    d. Installation Date
    e. Preferred Operating Region
3. Comprehensive analysis of the pump station's characteristics including:
    a. Average flows
    b. Overall Power Demand
    c. Wet Well Capacity
    d. System Curve
    e. Piping and valve condition
    f. Results from the Force Main Condition Assessment in Phase 2 shall be mentioned and incorporated into the pump station condition assessment report.
4. Upon completion of the condition assessments, prepare and submit a pump station condition assessment report for PS 16, PS 17, ES 3, and ES 6. Report will include:
    a. Description of the field efforts
    b. Observations during field efforts
    c. Data results of the inspections.
    d. Discussion of the results
    e. Potential impact of the findings
    f. Recommendations for additional inspections/next steps

Deliverables

5. Prepare and submit a Draft Condition Assessment Report describing results of the inspections for GWA review and comment.
1. Prepare and submit a Final Condition Assessment Report that incorporates comments from the Draft report.

GWA Responsibilities

1. Review and provide comments on Draft Condition Assessment Report.
2. Provide comments from EPA to Engineer for any adjustments to the assessment.
3. Provide access to pump stations.
4. Provide assistance, as requested, to conduct assessments, such as operate pumps.

Task 4 – Pump Station Capacity Verification

Perform a hydraulic analysis for PS 16, PS 17, ES 3, and ES 6. This verification shall include updates to the flow model, and an analysis on future flow discharge from the pump station. This report shall include recommendations to upgrade the capacity of the pump stations, if necessary.

Exclusions

1. Flow metering is excluded.

Consultant Responsibilities/Deliverables

1. Perform a hydraulic assessment of PS 16, PS 17, ES 3, and ES 6.
2. Submit a Flow Model.
    a. Flow Model will be calibrated according to the Chartered Institution of Water and Environmental Management (CIWEM) Code of Practice for the Hydraulic Modelling of Urban Drainage Systems Version 01 and consistent with the Storm Technical Memorandum.
    b. Flow Model will incorporate physical changes to the wastewater collection system, changes to capacity, and new data gathered through December 31, 2022
    c. Flow Model will be updates with newly collected survey data and additional information provided by GWA.
3. Draft and Final Hydraulic TMs that includes the results of the hydraulic assessment and flow model.

GWA Responsibilities

1. Provide requested information related to the PS and ES hydraulic model, including changes to the system since 2012.
2. Provide additional information needed to incorporate into the hydraulic model.

Task 5 – Preliminary Engineering/Basis of Design

Define objective, design criteria, and methodology that shall be used to prepare the design to repair or replace pump stations as necessary. The preliminary design considers all issues stated in the sewage pump station work plan.

Assumptions (applicable to Tasks 5 through 10)

1. For budgeting purposes, all electrical, mechanical, and control components will be replaced.
2. All work will only be done within the fenced area of the existing pump stations and ejector stations, and ROW.
3. Civil design will have sufficient information from the gravity sewer and force main design work to proceed directly into 60% design. Coordination of pump stations scope will be accomplished throughout the 30% design stages of TO Phase 1 (Gravity Sewer) and Phase 2 (Force Mains).
4. Existing structures, such as the pump station building and below-grade structures, are in structurally sound condition and do not require major renovation
5. Geotechnical investigations for the force main design will be accomplished under Phase 1 of Task Order 2 (Gravity Sewer), unless otherwise stated by GWA.
6. Planimetric and topographic field survey for the force main design will be accomplished under Phase 1 of Task Order 2 (Gravity Sewer), unless otherwise stated by GWA.
7. Geotechnical services will consist of one boring at each pump station.
8. All pump stations are identified in Attachment B.

Exclusions (applicable to Tasks 5 through 9)

1. Stormwater improvements.
2. Potholing and/or subsurface utility investigations.
3. Stream restoration work.
4. Property and land acquisition.
5. Biological assessments. If required by USFWS or Guam Department of Agriculture, a biological assessment will be added through a task order amendment.
6. Preparation of an Archaeological Monitoring and Discovery Plan (AMDP) and archaeological monitoring is excluded to conduct geotechnical investigations. Consultant shall first consult with the Guam State Historic Preservation Office (SHPO) to determine archaeological requirements for performing geotechnical investigations The task order shall be amended as necessary based on SHPO's requirements.

Consultant Responsibilities/Deliverables

Under this task, Consultant shall conduct, as necessary:

1. Research and field investigations: Engineer shall gather data and conduct field investigations to identify existing conditions of the task order scope and aid in identifying optimal solutions. Efforts may include, but are not limited to:
    a. Review of record drawings
    b. Interviews with GWA staff
    c. Consult with SHPO and environmental regulatory agencies to determine permitting requirements for geotechnical investigations.
    d. Conduct field investigations and utility clearances to confirm location and layout of existing utilities within the proposed locations to avoid utility conflicts.
    e. Geotechnical investigations
        i. The geotechnical investigations performed under Phase 1 (Gravity Sewer) will be used in the development of the design documents for this Phase.
    f. Perform planimetric and topographic field survey to include surface features, buildings, driveways, roadways visible infrastructure and utilities, and location of the right of way or easements.
        i. The planimetric and topographic field survey performed under Phase 1 (Gravity Sewer) will be used in the development of the design documents for this Phase.
    g. Identify demolition, grading, and operational requirements.
2. Basis of Design Report (BODR)
    a. After the research and field investigation phase, prepare a BODR to include the following:
        i. Projected flow rates
        ii. Design objectives
        iii. Design Criteria
        iv. Design Approach
        v. Easement Requirements
        vi. Description of existing wastewater pump station
        vii. Models and Results from GWA's Capacity Evaluation Report to determine pump station pumping requirements
        viii. Surrounding infrastructure, utility, and easement considerations.
        ix. Proposed construction schedule with major work items.

x. Construction Cost Estimates – Develop a Class 4 cost estimate according to the AACE International Cost Estimates Classification System.

3. Conduct a pre-design workshop to review approach, methodologies, findings, and determine design basis. Prepare workshop agenda, minutes, and documentation of comments.

Deliverables

1. Geotechnical Report
2. Basis of Design Report
3. Pre-Design workshop agenda, minutes, and documentation of comments.

GWA Responsibilities

1. Attend Pre-Design workshop.
2. Provide as-builts of existing water and wastewater infrastructure within Attachments A, B, and C.
3. Provide access to GWA facilities.
4. Assist, as needed, with agency coordination and obtaining permits.
5. Review and provide comment(s) on BODR within 30-days.

Task 6 –30% Design Documents

Upon approval of the BODR, prepare 30% design drawings to refine and agree upon the general arrangement of the proposed design.

Consultant Responsibilities/Deliverables

1. Conduct monthly design review meetings with GWA to review the design process, status, issues, decision points, and project schedule.
2. 30% Preliminary Design Documents to include the following:
   a. Multidisciplinary plans
   b. Specification list
   c. Erosion Control Plan
   d. By-pass pumping plan (if required)
   e. Traffic Control plan
   f. Class 3 AACEI Preliminary Construction Cost estimate.
3. Initiate communication with Guam Environmental Protection Agency, Departments of Public Works, and other relevant agencies to identify all required permits. Task order will be amended to conduct studies or analyses required by local and Federal agencies.
4. Coordinate with relevant agencies, such as GEPA and DPW, throughout the design process. Incorporate any relevant regulation requirements into the design.

Submittals

1. 4 sets (11” x 17”) hard copies of the design documents
2. Digital copy of the design documents
3. Digital copy of the BODR.

GWA Responsibilities

1. Review and comment on the 30% design submittal and provide comments within 30 days.
2. Provide access to GWA property and easements.
3. Provide as-builts of existing water and wastewater infrastructure within Attachments A, B, and C.
4. Assist, as needed, with agency coordination and obtaining permits.

Task 7 – 60% Design

Refined multidisciplinary plans and specifications to obtain approval from the client on the complete arrangement of the proposed design.

Consultant Responsibilities

1. 60% Design Documents
    a. Refined multidisciplinary plans and specifications, addressing comments from the 30% design submittal
    b. Detail Drawings
    c. Plan and Profile Sheets
    d. GWA Standard Details/ BC Standard Details
    e. Draft specification sections, with review by BC's subject matter experts
    f. GWA and BC's QA/QC comments on the 30% design submittal shall be reflected on the plans.
    g. Cost estimate update and shall be a Class 2 estimate in accordance with the AACE International Cost Estimate Classification System.
    h. Continuous coordination with relevant agencies.

Deliverables

1. 4 sets (11" x 17") hard copies of the design documents
2. Draft specification sections.
3. 30% Design comment log
4. Digital copy of the design documents and cost estimate.

GWA Responsibilities

1. Review and comment on the 60% design submittal and provide comments within 30 days.
2. Assist, as needed, with agency coordination and obtaining permits.

Task 8 – 90% Design

Completion of all construction documents with the appropriate level of detail, addressing comments from the 60% design submittal

1. 90% Design Documents
    a. Plan Sheets
    b. Plan and Profile
    c. Detail Drawings
    d. Revised specifications
    e. BC Standard Detail Drawing/ GWA Standard Details
    f. GWA and BC's QA/QC comments on the 60% design submittal shall be reflected on the plans.

2. Review and prepare contract documents, including front-end contract documents.
3. Class 1 AACEI construction cost estimate
4. Continuous coordination with relevant agencies.

Submittals

1. 4 sets (11" x 17") hard copies of the design documents
2. Revised specifications
3. Digital copy of the design documents and cost estimate
4. 60% Design comment log.

GWA Responsibilities

1. Review and comment on the 90% design submittal and provide comments within 30 days.
2. Assist, as needed, with agency coordination and obtaining permits.
3. Provide front-end document template suited for construction delivery method.

Task 9 – 100% Design

Completion of final documents prepared for bidding.

Consultant Responsibilities/Deliverables

1. 100% Design Documents
    a. Final set of drawings for bidding to include the following:
        i. Plan Sheets
        ii. Plan and Profile
        iii. Detail Drawings
        iv. BC Standard Detail Drawing/ Client Standard Details
        v. GWA and BC's QA/QC comments on the 90% design submittal shall be reflected on the plans.
    b. Finalized Specifications
2. Final construction cost estimate based on quantity takeoffs and requirements of the 100% design plans and specifications.
3. Final coordination and submittal of 100% design documents to relevant agencies.

Deliverables

1. 4 sets (11" x 17") hard copies of the design documents
2. 1 set (24" x 36") hard copy of design documents
3. Digital copy of the design documents and cost estimate.

GWA Responsibilities

1. Provide final approval of design documents and construction costs.

Task 10 – Construction Bid Support and Support During Construction

Provide technical assistance to GWA during construction bidding phase. This task includes technical support in reviewing all submittals and requests submitted by the Contractor during construction.

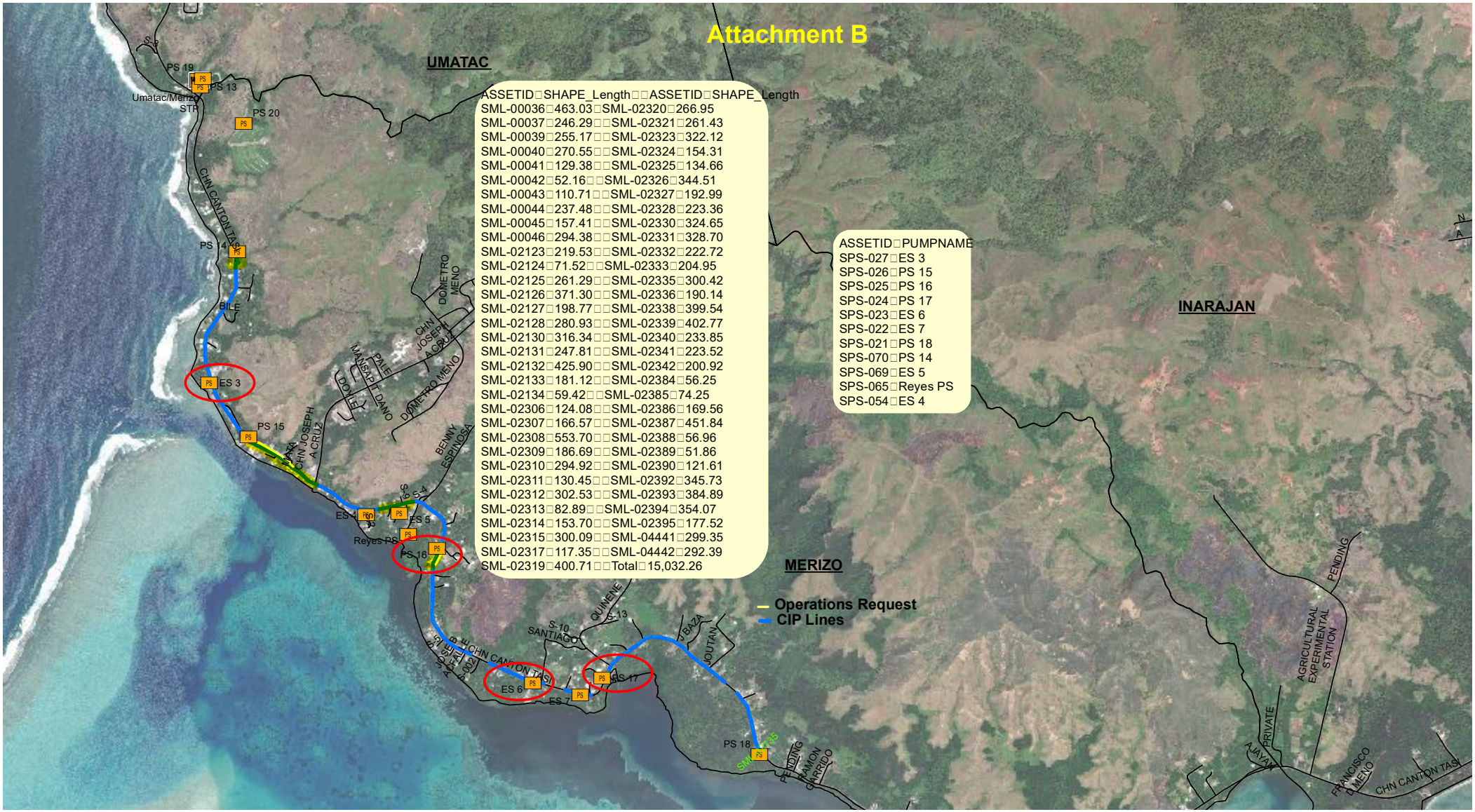
Consultant Responsibilities/Deliverables

