



CONSOLIDATED COMMISSION ON UTILITIES

Guam Power Authority | Guam Waterworks Authority
P.O. Box 2977 Hagatna, Guam 96932 | (671) 648-3002 | guamccu.org

GUAM WATERWORKS AUTHORITY WORK SESSION

CCU Conference Room
12:00 p.m., Wed., July 22, 2020

AGENDA

1. CALL TO ORDER

2. ISSUES FOR DECISION

- 2.1 [Relative to Approval of the 2010, 2013 and 2016 Bond Proceeds Reallocation / Resolution 31-FY2020](#)
- 2.2 [Relative to Approval of Additional Funding to the Construction Management Contract for the Santa Rosa, Sinifa and Santa Rita Tank / Resolution 32-FY2020](#)
- 2.3 [Relative to Approval of Additional Funding to the Design Contract for the Northern and Southern Tanks / Resolution 33-FY2020](#)
- 2.4 [Relative to Approval of Fund Increase to the Construction Management Contract for the Route 4 Relief Sewerline Rehabilitation and Replacement Project S15-006-EPA / Resolution 34-FY2020](#)
- 2.5 [Relative to Approval of Amendment for the Indefinite Delivery/Indefinite Quantity Professional Project/Construction Management Services Contract / Resolution 35-FY2020](#)

3. GM REPORT

- 3.1 [GM Summary](#)

4. ISSUES FOR DISCUSSION

5. OTHER DISCUSSION

- 5.1 CCU Rules

6. DIVISION REPORTS

- 6.1 Communications
- 6.2 Compliance & Safety
- 6.3 [Customer Service](#)
- 6.4 [Engineering](#)
- 6.5 [Finance](#)
- 6.6 [Operations](#)

7. ANNOUNCEMENTS

- 7.1 Next CCU Meetings: GPA Work Session: July 23 CCU Regular Monthly Mtg.: July 28

8. ADJOURNMENT



GUAM WATERWORKS AUTHORITY

"Better Water, Better Lives."

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

Tel: (671) 300-6846

Issues for Decision

Resolution No. 31-FY2020

Relative to Approval of the 2010, 2013 and 2016 Bond Proceeds Reallocation

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

The objective of the bond proceed reallocation is to expend unobligated 2010, 2013 and 2016 Bond proceeds in an effort to maintain compliance with bond indenture requirements as well as focus available funding to on-going or active CIP projects or programs. Specifically, the reallocated funds will help address the PUC requirement for GWA to establish a Water Loss Reduction Program to improve the utility's water loss in an effort to save on operating cost, as well as fund anticipated USEPA Consent Decree projects associated with GWA's wastewater system.

Where is the location?

N/A

How much will it cost?

While there is no additional cost proposed over previously approved 2010, 2013, and 2016 bond expenditures, GWA management seeks to reallocate Seven Hundred Eighty-Three Thousand Seven Hundred Sixteen Dollars (\$783,716.00) of 2010 Bond proceeds, One Million Sixty-Six Thousand Four Dollars (\$1,066,004.00) of 2013 Bond proceeds, and Two Million Seven Hundred One Thousand Eight Hundred Seventy-Seven Dollars (\$2,701,877.00) of 2016 Bond proceeds to on-going or active CIP projects.

When will it be completed?

N/A

What is the funding source?

2010, 2013 and 2016 Bond

The RFP/BID responses (if applicable):

N/A



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RESOLUTION NO. 31-FY2020

**RELATIVE TO APPROVAL OF THE 2010, 2013 AND 2016
BOND PROCEEDS REALLOCATION**

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

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

WHEREAS, GWA management intends to expend unobligated 2010, 2013 and 2016 Bond proceeds in an effort to maintain compliance with bond indenture requirements by reallocating said bond proceeds to on-going or active CIP projects; and

WHEREAS, the PUC required via GWA Docket 19-08 “FY20 Rate Decision” that GWA establish a Water Loss Reduction Program to improve the utility’s water loss in an effort to save on operating cost; and

WHEREAS, GWA is currently in negotiations with USEPA for a “Consent Decree” (CD) relative to wastewater system improvements at GWA sewer pump stations (SPS), force mains and gravity lines and as such GWA intends to focus engineering and financial resources to meet the anticipated CD priorities; and

WHEREAS, GWA finance has reconciled as of May 31, 2020 the 2010, 2013 and 2016 Bonds Capital Improvements Project (CIP) accounts and has determined there are several CIP line items with a remaining balance under the “Unobligated Project Cost” totaling Three Million Seven Hundred Seventeen Thousand Five Hundred Sixty-Eight Dollars (\$3,717,568.00) (See

1 Exhibit A), Four Million One Hundred Twenty Thousand Five Hundred Thirty-Three Dollars
2 (\$4,120,533.00) (See Exhibit B), Seventeen Million Seven Hundred Forty-One Thousand Six
3 Hundred Seventy Dollars (\$17,741,670.00) (See Exhibit C), respectively; and
4

5 **WHEREAS**, GWA management seeks to reallocate Seven Hundred Eighty-Three
6 Thousand Seven Hundred Sixteen Dollars (\$783,716.00) of the 2010 Bond proceeds from
7 various CIP line items to the CIP line items PW 09-01 “Ugum Water Treatment Plant Intake”,
8 PW 09-03 “Water Distribution System Pipe Replacement and Upgrades”, and PW 12-01 “Water
9 Audit Program & Water Loss Control Plan” (See Exhibit D); and
10

11 **WHEREAS**, GWA management further seeks to reallocate One Million Sixty-Six
12 Thousand Four Dollars (\$1,066,004.00) of 2013 Bond proceeds from various CIP line items to
13 the CIP line item WW 09-01 “Lift station upgrades” (See Exhibit E); and
14

15 **WHEREAS**, GWA management further seeks to reallocate Two Million Seven Hundred
16 One Thousand Eight Hundred Seventy-Seven Dollars (\$2,701,877.00) of 2016 Bond proceeds
17 from various CIP line items to the CIP line items PW 09-01 “Ugum Water Treatment Plant
18 Intake”, PW 09-03 “Water Distribution System Pipe Replacement and Upgrades”, WW 09-01
19 “Lift station upgrades”, WW 09-06 “Wastewater Collection System Repl/Rehab” and MP-Gen-
20 Misc-05 “GWA Infrastructure Improvements” (See Exhibit F); and
21

22 **WHEREAS**, the reallocation of the 2010, 2013 and 2016 Bond as described above has
23 caused the Capital Improvement Plan to be adjusted (See Exhibit G) to reflect the movement of
24 funding as well as allow for CIP line items that had projected shortages in bond funding to
25 reduce future bond borrowing for that CIP line item due to this reallocation; and
26

27 **WHEREAS**, GWA management seeks CCU approval to petition the PUC for approval
28 to reallocate the 2010, 2013 and 2016 bond as indicated above; and
29

30 **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities
31 does hereby approve and authorize the following:

1. The recitals set forth above hereby constitute the findings of the CCU.
2. The CCU finds that the justification for the 2010, 2013 and 2016 bond reallocation to be acceptable.
3. The CCU hereby approves Seven Hundred Eighty-Three Thousand Seven Hundred Sixteen Dollars (\$783,716.00) of 2010 Bond proceeds from various CIP line items to be reallocated to the CIP line items PW 09-01 "Ugum Water Treatment Plant Intake", PW 09-03 "Water Distribution System Pipe Replacement and Upgrades", and PW 12-01 "Water Audit Program & Water Loss Control Plan".
4. The CCU hereby further approves One Million Sixty-Six Thousand Four Dollars (\$1,066,004.00) of 2013 Bond proceeds from various CIP line items to be reallocated to the CIP line item WW 09-01 "Lift station upgrades".
5. The CCU hereby further approves Two Million Seven Hundred One Thousand Eight Hundred Seventy-Seven Dollars (\$2,701,877.00) of 2016 Bond proceeds from various CIP line items to be reallocated to the CIP line items PW 09-01 "Ugum Water Treatment Plant Intake", PW 09-03 "Water Distribution System Pipe Replacement and Upgrades", WW 09-01 "Lift station upgrades", WW 09-06 "Wastewater Collection System Repl/Rehab" and MP-Gen-Misc-05 "GWA Infrastructure Improvements".
6. The CCU further approves the management of GWA seek PUC approval for the reallocation of 2010, 2013 and 2016 bond funds as indicated herein.

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

DULY AND REGULARLY ADOPTED, this 28th day of July 2020.

Certified by:

Attested by:

JOSEPH T. DUENAS

Chairperson

MICHAEL T. LIMTIACO

Secretary

SECRETARY'S CERTIFICATE

I, Michael T. Limtiaco, Board Secretary of the Consolidated Commission on Utilities as evidenced by my signature above do hereby certify as follows:

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

AYES: _____

NAYS: _____

ABSENT: _____

ABSTAIN: _____

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GWA Work Session - July 22, 2020 - ISSUES FOR DECISION

GUAM WATERWORKS AUTHORITY
2010 Series Bond Project Status
As of May 31, 2020

Exhibit A (page 1 of 1)