1. Prepare answers to bidders' Requests for Information (RFIs) regarding the bid packages during the bidding phase.
2. Assist GWA in preparing contract solicitation addenda.
3. Coordinate the Pre-Bid Conference, including the preparation of meeting agenda, sign-in sheets, and record minutes and providing formal responses to technical questions.
4. Assist with reviewing construction proposals received. This shall include a bid analysis, review of bid proposal prices, and conformance with contract requirements and the Guam Procurement Code. A letter of recommendation of award shall be prepared.
5. Prepare final "Issued for construction" conformed plans and specifications incorporating addenda and changes during the bid phase.
6. Review shop drawings, design calculations, samples, test results and other data required to be submitted by the contractor for conformance with the contract documents. Document and provide responses to GWA. This shall include assisting the review of the Quality Control Plan for complete content.
7. The design consultant shall chair and record the meeting minutes with any other governmental agencies.
8. Review requests for clarification or interpretation submitted by contractor and provide responses to GWA.
9. Evaluate substitution requests to determine acceptability of substitute materials and equipment proposed by the contractor and provided recommendations to GWA.
10. If requested by the construction or project manager, attend the construction kick off meeting and construction/final inspections.
11. Perform preliminary and final inspections and submit punch list.
12. Provide Final Record Drawings based on marked-up construction drawings (i.e., as-builts).

GWA Responsibilities

1. Provide Engineer with necessary information such as RFIs submitted by the Contractor.


Attachment A
CIP Lines
Operations Request
ASSETID SHAPE_Length
SML-03982 307.59
SML-03983 307.01
SML-03984 175.58
SML-03985 251.02
SML-04070 190.85
SML-04071 254.53
SML-04072 290.05
SML-04073 121.16
SML-04074 373.76
SML-04075 176.90
SML-04409 280.25
SML-07177 100.42
SML-07179 27.18
Total 2,856.30
ASSETID SHAPE_Length
SML-06231 134.40
SML-06232 128.06
Total 262.46
NASSCO Rating # 5
PERMO
JANUAY
TORRES
V T BABAUTA
R R CRUZ
SALINAS
KAMACHILI
SESA
ATAO
CARBULLIDO
TOPASNA
PINAULA
BRUCE
FOLLARD
OSBONE
DE LOS MARTERES
ERSKIN
COMM
CHARFAUROS
GHURKA
82
COOK
EUGENIO
PERRY
DUENAS
GEIGER
SAN VICENTE
SANTA CRUZ
TOMAS MESA
SAN ISIDRO
SAN ROQUE
SAN VICENTE
SANTA LUCIA
SANTA MARIA
PALE FERDINAN
SAN ISIDRO
SAN ANTONIO
SAN PEDRO
PENDING
SGT E CRUZ
BLAS DE LA CRUZ
NAMO FALLS
ANNEX
PALE DE CANALS
CHN PALE EUGENIO LAGO
S-4
OBISPO OLANO
PALE DE LEON
CHN PALE DUENAS LAGO
CPLL SABLAN
PALE RAMON
PEDRO ROBERTO
QUENGA
A B WONPAT
PALE GIL
CHN PALE DUENAS HAYA
OBISPO OLAIZ
PALE DUENAS
AGA
PAHONG
KAFO
LEMAI
SANTA ROSA


Attachment B
UMATAC
INARAJAN
MERIZO
Operations Request
CIP Lines
ASSETID□SHAPE_Length□□ASSETID□SHAPE_Length
SML-00036□463.03□SML-02320□266.95
SML-00037□246.29□□SML-02321□261.43
SML-00039□255.17□□SML-02323□322.12
SML-00040□270.55□□SML-02324□154.31
SML-00041□129.38□□SML-02325□134.66
SML-00042□52.16□□SML-02326□344.51
SML-00043□110.71□□SML-02327□192.99
SML-00044□237.48□□SML-02328□223.36
SML-00045□157.41□□SML-02330□324.65
SML-00046□294.38□□SML-02331□328.70
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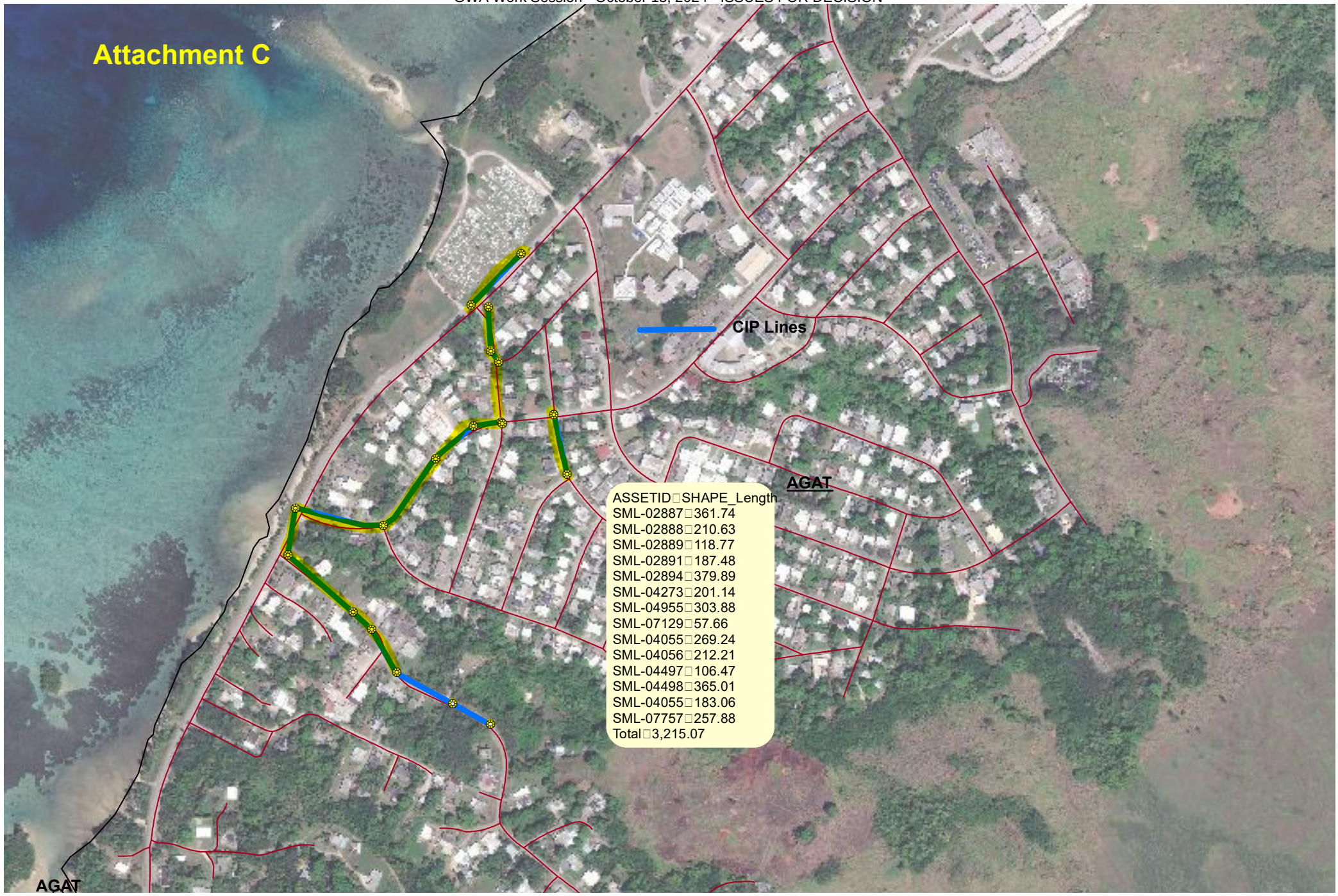
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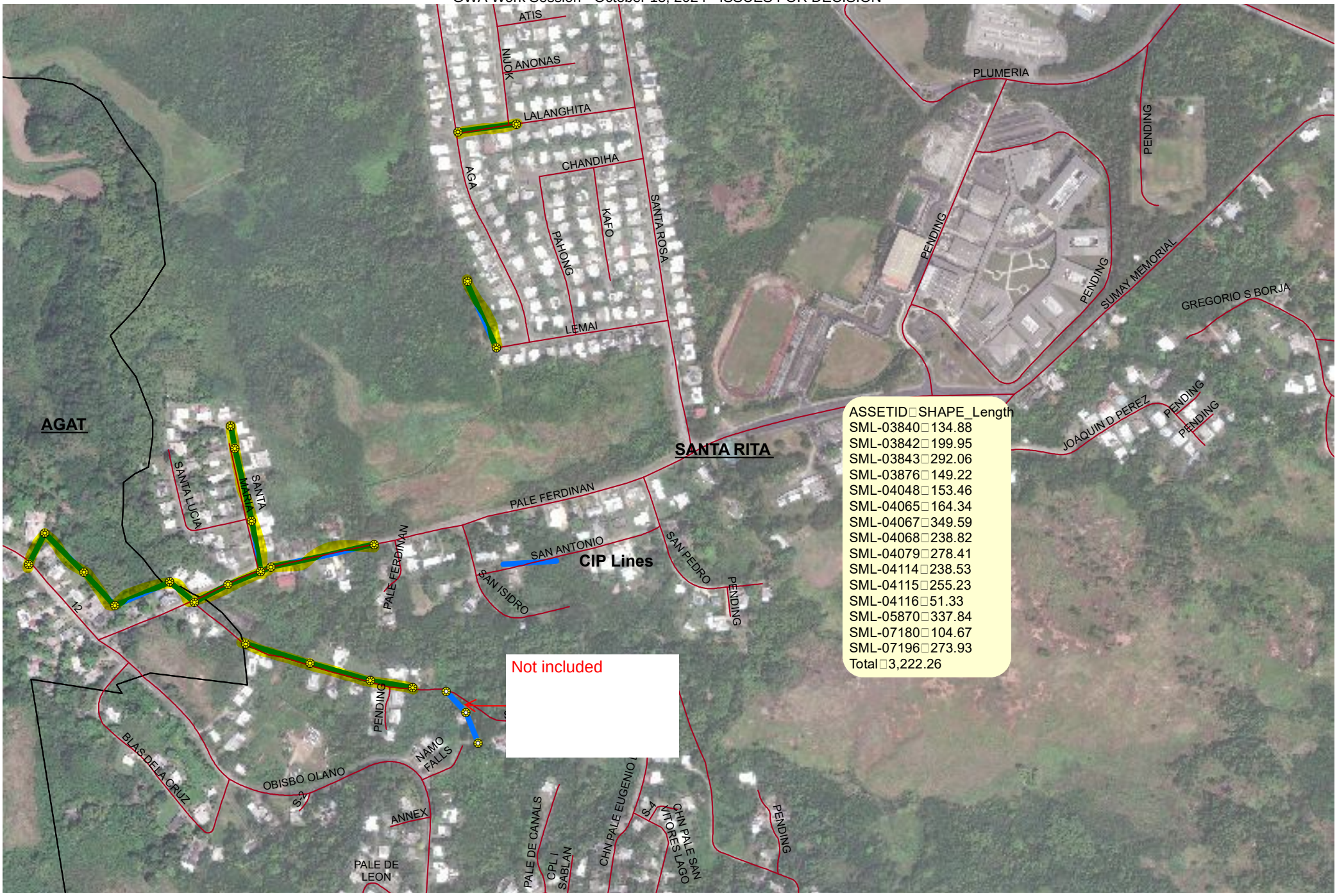
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Guam Waterworks Authority
Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction
GWA Project No. S22-02-BND
Task Order No. 2 - Sewer Gravity, Force Main, and Pump Station Assessment, Capacity Verification, and Design Services