SCHEDULE M

PROJECT NAME		BOND INTEREST	Adjusted Project Cost	EXPENDITURES AS OF 5/31/20	OUTSTANDING ENCUMBRANCES	FUNDING REQUEST	TOTAL EXPENDITURES ENCUMBRANCES & FUNDING REQUESTS	UNOBLIGATED PROJECT COST	Construction fund balance AS OF 5/31/20
PW 05-01	Ground Water Disinfection		\$ 500,000	\$ 465,008	\$ -		\$ 465,008	34,992	34,992
PW 05-05	"A" Series Well Transmission Line		\$ 475,709	\$ 475,709	\$ -		\$ 475,709	-0	-0
PW 05-06	Water Booster Pump Station		\$ 500,000	\$ 500,000	\$ -	\$ -	\$ 500,000	0	0
PW 05-07	Meter Replacement Program		\$ 10,450,000	\$ 10,174,513	\$ 6,517	\$ -	\$ 10,181,030	268,970	275,487
PW 05-08	Barrigada Tank Repair/Replacement		\$ 5,450,000	\$ 5,371,011	\$ 33,337		\$ 5,404,348	45,652	78,989
PW 05-09	Leak Detection		\$ 200,000	\$ 17,037	\$ -		\$ 17,037	182,963	182,963
PW 05-10	Potable Water System Planning	10,487	\$ 210,487	\$ 210,487	\$ 0		\$ 210,487	0	0
PW 05-11	Implement Ground Water Rule		\$ 1,699,999	\$ 1,699,998	\$ -		\$ 1,699,998	1	1
PW 05-12	Brigade II (Ugum Lift) BPS Upgrade		\$ 1,900,000	\$ 368,647	\$ 5,914		\$ 374,561	1,525,439	1,531,353
PW 05-13	Deep Well Rehabilitation		\$ 548,000	\$ 404,045	\$ -		\$ 404,045	143,955	143,955
PW 05-14	New Deep Wells at Down Hard		\$ 485,743	\$ 485,743	\$ -		\$ 485,743	0	0
PW 05-15	Rehabilitation of Asan Sprinas		\$ 1,100,000	\$ 251,593	\$ 339,641		\$ 591,234	508,766	848,407
PW 05-16	Master Meters		\$ 1,489,957	\$ 1,489,957	\$ -		\$ 1,489,957	0	0
PW 09-01	Ugum Water Treatment Plant Intake		\$ 700,000	\$ 610,234	\$ 106	\$ -	\$ 610,340	89,660	89,766
PW 09-02	Water Wells		\$ -	\$ -	\$ -		\$ -	0	0
PW 09-03	Water Distribution System		\$ 3,174,748	\$ 3,152,725	\$ 21,963		\$ 3,174,688	60	22,023
PW 09-04	Pressure Zone Realignment /		\$ -	\$ -	\$ -		\$ -	0	0
PW 09-05	Northern System Water Distribution		\$ -	\$ -	\$ -		\$ -	0	0
PW 09-06	Central Water Distribution System 2005		\$ 775,002	\$ 709,031	\$ 2	\$ -	\$ 709,033	65,969	65,971
PW 09-07	Southern Water Distribution System		\$ -	\$ -	\$ -		\$ -	0	0
PW 09-08	Mechanical/Electrical Equipment		\$ 1,200,000	\$ 1,200,000	\$ -	\$ -	\$ 1,200,000	0	0
PW 09-09	Water Reservoir Internal/External		\$ 2,150,000	\$ 1,178,456	\$ 930,928	\$ -	\$ 2,109,384	40,616	971,544
PW 09-10	Water Reservoir Internal/External		\$ -	\$ -	\$ -		\$ -	0	0
PW 09-11	Water System Reservoirs 2005 Improvements		\$ 1,050,000	\$ 1,033,925	\$ 16,075		\$ 1,050,000	0	16,075
PW 11-01	Distribution System Upgrades		\$ 474,160	\$ 449,046	\$ -		\$ 449,046	25,114	25,114
PW 11-02	Ugum Water Treatment Plant Reservoir		\$ -	\$ -	\$ -		\$ -	0	0
PW 12-01	Water Audit Program & Water Loss Control Plan		\$ 78,459	\$ 15,031	\$ -	\$ -	\$ 15,031	63,429	63,429
PW 12-02	Production Plan / Reduce Navv Purchases		\$ 100,000	\$ 99,900	\$ -		\$ 99,900	100	100
PW 12-03	Hydraulic Assessment of Tank		\$ 500,000	\$ 489,161	\$ 2,680		\$ 491,841	8,159	10,839
PW 12-04	Aqana Heights & Chaot Tanks		\$ 4,700,000	\$ 4,647,524	\$ -		\$ 4,647,524	52,476	52,476
PW 12-05	Tank Major Repair Yiqo#1 Mangilaof2 Aaat#2		\$ 1,848,013	\$ 1,765,504	\$ 77,283		\$ 1,842,787	5,226	82,509
PW 12-06	Tank Major Repair Yiqo#1 Mangilaof2 Aaat#2		\$ -	\$ -	\$ -		\$ -	0	0
PW 12-07	Assessment of malolloi Elevated & Yiqo Elevated		\$ 200,000	\$ 200,000	\$ -		\$ 200,000	0	0
PW 12-08	Public Water System Asser Inventory/Condition Assesment		\$ 100,000	\$ 78,386	\$ -		\$ 78,386	21,614	21,614
PW 12-09	Public Water System GIS & Mapping		\$ 50,000	\$ 50,000	\$ -		\$ 50,000	0	0
			\$ -	\$ -	\$ -		\$ -	0	0
WW 05-04	Wastewater System Planning	18,857	\$ 1,492,857	\$ 1,492,857	\$ -		\$ 1,492,857	0	0
WW 05-05	Wastewater Vehicles		\$ 235,000	\$ 209,795	\$ -		\$ 209,795	25,205	25,205
WW 05-07	NDWWTP - Chlorine Tanks	207,982	\$ 457,982	\$ 457,982	\$ -		\$ 457,982	0	0
WW 09-07	Tumon Bay Sewer Upgrades		\$ -	\$ -	\$ -		\$ -	0	0
WW 09-06	Wastewater Collection System Repl/Rehab		\$ 1,001,323	\$ 904,432	\$ -	\$ -	\$ 904,432	96,891	96,891
WW 09-08	Facilities Plan/Design for Baza Garde	16,757	\$ 1,266,757	\$ 1,198,678	\$ 68,079		\$ 1,266,757	0	68,079
WW 09-10	Facilities Plan/Design for Aqaat-Santa Rita WWTP		\$ 899,630	\$ 778,208	\$ 121,422		\$ 899,630	0	121,422
WW 11-02	Priority 1 Sewer Upgrades – Baza Gardens WWTP		\$ -	\$ -	\$ -		\$ -	0	0
WW 11-03	Baza Gardens STP Replacement		\$ 1,488,378	\$ 1,445,363	\$ -		\$ 1,445,363	43,015	43,015
WW 11-04	Facilities Plan/Design for Umatac Merizo WWTP		\$ 853,858	\$ 827,795	\$ 26,063		\$ 853,858	0	26,063
WW 11-08	Aqaat/Santa Rita STP Replacement		\$ 2,217,700	\$ 2,215,110	\$ 1,363		\$ 2,216,473	1,227	2,590
WW 12-01	Northern District WWTP Primary Treatment Upgrades		\$ 11,743,514	\$ 11,419,078	\$ 177,322	\$ -	\$ 11,596,400	147,114	324,436
WW 12-02	Biosolids Management Plan		\$ 200,000	\$ 162,084	\$ -		\$ 162,084	37,916	37,916
WW 12-03	Aqana WWTP Interim Measures	63,892	\$ 11,363,892	\$ 11,298,383	\$ 23,595		\$ 11,321,978	41,913	65,508
WW 12-04	I&I SSES Southern		\$ 800,000	\$ 793,717	\$ 5,278		\$ 798,995	1,005	6,283
WW 12-05	I&I SSES Central		\$ 850,000	\$ 792,566	\$ 1,019		\$ 793,585	56,415	57,434
WW 12-06	I&I SSES Northern		\$ -	\$ -	\$ -		\$ -	0	0
WW 12-07	Umatac Merizo Replacement		\$ 250,000	\$ 245,449	\$ 2,569		\$ 248,018	1,982	4,551
WW 17-02	Northern District WWTP Secondary Treatment Upgrades		\$ 1,000,000	\$ 1,000,000	\$ -		\$ 1,000,000	0	0
			\$ -	\$ -	\$ -		\$ -	0	0
EE 05-01	Well Electrical Protection		\$ -	\$ -	\$ -		\$ -	0	0
EE 05-02	SCADA Pilot Project		\$ 61,950	\$ 19,812	\$ -		\$ 19,812	42,138	42,138
EE 09-02	Electrical Upgrade - Water Wells		\$ 354,227	\$ 350,291	\$ 3,936		\$ 354,227	0	3,936
EE 09-03	Electrical Upgrade - Water Booster		\$ -	\$ -	\$ -		\$ -	0	0
EE 09-04	Electrical Upgrade -Water Booster		\$ -	\$ -	\$ -		\$ -	0	0
EE 09-05	Electrical Upgrade - Other Water		\$ -	\$ -	\$ -		\$ -	0	0
EE 09-06	SCADA Improvements – Phase 1		\$ 250,000	\$ 202,894.23	\$ 6,597		\$ 209,492	40,508	47,106
EE 09-07	SCADA Improvements – Phase 2		\$ 1,056,986	\$ 1,026,782	\$ 6,597		\$ 1,033,380	23,606	30,204
EE 09-08	SCADA Improvements – Phase 3		\$ 24,956	\$ 24,956	\$ -		\$ 24,956	0	0
EE 09-09	SCADA Improvements – Phase 4		\$ -	\$ -	\$ -		\$ -	0	0
			\$ -	\$ -	\$ -		\$ -	0	0
MC 05-01	Laboratory Modernization		\$ -	\$ -	\$ -		\$ -	0	0
MC 05-02	Land Survey		\$ 499,688	\$ 469,484	\$ 6,597		\$ 476,081	23,607	30,204
MC 09-01	General Plant Improvements / Water		\$ 7,241,000	\$ 7,202,237	\$ -	\$ -	\$ 7,202,237	38,763	38,763
Interest	Interest Earned	\$ 13,099	\$ 13,099					13,099	13,099
Total Construction Fund (2010 Se		\$ 331,073	\$ 87,733,073	\$ 82,130,622	\$ 1,884,884	\$ -	\$ 84,015,506	\$ 3,717,568	\$ 5,602,451

Exhibit B (page 1 of 1)

GUAM WATERWORKS AUTHORITY
2013 Series Bond Project Status
As of May 31, 2020

SCHEDULE J

PROJECT NAME	ORIGINAL APPROVED		Adjusted Project Cost	BOND INTEREST	Adjusted Project Cost	EXPENDITURES AS OF 5/31/20	OUTSTANDING ENCUMBRANCES	FUNDING REQUEST	TOTAL EXPENDITURES & FUNDING REQUESTS		UNOBLIGATED PROJECT COST	Construction fund balance AS OF 5/31/20	
	PROJECT COST												
PW 05-03	Santa Rita Springs Booster Pt	\$ 100,000	\$ 100,000.00		\$ 100,000	100,000	-		\$ 100,000	\$ -	\$ -		-
PW 05-05	"A" Series Well Transmission I	\$ 400,000	\$ 400,000.00		\$ 369,846	369,846	(0)		\$ 369,846	\$ 0	\$ 0		0
PW 05-06	Water Booster Pump Station	\$ 6,000,000	\$ 6,000,000.00		\$ 1,679,964	1,664,351	2,442	-	\$ 1,666,793	\$ 13,171	\$ 15,613		15,613
PW 05-07	Meter Replacement Program	\$ 6,000,000	\$ 6,000,000.00		\$ 996,532	854,479	-		\$ 854,479	\$ 142,053	\$ 142,053		142,053
PW 05-08	Barricada Tank Repair/Replac	\$ 6,000,000	\$ 6,000,000.00		\$ 4,987,000	4,779,897	16,000		\$ 4,795,897	\$ 191,103	\$ 207,103		207,103
PW 05-09	Leak Detection	\$ 100,000	\$ 100,000.00		\$ 16,916	-	(0)	-	\$ (0)	\$ 16,916	\$ 16,916		16,916
PW 05-10	Potable Water System Plannin	\$ 800,000	\$ 1,200,000.00		\$ 624,000	593,939	30,061		\$ 624,000	\$ 0	\$ 30,061		30,061
PW 05-11	Imolment Ground Water Rule	\$ 1,000,000	\$ 1,000,000.00		\$ 1,000,000	952,052	29,724		\$ 981,776	\$ 18,224	\$ 47,948		47,948
PW 05-13	Deep Well Rehabilitation	\$ 800,000	\$ 800,000.00		\$ 200,000	198,175	1,826		\$ 200,000	\$ (0)	\$ 1,825		1,825
PW 05-14	New Deep Wells at Down Har	\$ 2,000,000	\$ 2,000,000.00		\$ -	-	-		\$ -	\$ -	\$ -		-
PW 05-16	Master Meters	\$ 4,000,000	\$ 4,000,000.00		\$ 712,060	476,315	180,872		\$ 657,187	\$ 54,873	\$ 235,745		235,745
PW 09-01	Uqum Water Treatment Plant	\$ 1,000,000	\$ 1,000,000.00		\$ 859,801	354,136	14,512	414,684	\$ 783,332	\$ 76,469	\$ 505,665		505,665
PW 09-02	Water Wells	\$ 4,200,000	\$ 4,200,000.00		\$ 3,030,029	2,148,678	8,167		\$ 2,156,845	\$ 873,184	\$ 881,351		881,351
PW 09-03	Water Distribution System	\$ 12,000,000	\$ 14,000,000.00		\$ 10,912,453	10,001,340.93	540,687		\$ 10,542,028	\$ 370,425	\$ 911,112		911,112
PW 09-04	Pressure Zone Realignment /	\$ 1,000,000	\$ 1,000,000.00		\$ 337,110	336,036	1,074		\$ 337,110	\$ 0	\$ 1,074		1,074
PW 09-08	Mechanical/Electrical Equipm	\$ 430,000	\$ 430,000.00		\$ 426,799	309,784	-	111,522	\$ 421,306	\$ 5,493	\$ 117,015		117,015
PW 09-10	Water Reservoir Internal/Exter	\$ 800,000	\$ 800,000.00		\$ -	-	-		\$ -	\$ -	\$ -		-
PW 09-11	Water System Reservoirs 200	\$ 21,000,000	\$ 18,000,000.00		\$ 13,878,000	13,020,796	812,788		\$ 13,833,584	\$ 44,416	\$ 857,204		857,204
PW 11-02	Uqum Water Treatment Plant	\$ 7,000,000	\$ 7,000,000.00		\$ -	-	-		\$ -	\$ -	\$ -		-
PW 12-04	Agana Heights & Chaot Tanks	\$ 4,500,000	\$ 4,500,000.00		\$ 1,330,287	1,114,271	216,016		\$ 1,330,287	\$ (0)	\$ 216,016		216,016
PW 12-05	Tank Major Repair Yoo#1 Ma	\$ 13,500,000	\$ 13,500,000.00		\$ 11,605,000	10,713,256	891,369		\$ 11,604,625	\$ 375	\$ 891,744		891,744
PW 12-06	Tank Major Repair Yoo#1 Ma	\$ 8,000,000	\$ 8,000,000.00		\$ -	-	-		\$ -	\$ -	\$ -		-
PW 12-07	Assessment of malololoi Elevet	\$ 500,000	\$ 500,000.00		\$ 485,117	461,813	23,304		\$ 485,117	\$ 0	\$ 23,304		23,304
PW 14-01	Fire Hydrant Replacement Prc	\$ -	\$ 1,000,000.00		\$ -	-	-		\$ -	\$ -	\$ -		-
WW 05-04	Wastewater System Planning	\$ 800,000	\$ 800,000.00		\$ 650,901	618,613	6,982		\$ 625,595	\$ 25,306	\$ 32,288		32,288
WW 09-01	Lift Station Upgrades	\$ 5,000,000	\$ 2,000,000.00		\$ 563,148	538,385	7,265		\$ 545,650	\$ 17,498	\$ 24,763		24,763
WW 09-06	Wastewater Collection System	\$ 6,500,000	\$ 3,800,000.00	72,045	\$ 732,358	575,303	75,152		\$ 650,455	\$ 81,903	\$ 157,055		157,055
WW 11-03	Baza Gardens STP Replacement	\$ 1,000,000	\$ 1,000,000.00		\$ 9,656,874	7,890,391	1,429,611		\$ 9,320,002	\$ 336,872	\$ 1,766,483		1,766,483
WW 11-04	Facilities Plan/Design for Umatac-Merizo WWTP	\$ 1,000,000	\$ 1,000,000.00		\$ 371,699	369,613	2,086		\$ 371,699	\$ 0	\$ 2,086		2,086
WW 11-08	Agat/Santa Rita STP Replace	\$ 19,000,000	\$ 19,000,000.00		\$ 67,200,000	66,539,824	393,770		\$ 66,933,594	\$ 266,406	\$ 660,176		660,176
WW 12-03	Agana WWTP Interim Measures	\$ 1,500,000	\$ 1,500,000.00	45,076	\$ 718,076	667,693	50,383		\$ 718,076	\$ 0	\$ 50,383		50,383
WW 12-07	Umatac Merizo Replacement	\$ 2,000,000	\$ 1,000,000.00		\$ -	-	-		\$ -	\$ -	\$ -		-
EE 09-01	Wastewater Pump Station Ele	\$ 620,000	\$ 620,000.00		\$ 99,861	99,087	774		\$ 99,861	\$ -	\$ 774		774
EE 09-02	Electrical Upgrade - Water Wt	\$ 1,500,000	\$ 1,500,000.00		\$ 1,500,000	1,487,105	2,599		\$ 1,489,704	\$ 10,296	\$ 12,895		12,895
EE 09-03	Electrical Upgrade - Water Bo	\$ 325,000	\$ 325,000.00		\$ -	-	-		\$ -	\$ -	\$ -		-
EE 09-04	Electrical Upgrade -Water Boc	\$ 350,000	\$ 350,000.00		\$ 977	977	-		\$ 977	\$ -	\$ -		-
EE 09-05	Electrical Upgrade - Other Wa	\$ 250,000	\$ 250,000.00		\$ 60,700	60,700	-		\$ 60,700	\$ -	\$ -		-
EE 09-08	SCADA Improvements - Phas	\$ 1,850,000	\$ 1,850,000.00		\$ 722,359	514,786	173,869	-	\$ 688,655	\$ 33,704	\$ 207,573		207,573
EE 09-09	SCADA Improvements - Phas	\$ 500,000	\$ 1,200,000.00		\$ -	-	-		\$ -	\$ -	\$ -		-
MC 05-01	Laboratory Modernization	\$ 1,500,000	\$ 1,500,000.00		\$ 1,171,465	1,163,037	7,785		\$ 1,170,822	\$ 643	\$ 8,428		8,428
MC 05-02	Land Survey	\$ 2,000,000	\$ 2,000,000.00		\$ 1,052	1,038	15		\$ 1,053	\$ (1)	\$ 15		15
MC 09-01	General Plant Improvements /	\$ 2,000,000	\$ 2,600,000.00		\$ 2,441,737	1,331,471	3,251	942,603	\$ 2,277,325	\$ 164,412	\$ 1,110,266		1,110,266
Interest	Interest Earned			\$ 1,376,792	\$ 1,376,792					\$ 1,376,791.71	\$ 275,005		275,005
Total Construction Fund (2)		\$ 139,325,000	\$ 139,325,000	\$ 1,493,913	\$ 140,818,913	\$ 130,307,188	\$ 4,922,384	\$ 1,468,808	\$ 136,698,380	\$ 4,120,533	\$ 10,786,730		10,786,730

Exhibit C (page 1 of 1)

GUAM WATERWORKS AUTHORITY
2016 Series Bond Project Status
As of May 31, 2020

SCHEDULE L

PROJECT NAME	BOND INTEREST	Adjusted Project Cost	EXPENDITURES AS OF 5/31/20	OUTSTANDING ENCUMBRANCES	FUNDING REQUEST	TOTAL EXPENDITURES ENCUMBRANCES	UNOBLIGATED PROJECT COST	Construction fund balance AS OF 5/31/20
						& FUNDING REQUESTS		
PW 05-06		\$ -	-	-		\$ -	\$ -	-
PW 05-07		\$ 1,400,000	149,970	1,250,030		\$ 1,400,000	\$ -	1,250,030
PW 05-08		\$ -	-	-		\$ -	\$ -	-
PW 05-09		\$ 100,000	-	-		\$ -	\$ 100,000	100,000
PW 05-10		\$ 876,294	833,563	42,731		\$ 876,294	\$ -	42,731
PW 05-13		\$ 250,000	203	109,810		\$ 110,013	\$ 139,987	249,797
PW 05-14		\$ 1,190,000	-	-		\$ -	\$ 1,190,000	1,190,000
PW 05-16		\$ 2,151,539	151,539	-		\$ 151,539	\$ 2,000,000	2,000,000
PW 09-01		\$ -	-	-		\$ -	\$ -	-
PW 09-02		\$ 2,500,000	77,520	92,480	39,703	\$ 209,703	\$ 2,290,297	2,422,480
PW 09-03		\$ -	-	-		\$ -	\$ -	-
PW 09-04		\$ 1,141,000	687,712	453,288		\$ 1,141,000	\$ (0)	453,288
PW 09-08		\$ -	-	-		\$ -	\$ -	-
PW 09-10		\$ 800,000	661,188	138,812		\$ 800,000	\$ -	138,812
PW 09-11		\$ 58,830,170	11,810,679	41,432,227		\$ 53,242,905	\$ 5,587,265	47,019,491
PW 11-02		\$ -	-	-		\$ -	\$ -	-
PW 12-01		\$ 550,000	-	326,134		\$ 326,134	\$ 223,867	550,000
PW 12-04		\$ 1,220,000	-	1,220,000		\$ 1,220,000	\$ -	1,220,000
PW 12-05		\$ 1,822,133	662,334	1,159,799		\$ 1,822,133	\$ 0	1,159,799
PW 12-06		\$ 7,300,000	6,650,000	650,000		\$ 7,300,000	\$ -	650,000
PW 14-01		\$ 1,200,000	67,478	1,128,900		\$ 1,196,377	\$ 3,623	1,132,523
		\$ -	-	-		\$ -	\$ -	-
WW 05-04		\$ 312,983	312,983	-		\$ 312,983	\$ 0	0
WW 09-01		\$ 1,714,755	414,748	783,659	278,745	\$ 1,477,152	\$ 237,603	1,300,007
WW 09-06		\$ 1,055,478	364,276	237,183		\$ 601,459	\$ 454,019	691,202
WW 11-03	\$ 2,384,747	\$ 25,048,523	21,944,323	638,480		\$ 22,582,803	\$ 2,465,719	3,104,200
WW 11-04		\$ 252,105	239,065	13,040		\$ 252,105	\$ -	13,040
WW 11-08	\$ 224,328	\$ 2,226,659	1,966,308	36,023		\$ 2,002,331	\$ 224,328	260,351
WW 12-03		\$ -	-	-		\$ -	\$ -	-
WW 12-07	\$ 152,872	\$ 20,952,872	20,160,515	792,356		\$ 20,952,872	\$ (0)	792,356
		\$ -	-	-		\$ -	\$ -	-
EE 09-01		\$ -	-	-		\$ -	\$ -	-
EE 09-02		\$ -	-	-		\$ -	\$ -	-
EE 09-03		\$ -	-	-		\$ -	\$ -	-
EE 09-08		\$ 1,077,497	802,003	-		\$ 802,003	\$ 275,494	275,494
EE 09-09		\$ 4,378,118	1,829,698	1,794,928		\$ 3,624,626	\$ 753,492	2,548,420
		\$ -	-	-		\$ -	\$ -	-
MC 05-01		\$ 1,127,000	1,127,000	-		\$ 1,127,000	\$ -	-
MC 05-02		\$ 1,260,524	540,053	712,264		\$ 1,252,317	\$ 8,207	720,471
MC 09-01		\$ 1,543,760	716,554	780,392	-	\$ 1,496,947	\$ 46,813	827,206
MC 15-01		\$ 500,000	244,068	120,851		\$ 364,919	\$ 135,081	255,932
	\$ 1,605,874	\$ 1,605,874	-	-		\$ -	\$ 1,605,874	1,605,874
Total Construction Fund (2016 Series Revenue Bond)	\$ 4,367,821	\$ 144,387,284	\$ 72,413,780	\$ 53,913,386	\$ 318,448	\$ 126,645,614	\$ 17,741,670	\$ 71,973,504

Exhibit D (page 1 of 2)

2010 Bond Schedule and Reallocation					
CIP Number	CIP Name	Project Cost	Additional Funding	Reduction Funding	Adjusted Project Cost
PW 05-01	Ground Water Disinfection	\$ 500,000		\$ (34,992)	\$ 465,008
PW 05-05	"A" Series Well Transmission Line	\$ 475,709			\$ 475,709
PW 05-06	Water Booster Pump Station	\$ 500,000			\$ 500,000
PW 05-07	Meter Replacement Program	\$ 10,450,000			\$ 10,450,000
PW 05-08	Barrigada Tank Repair/Replacement	\$ 5,450,000		\$ (45,652)	\$ 5,404,348
PW 05-09	Leak Detection	\$ 200,000			\$ 200,000
PW 05-10	Potable Water System Planning	\$ 200,000			\$ 200,000
PW 05-11	Implement Ground Water Rule	\$ 1,699,999			\$ 1,699,999
PW 05-12	Brigade II (Ugum Lift) BPS Upgrade	\$ 1,900,000			\$ 1,900,000
PW 05-13	Deep Well Rehabilitation	\$ 548,000			\$ 548,000
PW 05-14	New Deep Wells at Down Hard	\$ 485,743			\$ 485,743
PW 05-15	Rehabilitation of Asan Springs	\$ 1,100,000			\$ 1,100,000
PW 05-16	Master Meters	\$ 1,489,957			\$ 1,489,957
PW 09-01	Ugum Water Treatment Plant Intake	\$ 700,000	\$ 250,000		\$ 950,000
PW 09-02	Water Wells	\$ -			\$ -
PW 09-03	Water Distribution System	\$ 3,174,748	\$ 250,000		\$ 3,424,748
PW 09-04	Pressure Zone Realignment /	\$ -			\$ -
PW 09-05	Northern System Water Distribution	\$ -			\$ -
PW 09-06	Central Water Distribution System 2005	\$ 775,002		\$ (65,969)	\$ 709,033
PW 09-07	Southern Water Distribution System	\$ -			\$ -
PW 09-08	Mechanical/Electrical Equipment	\$ 1,200,000			\$ 1,200,000
PW 09-09	Water Reservoir Internal/External	\$ 2,150,000			\$ 2,150,000
PW 09-10	Water Reservoir Internal/External	\$ -			\$ -
PW 09-11	Water System Reservoirs 2005 Improvements	\$ 1,050,000			\$ 1,050,000
PW 11-01	Distribution System Upgrades	\$ 474,160		\$ (25,114)	\$ 449,046
PW 11-02	Ugum Water Treatment Plant Reservoir	\$ -			\$ -
PW 12-01	Water Audit Program & Water Loss Control Plan	\$ 78,459	\$ 283,716		\$ 362,175
PW 12-02	Production Plan / Reduce Navy Purchases	\$ 100,000		\$ (100)	\$ 99,900
PW 12-03	Hydraulic Assessment of Tank	\$ 500,000		\$ (8,159)	\$ 491,841
PW 12-04	Agana Heights & Chaot Tanks	\$ 4,700,000		\$ (52,476)	\$ 4,647,524
PW 12-05	Tank Major Repair Yigo#1 Mangilao#2 Agat#2	\$ 1,848,013		\$ (5,226)	\$ 1,842,787
PW 12-06	Tank Major Repair Yigo#1 Mangilao#2 Agat#2	\$ -			\$ -
PW 12-07	Assessment of malojloj Elevead & Yigo Elevated	\$ 200,000			\$ 200,000
PW 12-08	Public Water System Asser Inventory/Condition Assessment	\$ 100,000		\$ (21,614)	\$ 78,386
PW 12-09	Public Water System GIS & Mapping	\$ 50,000			\$ 50,000
WW 05-04	Wastewater System Planning	\$ 1,474,000			\$ 1,474,000
WW 05-05	Wastewater Vehicles	\$ 235,000		\$ (25,205)	\$ 209,795
WW 05-07	NDWWTP - Chlorine Tanks	\$ 250,000			\$ 250,000
WW 09-07	Tumon Bay Sewer Upgrades	\$ -			\$ -
WW 09-06	Wastewater Collection System Repl/Rehab	\$ 1,001,323			\$ 1,001,323
WW 09-08	Facilities Plan/Design for Baza Gardens WWTP	\$ 1,250,000			\$ 1,250,000
WW 09-10	Facilities Plan/Design for Agat-Santa Rita WWTP	\$ 899,630			\$ 899,630
WW 11-02	Priority 1 Sewer Upgrades – Baza Gardens WWTP	\$ -			\$ -
WW 11-03	Baza Gardens STP Replacement	\$ 1,488,378		\$ (43,015)	\$ 1,445,363
WW 11-04	Facilities Plan/Design for Umatac Merizo WWTP	\$ 853,858			\$ 853,858
WW 11-08	Agat/Santa Rita STP Replacement	\$ 2,217,700		\$ (1,227)	\$ 2,216,473
WW 12-01	Northern District WWTP Primary Treatment Upgrades	\$ 11,743,514		\$ (147,114)	\$ 11,596,400
WW 12-02	Biosolids Management Plan	\$ 200,000		\$ (37,916)	\$ 162,084
WW 12-03	Agana WWTP Interim Measures	\$ 11,300,000		\$ (41,913)	\$ 11,258,087
WW 12-04	I&I SSES Southern	\$ 800,000		\$ (1,005)	\$ 798,995
WW 12-05	I&I SSES Central	\$ 850,000		\$ (56,415)	\$ 793,585
WW 12-06	I&I SSES Northern	\$ -			\$ -
WW 12-07	Umatac Merizo Replacement	\$ 250,000		\$ (1,982)	\$ 248,018
WW 17-02	Northern District WWTP Secondary Treatment Upgrades	\$ 1,000,000			\$ 1,000,000
EE 05-01	Well Electrical Protection	\$ -			\$ -
EE 05-02	SCADA Pilot Project	\$ 61,950		\$ (42,138)	\$ 19,812
EE 09-02	Electrical Upgrade - Water Wells	\$ 354,227			\$ 354,227
EE 09-03	Electrical Upgrade - Water Booster	\$ -			\$ -
EE 09-04	Electrical Upgrade -Water Booster	\$ -			\$ -
EE 09-05	Electrical Upgrade - Other Water	\$ -			\$ -
EE 09-06	SCADA Improvements – Phase 1	\$ 250,000		\$ (40,508)	\$ 209,492
EE 09-07	SCADA Improvements – Phase 2	\$ 1,056,986		\$ (23,606)	\$ 1,033,380
EE 09-08	SCADA Improvements – Phase 3	\$ 24,956			\$ 24,956
EE 09-09	SCADA Improvements – Phase 4	\$ -			\$ -
MC 05-01	Laboratory Modernization	\$ -			\$ -
MC 05-02	Land Survey	\$ 499,688		\$ (23,607)	\$ 476,081

Exhibit D (page 2 of 2)

MC 09-01	General Plant Improvements / Water	\$	7,241,000		\$	(38,763)	\$	7,202,237	
TOTALS		\$	87,402,000	\$	783,716	\$	(783,716)	\$	87,402,000

Exhibit E (page 1 of 1)