Task Order 2 Budget Summary

Phase	Tasks	BC Fee	Expenses	Subconsultants	Subtotal	Tax	Grand Total
Phase 1	Tasks 1 - 8	$1,074,484	$6,644	$1,187,721	$2,268,849	$119,410	$2,388,259
Phase 2	Tasks 1 - 5	$569,739	$21,027	$165,000	$755,766	$39,776	$795,542
Phase 3	Tasks 1 - 5	$702,685	$36,949	$0	$739,634	$38,927	$778,561
Total For All Three Phases Through the Preliminary Engineering/BODR Tasks							$3,962,362
Phase 1	Tasks 9 - 13	$1,278,937	$1,100	$473,550	$1,753,587	$92,292	$1,845,879
Phase 2	Tasks 6 - 10	$795,717	$1,100	$0	$796,817	$41,937	$838,754
Phase 3	Tasks 6 - 10	$1,093,242	$2,200	$0	$1,095,442	$57,654	$1,153,096
Total For All Three Phases From 30% to Construction Support Services Tasks							$3,837,729
Grand Total for Task Order 2							$7,800,091

Guam Waterworks Authority
Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and GWA Project No. S22-02-BND

Task Order No. 2 - Sewer Gravity, Force Main, and Pump Station Assessment, Capacity Verification, and Design Services

Phase 1: Gravity Sewer Mains

Task	Description	BC Fee	Expenses	Subconsultants	Subtotal
1	Project Management	$146,423	$0	$0	$146,423
2	CCTV Assessment	$66,404	$1,694	$489,775	$557,873
3	A/SR/UM Gravity Condition Assessment Report	$102,583	$550	$0	$103,133
4	Additional Condition Assessment Reporting	$177,957	$1,100	$0	$179,057
5	Acute/Short-Term Work Plan	$93,828	$550	$0	$94,378
6	Capacity Assurance Report	$33,436	$1,100	$0	$34,536
7	Long-Term Work Plan	$106,781	$550	$0	$107,331
8	Preliminary Design/Basis of Design Report	$347,072	$1,100	$697,946	$1,046,118
Tasks 1 to 8 Totals		$1,074,484	$6,644	$1,187,721	$2,268,849
Tasks 1 to 8 TAX					$119,410
Tasks 1 to 8 Grand Total					$2,388,259
9	30% Design	$483,201	$0	$473,550	$956,751
10	60% Design	$329,831	$0	$0	$329,831
11	90% Design	$226,029	$0	$0	$226,029
12	100% Design	$146,230	$0	$0	$146,230
13	Services During Construction	$93,646	$1,100	$0	$94,746
Tasks 9 to 13 Totals		$1,278,937	$1,100	$473,550	$1,753,587
Tasks 9 to 13 Tax					$92,292
Tasks 9 to 13 Grand Total					$1,845,879.00
Phase 1: Totals		$2,353,421	$7,744	$1,661,271	$4,022,436.00
		Tax			$211,702
		Phase 1 Grand Total			$4,234,138

Guam Waterworks Authority
Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and GWA Project No. S22-02-BND

Task Order No. 2 - Sewer Gravity, Force Main, and Pump Station Assessment, Capacity Verification, and Design Services

Phase 2: Sewer Force Mains

Task	Description	BC Fee	Expenses	Subconsultants	Subtotal
1	Project Management	$143,811	$0	$0	$143,811
2	Forcemain Inspection	$76,060	$18,827	$165,000	$259,887
3	Forcemain Assessment Report	$67,683	$550	$0	$68,233
4	Forcemain Capacity Verification	$32,093	$550	$0	$32,643
5	Preliminary Design/Basis of Design Report	$250,092	$1,100	$0	$251,192
Tasks 1 to 5 Totals		$569,739	$21,027	$165,000	$755,766.00
Tasks 1 to 5 TAX					$39,776
Tasks 1 to 5 Grand Total					$795,542
6	30% Design	$228,648	$0	$0	$228,648
7	60% Design	$198,883	$0	$0	$198,883
8	90% Design	$165,635	$0	$0	$165,635
9	100% Design	$113,090	$0	$0	$113,090
10	Services During Construction	$89,461	$1,100	$0	$90,561
Tasks 6 to 8 Totals		$795,717	$1,100	$0	$796,817.00
Tasks 6 to 10 TAX					$41,937
Tasks 6 to 10 Grand Total					$838,754
Phase 2: Totals		$1,365,456	$22,127	$165,000	$1,552,583
		Tax			$81,713
		Phase 2 Grand Total			$1,634,296

Guam Waterworks Authority
Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and GWA Project No. S22-02-BND

Task Order No. 2 - Sewer Gravity, Force Main, and Pump Station Assessment, Capacity Verification, and Design Services

Phase 3: Pump Stations

Task	Description	BC Fee	Expenses	Subconsultants	Subtotal
1	Project Management	$131,564	$0	$0	$131,564
2	Pump Station Preliminary Plan	$72,842	$1,144	$0	$73,986
3	Pump Station Condition Assessment	$133,626	$34,155	$0	$167,781
4	Pump Station Capacity Verification	$33,940	$550	$0	$34,490
5	Preliminary Design/Basis of Design	$330,713	$1,100	$0	$331,813
Tasks 1 to 5 Totals		$702,685	$36,949	$0	$739,634
Tasks 1 to 5 TAX					$38,927
Tasks 1 to 5 Grand Total					$778,561
6	30% Design	$366,143	$0	$0	$366,143
7	60% Design	$264,282	$0	$0	$264,282
8	90% Design	$204,556	$0	$0	$204,556
9	100% Design	$156,419	$0	$0	$156,419
10	Bid Support/Svs During Construction	$101,842	$2,200	$0	$104,042
Tasks 6 to 8 Totals		$1,093,242	$2,200	$0	$1,095,442
Tasks 6 to 10 TAX					$57,654
Tasks 6 to 10 Grand Total					$1,153,096
Phase 2: Totals		$1,795,927	$39,149	$0	$1,835,076.00
		Tax			$96,581
		Phase 3 Grand Total			$1,931,657

Exhibit E

This is **EXHIBIT K**, consisting of 2 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated July 12, 2024.

Amendment to Owner-Engineer Agreement No. 1

1. Background Data:

a.	Effective Date of Task Order:	July 12, 2024
b.	Owner:	Guam Waterworks Authority
c.	Engineer:	Brown and Caldwell
d.	Specific Project:	Indefinite Delivery/Indefinite Quantity (IDIQ) for Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement

2. Nature of Amendment

This Amendment No. 1 to the IDIQ for Professional Project/Construction Management for Islandwide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Owner-Engineer Agreement ("IDIQ") contract will increase the contract amount by $3,951,894 to allow for the partial execution of Task Order No. 2. The total contract amount is, therefore, $4,851,894 through this Amendment No.1 to the IDIQ Owner-Engineer Agreement.

Task Order No. 2 of this IDIQ includes the condition assessment and design of gravity sewer, force mains, and pump stations in Santa Rita, Agat, Umatac, and Merizo. Task Order No. 2 is necessary to address Consent Decree requirements. Initially, only the condition assessment (including CCTV/cleaning) and preliminary engineering tasks of Task Order No. 2 will be executed for an amount of $3,962,362.

An additional amendment will be necessary to execute the design, bid support services, and engineering support services tasks of Task Order No. 2. Actual amount of these remaining tasks of Task Order No. 2 will be renegotiated after further defining the design scope through the initial execution of this task order.

3. Task Order Summary (Reference only)

Through this Amendment No. 1 to the IDIQ Owner-Engineer Agreement, this contract includes the following Task Orders:

1. Task Order No. 1 – D/B Contract Support, NASSCO Training, Tamuning-Tumon HS PM/CM
2. Task Order No. 2 – Agat-SR, Umatac-Merizo Gravity Sewer, Force Main, and Pump Station Condition Assessment and Design

Summary of Task Orders and Cost

Task Order	Contract Document	Amount
Task Order No. 1	Original Task Order	$989,532
Task Order No. 2	Original Task Order	$3,962,362
IDIQ Owner-Engineer Contracted Amount		$4,951,894

4. Agreement Summary

IDIQ Contract Amount	
Original Agreement Contract Amount	$1,000,000
Amendment No. 1 Net Increase	$3,951,894
Revised Agreement Contract Amount Through Amendment No. 1	$4,951,894

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

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

OWNER:		ENGINEER:	
By:		By:	
Title:		Title:	Senior Vice President
Date Signed:		Date Signed:	

GUAM WATERWORKS AUTHORITY
Gloria B. Nelson Public Service Building | 688 Route 15, Mangilao, Guam 96913
P.O. Box 3010, Hagåtña, Guam 96932
Tel. No. (671) 300-6846/47 Fax No. (671) 648-3290

Issue for Decision

Resolution No. 07-FY2025

Relative to the Amendment and Approval of Position Classification Specification for the Network Analyst and Network Systems Administrator Positions.

What is the project's objective and is it necessary and urgent?

The amendment of the classified positions of Network Analyst and Network Systems Administrator is necessary and urgent to modernize the job specifications, broaden the pool of potential candidates, update the educational and experience requirements, and align the roles with current industry standards and technological advancements.

The current deficiencies in the Network Analyst and Network Systems Administrator job standards stem from outdated minimum qualification requirements and job specifications that result in a narrow pool of potential candidates. These requirements are not aligned with current industry standards and technological advancements.

The original educational and experience requirements for the Network Analyst position, established in 2010, are too narrow, focusing solely on computer science degrees and a higher-than-necessary amount of experience. This excludes many qualified professionals with degrees in other relevant fields like cybersecurity or computer engineering, as well as those with valuable but less extensive experience. Similarly, the Network Systems Administrator position, created in 2008, originally did not require a degree, focusing purely on extensive supervisory and administrative experience. However, the growing complexity of the role in today's technology landscape now necessitates a formal educational foundation in network systems and administration. The original five-year supervisory experience requirement also sets an unnecessarily high bar, excluding capable candidates who possess the needed technical skills but less supervisory experience. These deficiencies in both roles need to be addressed to ensure GWA remains competitive and able to attract a broader and more qualified pool of candidates. The proposed amendments address these issues by modernizing educational and experience requirements and aligning the roles with current industry standards.

The changes proposed include expanding the acceptable degree types to include fields such as computer information systems, cybersecurity, and related disciplines, allowing for a more diverse range of candidates with relevant technical expertise. Additionally, the experience requirements have been adjusted to reflect current market conditions, ensuring the positions are accessible to qualified professionals with the necessary skill sets, while still maintaining high standards of competency.

These amendments are designed to ensure GWA's technology infrastructure is supported by professionals with updated knowledge in areas like network automation, cloud computing, and cybersecurity. This will help GWA continue to effectively manage its operational technology

across more than 250 assets, including water and wastewater treatment plants, deep wells, and booster stations.

Approval of this request will enhance GWA's ability to attract a more diverse and qualified pool of candidates, enabling the utility to continue providing robust and reliable services to the community.

Where is the location?

The Network Analyst and the Network Systems Administrator position are organizationally based within the Information Technology Division of GWA

How much will it cost?

The proposed changes will not affect GWA's budget, as they align with the existing compensation plan and pay scales. The implementation salary range to fill the positions are as follows:

Network Analyst

- **Minimum - $70,738 per annum / $34.01 per hour**
- **Maximum - $73,610 per annum / $35.39 per hour**

Network Systems Administrator

- **Minimum - $82,727 per annum / $39.77 per hour**
- **Maximum - $86,086 per annum / $41.39 per hour**

When will it be completed?

Public Law 28-159, Section 7.0.3(c) requires GWA to post a petition on their respective website for ten (10) days (Saturdays, Sundays, and government of Guam holidays excepted). Once adopted by the CCU, the amendment of the Network Analyst and Network Systems Administrator positions will not be filled until one hundred eighty (180) have elapsed from the date of filing the petition of the resolution with the Legislative Secretary and the Department of Administration.

What is the funding source?

Revenue generated by current service rates and fees for all water and wastewater customer classes.

The RFP/BID responses (if applicable):

N/A

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. 07-FY2025

RELATIVE TO THE AMENDMENT AND APPROVAL OF POSITION CLASSIFICATION SPECIFICATION FOR THE NETWORK ANALYST AND THE NETWORK SYSTEMS ADMINISTRATOR POSITIONS

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 4 GCA, §6303(e) authorizes the amendment of position in Autonomous Agencies and Public Corporations; and

WHEREAS the GWA is responsible for developing, maintaining, and supporting its Enterprise and Operational Technology Infrastructure, which includes a network of over 250 assets such as water and wastewater treatment plants, booster and sewer pump stations, deep wells, and springs; and

WHEREAS it is essential that GWA maintains seamless network operations and efficiently responds to the growing demands for advanced network support, cybersecurity, and data management; and

WHEREAS the classified positions of Network Analyst and Network Systems Administrator were established in 2010 and 2008, respectively, with outdated qualification requirements and job specifications that no longer reflect current industry standards or technological advancements; and

WHEREAS the existing job standards result in a narrow pool of potential candidates by restricting acceptable educational qualifications and requiring excessive years of experience, limiting GWA's ability to attract qualified professionals; and

WHEREAS the proposed amendments to the Network Analyst and Network Systems Administrator positions include broadening acceptable degree types, updating the required years of experience, and modernizing the duties and responsibilities to align with emerging fields such as cloud computing, network automation, and cybersecurity; and

WHEREAS these amendments are critical to ensuring that GWA attracts and retains highly skilled professionals capable of managing its complex technology infrastructure, while also enhancing the organization's ability to remain competitive in the public utility sector; and

WHEREAS the proposed amendments will not require any changes to GWA's current compensation plan, as they align with the Strategic Pay Plan Methodology and market data, ensuring compliance with Public Law 28-159 and other applicable regulations.