2013 Bond Schedule and Reallocation					
CIP Number	CIP Name	Project Cost	Additional Funding	Reduction Funding	Adjusted Project Cost
PW 05-03	Santa Rita Springs Booster Pump Rehab Phase II	\$ 100,000			\$ 100,000
PW 05-05	"A" Series Well Transmission Line	\$ 369,846			\$ 369,846
PW 05-06	Water Booster Pump Station	\$ 1,679,964		\$ (13,171)	\$ 1,666,793
PW 05-07	Meter Replacement Program	\$ 996,532			\$ 996,532
PW 05-08	Barrigada Tank Repair/Replacement	\$ 4,987,000		\$ (191,102)	\$ 4,795,898
PW 05-09	Leak Detection	\$ 16,916			\$ 16,916
PW 05-10	Potable Water System Planning	\$ 624,000			\$ 624,000
PW 05-11	Implement Ground Water Rule	\$ 1,000,000		\$ (18,224)	\$ 981,776
PW 05-13	Deep Well Rehabilitation	\$ 200,000			\$ 200,000
PW 05-14	New Deep Wells at Down Hard	\$ -			\$ -
PW 05-16	Master Meters	\$ 712,060			\$ 712,060
PW 09-01	Ugum Water Treatment Plant Intake	\$ 859,801			\$ 859,801
PW 09-02	Water Wells	\$ 3,030,029			\$ 3,030,029
PW 09-03	Water Distribution System	\$ 10,912,453			\$ 10,912,453
PW 09-04	Pressure Zone Realignment /	\$ 337,110			\$ 337,110
PW 09-08	Mechanical/Electrical Equipment	\$ 426,799		\$ (5,493)	\$ 421,306
PW 09-10	Water Reservoir Internal/External	\$ -			\$ -
PW 09-11	Water System Reservoirs 2005 Improvements	\$ 13,878,000			\$ 13,878,000
PW 11-02	Ugum Water Treatment Plant Reservoir	\$ -			\$ -
PW 12-04	Agana Heights & Chaot Tanks	\$ 1,330,287			\$ 1,330,287
PW 12-05	Tank Major Repair Yigo#1 Mangilao#2 Agat#2	\$ 11,605,000		\$ (375)	\$ 11,604,625
PW 12-06	Tank Major Repair Yigo#1 Mangilao#2 Agat#2	\$ -			\$ -
PW 12-07	Assessment of malojloj Elevead & Yigo Elevated	\$ 485,117			\$ 485,117
PW 14-01	Fire Hydrant Replacement Program	\$ -			\$ -
WW 05-04	Wastewater System Planning	\$ 650,901		\$ (25,306)	\$ 625,595
WW 09-01	Lift Station Upgrades	\$ 563,148	\$ 1,066,004		\$ 1,629,152
WW 09-06	Wastewater Collection System Repl/Rehab	\$ 660,313			\$ 660,313
WW 11-03	Baza Gardens STP Replacement	\$ 9,656,874		\$ (336,872)	\$ 9,320,002
WW 11-04	Facilities Plan/Design for Umatac-Merizo WWTP	\$ 371,699			\$ 371,699
WW 11-08	Agat/Santa Rita STP Replacement	\$ 67,200,000		\$ (266,406)	\$ 66,933,594
WW 12-03	Agana WWTP Interim Measures	\$ 673,000			\$ 673,000
WW 12-07	Umatac Merizo Replacement	\$ -			\$ -
EE 09-01	Wastewater Pump Station Electrical Upgrade	\$ 99,861			\$ 99,861
EE 09-02	Electrical Upgrade - Water Wells	\$ 1,500,000		\$ (10,296)	\$ 1,489,704
EE 09-03	Electrical Upgrade - Water Booster	\$ -			\$ -
EE 09-04	Electrical Upgrade -Water Booster	\$ 977			\$ 977
EE 09-05	Electrical Upgrade - Other Water	\$ 60,700			\$ 60,700
EE 09-08	SCADA Improvements – Phase 3	\$ 722,359		\$ (33,704)	\$ 688,655
EE 09-09	SCADA Improvements – Phase 4	\$ -			\$ -
MC 05-01	Laboratory Modernization	\$ 1,171,465		\$ (643)	\$ 1,170,822
MC 05-02	Land Survey	\$ 1,052			\$ 1,052
MC 09-01	General Plant Improvements / Water	\$ 2,441,737		\$ (164,412)	\$ 2,277,325
TOTALS		\$ 139,325,000	\$ 1,066,004	\$ (1,066,004)	\$ 139,325,000

Exhibit E (page 1 of 1)

2016 Bond Schedule and Reallocation					
CIP Number	CIP Name	Project Cost	Additional Funding	Reduction Funding	Adjusted Project Cost
PW 05-06	Water Booster Pump Station	\$ -			\$ -
PW 05-07	Meter Replacement Program	\$ 1,400,000			\$ 1,400,000
PW 05-08	Barrigada Tank Repair/Replacement	\$ -			\$ -
PW 05-09	Leak Detection	\$ 100,000			\$ 100,000
PW 05-10	Potable Water System Planning	\$ 876,294			\$ 876,294
PW 05-13	Deep Well Rehabilitation	\$ 250,000			\$ 250,000
PW 05-14	New Deep Wells at Down Hard	\$ 1,190,000			\$ 1,190,000
PW 05-16	Master Meters	\$ 2,151,539			\$ 2,151,539
PW 09-01	Ugum Water Treatment Plant Intake	\$ -	\$ 267,881		\$ 267,881
PW 09-02	Water Wells	\$ 2,500,000			\$ 2,500,000
PW 09-03	Water Distribution System	\$ -	\$ 750,000		\$ 750,000
PW 09-04	Pressure Zone Realignment /	\$ 1,141,000			\$ 1,141,000
PW 09-08	Mechanical/Electrical Equipment	\$ -			\$ -
PW 09-10	Water Reservoir Internal/External	\$ 800,000			\$ 800,000
PW 09-11	Water System Reservoirs 2005 Improvements	\$ 58,830,170			\$ 58,830,170
PW 11-02	Ugum Water Treatment Plant Reservoir	\$ -			\$ -
PW 12-01	Water Audit Program & Water Loss Control Plan	\$ 550,000			\$ 550,000
PW 12-04	Agana Heights & Chaot Tanks	\$ 1,220,000			\$ 1,220,000
PW 12-05	Tank Major Repair Yigo#1 Mangilao#2 Agat#2	\$ 1,822,133			\$ 1,822,133
PW 12-06	Tank Major Repair Yigo#1 Mangilao#2 Agat#2	\$ 7,300,000			\$ 7,300,000
PW 14-01	Fire Hydrant Replacement Program	\$ 1,200,000		\$ (3,623)	\$ 1,196,377
WW 05-04	Wastewater System Planning	\$ 312,983			\$ 312,983
WW 09-01	Lift Station Upgrades	\$ 1,714,755	\$ 433,996		\$ 2,148,751
WW 09-06	Wastewater Collection System Repl/Rehab	\$ 1,055,478	\$ 500,000		\$ 1,555,478
WW 11-03	Baza Gardens STP Replacement	\$ 22,663,776		\$ (2,465,719)	\$ 20,198,057
WW 11-04	Facilities Plan/Design for Umatac-Merizo WWTP	\$ 252,105			\$ 252,105
WW 11-08	Agat/Santa Rita STP Replacement	\$ 2,002,331		\$ (224,328)	\$ 1,778,003
WW 12-03	Agana WWTP Interim Measures	\$ -			\$ -
WW 12-07	Umatac Merizo Replacement	\$ 20,800,000			\$ 20,800,000
EE 09-01	Wastewater Pump Station Electrical Upgrade	\$ -			\$ -
EE 09-02	Electrical Upgrade - Water Wells	\$ -			\$ -
EE 09-03	Electrical Upgrade - Water Booster	\$ -			\$ -
EE 09-08	SCADA Improvements – Phase 3	\$ 1,077,497			\$ 1,077,497
EE 09-09	SCADA Improvements – Phase 4	\$ 4,378,118			\$ 4,378,118
MC 05-01	Laboratory Modernization	\$ 1,127,000			\$ 1,127,000
MC 05-02	Land Survey	\$ 1,260,524		\$ (8,207)	\$ 1,252,317
MC 09-01	General Plant Improvements / Water	\$ 1,543,760			\$ 1,543,760
MC 15-01	Information Technology Integration Improvements	\$ 500,000			\$ 500,000
MP-Gen-Misc-05	GWA Infrastructure Improvements		\$ 750,000		\$ 750,000
TOTALS		\$ 140,019,463	\$ 2,701,877	\$ (2,701,877)	\$ 139,269,463

Exhibit G (page 1 of 4)

FS - Funding Source		2020	2021	2022	2023	2024
		FS (x1000)	FS (x1000)	FS (x1000)	FS (x1000)	FS (x1000)
PW 05-01	Ground Water Disinfection	B2010 -				
PW 05-03	Santa Rita Springs Booster Pump Rehab Phase II					
PW 05-05	'A' Series Well Transmission Line					
PW 05-06	Water Booster Pump Station	B2013 -	IFCIP -	IFCIP 300		
		GRANTS 387	B2020 700			
		SRF 1,200			SRF 2,000	
PW 05-07	Meter Replacement Program	B2010 268.97				
		B2013 142.053				
PW 05-08	Barrigada Tank Repair/Replacement	B2010 -				
		B2013 -				
PW 05-09	Leak Detection	B2010 182.963	B2020 400			
		B2013 16.916				
		B2016 100	IFCIP -			IFCIP 70
PW 05-10	Potable Water System Planning		B2020 400			
			IFCIP -			
PW 05-11	Implement Ground Water Rule	B2013 -				
PW 05-12	Brigade II (Ugum Lift) BPS Upgrade	B2010 1,525.438				
		B2010 143.955				
PW 05-13	Deep Well Rehabilitation	B2016 139.987				
		B2020 350				
		SRF 7.188		SRF 4,000		
PW 05-14	New Deep Wells at Down Hard	B2016 1,180				
		B2020 500				
PW 05-15	Rehabilitation of Asan Springs	B2010 508.766				
		B2020 550				
PW 05-16	Master Meters	B2013 54.873				
		B2016 2,000				
PW 09-01	Ugum Water Treatment Plant Intake	B2010 339.688	IFCIP -	IFCIP 500		
		B2013 76.469	B2020 400			
		B2016 267.881				
		B2020 200				
PW 09-02	Water Wells	B2013 873.184	SDC 1,000			
		B2016 2,290.297				
		B2020 500				
		IFCIP -	IFCIP 300		SRF 2,000	
		SDC 2,350				
PW 09-03	Water Distribution System Pipe Replacement and Upgrades	B2010 250.000	IFCIP 400	SDC 500	SDC 500	IFCIP 800
		B2013 370.425				
		B2016 750				
		B2020 500	B2020 500	B2020 1,250	B2022 -	B2022 -
		SDC 1,850		IFCIP 500	IFCIP 1,000	SDC 500
						IFCIP 500
PW 09-04	Pressure Zone Realignment / Development 2005 Improvements	GRANTS 561				
PW 09-06	Central Water Distribution System 2005 Improvements	B2010 -				
PW 09-08	Mechanical/Electrical Equipment	B2013 -				
PW 09-09	Water Reservoir Internal/External	B2010 40.616				
PW 09-10	Water Reservoir Internal/External					
PW 09-11	Water System Reservoirs 2005 Improvements	B2013 44.416		IFCIP 1,200	IFCIP 1,000	
		B2016 5,587.265				
		B2020 25,100	B2020 800			
		IFCIP -	IFCIP -			
PW 11-01	Distribution System Upgrade	B2010 -				
		B2020 7,500				
PW 11-02	Ugum Water Treatment Plant Reservoir	B2010 347.148				
		B2016 223.867				
PW 12-01	Water Audit Program & Water Loss Control Plan	B2010 -				
PW 12-02	Production Plan / Reduce Navy Purchases	B2010 -				
PW 12-03	Hydraulic Assessment of Tanks	B2010 -				
PW 12-04	Agana Heights & Chaot Tanks	B2010 -				
PW 12-05	Tank Major Repair Yigo #1, Mangilao #2, Astumbo #1	B2010 -				
		B2013 -				
PW 12-06	Tank Replacement Pili & Hyundai	B2020 6,500				
PW 12-07	Assessment/Replacement of Malojaj Elevated & Yigo Elevated					
PW 12-08	Public Water System Asset Inventory/ Condition Assessment	B2010 -				
PW 12-09	Public Water System GIS & Mapping					
PW 14-01	Fire Hydrant Replacement Program	B2016 -		B2022 500		B2022 500
MP-PW-Pipe-01	Astumbo Zone Piping			B2022 368	B2022 700	
					B2023 2,700	
					IFCIP 1,082	
MP-PW-Pipe-02	Route 1 Astumbo Zone Piping				B2022 545	B2023 3,000
						IFCIP 300
MP-PW-Pipe-03	Harmon Cliffline Piping to Route 1				B2022 424	
MP-PW-Pipe-04	Hyundai Well Piping	B2020 500				
MP-PW-Pipe-05	Kaiser Zone Looping	B2020 300				
MP-PW-Pipe-06	Mangilao Pressure Zone Realignment	B2020 300				
MP-PW-Pipe-07	Mataguac BPS Suction Piping		B2020 500			
MP-PW-Pipe-08	Nimitz Lower BPS Piping				B2022 121	B2023 1,000
						IFCIP 400
MP-PW-Pipe-09	Yigo, Santa Rosa Zone Realignment			B2022 178	B2022 1,800	
					IFCIP 364	
MP-PW-Pipe-10	Miscellaneous Piping Projects	B2020 100	B2020 100	B2022 694		
MP-PW-Pipe-11	Miscellaneous Piping Connections	B2020 100	B2020 100	B2022 194		
MP-PW-Pipe-12	Rehabilitation and Replacement Program	B2020 1,000	B2020 1,000	B2022 2,500	B2022 2,800	B2023 2,000
					IFCIP 800	
MP-PW-Pipe-13	2-Inch Pipe Replacement Program	IFCIP -	IFCIP -	IFCIP 1,850	IFCIP 1,750	IFCIP 1,300
		B2020 2,230	B2020 1,100			
MP-PW-Pipe-14	Asbestos Cement Pipe Replacement Program			B2022 3,850	IFCIP 3,850	IFCIP 3,200
MP-PW-Pipe-15	PRV Rehab and Replacement	IFCIP -	B2020 1,300	B2022 1,000	B2022 1,000	B2023 900
		B2020 750	IFCIP -		IFCIP 468	IFCIP 450
MP-PW-Pipe-16	Valve Exercise, Repair, and Replacement Program	B2020 250		B2022 250		B2023 200
						IFCIP 30
MP-PW-Pipe-17	Cross Island Highway Piping		B2020 100	B2022 1,401		
MP-PW-Tank-22	Existing Tank Inspections	B2020 150				
MP-PW-Tank-23	Recurring Tank Inspections	B2020 200	B2020 200	B2022 214	B2022 214	B2023 214
MP-PW-BPS-01	Rehabilitate and Replace BPSs	B2020 309	B2020 100	B2022 150	B2022 150	B2023 150
		IFCIP	IFCIP -			
MP-PW-BPS-02	Nimitz Hill Upper BPS	B2020 48				
MP-PW-BPS-03	Route 15 BPS					B2023 86
MP-PW-SWTP-01	Ugum SWTP River Intake Cleaning Project	B2020 380				
MP-PW-SWTP-02	Ugum SWTP Intake Modifications	B2020 1,174				
MP-PW-SWTP-03	Ugum SWTP Reliability Improvements	B2020 1,150				
MP-PW-SWTP-04	Ugum SWTP 7-Year Improvement Project					B2023 3,000

Exhibit G (page 2 of 4)

Legend: B = Base Implementation; F = Funding											
MP-PW-Well-01	Well Rehabilitation Program	B2020	300	B2020	3,300	B2022	440	B2022	1,500	IFCIP	150
		IFCIP	-	IFCIP	-	IFCIP	1,900	B2023	3,000	B2023	440
						B2022	1,000	IFCIP	868		
MP-PW-Well-02	Well Equipment Overhaul Program									B2023	750
										IFCIP	750
MP-PW-Well-03	Capacity Enhancement – Well Exploration Program	B2020	500							B2023	750
										IFCIP	400
MP-PW-Well-04	Capacity Enhancement – Well Development and Construction Program					B2022	379	B2023	3,000		
								IFCIP	1,622		
MP-PW-Well-05	Wellhead Protection Program	B2020	300					B2022	660		
		IFCIP	-								
MP-PW-Well-06	Well Repair Program	B2020	950	B2020	250	B2022	1,000	B2022	1,000	B2023	750
		IFCIP	-					IFCIP	274	IFCIP	500
MP-PW-Misc-01	South Guam Water Supply Study	B2020	100								
		B2020	500	B2020	250	B2022	734	B2023	500	B2023	500
								IFCIP	234	IFCIP	200
MP-PW-Misc-03	Hydrant Condition Assessment and Maintenance					B2022	970	B2023	500	B2023	500
								IFCIP	470	IFCIP	450
MP-PW-Misc-04	OneGuam Program	IFCIP	-	IFCIP	-	IFCIP	50	IFCIP	50	IFCIP	35
		B2020	50	B2020	50						
MP-PW-Misc-05	Leak Detection Assistance	IFCIP	-								
		B2020	150								
DoD-3	Rehabilitation and New NGLA Monitoring Wells	GRANTS	2,465,674								

TOTAL POTABLE WATER PROJECTS B2010	3,608	-	-	-	-	-	-	-	-	-	-
TOTAL POTABLE WATER PROJECTS B2013/FY2014	1,578	-	-	-	-	-	-	-	-	-	-
TOTAL POTABLE WATER PROJECTS B2016/FY2016	12,549	-	-	-	-	-	-	-	-	-	-
TOTAL POTABLE WATER PROJECTS B2020/FY2020	53,491	-	11,550	-	1,250	-	-	-	-	-	-
TOTAL POTABLE WATER PROJECTS B2022/FY2022	-	-	-	-	15,822	-	-	10,714	-	-	500
TOTAL POTABLE WATER PROJECTS B2023/FY2023	-	-	-	-	-	-	9,700	-	-	-	14,240
State Revolving Fund (SRF) Grant Funds	8,388	-	-	-	4,000	-	-	4,000	-	-	-
System Development Charge (SDC)	4,200	-	1,000	-	500	-	-	500	-	-	500
GRANTS	3,413	-	-	-	-	-	-	-	-	-	-
IFCIP	-	700	-	6,300	-	-	-	13,832	-	9,535	-
	87,227	13,250	-	27,872	-	-	-	38,746	-	24,775	-

FS - Funding Source

FS - Funding Source		2020		2021		2022		2023		2024	
		FS	(x1000)	FS	(x1000)	FS	(x1000)	FS	(x1000)	FS	(x1000)
WW 05-04	Wastewater System Planning	B2013	-								
		B2020	150								
WW 05-05	Wastewater Vehicles	B2010	-								
WW 09-01	Lift station upgrades	B2013	1,083,502	IFCIP	-					IFCIP	200
		B2016	671,599	B2020	1,050			SRF	2,000	SRF	2,000
		SRF	1,700								
WW 09-02	Moratorium										
WW 09-06	Wastewater Collection System Repl/ Rehabilitation	B2010	96,891								
		B2013	81,903								
		B2016	954,019								
		B2020	350	B2020	1,050						
		IFCIP	-	IFCIP	-						
		SRF	1,900	SRF	1,000			SRF	2,000	SRF	2,000
WW 09-08	Facilities Plan/Design/Interim for Baza Gardens STP Impr.										
WW 09-10	Facilities Plan/Design/Interim for Agat-Santa Rita STP Impr.										
WW 09-11	WWTP Priority 1 Upgrades	SDC	1,000								
		B2010	-	B2020	-						
WW 11-03	Baza Gardens STP Replacement	B2013	-	IFCIP	500						
		B2016	-								
WW 11-04	Facilities Plan/Design/Interim for Umatac-Merizo STP Impr.										
WW 11-08	Agat/ Santa Rita STP Replacement	B2010	-								
		B2013	-								
		B2016	-								
		B2019	-								
WW 12-01	Northern District WWTP Primary Treatment Upgrades										
WW 12-02	Bio Solids Management Plan	B2010	-								
		B2010	-								
WW 12-03	Agana WWTP Interim Measures										
WW 12-04	I&I SSES Southern	B2010	-								
		B2010	-								
WW 12-05	I&I SSES Central										
WW 12-06	I&I SSES Northern										
WW 12-07	Umatac Merizo STP Replacement	SDC	1,000								
		B2010	-								
WW 12-09	Wastewater Facility Back Up Power										
WW 17-01	Wastewater Sewer System Expansion										
WW 17-02	Northern District WWTP Secondary Treatment Upgrade	SDC	1,000								

MP-WW-Pipe-01	Gravity Pipe Rehabilitation/Replacement Program	B2020	170	IFCIP	-	IFCIP	1,400	B2022	750	IFCIP	2,200
		B2020	1,800	SRF	4,000				SRF	2,000	
MP-WW-Pipe-02	Barrigada Pump Station Pipe Rehabilitation/Replacement					B2022	411	B2022	1,200	B2023	1,000
								B2023	2,000		
MP-WW-Pipe-03	Route 1 Pli Pipe Rehabilitation/Replacement	IFCIP	-					IFCIP	18		
MP-WW-Pipe-04	Southern Link Pump Station Pipe Rehabilitation/Replacement	B2020	940								
		B2020	657								
MP-WW-Pipe-05	Agana Heights Pipe Replacement					B2022	169	B2022	1,500		
								B2023	1,000		
MP-WW-Pipe-06	Northern District Route 1 Capacity Replacement - Phase 1									B2023	1,000
										IFCIP	150
MP-WW-Pipe-07	Northern District Route 1 Capacity Replacement - Phase 2										
MP-WW-Pipe-08	Northern District Route 1 Capacity Replacement - Phase 3										
MP-WW-Pipe-09	North Dededo Capacity Replacement - Phase 1										
MP-WW-Pipe-10	North Dededo Capacity Replacement - Phase 2										
MP-WW-Pipe-11	Route 16 Capacity Replacement									B2023	500
										IFCIP	50
MP-WW-Pipe-12	Barrigada Capacity Replacement									B2023	30
										IFCIP	15
MP-WW-Pipe-13	Manglas Capacity Replacement										
MP-WW-Pipe-14	Dededo Capacity Replacement										
MP-WW-Pipe-16	Yigo Capacity Replacement										
MP-WW-Pipe-17	Mamajano Capacity Replacement	B2020	400	IFCIP	686	B2022	2,000				
		B2020	414	IFCIP	600						
MP-WW-Pipe-18	Agat-Santa Rita Capacity Replacement - Phase 1										
MP-WW-Pipe-19	Agat-Santa Rita Capacity Replacement - Phase 2										
MP-WW-Pipe-20	Agat-Santa Rita Capacity Replacement - Phase 3										
MP-WW-Pipe-21	Baza Gardens Capacity Replacement - Phase 1									B2023	192
										IFCIP	100
MP-WW-Pipe-22	Baza Gardens Capacity Replacement - Phase 2										
MP-WW-Pipe-23	Baza Gardens Capacity Replacement - Phase 3										
MP-WW-Pipe-24	Umatac-Merizo Capacity Replacement									B2023	150
										IFCIP	50
MP-WW-Pipe-25	Piping Near Bayside Lift Station			SRF	2,000			B2022	250		
MP-WW-Pipe-26	Finilo Drive Rehabilitation - Anal	B2020	813								

Exhibit G (page 4 of 4)

MP-Gen-Misc-05	GWA Infrastructure Improvements	IFCIP	500	B2020	2,000		IFCIP	250	
MP-Gen-Misc-06	GPWA Fleet Maintenance Facility	B2016	750						
		B2020	500						
MP-Gen-Misc-07	Mobile Equipment Replacement Program	B2020	800	IFCIP	200	IFCIP	100	IFCIP	100
									300
MP-Gen-Misc-08	General Plant Improvements	B2020	1,000	IFCIP	400	IFCIP	200	IFCIP	200
									300
MP-Gen-Misc-09	Security and Resilience Program	B2020	200	IFCIP	100	IFCIP	100	IFCIP	100
									50

TOTAL MISCELLANEOUS PROJECTS B2010	-	-	-	-	-	-
TOTAL MISCELLANEOUS PROJECTS B2013/FY2014	-	-	-	-	-	-
TOTAL MISCELLANEOUS PROJECTS B2016/FY2016	932	-	-	-	-	-
TOTAL MISCELLANEOUS PROJECTS B2020/FY2020	5,650	2,000	-	-	-	-
TOTAL MISCELLANEOUS PROJECTS B2022/FY2022	-	-	-	-	-	-
TOTAL MISCELLANEOUS PROJECTS B2023/FY2023	-	-	-	-	-	-
State Revolving Fund (SRF) Grant Funds	-	-	-	-	-	-
System Development Charge (SDC)	-	-	-	-	-	-
GRANTS	-	-	-	-	-	-
IFCIP	-	1,850	1,700	2,550	3,300	
	6,582	3,850		2,550	3,300	

	2020	2021	2022	2023	2024	TOTAL
2010 Bond Series	3,704	-	-	-	-	3,704
2013 Bond Series	2,744	-	-	-	-	2,744
2016 Bond Series	16,136	-	-	-	-	16,136
2020 Bond Series	84,576	37,414	1,600	-	-	123,590
2022 Bond Series	-	-	24,209	-	5,650	49,873
2023 Bond Series	-	-	-	18,414	18,852	37,676
State Revolving Fund (SRF)	12,088	3,000	8,000	8,000	8,000	39,088
System Development Charge (SDC)	7,200	1,000	500	500	500	9,700
GRANTS	11,008	-	-	-	-	11,008
Internally Funded CIP	-	4,236	21,000	21,000	19,000	65,236
	137,456	45,650	55,309	66,738	52,002	357,155

	Yellow shade cell indicates fund reduction
	Blue shade cell indicates fund addition
	Green shade cell indicates future bond borrowing reduction



GUAM WATERWORKS AUTHORITY

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Tel: (671) 300-6846

Issues for Decision

Resolution No. 32-FY2020

Relative to Approval of Additional Funding to the Construction Management Contract for the Santa Rosa, Sinifa, and Santa Rita Tanks and System Upgrades

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

The project is part of the 2011 Court Order Paragraph 29 – Storage Tank/Reservoir Repair, Replacement, and Relocation Program. As a Court Order project, it is necessary and urgent to work towards meeting the Court Order deadlines. The project's objective is to provide construction management services for the construction of the Santa Rosa, Sinifa, and Santa Rita Tank and System Upgrade project, which includes new PRV's.

Site construction has not started due to construction permitting and COVID-19 pandemic delays. The main issue with the permitting delay is that the Engineer of Record (Designer) did not complete the archaeological process with the Historic Preservation Office (SHPO) prior to construction bid. The design team submitted reports to SHPO during the design process, but did not respond back to SHPO's comments. The issue was brought up by SHPO when the contractor submitted the permits for approval in late 2019.

Updated archaeological reports addressing SHPO's comments have been submitted to SHPO. As of 07/20/2020, SHPO has signed the Santa Rosa site permit. Contractor is awaiting approval from SHPO for the Santa Rita and Sinifa sites. Approval is expected in the coming weeks.