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 GWA has met the requirements of the 4 GCA, §6303(e) and P.L. 28-159 Section 3(c).
3. The CCU hereby authorizes the approval of the amendment of the job classification specifications of the Network Analyst and Network Systems Administrator positions. The existing job classification specifications will be superseded by the approved amendments (see Exhibits A and B).
4. The implementation of any reallocations resulting from this resolution shall follow the applicable policies outlined in the GWA Personnel Rules & Regulations regarding classification and compensation adjustments.

5. The CCU hereby further authorizes the GWA management to implement the salary ranges of the respective positions as follows:

	25th Market Percentile (2022 Market Data – 5 Sub-Steps) – GWA										
	Structural Adjustment- MIN						Structural Adjustment- MIN				
Benchmark Position	JE Points	Base Salary	Hourly	Grade	Step	Sub-Step	Base Salary	Hourly	Grade	Step	Sub-Step
Network Analyst	791	$70,738	$34.01	K	2	A	$73,610	$35.39	K	3	A
Network Systems Administrator	898	$82,727	$39.77	L	4	A	$86,086	$41.39	L	5	A

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

DULY AND REGULARLY ADOPTED, this 22 day of October 2024.

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:

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AYES: _____

NAYS: _____

ABSENT: _____

ABSTAIN: _____

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Exhibit A

2.768

GUAM WATERWORKS AUTHORITY

NETWORK ANALYST

NATURE OF WORK IN THE CLASS:

Under general direction, employees in this class perform advanced analysis, design, configuration, installation, maintenance, and support of network systems and components. Responsibilities include monitoring network performance, diagnosing issues, and optimizing the organization's LAN, WAN, and wireless networks. Network Analysts work closely with Network Administrators and Information Security teams to ensure reliable and secure network operations across physical, virtual, and cloud environments, while also contributing to network improvements and scalability.

ILLUSTRATIVE EXAMPLES OF WORK:

(These are examples of work and do not indicate all job-related duties required of this position.)

Network Monitoring & Performance:

- Monitor and analyze network performance across the organization's LANs, WANs, and wireless deployments, assessing system capacity to identify performance impacts and recommend enhancements for evolving network demands.
- Ensure efficient, secure, and stable operation of network systems and infrastructure, identifying and remedying performance bottlenecks.
- Plan, implement, and document improvements or modifications to network components to meet compliance and performance requirements.

Network Installation, Configuration, & Maintenance:

- Perform technical activities in support of network equipment installation, configuration, and operation, including routers, switches, hubs, firewalls, wireless access points, and cabling.
- Install, configure, and maintain system hardware and software, including operating systems, network printers, workstations, application servers, and data communication lines.
- Assist in developing and implementing policies for network asset management, inventory maintenance, and system documentation.

Troubleshooting & Problem Resolution:

- Diagnose and resolve network-related issues, including server connectivity, user access problems, security vulnerabilities, and software or hardware malfunctions.
- Respond to system functionality complaints from users, providing helpdesk support and addressing network performance issues both onsite and remotely.
- Maintain and troubleshoot user accounts and access for Windows networks, email servers, SQL databases, Oracle systems, and related applications.

Network Security & Disaster Recovery:

- Assist in developing and implementing security procedures to protect the network, including anti-virus updates, backup protocols, and disaster recovery plans.
- Conduct research and assessment of new technologies, hardware, and software for improved network security and performance.
- Participate in creating and maintaining Intranet content, user manuals, and technical documentation to support network operations and security.

System Administration & User Support:

2.768

GUAM WATERWORKS AUTHORITY

NETWORK ANALYST

- Install, configure, and maintain Windows servers, including routine updates, backup verification, and security protocols for TCP/IP networks.
- Provide technical support for workstations, ensuring proper installation of applications, software updates, and network connectivity.
- Coordinate with vendors for technical support and troubleshooting of network issues at remote workstation sites.

Network Policy Development & Training:

- Assist with developing policies, procedures, and training for appropriate network resource utilization, disaster recovery, and secure network practices.
- Participate in developing and implementing network resource administration policies and establish service-level agreements for network uptime and reliability.

Research & Development:

- Conduct research on emerging network technologies, tools, and protocols to support procurement and network development efforts.
- Evaluate and recommend network enhancements and system upgrades based on industry standards and organizational needs.

Documentation & Reporting:

- Document all network activities, configurations, changes, and performance analyses to maintain accurate records.
- Generate and maintain technical manuals, installation processes, and standard operating procedures for network operations and troubleshooting. Performs related duties as required.

KKNOWLEDGE, ABILITIES, AND SKILLS

Knowledge of:

- Fundamentals, principles, and operational practices of computer networking, including LAN/WAN concepts, network cabling, and equipment.
- Practices and techniques for installing, configuring, operating, maintaining, and troubleshooting network systems, hardware, and software.
- Networking protocols and operations, including TCP/IP, DNS, WINS, and Microsoft Exchange Server.
- Modern technologies and platforms, including physical, virtual, and cloud-based servers and cybersecurity practices.
- Business software applications, such as word processing, spreadsheets, anti-virus programs, and backup solutions.

Ability to:

- Perform technical tasks related to network installation, maintenance, and troubleshooting for secure and efficient network operations.
- Analyze, diagnose, and resolve complex network issues with equipment and peripherals, maintaining reliable and high-performance systems.
- Implement network administration activities, including user account management, server operations, and system backups.
- Assist in project implementation, workflow management, and adherence to schedules and timelines for network activities.

2.768

GUAM WATERWORKS AUTHORITY

NETWORK ANALYST

- Communicate effectively both verbally and in writing, explaining technical information clearly and concisely to various stakeholders.
- Think critically, evaluate alternatives, and make recommendations to improve network operations and support organizational goals.

Skill in:

- Network analysis, design, and implementation practices across LAN, WAN, and telecommunications systems.
- Utilizing network tools and protocols for performance monitoring, troubleshooting, and secure configuration.

MINIMUM EXPERIENCE AND TRAINING

A) Bachelor's degree in computer science, computer information systems, computer engineering, cybersecurity/information security or related degree and two (2) years of progressive experience in technology infrastructure, telecommunication network management, or network design; ***or***

B) Any equivalent combination of experience and training, which provides the minimum experience knowledge, skills, and abilities.

NECESSARY SPECIAL QUALIFICATION

Must possess a valid driver's license.

LICENSURE OR CERTIFICATE

Possession of or the ability to obtain a Cisco Certified Network Associate (CCNA), Network+, and Security+ certification within 3 years of hire may be required.

ESTABLISHED: **OCTOBER 2010**

AMENDED: **OCTOBER 2024**

JE POINTS: **791**

FLSA STATUS: **Non-Exempt**

This classification specification revises and supersedes the classification specification established in October 2010.

JOSEPH T. DUENAS, Chairman
Consolidated Commission on Utilities

Exhibit B

2.631

GUAM WATERWORKS AUTHORITY

NETWORK SYSTEMS ADMINISTRATOR

NATURE OF WORK IN THE CLASS:

The Network Administrator is responsible for the management and maintenance of complex network systems, including design, configuration, installation, and support. The Network Administrator ensures efficient, secure, and reliable operation of LAN, WAN, and wireless networks, collaborating closely with Network Analysts and Information Security staff. This role includes implementing and monitoring network policies, troubleshooting issues, and optimizing network performance across all environments, including physical, virtual, and cloud servers. The Network Administrator also takes a lead role in developing network architecture and ensuring compliance with security standards.

ILLUSTRATIVE EXAMPLES OF WORK:

(These are examples of work and do not indicate all job-related duties required of this position.)

Network Installation, Configuration, and Maintenance

- Oversee the installation, configuration, operation, maintenance, and repair of Local Area Network (LAN) and Wide Area Network (WAN) wired and wireless systems, along with related hardware and software.
- Implements, configures, and maintains physical, virtual, and cloud servers/networks, ensuring optimal performance, security, and availability. Monitors and analyzes network performance and traffic.
- Supervises the evaluation, installation, configuration, and maintenance of network hardware and software, including operating systems, application software, system upgrades, network printers, and data communication lines. Ensures documentation of processes and configurations.

Troubleshooting and Diagnostics

- Oversee and perform network issue resolution, including addressing equipment-related problems with servers, access points, routers, switches, cabling, firewalls, and other components; configures and adjust network devices as needed and replaces faulty hardware.
- Assesses user-reported issues with system functionality; diagnoses and resolves advanced computer hardware, software, and network problems, ensuring timely resolution through the helpdesk or appropriate channels.
- Diagnoses addresses network connectivity problems, ensuring consistent printing functionality across the organization by configuring printers and resolving user issues.

Server and Workstation Management

- Oversee the installation, maintenance, and configuration of Windows servers; supervises the application of operating system and server updates, and troubleshoots issues related to network security, TCP/IP, backups, and viruses.
- Manages installation, configuration, and troubleshooting of software on workstations; addresses network issues across the WAN and coordinates with vendors to resolve problems at remote sites. Provides helpdesk support and remote assistance to end users.
- Oversee the performance of file backups on all servers, ensuring error-free operations and adherence to backup schedules and storage routines.

Policy Development and Research

2.631

GUAM WATERWORKS AUTHORITY

NETWORK SYSTEMS ADMINISTRATOR

- Creates and implements policies, procedures, and training for efficient network resource administration, disaster recovery, and appropriate utilization of network assets.
- Evaluates emerging network technologies, software, and hardware solutions; maintains an updated and secure Intranet site with user and technical manuals. Assists in security policy creation and performs regular updates for antivirus software.

Administrative and Supervisory Responsibilities

- Analyzes and resolves defined information system issues, developing feasible solutions aligned with industry standards and technological advancements.
- and supervises access for user accounts across Windows network, email systems, SQL, Oracle databases, and helpdesk applications; manages print queues and access controls.
- Conducts performance evaluations, provides mentorship, and recommends training and development to enhance the technical skills of lower-level staff, fostering a knowledgeable and capable network team.

Performs related duties as required.

KNOWLEDGE, ABILITIES, AND SKILLS

Knowledge of:

- Knowledge of network security principles and best practices, including firewalls, VPNs, intrusion detection/prevention systems (IDS/IPS), and encryption protocols for secure data transmission.
- Knowledge of wireless networking standards and technologies, including 802.11 protocols, wireless access point configuration, and security practices for deploying and troubleshooting Wi-Fi networks.
- Knowledge of network monitoring and performance tools, such as Wireshark, SolarWinds, and PRTG, for traffic analysis, troubleshooting, and ensuring optimal network performance.
- Knowledge of virtualization and cloud networking concepts, including the management of virtual LANs (VLANs), VMware, Hyper-V environments, and cloud platforms like AWS, Azure, or Google Cloud.
- Knowledge of routing and switching technologies, including routing protocols such as OSPF, BGP, and RIP, and the ability to configure and troubleshoot various types of routers and switches.
- Knowledge of compliance standards and policies relevant to network security and data privacy, such as HIPAA, PCI-DSS, GDPR, and NIST, and their implications for network architecture and operations.
- Knowledge of disaster recovery and business continuity planning for networks, including strategies for network backup, redundancy, failover, and maintaining availability during emergencies.
- Knowledge of scripting and automation for network tasks, utilizing tools like Python, PowerShell, or Bash, and configuration management solutions such as Ansible, Puppet, or Chef to streamline network processes.
- Knowledge of VoIP and unified communications platforms, including the setup, configuration, and troubleshooting of VoIP systems and familiarity with tools like Microsoft Teams, Cisco WebEx, and Zoom for efficient communication.