The COVID-19 pandemic forced certain permitting agencies to halt permit review from March to June 2020.

A change order is required to continue the construction management construction phase services.

Where is the location?

Santa Rosa, Sinifa, and Santa Rita reservoir sites.

- Santa Rosa reservoir is located in Yigo.
- Sinifa and Santa Rita reservoirs are located in Santa Rita village.

How much will it cost?

GHD's fee proposal is \$337,337.39. The fee includes the following:

1. Extend contract duration in line with the contractor's time extension.

2. Bring construction management's performance period in line with contactor's performance period. The difference is independent of any time extensions that GWA may award the contractor due to permit, COVID-19 pandemic delays or other reasons. The original scope of work performance period was not in line with contactor's work performance period due to bid timing.
3. Cost escalation for staff rates and QA testing services.

There is \$297,723.47 contingency available in the current authorization. GWA is requesting \$39,613.92 to supplement the available contingency to bring the available funding to \$337,337.39.

When will it be completed?

- Santa Rosa site: 365 calendar days
- Sinifa site: 365 calendar days
- Santa Rita site: 410 calendar days

CM start is dependent on receiving construction permits.

What is the funding source?

The funding shall be from PW 09-11: Water System Reservoirs 2005 Improvements.

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. 32-FY2020

**RELATIVE TO APPROVAL OF ADDITIONAL FUNDING TO THE CONSTRUCTION
MANAGEMENT CONTRACT FOR SANTA ROSA, SINIFA, AND SANTA RITA TANK
AND SYSTEM UPGRADES**

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

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

WHEREAS, GWA is currently working on critical reservoir projects under the 2011 Court Order (“CO”) Paragraph 29 – Storage Tank/Reservoir Repair, Replacement, and Relocation Program; and

WHEREAS, the CCU approved Resolution No. 13-FY2018 authorized a funding of \$2,977,234.69 along with a 10% contingency of \$297,723.47 to bring the total authorized funding amount to a maximum of \$3,274,958.16 (Exhibit A) for the construction management contract; and

WHEREAS, the construction management contract for the Santa Rosa, Santa Rita, and Sinifa tanks and system upgrade project was issued on April 2, 2018;

WHEREAS, the construction management team has completed pre-construction and limited construction task which included design document review, bid review and analysis, development of quality assurance plan, project document control software setup, meetings, and submittal review; and

1 **WHEREAS**, the construction contract for the Santa Rosa, Santa Rita, and Sinifa tanks
2 and system upgrade project was issued on September 30, 2019;

3
4 **WHEREAS**, construction at the sites have not started due to the following reasons:

- 5 1. Engineer of Record (Designer) did not complete the archaeological survey
6 process for the three sites before the bid, which led to the State Historic
7 Preservation Office delay in reviewing the permit package;
8 2. Permitting agencies shut down due to the COVID-19 pandemic, which further
9 extended the permit review process with the State Historic Preservation Office
10 and Guam Environmental Protection Agency;

11
12 **WHEREAS**, the construction management construction performance period has expired
13 due to no construction site activity;

14
15 **WHEREAS**, GWA and GHD has negotiated Change Order No. 1 scope and fee of Three
16 Hundred Thirty-Seven Thousand Three Hundred Thirty-Seven Dollars and Thirty-Nine Cents
17 (\$337,337.39) to continue and extend the construction management period to match contractor's
18 performance period and construction management cost escalation (Exhibit B); and

19
20 **WHEREAS**, GWA Management is seeking Thirty-Nine Thousand Six Hundred Thirteen
21 Dollars and Ninety-Two Cents (\$39,613.92) to supplement the available contingency of
22 \$297,723.47 to fund Change Order No. 1 in the amount of Three Hundred Thirty-Seven
23 Thousand Three Hundred Thirty-Seven Dollars and Thirty-Nine Cents (\$337,337.39); and

24
25 **WHEREAS**, funding for this project will be from the Bond Funds under the line item
26 "PW 09-11 Water System Reservoirs 2005 Improvements"; and

27
28 **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities
29 does hereby approve the following:

- 30
31 1. The recitals set forth above hereby constitute the findings of the CCU.

2. The CCU finds that the terms of the scope and fee proposal submitted by GHD are fair and reasonable.
3. The CCU hereby authorizes \$36,613.92 in additional funding to bring the total authorized funding amount to \$3,314,572.08.
4. The CCU hereby authorizes the management of GWA the option to issue Change Order No. 1 in the not-to-exceed amount of \$337,337.39. (Exhibit “B”)
5. The CCU hereby authorizes the funding source to be from bond funds under the CIP line Item PW 09-11 “Water System Reservoirs 2005 Improvements”.

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

DULY AND REGULARLY ADOPTED, this 28th day of July 2020.

Certified by:

Attested by:

JOSEPH T. DUENAS
Chairperson

MICHAEL T. LIMTIACO
Secretary

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SECRETARY'S CERTIFICATE

I, Michael T. Limtiaco, Board Secretary of the Consolidated Commission on Utilities as evidenced by my signature above do hereby certify as follows:

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

AYES: _____

NAYS: _____

ABSENT: _____

ABSTAIN: _____

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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. 13-FY2018

**RELATIVE TO APPROVAL OF THE CONSTRUCTION MANAGEMENT CONTRACT
FOR SANTA ROSA, SINIFA, AND SANTA RITA TANK AND SYSTEM UPGRADES**

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

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

WHEREAS, GWA is currently working on critical reservoir projects under the 2011 Court Order (“CO”) Paragraph 29 – Storage Tank/Reservoir Repair, Replacement, and Relocation Program; and

WHEREAS, the design of Santa Rosa, Sinifa, and Santa Rita Tank designs (RFP-09-ENG-2014) have been completed; and

WHEREAS, GWA has advertised the Request for Proposals (RFP-06-ENG-2017) soliciting statement of qualifications from experienced and qualified engineering firms to provide construction management services for the Santa Rosa, Sinifa, and Santa Rita Tank and System Upgrades project; and

WHEREAS, RFP packages were picked up by 19 interested parties, from which GWA received proposal submittals from 8 firms before the RFP submittal deadline; and

WHEREAS, the GWA A-E Selection committee reviewed and evaluated the 8 proposals (See Exhibit A – Score Summary) and generated a short list of the top 3 firms with a

1 recommendation to award a contract to the firm GHD (See Exhibit B – GM’s Determination);
2 and
3

4 **WHEREAS**, GHD and GWA negotiated the price for the construction management
5 services (Santa Rosa, Sinifa, and Santa Rita tank and off-site system upgrades related to all three
6 tank sites) to be provided in the total amount of Two Million Nine Hundred Seventy-Seven
7 Thousand Two Hundred Thirty-Four Dollars and Sixty-Nine Cents (\$2,977,234.69) (See Exhibit
8 C – Scope of Work and Fees); and
9

10 **WHEREAS**, GWA management seeks approval of the fee proposal amount of Two
11 Million Nine Hundred Seventy-Seven Thousand Two Hundred Thirty-Four Dollars and Sixty-
12 Nine Cents (\$2,977,234.69), along with a 10% contingency of Two Hundred Ninety-Seven
13 Thousand Seven Hundred Twenty Three Dollars and Forty Seven Cents (\$297,723.47), to bring
14 the total authorized funding amount to a maximum of Three Million Two Hundred Seventy-Four
15 Thousand Nine Hundred Fifty-Eight Dollars and Sixteen Cents (\$3,274,958.16); and
16

17 **WHEREAS**, funding for this project will be from the Bond Funds under the line item
18 “PW 09-11 Water System Reservoirs 2005 Improvements”; and
19

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

- 22 1. The recitals set forth above hereby constitute the findings of the CCU.
- 23 2. The CCU finds that the terms of the fee proposal submitted by GHD are fair
24 and reasonable (Exhibit C).
- 25 3. The CCU hereby authorizes the management to accept the fee proposal from
26 GHD, which is also incorporated into this Resolution in its entirety.
- 27 4. The CCU hereby further authorizes the management of GWA to enter into a
28 contract with GHD, in the amount of Two Million Nine Hundred Seventy-
29 Seven Thousand Two Hundred Thirty-Four Dollars and Sixty-Nine Cents
30 (\$2,977,234.69).
- 31 5. The CCU hereby further approves the total funding amount for this project of
32 Two Million Nine Hundred Seventy-Seven Thousand Two Hundred Thirty-


Four Dollars and Sixty-Nine Cents (\$2,977,234.69), along with a 10% contingency of Two Hundred Ninety-Seven Thousand Seven Hundred Twenty-Three Dollars and Forty-Seven Cents (\$297,723.47), to bring the total authorized funding amount to Three Million Two Hundred Seventy-Four Thousand Nine Hundred Fifty-Eight Dollars and Sixteen Cents (\$3,274,958.16).

6. The CCU hereby further authorizes the funding source to be from bond funds under the CIP line Item PW 09-11 "Water System Reservoirs 2005 Improvements".

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

DULY AND REGULARLY ADOPTED, this 23rd day of January 2018.

Certified by:


JOSEPH T. DUENAS
Chairperson

Attested by:


J. GEORGE BAMBA
Secretary

SECRETARY'S CERTIFICATE

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

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

AYES: 5
NAYS: 0
ABSTENTIONS: 0
ABSENT: 0



Exhibit A (1 of 1)

**GUAM WATERWORKS AUTHORITY**

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

June 19, 2017

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

From: 
Gloria P. Bensen
Chairperson, Consultant Selection Board9

Subject: RFP-06-ENG-2017
Construction Management Services for the Northern and Southern Guam
Reservoirs (Santa Rosa, Sinifa, and Santa Rita) Tank and System Upgrades
GWA Project No. W14-007-BND

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

EVALUATION COMMITTEE MEMBERS	
Name	Title
Brett Railey, P.E.	CIP Water Engineer Supervisor
Garrett Yeoh	Senior Engineer
Delfyn Quitlong	Engineer II
Vincent Pangelinan	Operations Manager

Consultant	Evaluation Score				Total	Rank
1. EMPSCO Engineering Consultants	75	65	90	74	304	7
2. HDR	90	80	95	86	351	2
3. LYON	65	72	89	80	306	6
4. SSFM International	86	82	94	85	347	3
5. Duenas, Camacho & Associates	79	74	92	80	325	4
6. E.M. Chen & Associates	71	67	88	70	296	8
7. AECOM	74	74	93	81	322	5
8. GHD	90	94	91	91	366	1

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

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


Exhibit B (1 of 1)

GUAM WATERWORKS AUTHORITY

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

MEMORANDUM

To: Miguel C. Bordallo, General Manager

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

Subject: RFP-06-ENG-2017
Construction Management Services for the Northern and Southern Guam
Reservoirs (Santa Rosa, Sinifa, and Santa Rita) Tank and System Upgrades
GWA Project No. W14-007-BND

Date: June 19, 2017

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

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

1. GHD
2. HDR
3. SSFM International

Concurred:


VINCENT E. GUERRERO
Supply Management Administrator

6/20/2017
Date

GENERAL MANAGER'S DETERMINATION

Consultant Firm Selected:

GHD

Remarks:


MIGUEL C. BORDALLO, P.E.
General Manager

6.24.17
Date



Exhibit C

September 22, 2017

Mr. Miguel Bordallo
General Manager
688 Route 15
Mangilao, GU 96913

**SUBJECT: FORMAL SUBMITTAL OF FINAL SCOPE OF WORK AND FEE PROPOSAL
FOR NORTHERN AND SOUTHERN GUAM RESERVOIRS (SANTA ROSA,
SINIFA, AND SANTA RITA) TANK AND SYSTEM UPGRADES
CONSTRUCTION MANAGEMENT SERVICES
RFP-06-ENG-2017, PROJECT NO. W14-007-BND**

Dear Mr. Bordallo:

GHD is pleased to formally submit our final Scope of Work and Fee Proposal for the above referenced project. The scope of work and fee proposal is based upon detailed meetings we held with GWA staff and we believe it meets GWA's needs in an economically feasible manner by pooling project management and resident engineer resources between the three (3) projects. We look forward to working with GWA on this critical project for Guam. If you have any questions or need additional information, please do not hesitate to contact me directly by email or telephone.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul K. Baron". The signature is fluid and cursive.

Paul K. Baron, PE
Principal

Attachments: Scope of Work (15 pages)
Fee Proposal (29 pages)

GHD Inc. 865 South Marine Corps Drive Suite 202 Tamuning Guam 96913

T 1 671 472 6792 **F** 1 671 477 6229 **E** guam@ghd.com **W** www.ghd.com



Guam Northern & Southern GWA Reservoirs Construction Management Services Scope of Work & Fees

I. GENERAL

GHD, as the Construction Manager (CM) shall provide services relating to the daily field observation, inspection, testing, supervision, management, coordination, and compliance monitoring for the Guam Northern & Southern GWA Reservoirs (Projects) at the following project locations.

- **Santa Rita GWA Reservoir Replacement**
- **Santa Rosa GWA Reservoir Replacement**
- **Sinifa GWA Reservoir Replacement**

The projects generally consists of geo-technical ground improvements, demolition of existing tank structures, construction of pre-stressed concrete tanks conforming to AWWA/ANSI D110 for Type I Wire-and-Strand Wound, Circular Prestressed Concrete Water Tanks (site adapted for each location), installation of new water lines, construction and refurbishment of booster pump stations, chlorination systems, electrical, instrumentation and control, SCADA controls, plus associated utilities for each site. Additionally, the work includes preconstruction services including constructability review and value engineering of the project design.

Reports submitted to GWA by the CM shall be in a form approved by GWA's Chief Engineer.