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GUAM WATERWORKS AUTHORITY

NETWORK SYSTEMS ADMINISTRATOR

Ability to:

- Supervise and support a range of technical activities related to the installation, configuration, operation, maintenance, troubleshooting, diagnosis, and repair of network systems, including both hardware and software components, ensuring secure and efficient network operations.
- Troubleshoot, diagnose, and resolve complex network issues, including connectivity problems, hardware malfunctions, and security incidents, while overseeing and mentoring technical teams to follow best practices.
- Oversee installation and configuration of server and workstation software, including network operating systems, virtual environments, and cloud-based platforms, ensuring all systems are optimized for network connectivity and performance.
- Design, implement, and manage network projects and workflows, such as network upgrades, migrations, and expansions, effectively coordinating resources to meet schedules, budgets, and performance requirements.
- Administer and maintain comprehensive network activities, including configuring network devices (e.g., routers, switches, firewalls), managing domains and accounts, ensuring system backups are performed, overseeing email services, and ensuring stable internet connectivity across the organization.
- Proactively monitor network performance, identify bottlenecks, security vulnerabilities, and areas for improvement, and recommend solutions to enhance efficiency, reliability, and security of network operations.
- Evaluate and apply network policies and compliance standards, ensuring adherence to regulations (e.g., HIPAA, PCI-DSS) and implementing security policies for access control, data protection, and user activity monitoring.
- Develop and implement disaster recovery and network continuity plans, ensuring that backup and failover systems are functional and that procedures are in place to restore operations quickly in the event of a network disruption or disaster.
- Utilize automation and scripting for network management, developing scripts or using automation tools to perform routine network tasks, configurations, or deployments, reducing manual effort and enhancing consistency.
- Think critically and analyze complex technical scenarios, evaluate alternatives, assess potential risks and impacts, and make informed recommendations that align with organizational goals and technological trends.
- Communicate effectively with diverse stakeholders, including technical teams, end-users, vendors, and senior management, providing clear and concise information both verbally and in writing to ensure understanding of network issues, plans, and strategies.
- Lead and mentor technical teams, providing administrative supervision, conducting performance evaluations, offering constructive feedback, and recommending training and professional development opportunities to foster growth in lower-level employees.
- Adapt quickly to new technologies and methodologies, continuously updating technical skills and network knowledge to remain current with evolving network architectures, cybersecurity threats, and industry best practices.

Skill in:

- LAN/WAN/Telecommunications analysis, design, and implementation, with expertise in configuring, optimizing, and managing network connections to ensure seamless and secure data flow across the organization.

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GUAM WATERWORKS AUTHORITY

NETWORK SYSTEMS ADMINISTRATOR

- Network troubleshooting and diagnostics tools, such as SolarWinds, and command-line utilities (e.g., ping, traceroute, netstat) for effective resolution of network issues and performance optimization.
- Advanced network security practices, including firewall configuration, VPN setup, intrusion detection/prevention, access control policies, and network encryption to ensure protection against internal and external threats.
- Routing and switching technologies, including protocols such as OSPF, BGP, and RIP, and experience with devices like Cisco routers, switches, and load balancers for efficient and secure network traffic management.
- Wireless network deployment and management, including Wi-Fi design, implementation, and security, as well as configuring wireless LAN controllers and access points for reliable wireless connectivity.
- Network automation and scripting, using languages like Python, PowerShell, or Bash, as well as tools like SolarWinds Network Configuration Manager for automating network configurations, deployments, and monitoring tasks.
- Virtualization and cloud networking, with experience in configuring and managing virtual networks (VLANs), VMware, Hyper-V environments, and cloud networking on platforms like Oracle, AWS or Azure.
- Disaster recovery and business continuity planning, implementing and testing backup solutions, redundancy measures, and failover systems to ensure network availability and data integrity during emergencies.

MINIMUM EXPERIENCE AND TRAINING

A) Bachelor's degree in computer science, computer information systems, computer engineering, cybersecurity/information security or related degree and four (4) years of progressive experience in technology infrastructure, telecommunication network management, or network design and 1 year of administrative supervisory duties; ***or***

B) Any equivalent combination of experience and training which provides the minimum experience knowledge, skills, and abilities.

NECESSARY SPECIAL QUALIFICATION

Possession of a valid driver's license.

LICENSURE OR CERTIFICATE

Possession of or the ability to obtain a Cisco Certified Network Associate (CCNA), Network+, and Security+ certification within 1 years of hire may be required.

ESTABLISHED: **MARCH 2008**

AMENDED: **OCTOBER 2024**

JE POINTS: **898**

2.631

GUAM WATERWORKS AUTHORITY

NETWORK SYSTEMS ADMINISTRATOR

FLSA STATUS: Non-Exempt

This classification specification revises and supersedes the classification specification established in October 2008.

JOSEPH T. DUENAS, Chairman
Consolidated Commission on Utilities

GUAM CCU

GUAM WATERWORKS AUTHORITY

Presentation To:

Consolidated Commission on Utilities

GWA Work Session
October 15, 2024

Issues for Resolution

GWA Work Session
October 15, 2024

GWA Fiscal Year 2025 O&M Budget

Relative to Approving the Guam Waterworks Authority Fiscal Year 2025 Operations and Maintenance Budget

GWA Resolution No. 01-FY2025

What is the project's objective and is it necessary and urgent?

- The resolution's objective is to obtain approval of the Fiscal Year 2025 budget based on rates and expenses as adjusted by the Public Utilities Commission (PUC) under Docket 24-05 on September 24, 2024. Approval is necessary and urgent to sustain GWA's continued efforts to modernize infrastructure, comply with federal mandates, and to ensure the proper maintenance of assets, which is critical for maintaining service reliability and supporting the long-term sustainability of GWA's infrastructure.
- An interim budget under Resolution 32-FY2024 was previously authorized to allow for operational expenses in case the PUC did not approve GWA's request before the start of the fiscal year on October 1. With PUC approval now in place, the FY2025 budget must be adopted to ensure continued financial stability and operational functionality.

Where is the location?

- Not Applicable

How much will it cost?

- Based on the new rates approved for all lifeline and non-lifeline water and wastewater customers classes, projected revenues for FY2025 are $138.4 million, net of bad debt, with an additional $1.5 million in interest income.

- Operating costs are projected at $97.6 million (excluding depreciation), which includes:
  - $34.9 million for utilities,
  - $35.2 million for gross salaries and benefits,
  - $13.7 million for administrative and general expenses,
  - $9.3 million for contractual costs, and
  - $4.5 million for retirees.

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GWA Fiscal Year 2025 O&M Budget *(continuation)*

Relative to Approving the Guam Waterworks Authority Fiscal Year 2025 Operations and Maintenance Budget

GWA Resolution No. 01-FY2025

How much will it cost?

- Additionally, the budget includes $38.9 million in debt service payments, $12.5 million for revenue-funded capital expenses, and maintains a 1.32x debt coverage ratio as required by the rate covenants. These financial provisions ensure GWA meets both its operational and regulatory obligations while maintaining financial stability.

When will it be completed?

- This resolution covers the period of FY2025 from October 1, 2024, through September 30, 2025.

What is the funding source?

- Rate revenues serve as the budget's primary fund source

The RFP/BID responses (if applicable):

- Not Applicable

Liquid Chlorine Supply Contract

Relative to Approving the Liquid Chlorine Supply Contract for Water Production and Treatment Facilities Island-Wide

GWA Resolution No. 03-FY2025

What is the project's objective and is it necessary and urgent?

- The primary objective of this project is to ensure a continuous and adequate supply of liquid chlorine for GWA's water production and treatment facilities island-wide. Liquid chlorine is a critical chemical used to treat and disinfect drinking water, safeguarding its quality in compliance with the Safe Drinking Water Act and various federal and local regulations. This procurement is necessary to maintain GWA's ability to provide potable water that meets all required health standards and ensures public safety.

- This procurement is both urgent and necessary for several reasons:
  1. GWA is obligated by law to meet water quality standards as outlined by federal mandates, including the Safe Drinking Water Act, and local health regulations. Failure to comply could result in penalties, legal liabilities, and risk of public health emergencies.
  2. The absence of sufficient chlorine supply could compromise the disinfection process, leading to the potential contamination of the drinking water supply. Such contamination poses significant health risks, including waterborne diseases, particularly to vulnerable populations.
  3. GWA's water treatment operations are dependent on a steady supply of chlorine to prevent disruptions. Any lapse in supply could immediately impact water production and distribution, affecting homes, businesses, and critical infrastructure across the island.

- Given the critical nature of chlorine in safeguarding the island's drinking water, the approval of this contract is essential to avoid operational delays and ensure that the public continues to receive safe, clean, and legally compliant water.

Where is the location?

- Various locations Island-wide

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Liquid Chlorine Supply Contract *(continuation)*

Relative to Approving the Liquid Chlorine Supply Contract for Water Production and Treatment Facilities Island-Wide

GWA Resolution No. 03-FY2025

How much will it cost?

- **3 Year Contract Cost Breakdown:**

  150lb. Chlorine Cylinder
  - Unit Price: $712.95 each
  - Estimated Annual Usage: 1,260 cylinders
  - Annual Cost: $898,317.00

  1 Ton Chlorine Cylinder
  - Unit Price: $7,149.16 each
  - Estimated Annual Usage: 12 cylinders
  - Annual Cost: $85,789.92

  - Total Annual Cost: $984,106.92
  - Total Cost for the 3-Year Contract Term: $2,952,320.76

When will it be completed?

- The contract is set to be completed at the conclusion of its initial 3-year term. However, there is an option to extend the contract up to two additional one-year terms, subject to mutual agreement by both parties.

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Liquid Chlorine Supply Contract *(continuation)*

Relative to Approving the Liquid Chlorine Supply Contract for Water Production and Treatment Facilities Island-Wide

GWA Resolution No. 03-FY2025

What is the funding source?

- Revenue generated by current service rates and fees for all water and wastewater customer classes.

The RFP/BID responses (if applicable):

- GWA IFB No. 2024-12 Liquid Chlorine Cylinders
- Bid Advertisement Date: July 11, 2024
- Bid Opening Date and Time: August 23, 2024, at 10:00 AM
- List of Interested Bidders:
  - Pacific Revolution Corp
  - Marianas Gas Corp dba Island Equipment Company
  - Guam Pacific Enterprise
- Bid Submission Received:
  - Marianas Gas Corp dba Island Equipment Company

Sewer Transmission System Condition Assessment

Relative to Approval to Procure Project Management and Design Services Contracts for Sewer Transmission System Condition Assessment and Design Island-Wide

GWA Resolution No. 04-FY2025

What is the project's objective and is it necessary and urgent?

- GWA is seeking CCU approval to petition the Public Utilities Commission (PUC) for the procurement of:
  (1) a Project Management and Design services contract for Sewer Transmission Condition Assessment and Design in Northern and Central Guam.
  (2) a Project Management and Design services contract for Sewer Transmission Condition Assessment and Design in Southern and Central Guam.

- GWA is currently under a partial consent decree (PCD) with the United States Environmental Protection Agency (USEPA) as of August 9th, 2024.

- As mandated by the PCD, GWA must complete a variety of tasks associated with its wastewater transmission systems, consisting of sewer pump stations; force mains; and related appurtenances, with the goal of eliminating sanitary sewer overflows (SSOs) for the protection of human and environmental health and improving the overall performance of its sewer transmission system. The purpose of this project is to provide condition assessment and design services to identify where GWA's transmission systems do not comply with the requirements of the PCD and design services for the improvement work necessary to correct any deficiencies discovered during the condition assessment.

- Due to the number of sewer transmission system locations in need of condition assessment and design services, two contracts will need to be procured to meet the project deadlines of the PCD.

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Sewer Transmission System Condition Assessment *(continuation)*

Relative to Approval to Procure Project Management and Design Services Contracts for Sewer Transmission System Condition Assessment and Design Island-Wide

GWA Resolution No. 04-FY2025

Where is the location?

- Project sites will be island wide, based on priority and funding. Project locations include, the following sites identified in consent decree: Alupang Cove, Astumbo #1, Astumbo #2, Barrigada, Commercial Port, Dairy Road, Ejector Station #2, Harmon, Inarajan Main, Inarajan, Machanao, Maite, Mangilao, Mongmong-Toto, Namo Yona, New Chaot, Pago Double Shaft, Piti, Pump Station #13, Pump Station #19, Pump Station #20, Route 16, Southern Link, Tai Mangilao, Talofofo, and Yigo.

How much will it cost?

- The project management and design contracts are anticipated to exceed $1,000,000.00, based on project fees for condition assessment and design of the Ypao and Mamajanao Pump Stations for Task Order 2 from the ongoing Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Island wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project.

When will it be completed?

- The completion of these projects will depend on site-specific conditions including, the severity of repairs, extent of sewer transmission system replacement, environmental conditions, and permitting requirements, and available funding. The estimated completion time for these projects is four years.

What is the funding source?

- The funding for this project is available through bonds identified on GWA's Capital Improvements Plan, grants, internally funded capital improvement program (IFCIP) funds, and System Development Charge Funds.

The RFP/BID responses (if applicable):

- Not Applicable

Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement - AECOM

Relative to the Approval of Amendment for the Indefinite Delivery/Indefinite Quantity Professional Project/Construction Management Services Contract for the Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project for AECOM Technical Services, Inc.

GWA Resolution No. 05-FY2025

What is the project's objective and is it necessary and urgent?

- On August 9, 2024, GWA entered into a Partial Consent Decree (PCD) with USEPA under the Clean Water Act (CWA). To meet the time-sensitive requirements of the PCD, GWA has negotiated with Brown and Caldwell (BC) to perform assessments of sewer main lines (SML), force mains (FM), and pump stations (PS) in high-priority areas across the southern half of the island, along with preliminary design work.
- These projects are necessary and urgent to enhance the sewer collection and transmission system, safeguard human and environmental health, and ensure compliance with the deadlines established in the PCD.
- This resolution seeks to amend the contract awarded under RFP-06-ENG-2022 for the Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement. The contract was awarded to Brown and Caldwell on July 12, 2024. This RFP was a multiple-award procurement, and BC was one of two firms selected to provide services under the contract.
- At the time of the award, the total contract value for Task Order No. 1 was below $1 million, and therefore, it did not require CCU approval. However, GWA management is now seeking CCU approval for Amendment No. 1, which introduces Task Order No. 2. The additional task order increases the overall contract value to over $1 million, triggering the requirement for CCU approval.

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Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement – AECOM *(continuation)*

Relative to the Approval of Amendment for the Indefinite Delivery/Indefinite Quantity Professional Project/Construction Management Services Contract for the Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project for AECOM Technical Services, Inc.

GWA Resolution No. 05-FY2025

What is the project's objective and is it necessary and urgent?

- Task Order No. 2 introduces new key projects required under the PCD. These projects include:
  - Agat - Assessment and preliminary design for Capacity Assurance Projects and addressing Acute Defects, including approximately 6,334 linear feet (1.20 miles) of gravity sewer lines.
  - Santa Rita - Assessment and preliminary design for Capacity Assurance Projects and addressing Acute Defects, including approximately 3,222 linear feet (0.61 miles) of gravity sewer lines.
  - Merizo - Assessment and preliminary design for Capacity Assurance Projects and addressing Acute Defects, including approximately 15,032 linear feet (2.85 miles) of gravity sewer lines and approximately 4,087 linear feet (0.77 miles) of 6" force main lines.
  - Pump Stations 16 and 17, and Ejector Stations 3 and 6, and their associated force mains, will undergo assessment and preliminary design as required by the PCD.

Where is the location?

- Project sites will be located throughout southern Guam. The Capacity Assurance and Acute Defect Projects for GWA's gravity lines will be located in the villages of Agat, Santa Rita and Merizo. Additionally, the Condition Assessment and Design Projects for Pump Stations 16 and 17, and Ejector Stations 3 and 6, and their associated force mains will be located in the villages of Tumon and Tamuning.

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Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement – AECOM *(continuation)*

Relative to the Approval of Amendment for the Indefinite Delivery/Indefinite Quantity Professional Project/Construction Management Services Contract for the Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project for AECOM Technical Services, Inc.

GWA Resolution No. 05-FY2025

How much will it cost?

- The initial contract award for the Owner-Engineer IDIQ agreement (Task Order No. 1) was One Million Dollars ($1,000,000.00). The negotiated cost for Task Order No. 2 is Three Million Nine Hundred Sixty-Two Thousand Three Hundred Sixty-Two Dollars ($3,962,362.00).
- To execute Task Order No. 2, Amendment No. 1 to the Owner-Engineer IDIQ contract is required, increasing the maximum contract amount by Three Million Nine Hundred Sixty-Two Thousand Three Hundred Sixty-Two Dollars ($3,962,362.00), bringing the new total contract value to Four Million Nine Hundred Sixty-Two Thousand Three Hundred Sixty-Two Dollars ($4,962,362.00).

When will it be completed?

- The completion of these projects will depend on site-specific conditions including, the severity of repairs, extent of sewer transmission system replacement, environmental conditions, and permitting requirements, and available funding. The estimated completion time for these projects is two years.

What is the funding source?

- The funding for this project is available through bonds identified on GWA's Capital Improvements Plan, grants, and internally funded capital improvement program (IFCIP) funds.

The RFP/BID responses (if applicable):

- Six proposals were received in response to RFP-06-ENG-2022. After evaluation, four proposals were considered, and the CIP Wastewater Division requested to award two Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts to meet the project needs.

Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement – Brown and Caldwell

Relative to the Approval of Amendment for the Indefinite Delivery/Indefinite Quantity Professional Project/Construction Management Services Contract for the Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project for Brown & Caldwell

GWA Resolution No. 06-FY2025

What is the project's objective and is it necessary and urgent?

- On August 9, 2024, GWA entered into a Partial Consent Decree (PCD) with USEPA under the Clean Water Act (CWA). To meet the time-sensitive requirements of the PCD, GWA has negotiated with Brown and Caldwell (BC) to perform assessments of sewer main lines (SML), force mains (FM), and pump stations (PS) in high-priority areas across the southern half of the island, along with preliminary design work.
- These projects are necessary and urgent to enhance the sewer collection and transmission system, safeguard human and environmental health, and ensure compliance with the deadlines established in the PCD.
- This resolution seeks to amend the contract awarded under RFP-06-ENG-2022 for the Indefinite Delivery/Indefinite Quantity (ID/IQ) Professional Project/Construction Management for Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement. The contract was awarded to Brown and Caldwell on July 12, 2024. This RFP was a multiple-award procurement, and BC was one of two firms selected to provide services under the contract.
- At the time of the award, the total contract value for Task Order No. 1 was below $1 million, and therefore, it did not require CCU approval. However, GWA management is now seeking CCU approval for Amendment No. 1, which introduces Task Order No. 2. The additional task order increases the overall contract value to over $1 million, triggering the requirement for CCU approval.

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Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement – Brown and Caldwell *(continuation)*

Relative to the Approval of Amendment for the Indefinite Delivery/Indefinite Quantity Professional Project/Construction Management Services Contract for the Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project for Brown & Caldwell

GWA Resolution No. 06-FY2025

What is the project's objective and is it necessary and urgent?

Task Order No. 2 introduces new key projects required under the PCD. These projects include:

- Agat - Assessment and preliminary design for Capacity Assurance Projects and addressing Acute Defects, including approximately 6,334 linear feet (1.20 miles) of gravity sewer lines.
- Santa Rita - Assessment and preliminary design for Capacity Assurance Projects and addressing Acute Defects, including approximately 3,222 linear feet (0.61 miles) of gravity sewer lines.
- Merizo - Assessment and preliminary design for Capacity Assurance Projects and addressing Acute Defects, including approximately 15,032 linear feet (2.85 miles) of gravity sewer lines and approximately 4,087 linear feet (0.77 miles) of 6" force main lines.
- Pump Stations 16 and 17, and Ejector Stations 3 and 6, and their associated force mains, will undergo assessment and preliminary design as required by the PCD.

Where is the location?

- Project sites will be located throughout southern Guam. The Capacity Assurance and Acute Defect Projects for GWA's gravity lines will be located in the villages of Agat, Santa Rita and Merizo. Additionally, the Condition Assessment and Design Projects for Pump Stations 16 and 17, and Ejector Stations 3 and 6, and their associated force mains will be located in the villages of Tumon and Tamuning.

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Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement – Brown and Caldwell *(continuation)*

Relative to the Approval of Amendment for the Indefinite Delivery/Indefinite Quantity Professional Project/Construction Management Services Contract for the Island-Wide Sewer Collection/Transmission System Repair, Rehabilitation, and Replacement Project for Brown & Caldwell

GWA Resolution No. 06-FY2025

How much will it cost?

- The initial contract award for the Owner-Engineer IDIQ agreement (Task Order No. 1) was One Million Dollars ($1,000,000.00). The negotiated cost for Task Order No. 2 is Three Million Nine Hundred Sixty-Two Thousand Three Hundred Sixty-Two Dollars ($3,962,362.00).
- To execute Task Order No. 2, Amendment No. 1 to the Owner-Engineer IDIQ contract is required, increasing the maximum contract amount by Three Million Nine Hundred Sixty-Two Thousand Three Hundred Sixty-Two Dollars ($3,962,362.00), bringing the new total contract value to Four Million Nine Hundred Sixty-Two Thousand Three Hundred Sixty-Two Dollars ($4,962,362.00).

When will it be completed?

- The completion of these projects will depend on site-specific conditions including, the severity of repairs, extent of sewer transmission system replacement, environmental conditions, and permitting requirements, and available funding. The estimated completion time for these projects is two years.

What is the funding source?

- The funding for this project is available through bonds identified on GWA's Capital Improvements Plan, grants, and internally funded capital improvement program (IFCIP) funds.

The RFP/BID responses (if applicable):

- Six proposals were received in response to RFP-06-ENG-2022. After evaluation, four proposals were considered, and the CIP Wastewater Division requested to award two Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts to meet the project needs.

Amendment of Position Classification Specification

Relative to the Amendment and Approval of Position Classification Specification for the Network Analyst and Network Systems Administrator Positions

GWA Resolution No. 07-FY2025

What is the project's objective and is it necessary and urgent?

- The amendment of the classified positions of Network Analyst and Network Systems Administrator is necessary and urgent to modernize the job specifications, broaden the pool of potential candidates, update the educational and experience requirements, and align the roles with current industry standards and technological advancements.
- The current deficiencies in the Network Analyst and Network Systems Administrator job standards stem from outdated minimum qualification requirements and job specifications that result in a narrow pool of potential candidates. These requirements are not aligned with current industry standards and technological advancements.
- The original educational and experience requirements for the Network Analyst position, established in 2010, are too narrow, focusing solely on computer science degrees and a higher-than-necessary amount of experience. This excludes many qualified professionals with degrees in other relevant fields like cybersecurity or computer engineering, as well as those with valuable but less extensive experience. Similarly, the Network Systems Administrator position, created in 2008, originally did not require a degree, focusing purely on extensive supervisory and administrative experience. However, the growing complexity of the role in today's technology landscape now necessitates a formal educational foundation in network systems and administration. The original five-year supervisory experience requirement also sets an unnecessarily high bar, excluding capable candidates who possess the needed technical skills but less supervisory experience. These deficiencies in both roles need to be addressed to ensure GWA remains competitive and able to attract a broader and more qualified pool of candidates. The proposed amendments address these issues by modernizing educational and experience requirements and aligning the roles with current industry standards.
- The changes proposed include expanding the acceptable degree types to include fields such as computer information systems, cybersecurity, and related disciplines, allowing for a more diverse range of candidates with relevant technical expertise. Additionally, the experience requirements have been adjusted to reflect current market conditions, ensuring the positions are accessible to qualified professionals with the necessary skill sets, while still maintaining high standards of competency.

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Amendment of Position Classification Specification *(continuation)*

Relative to the Amendment and Approval of Position Classification Specification for the Network Analyst and Network Systems Administrator Positions

GWA Resolution No. 07-FY2025

What is the project's objective and is it necessary and urgent?

- These amendments are designed to ensure GWA's technology infrastructure is supported by professionals with updated knowledge in areas like network automation, cloud computing, and cybersecurity. This will help GWA continue to effectively manage its operational technology across more than 250 assets, including water and wastewater treatment plants, deep wells, and booster stations.
- Approval of this request will enhance GWA's ability to attract a more diverse and qualified pool of candidates, enabling the utility to continue providing robust and reliable services to the community.

Where is the location?

- The Network Analyst and the Network Systems Administrator position are organizationally based within the Information Technology Division of GWA.

How much will it cost?

- The proposed changes will not affect GWA's budget, as they align with the existing compensation plan and pay scales. The implementation salary range to fill the positions are as follows:

Network Analyst

- Minimum - $70,738 per annum / $34.01 per hour
- Maximum - $73,610 per annum / $35.39 per hour

Network Systems Administrator

- Minimum - $82,727 per annum / $39.77 per hour
- Maximum - $86,086 per annum / $41.39 per hour

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Amendment of Position Classification Specification *(continuation)*

Relative to the Amendment and Approval of Position Classification Specification for the Network Analyst and Network Systems Administrator Positions

GWA Resolution No. 07-FY2025

When will it be completed?

- Public Law 28-159, Section 7.0.3(c) requires GWA to post a petition on their respective website for ten (10) days (Saturdays, Sundays, and government of Guam holidays excepted). Once adopted by the CCU, the amendment of the Network Analyst and Network Systems Administrator positions will not be filled until one hundred eighty (180) have elapsed from the date of filing the petition of the resolution with the Legislative Secretary and the Department of Administration.

What is the funding source?

- Revenue generated by current service rates and fees for all water and wastewater customer classes.