II. PROJECT OVERVIEW

The construction management, testing, and field observation services for the projects will require general construction management and observation, as well as specialized inspection and testing. In addition to general construction management duties, the specialized inspection and testing will include, but not be limited to:

- Concrete placement
- Concrete anchors/Adhesive anchoring systems/Expansion bolts
- Grading
- Excavation
- Compaction grouting
- Compaction testing
- Pre-stressing operations
- Concrete cylinder testing
- Shotcrete application
- High strength bolting
- Earthwork/Soil analysis
- Instrumentation and SCADA
- Hydrostatic testing
- Disinfection

In general, the CM shall function as Owner's representative whose primary function shall be to:

- Keep GWA advised and informed as to project progress and cost
- Manage the change process
- Disclose any information relevant to GWA's interest
- Make proactive recommendations to GWA for action to maintain progress and achieve the project schedule and budget
- Observing System Commissioning
- Act in the best interest of GWA

The CM shall administer the Contract, except that the CM is not authorized to make any decisions on the behalf of GWA that materially affect the intent of the design or financially obligate GWA in any manner.

III. TASK AND REQUIREMENTS

The following tasks are applicable to and will be provided to each of the Guam Northern & Southern GWA Reservoirs project locations.

A. PRE-CONSTRUCTION PHASE SERVICES:

In accordance with GWA's RFP, the purpose of this task is to obtain "a clear set of construction documents that will allow the perspective bidder to bid competitively, to build or install the designed facility in an efficient and timely manner, and reduce the number of change orders and delays." Under this task the CM will review the design documents; review the Contractor's Construction Management Quality Control Plan; prepare a Construction Quality Assurance Plan and a Construction Management Plan; provide contract bidding support; participate in meetings to discuss design documents; submit comments on design documents; and participate in meetings to discuss responses to comments as detailed in the following paragraphs.

Task A1: Design Document Review. The CM shall perform review of the design documents. The CM will provide redline mark-up of the plans and specifications and annotated comments. The review shall also verify that the design is clearly presented and potential construction related conflicts or deficiencies which may lead to substantive changes to the design, schedule, or cost of the project have been mitigated as practicable. Based upon our understanding of the current status of the design documents, we will undertake this at the 100% design stages.

Deliverables (electronic pdf files and hard copies):

- Final Design Review Report

Task A2: CM Quality Assurance:

Task A2.1: Review Contractor Construction Management Quality Control Plan. The CM shall review, record, and comment on the Construction Management Quality Control Plan submitted by the Construction Contractor.

Task A2.2: Construction Quality Assurance Plan. The CM will develop, implement, and maintain a Quality Assurance Plan for civil, structural, electrical, mechanical, and instrumentation elements including specialized work related to the construction of concrete

water reservoirs conforming to AWWA/ANSI D110 Type I Wire- and Strand- Wound, Circular Pre-stressed Concrete Water Tanks.

Content of the Quality Assurance Plan shall include, but not be limited to the following:

- Documentation of site conditions prior to beginning construction
- Review of approved submittals from the Contractor prior to fabrication or installation of materials and equipment
- Inspection, observation, and documentation of daily field work
- Monitoring of the Contractor's Quality Control Plan
- In-plant fabrication and/or witness testing at place of manufacture (where applicable)
- Reports and record keeping
- Non-conforming and deficient work resolution process
- Monitoring the Construction Contractor's implementation of their Quality Control Plan
- Complete list of specialized inspections for the tank structure and under tank

It is important to note that the CM is responsible for monitoring the Contractor's compliance with the Contract Documents, but is not responsible for the Contractor's means and methods the Contractor elects to use in performance of their work.

Deliverables (electronic pdf files and hardcopies):

- Quality Assurance Plan

Task A3: Construction Management Plan. The CM will develop and implement the Construction Management Plan (CM Plan) including guidelines for project organization and coordination in the field, standard daily operations, change order procedures, quality, schedule, and cost control. The CM Plan sets forth the procedures and approach for the construction of the project. The CM Plan will serve the CM, the Owner's Representative, and Contractors by defining the project, project team members and their roles, coordination among team members, procedure, key milestones, and schedule constraints. By establishing these parameters early in the project, the CM Plan will help control resources and costs, establish communication and coordination between the CM, Contractor, and GWA.

Deliverables (electronic pdf files and hardcopies):

- Construction Management Plan

Task A4: Contract Bidding:

The CM will review and perform an assessment of the 100% contract bid package (Parts A, B, & C) to assess their readiness, completeness, and suitability to solicit competitive bids. We will assist in the management of the bid documents, prepare for and conduct the pre-bid conference and site visit(s), manage and assist with RFI responses and addendums during the bid period.

After receipt of construction bid packages, the CM will perform an overall review of the bids received with a detailed emphasis on the apparent low bidder(s). The CM will work with GWA to perform the necessary follow-up with the bidders until the lowest responsible and responsive bidder is determined. Upon completion of this process, the CM will provide a technical memorandum summarizing the review and recommendation for award, and/or concurrence of

the proposed selected contractor. Recommendation shall include document review to ensure compliance with all bid requirements and procurement regulations, bid analysis, and contractor selection.

Deliverables (electronic pdf files and hardcopies):

- Pre-Bid Meeting Agenda and Minutes
- Technical Memorandum(s) – Document Review, Bid Analysis, and Contractor Selection

B. CONSTRUCTION PHASE SERVICES:

Task B1.0: Project Records & Document Control. The CM shall provide services and tools to ensure that the project is efficiently managed and constructed according to the terms of the Contract. The primary function shall be the proper collection and organization of construction documents, gathering data regarding project progresses, producing progress reports, and monitoring time, cost, and quality.

The CM shall use Bentley EADOC for the Project Management Information System (PMIS) to track communication, design documents, construction documents, finances, and reporting. Our fee proposal shall include up to 15 users.

- Communication Documents: Memos, daily inspector logs for both contractor and CM, meeting minutes, and all other relevant documentation.
- Construction Documents: Submittals, RFIs, testing results, photo logs, special inspection, change orders, corrective actions, punch list, various construction logs, payment applications, wage rate reporting, and all other relevant documentation.
- Contract Documents: Specifications, drawings, permits, bid documents, contract documents, and all other relevant documentation.

Task B2.0: Daily Construction Reports. The onsite inspectors shall maintain daily reports of the general work performed, visitors to the site, daily production, weather and site condition, field orders, progress photos, material testing, special inspections, documentation of delays, non-conformance, punch lists, and other material and work facts and issues regarding the production of the work. The daily reports and logs shall be available to GWA project team for review at any time via the project management software.

Task B3.0: Progress Photo Log and Live Video Feed:

Task B3.1: Progress Photo Log. The CM shall prepare and retain a construction progress photo log in an album organized by year, month, and day. The photo log shall capture the different phases of the project – pre-construction, construction, and post-construction. The photo log shall be digital and provided to GWA at the end of the project.

Task B3.2: Live Video Feed. The CM shall provide 24 hour monitoring camera(s) to be installed at each project site to allow for regular monitoring of the project work. The camera system will allow for remote view and playback functions. A time-lapse video of the entire project shall be provided to GWA at the end of the project.

Task B4.0: Submittal and Shop Drawings. The CM shall review and act on (accept or reject) submittals required by the Contract documents. The CM shall review and provide comments

regarding shop drawings, work drawings, material submittals, traffic control plan, safety plan, demolition plan, and other submittals for conformance with the Contract Documents. The CM reviewer shall be a competent person. In the event of a Contractor request for a time extension or material or equipment substitution, the CM shall make a recommendation to GWA regarding the substitution. The GWA Chief Engineer or his authorized representative will approve the substitution.

Task B5.0: Contractor Project Schedules. The CM shall review the Contractor's work schedule for accuracy and for efficient sequencing of the work. The CM shall provide recommendations to the Contractor to make changes deemed necessary and coordinate approval of the revised (recovery) schedule with GWA. Any delays shall be documented and notified to GWA and the Contractor when actual progress is behind schedule. The CM shall adhere to the requirements set forth in the Contract document for Contractor project schedule tracking and review.

Task B6.0: Payment Request. The CM shall receive and process payment requests from the Contractor. Payment requests shall be reviewed to be in compliance with the Contract documents and with the actual work completed. Upon completion of the review, the CM shall make any necessary adjustments, certify, and forward the request to GWA for processing of the payment. The CM shall submit their review, recommendation, acceptance, or rejection within five (5) working days of receipt from the Contractor. We assume the payment application will be a standard AIA or EJCDC.

Task B7.0: Payroll Report. The CM shall review any payroll submittals required by the Contract Documents including prevailing wage submissions. At the minimum, the Contractor and its subcontractors shall provide bi-weekly pay records for each of its employees on the project. The CM shall conduct two (2) random employee interviews every two (2) weeks to verify the pay request information. Upon completion of the review, the CM shall require the Contractor to make any necessary adjustments, certify, and forward the Payroll report along with the pay request to GWA for processing. Our review will be based on the wage rates provided in the bid package.

Task B8.0: Project Meetings. The CM shall schedule, arrange, and conduct conferences and meetings as required for clear communication of the Contract requirements and adherence to project schedules.

Task B8.1: Pre-construction Conference. The CM shall prepare for, chair, and provide meeting minutes for the pre-construction conference. The preconstruction conference shall be arranged to discuss mobilization, prosecution of work, safety, environmental protection, historic preservation, processing payments, material submittals, testing procedure, project schedules, inspections, and all other contract issues as necessary.

Task B8.2: Weekly Progress Meetings. The CM shall arrange for a weekly progress meeting with the Contractor and GWA to discuss progress of work, Contract requirements, and other issues related to the administration and prosecution of work. The CM shall prepare meeting minutes for all progress meetings with contractors, sub-contractors, GWA, and all other parties. The meeting minutes shall include action items from week to week until it has been completed.

Task B8.3: Special/Stakeholder Coordination Meetings. The CM shall arrange meetings between the Contractor and GWA, and other parties such as GEPA, DPW, GPA, etc. and other

Stakeholders as necessary to address project issues that require decisions that cannot be made by the CM or to resolve regulatory concerns.

Task B9.0: As-Built Drawings:

Task B9.1: As-Built Drawing Review. After each weekly meeting, the CM shall review the Contractor's review drawings to ensure that they are current and capture any deviations from the original plan set.

Task B9.2: Maintain As-Built Drawing. The CM shall maintain a separate set of red-line as-built drawings on site. Drawings shall be available for GWA at any time. Monthly as-built documents shall be uploaded to the project management software system.

Task B10.0: Request for Information. The CM shall track Requests for Information (RFI) and maintain an RFI log; coordinate receipt of answers from other sources; and provide RFI responses with GWA's input regarding any aspect of the Contract documents, which includes the plans and technical specifications.

Task B11.0: General Compliance Monitoring. The CM shall evaluate and ensure Contractor compliance with all local and federal labor laws applicable to the Project. Any violations shall be immediately reported to GWA. Compliance monitoring shall include but not limited to the following:

Task B11.1: Regulations and Laws. The CM shall monitor compliance with Territorial and/or Federal laws, regulations, and rules.

Task B11.2: Labor Laws. The CM shall monitor Contractor and subcontractor procedures to verify legal status of employees on site. Verify bi-weekly compliance with labor requirements for federally funded projects including posting of wage rate schedules at the job site and safety requirements.

Task B11.3: Licensure. To the best of our ability, the CM shall confirm that the Contractor and its subcontractors and their workers have all required licenses and ensure that said licenses are valid throughout the terms of the Contract.

Task B11.4: Permit Compliance. To the best of our ability, the CM shall monitor and track Contractor's compliance in obtaining required permits and approvals.

Task B11.5: Insurance. To the best of our ability, the CM shall review the Contractor's insurance documents that are submitted to GWA for compliance with Contractor requirements. The CM shall track insurance documents, ensure insurance is valid throughout the term of Contract and maintain an insurance certificate log.

Task B12.0: Claims and Disputes. The CM shall promptly notify GWA regarding any issues that arise during construction of the project that could result in claims and/or disputes. The CM shall provide the following services to assist GWA with the resolution of claims and disputes:

Task B12.1: Claim Records. Maintain copies of all verbal and written communications, submittals, testimony, photos, and meetings regarding a potential dispute and promptly submit all originals to the Chief Engineer and Attorney for GWA.

Task B12.2: Claims Reviews & Interpretation. Review claims submitted by the Contractor. Provide GWA with interpretation of Contract drawings and specifications and provide written recommendations to GWA regarding the solution of the dispute. At the outset of the Contract, the CM shall work with the Contractor to provide pricing for equipment, material, personnel, and other relevant considerations as specified in the bid. Prices agreed upon shall be used in any subsequent Change Order. No amounts shall be paid except for actual losses incurred by the Contractor through no fault of their own or for risks not allocated to the Contractor under the bid.

Task B13.0: Change Order Negotiations and Review:

Task B13.1: Change Order Review. Track all change orders and maintain a change order log. Provide change order evaluations, negotiations, and recommendations for approval by GWA. Change orders shall not be made when the Contractor has assumed such risk in the bid. Change orders may include requests for additional payments for differing site conditions and the CM shall utilize the bid documents to determine if a change order is warranted. The CM shall submit change order requests and supporting documentation to GWA for approval within ten (10) working days of receipt from the Contractor wherever practical.

Task B13.2: Change Order Negotiations with Contractor. Prepare independent cost estimates and negotiate change orders with the Contractor subject to GWA approval (final approval of negotiated change orders can only be made by the GWA General Manager).

Task B13.3: Change Order Documentation and Administration.

The CM shall maintain copies for all approved change orders (originals to be provided to GWA) and ensure that subsequent pay requests accurately represent these change orders. Approved change orders shall be administered by the CM along with other work elements according to the provisions of this scope of work.