The RFP/BID responses (if applicable):

- Not Applicable

Management Report

GWA Work Session

October 15, 2024

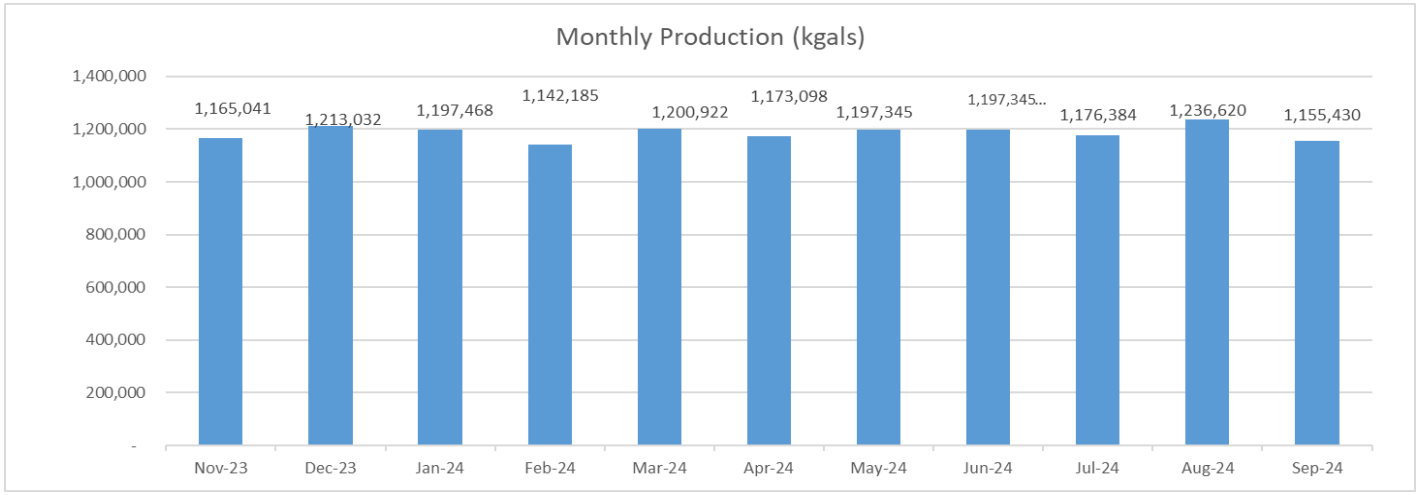
GUAM WATERWORKS AUTHORITY

Operations Update

Water Production (September 2024)

Monthly Production Summary - September 2024				
Deep Wells			37.3	MGD
	Active wells =	96 of 120		
	Avg days in operation =	29 days		
	Total Production =	1,065,716 Kgals		
Springs			1.20	MGD
	Avg days in operation =	30 days		
	Total Production =	36,029 Kgals		
Ugum Surface Water Plant			1.7	MGD
	Avg days in operation =	30 days		
	Total Production =	50,885 Kgals		
Tumon Maui Well			0.09	MGD
	Avg days in operation =	30 days		
	Total Production =	2,801 Kgals		
		1,155,430 Kgals	40.3	MGD

Deepwell Status as of 9/30/2024		
Status Types	**Count**	**Remarks**
Active	96	
Grounded motor, Secured for Corrective Maintenance	12	A01, A26, D01, D03, D06, D08, F18, F19, M05, M12, Y16 & Y23
Out of commission	9	A02, A07, A28, D05, D13, M01, M14, MJ01 & MJ05
Secured - PFOs	2	A23 & A25
Stand by	1	A29
Total	**120**	



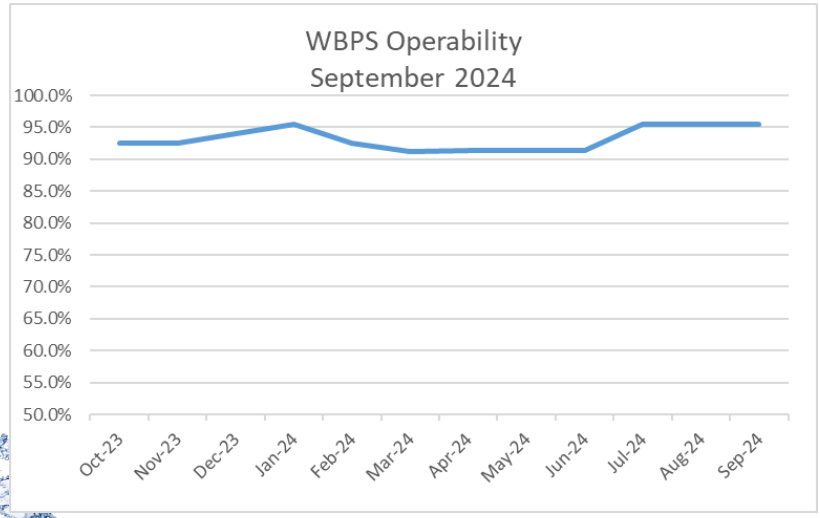
GUAM WATERWORKS AUTHORITY

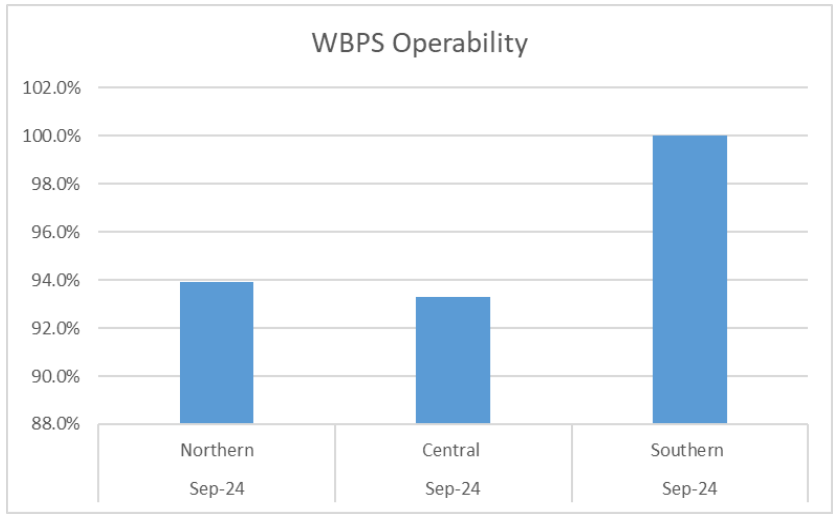
Tumon Maui Well Production (September 2024)

GUAM WATERWORKS AUTHORITY

Water Distribution (September 2024)

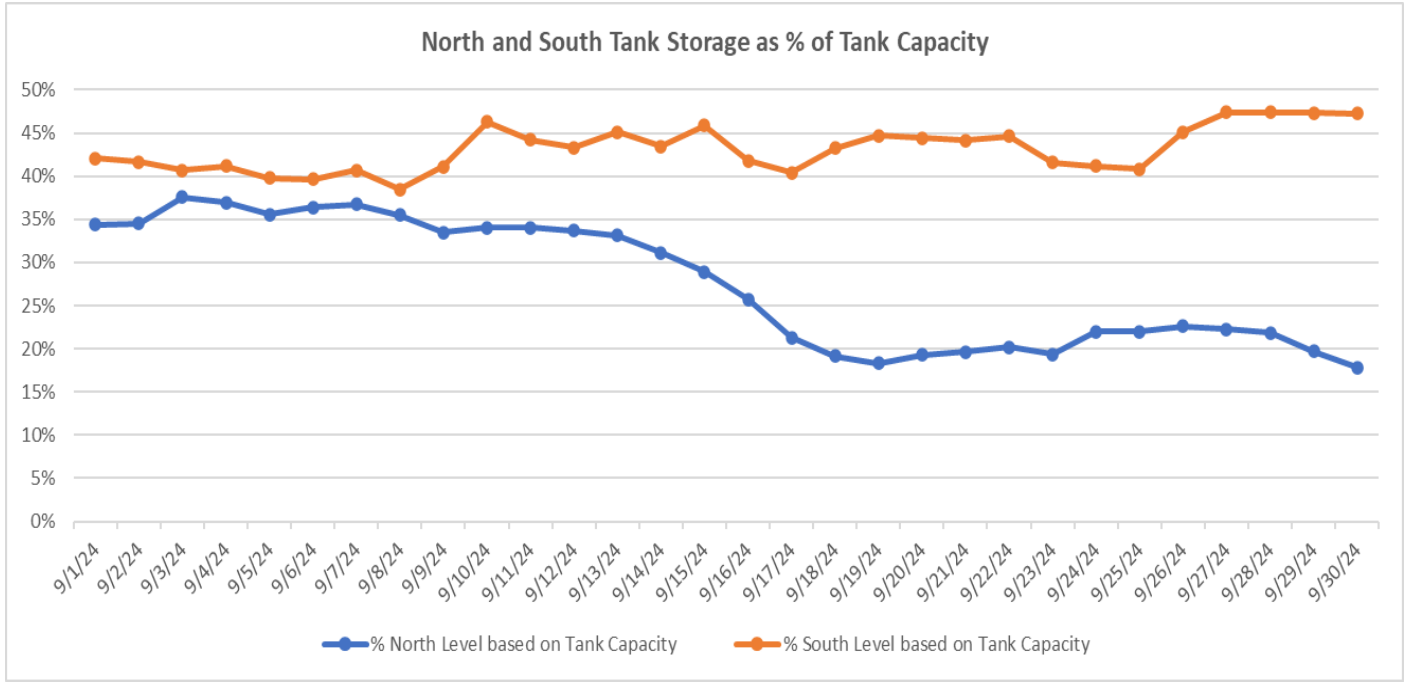
Monthly Distribution Summary - September 2024					
Water Booster Pump Stations					
	District	No. of Stations	Total Pumps	Pumps Operating	% Operational
	Northern	14	33	31	93.9%
	Central	7	15	14	93.3%
	Southern	8	19	19	100.0%
		29	67	64	95.5%





GUAM WATERWORKS AUTHORITY

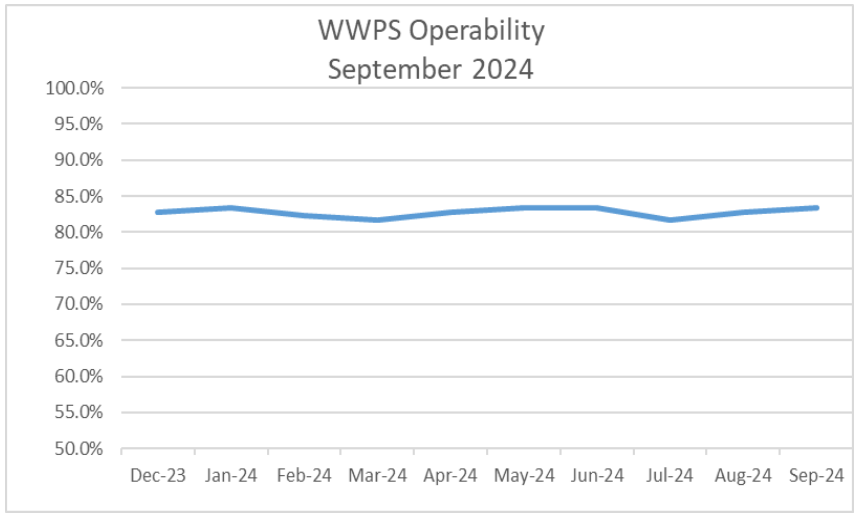
Water Distribution – Tank Levels (September 2024)

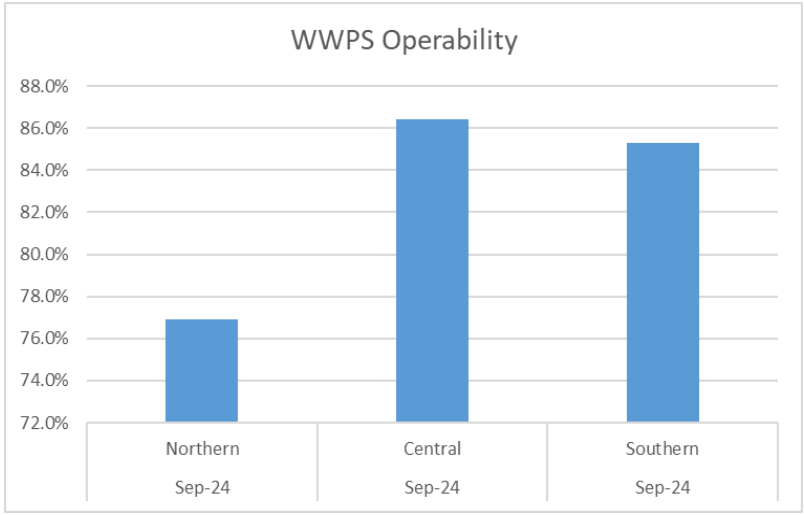


GUAM WATERWORKS AUTHORITY

Wastewater Collections (September 2024)

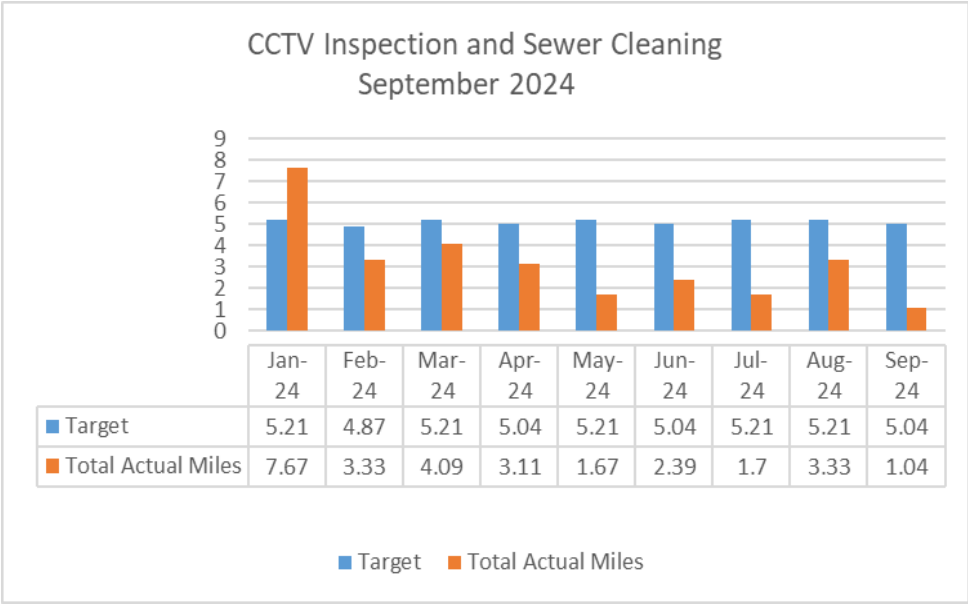
Monthly Collections Summary - September 2024					
Wastewater Pump Stations					
	District	No. of Stations	Total Pumps	Pumps Operating	% Operational
	Northern	22	52	40	76.9%
	Central	30	66	57	86.4%
	Southern	32	68	58	85.3%
		84	186	155	83.3%





GUAM WATERWORKS AUTHORITY

Wastewater Collections – CCTV (through September 2024)

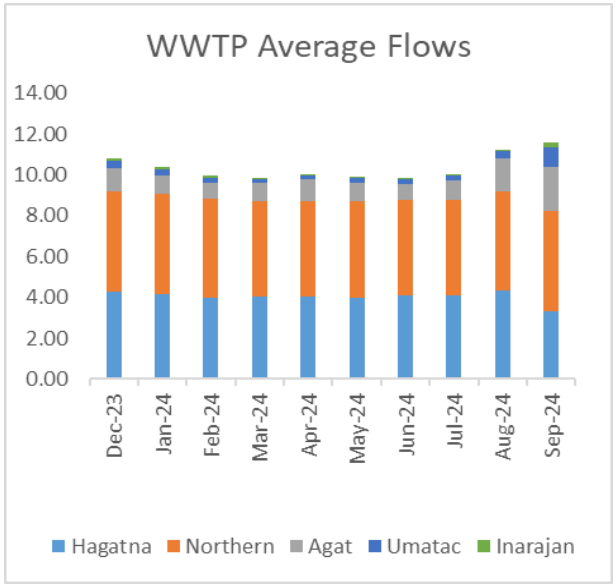


	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24
Target	5.21	4.87	5.21	5.04	5.21	5.04	5.21	5.21	5.04
Total Actual Miles	7.67	3.33	4.09	3.11	1.67	2.39	1.7	3.33	1.04

GUAM WATERWORKS AUTHORITY

Wastewater Treatment (September 2024)

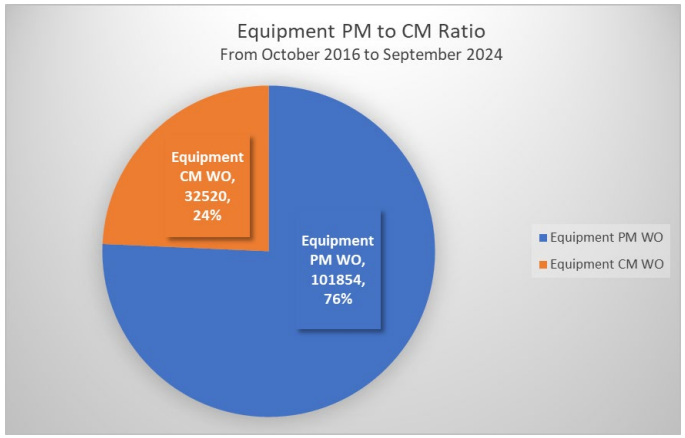
Monthly Wastewater Treatment Summary - September 2024				
WW Treatment Plants - Flows				
	Facility	Avg. Daily Flows	Sludge (lbs)	Sludge Disp. ($)
	Hagatna	3.30	286,900	$ 25,821
	Northern	4.90	648,940	$ 58,405
	Agat	2.21	30,020	$ 2,702
	Umatac	0.93		
	Inarajan	0.27		
		11.61	965,860	$ 86,928



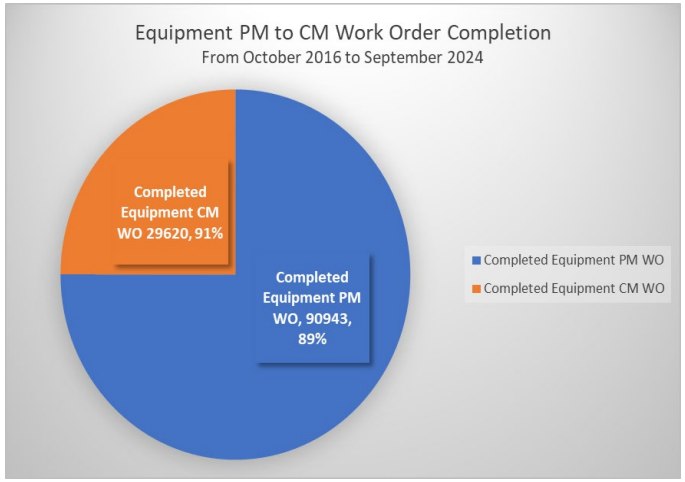
GUAM WATERWORKS AUTHORITY

Asset Management (through September 2024)

I. Equipment Preventive Maintenance to Corrective Maintenance ***Ratio***



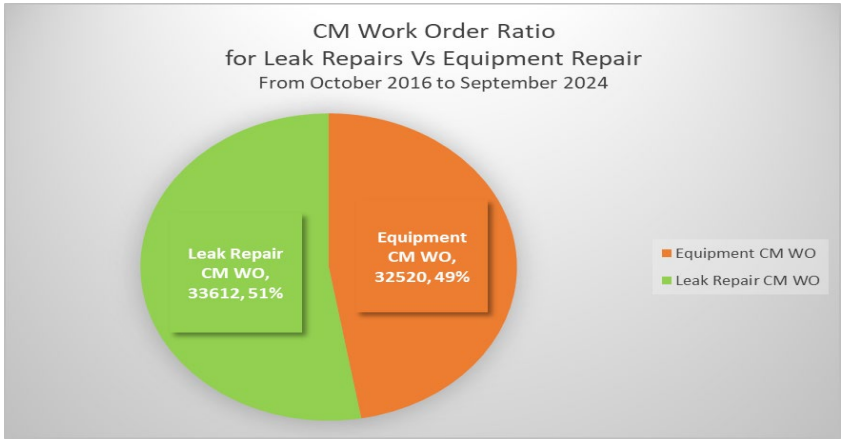
II. Equipment Preventive Maintenance to Corrective Maintenance ***Work Order Completion***



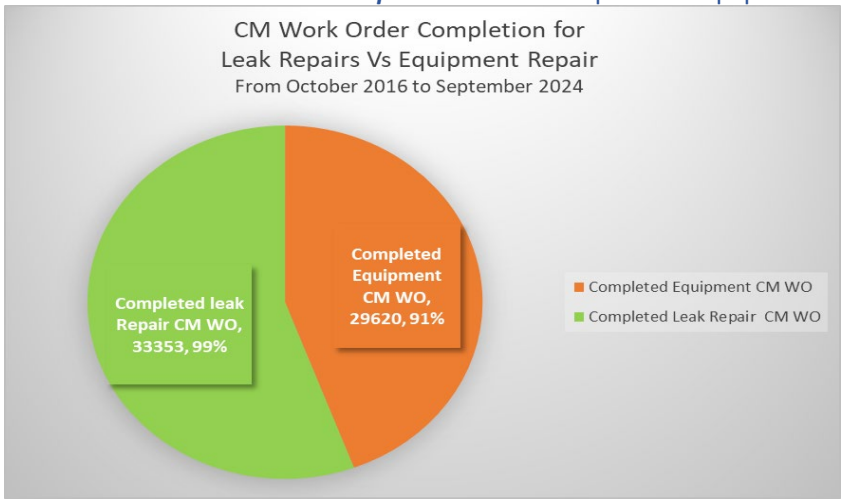
GUAM WATERWORKS AUTHORITY

Asset Management (through September 2024)

III. Corrective Maintenance Work Order ***Ratio*** for Leak Repairs vs. Equipment Repair



IV. Corrective Maintenance Work Order ***Completion*** for Leak Repairs vs. Equipment Repair



GUAM WATERWORKS AUTHORITY

One Guam Update (through September 2024)

- Licenses/Leases/ Property Transfer/Right of Entry – No Update
  - TMW/AG-1/Tarague Water Line – No update.
  - Schoeffel Heights
  - Murray Road
  - Transfer of ACEORP

- Easements – NO update
  - Andersen Water Line – AG-1 to Route 9
  - GWA WW Collection System Easement at Marbo/Skaggs
  - GWA Pressure Zone Realignment Request for Easement
    - A meeting will be set up between Andersen Mission Support Group. GWA still has contractor under contract; if there is additional cost, GWA will require the contractor to pay the fees. No date on the meeting.

- DCIP (Defense Community Infrastructure Program) Support Letter
  - Support letter was provided to GWA on October 3, 2024.

- PFAS Lab Results at Navy Water Treatment Plant (detections before June 2023)
  - GWA would like to use the PFAS data from the Navy for GWA PFAS case. Since the data is to be used for legal purposes, a special request called a Touhy will have to send to Navy. Maria Lewis did sample letter for GWA explaining this and sent to Legal Department.

(continued on next page)

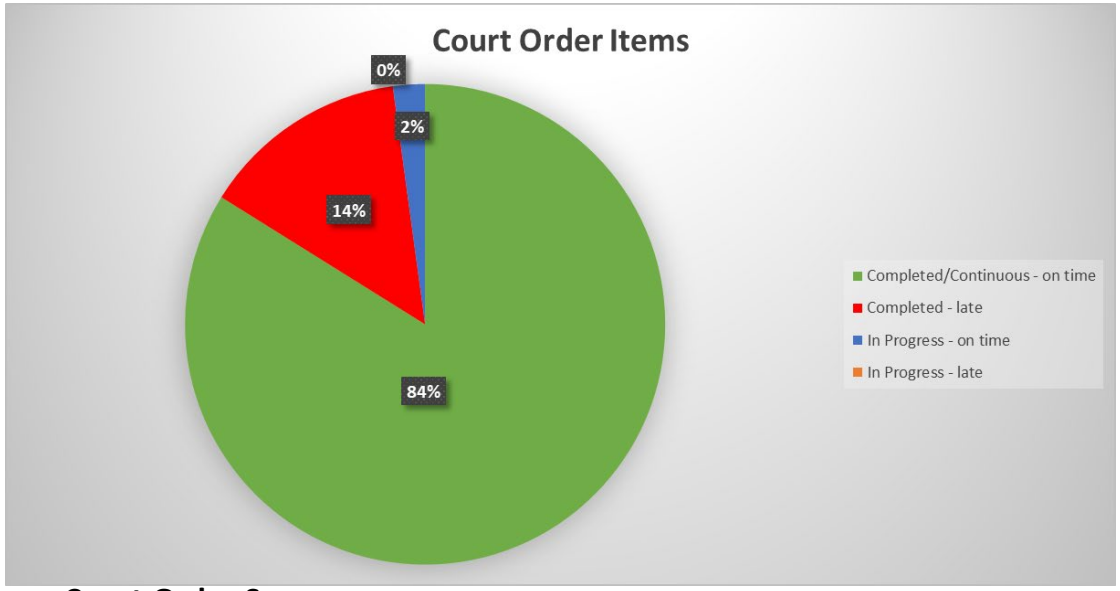
GUAM WATERWORKS AUTHORITY

One Guam Update (through September 2024 - *continuation*)

- GPA Interest in Water to Navy Meter at Power Substation across Micronesia Mall – No update.
- Modeling
    - Andersen Interties / Multiple Systems One-Guam Water Model
- The proposal received from ID/IQ contractor is currently being reviewed.
- PFAS Treatment
    - Navy/GWA met with Allonia this morning to discuss SAFF treatment. Few questions need further feedback. If do a pilot test, where exactly would locate it – separately and/or together. (Navy has no issue with dieldrin.)
    - Air Force has no issue with dieldrin.
- Camp Blaz
    - Need to transfer account from contractor to Camp Blaz; the paperwork needs to be provided to GWA.
- Fena - Manganese
    - In September, manganese went up substantially last week in the Fena Water System, which is why customers saw brown water. The sodium hypochlorite chlorination system is not functioning, and calcium hypochlorite does not seem to oxidize manganese as well - plenty of chlorine leaving the system but not enough contact time to oxidize for pretreatment.

GUAM WATERWORKS AUTHORITY

Court Order Summary (through September 2024 – no changes)



Court Order Summary

	Court Order Items	%	Performance % Completed	Performance (on-time or completed)
Completed/Continuous - on time	78	84%		
Completed - late	13	14%		
In Progress - on time	2	2%		
In Progress - late	0	0%	97.8%	100.0%
Totals	93	100%