Task B14.0: Design Changes and Verification Request:

As directed by GWA, prepare changes to the Contract technical documents (design and specifications) required to address a change order. GWA will direct the CM to make design changes only when changes are deemed by the GWA Chief Engineer and the Engineer of Record to have no material effect on the original intent of the design. All other design changes shall be forwarded to the Engineer of Record for processing.

If the request for change will materially change the original design, the CM shall coordinate with the Engineer of Record to accomplish the necessary design changes. The CM shall prepare a design change/verification request (DCVR) for submission to and for the approval of the Engineer of Record. If the required changes to the design are not covered within the original design scope of service, the CM will prepare a design scope amendment; solicit a fee proposal for the amendment on behalf of GWA, and assist with the negotiations.

Task B15.0: Construction Monitoring, Special Inspection, and Quality Control Monitoring.

The CM shall provide construction management and onsite inspection observation services to ensure that the work is accomplished in accordance with the Contract documents.

Project field staff shall review project documents, conduct daily observations, special inspections (where applicable), prepare and submit daily observation and special inspection reports; communicate deficiency issues and resolve with Contractor; and update a non-

compliance log. It is anticipated that during peak construction as many as four (4) field staff may be present at the site during normal working hours.

Task B15.1: Project Manager. The CM will assign a part time Project Manager (PM) to the Guam Northern and Southern GWA Reservoir project. The PM will be responsible for general over-sight of the project, formal correspondence with GWA and the Contractor, and the professional and technical accuracy of all work and materials of the project.

Task B15.2: Resident Engineer. A full time Resident Engineer (RE) shall be assigned to manage all three (3) sites and will be at one (1) of the sites during normal working hours unless attending project related meetings or during holidays, vacation, or sick days. The Resident Engineer (RE) will determine along with the Project Manager (PM), which field staff will be onsite but it may be comprised of civil, structural, electrical, or mechanical field staff with the intent that there will be at least one (1) of them on site during normal working hours and will be supported by additional Special Inspectors as described in Task 15.4.

Task B15.3: Onsite Construction Inspector. The CM shall provide construction inspector staff at each of the three (3) sites to monitor the construction. The Resident Engineer and onsite field staff shall have demonstrable experience (satisfactory to GWA) relative to the discipline and type of work being performed. Project field staff shall review project documents, conduct daily observations, special inspections (where applicable), prepare and submit daily observation and special inspection reports, communicate deficiency issues and resolve with Contractor, and update a non-compliance log.

Task B15.4: Special Inspector. In addition to general compliance inspections, the CM shall provide special inspections services in accordance with IBC 2009, Chapter 17 by a person with demonstrable experience (satisfactory to GWA) related to concrete placement, structural field welding, field welding of reinforcement, concrete anchoring, expansion bolts, shotcrete application, high strength bolting, reinforcing steel placement, pre-stressing operations, grading, excavation, backfilling, foundation probing and injection, and other operations that require special inspections. The Special Inspections staff shall be accepted by DPW and approved by GWA before inspection.

SCADA, mechanical, and electrical inspections will be handled by competent staff on an "on-call" basis to periodically observe these phases of the construction. The same staff will be used to provide discipline specific submittal, shop drawing, and RFI review and response support. The staff shall have demonstrable experience relative to the discipline and type of work being performed.

Task B16.0: Testing (Quality Assurance).

Task B16.1: Contactor Testing. Schedule, observe, approve or reject, and document testing required under the Contract to be performed by the Contractor.

Task B16.2: Construction Quality Assurance Testing. The CM shall provide the following CQA testing to monitor the Contractor's independent testing firm:

SPECIAL TESTING	STANDARD	FREQUENCY
Concrete Compressive Testing: Water tank, structures, encasement, hand holds,	ASTM C-39	See attached QA Summary of Services

electrical and communication vaults, pavement, retaining walls, drilled piles, etc.		
Backfill Compaction Testing: Over-excavation, tank foundation, structure foundations, manholes, vaults, electrical & communication hand holes, pavement, etc.	ASTM D-698 ASTM D-6938	See attached QA Summary of Services
Soil and Aggregate Analysis: Subgrade, limestone, base course, general fill, and structural fill, etc.	ASTM C-136 ASTM C-117 ASTM C-40 ASTM D-1140 ASTM D-1183 ASTM D-4318	See attached QA Summary of Services

Task B16.2: GWA Testing. Coordinate and monitor testing required to be performed by GWA.

Task B17.0: Acceptance. The CM shall promptly reject, orally, or in writing, any construction work that does not fully comply with Contract documents. Within 24 hours of notification to the Contractor that work elements have been rejected, the CM shall provide a written description of the deficiency to the GWA Chief Engineer for his/her concurrence. When concurrence has been obtained, the Contractor shall be directed to correct the work. The CM shall promptly advise the GWA Project Manager or the GWA Chief Engineer if the Contractor fails to correct or remove the defective work.

The CM shall issue written stop work orders to the Contractor and immediately provide GWA with a copy for a portion of or the entire Contract non-compliance issues as follows:

- If condition of work or Contractor actions threaten the health and safety of Contractor personnel, GWA representatives, or the public in such cases, stop work orders may be oral depending on the circumstances with written stop work order to follow.
- With prior notification and approval of the GWA Chief Engineer or Project Manager in all other cases.

Task B18.0: Construction QA Survey Services. The CM shall conduct survey and field measurements as necessary to verify that the work is located according to the plans and specifications. Changes to the horizontal and vertical alignments and elevations shall be made only with the approval of the GWA Chief Engineer.

- Pipeline Alignments and Location of Structures: Spot check Contractor's construction staking to verify the pipeline alignments and structure locations are as called for on the plan and specifications and in order to ensure that the work is in a location within lawful and approved Rights-of-Way and easements.
- Elevations: Spot check with Contractor's elevations for foundations, pads, pipe line inverts, backfill thickness, manholes, and other structures for which vertical elevations is a critical design element.
- Construction Survey Quality Assurance: The CM shall provide, at the minimum, the following CQA survey to monitor the Contractor's independent survey firm.
- See attached QA Summary of Services for a project specific list of those items to be verified. In general, the following work shall be provided: under-tank piping, over-excavation, tank foundation, vaults, pavement, water line, bench marks, etc.

Task B19.0: Project Closeout (Punch List and Project Closeout Inspections). Throughout the construction of the project, the CM shall prepare and maintain a list of defects and deficiencies in the work which must be corrected by the Contractor prior to final acceptance of work. The list shall be provided to all members of the pre-final and final inspection team. The list shall be revised after inspections to reflect additional items identified during the inspection. Coordinate with the Contractor to ensure that all punch list items have been completed. When all items have been completed, inform GWA in writing recommending that the work be accepted.

Schedule, arrange, and conduct preliminary, pre-final, and final inspections of work with Contractor, GWA, GEPA, DPW, and other stakeholders in this project.

Task B19.1: Deficiency Log. Prepare and maintain a list of defects and deficiencies in the work which must be corrected by the Contractor prior to final acceptance of work.

Task B19.2: Preliminary Inspection. Preliminary inspections shall be arranged as necessary for specific work elements that require the certification and approval of other agencies.

Task B19.3: Pre-final Inspection. A pre-final inspection shall be conducted after substantial completion of the work.

Task B19.4: Final Inspection. The final inspection shall be conducted after correction of pre-final inspection punch list items.

Task B20.0: Train and Warranty Periods.

Task B20.1: Startup Training & Maintenance Procedures Coordination. The CM shall coordinate with the Contractor to schedule and conduct startup training and standard maintenance procedures required by the Contract documents.

Task B20.2: Master Warranty Package. The CM shall maintain a copy of the warranties and compile associated Manufacturer and Contractor warranty documents. Warranty information shall be included in the final project report. All original warranty documents shall be provided to GWA along with Lien Release Information from the Contractor.

Task B21.0: Equipment.

Task B21.1: Pressure Data Loggers. The CM shall provide GWA with 15 water pressure data loggers, batteries, lock boxes, chains, padlocks, and associated fittings. The water pressure data loggers shall contain USB downloading, water resistant case, delay start feature, and 0-300 PSI range. For the purposes of this proposal, the cost of five (5) data loggers has been carried in each of the three (3) projects. Product data for the above has been included as an attachment to this document.

Task B21.2: Equipment. The CM shall provide GWA with a Panasonic Toughbook 20 with Windows Pro operating system per the attached product data. For the purposes of this proposal, the cost of Toughbook has been divided equally and 1/3 of the cost was carried in each of the projects.

Task B22.0: Expenses. The CM has summarized the costs associated with reports & reproduction, mileage, live video fee, website access & maintenance, project management information system (EADOC), QA soil & aggregate analysis, QA backfill compaction testing, QA concrete compressive strength testing, QA survey verification, etc. as a single total for all three (3) projects and carried the average amount equally in each of the projects.

C. POST-CONSTRUCTION SERVICES:

Task C1.0: Final Report. The CM shall prepare a final report after written acceptance of the work by GWA. The final report shall include a narrative documentation of all significant design and construction events and issues and shall become a historical record for the project. The Final Report shall include:

- All communication documentation
- All design documentation
- All construction documentation
- Warranty information
- Operation and maintenance information
- Asset management registry

Deliverables (electronic pdf files and 5 hard copies):

- CM Final Report

Task C2.0: Record Drawings. After the conclusion of the project, the CM shall review and approve the official record drawings prepared by the Contractor.

Deliverables (electronic pdf files and 5 hard copies):

- As-Built Record Drawings

IV. CLARIFICATIONS AND ASSUMPTIONS:

- 1) For this project, the CM's onsite presence shall consist of the following:
 - a) **One (1) part time Project Manager** (assumed 45%) equally distributed to each of the three (3) project locations.
 - b) **One (1) full time Resident Engineer** (assumed 100%) equally distributed to each of the three (3) project locations.
 - c) **Three (3) full time Civil/Structural Inspector** (assume 100%), one at each of the three (3) project locations.
 - d) **One (1) part time Structural Special Inspector** (assumed 24%), equally distributed to each of the three (3) project locations.
 - e) **One (1) part time SCADA Inspector** (assume 21%), equally distributed to each of the three (3) project locations.
 - f) **One (1) part time equivalent of Mechanical Engineer/ Mechanical Inspector** (assume 21%), equally distributed to each of the three (3) project locations.
 - g) **One (1) part time equivalent of Electrical Engineer/ Electrical Inspector** (assume 21%), equally distributed to each of the three (3) project locations.

- h) One (1) part time equivalent of Submittal Manager/Project Manager Assistant** (assume 45%) at each of the three (3) project locations, and various part time support as needed from the Principal, additional inspectors, engineers, etc.
- 2) Per the June 27, 2017 CM Services scoping meeting with GWA, the following project durations were used:
- a) Santa Rosa GWA Reservoir Replacement **(365 calendar days)**.
 - b) Santa Rita GWA Reservoir Replacement **(410 calendar days)**.
 - c) Sinifa GWA Reservoir Replacement **(365 calendar days)**.

As requested by GWA, the CM shall provide limited close-out services for a period of 30 to 60 days after substantial completion provided all the construction work is complete and support is mainly at an administrative level (i.e. does not require full time staff to be assigned to the job site).

- 3) In an effort to reduce costs, the following assumptions have been made:
- a) Preparation of Construction Management Plan (CMP) assumes a single document can be prepared for all three projects. One third effort carried in each fee proposal.
 - b) Contract Bidding effort assumes preparation if a single Pre-Bid Meeting, Contract Bidding Management effort, Bid Opening, Review of Bid Packages, Preparation of Recommendation Memorandum, and Technical Memorandums for all three (3) projects as a single bid package. One third of the effort has been carried in each fee proposal.
 - c) At the end of the project, the CM will turn-over each of the EarthCam - Construction Cam Lite HD to GWA. It is our understanding that GWA will have the cameras permanently installed at each of the three (3) sites by others. The cameras have an approximate value of **\$45,000.00** excluding software support and archiving services which are excluded. Note, GHD access to the EarthCam environment is subject to compliance with their terms of use for the service. GHD is a subscriber to the service only and has no control over the performance of the EarthCam Service but will take all reasonable measures and actions within our power to ensure good performance of the system.
- 4) Inspection and testing of any existing steel storage reservoirs including draining and cleaning is excluded for this scope of services.
- 5) An amount of \$18,930.00 for the Project Management Information System (PMIS), Bentley's ProjectWise Construction Management Service (EADOC), was budgeted for each project. Our fee assumes a total of 15 users for each project at a cost of approximately \$180.00 per user per quarter as follows:
- a) Client – **two (2)**
 - b) Construction Manager – **five (5)**
 - c) Contractor – **five (5)**
 - d) Spare – **three (3)**

Additional users can be provided at the request of GWA via Change Order. Note, GHD Access to the ProjectWise Construction Management environment is subject to compliance

with the Bentley Systems terms of use for the service. GHD is a subscriber to the ProjectWise Construction Management service only and has no control over the performance of Bentley's ProjectWise Construction Management Service but will take all reasonable measures and actions within our power to ensure good performance of the system.

- 6) The CM will use Primavera P6 project management software to track the Contractor's project schedule, construction cost, resource tracking, and cost management.
- 7) The CM shall conduct random employee interviews every two (2) weeks for two (2) employees to verify the pay request information.
- 8) Job Site Safety is the sole responsibility of the Contractor. The CM assumes the Contractor shall perform all work in accordance with the requirements of the Contract Documents, applicable federal and local regulations, compliance with regulations of public agencies having jurisdiction, including safety and health requirements of the Territory of Guam and the Occupational Safety and Health Administration of the US Department of Labor (OSHA) as may be required.

In the event that the GHD believes that the Contractor is not conducting their work in compliance with OSHA requirements, we may request GWA to bring in an independent third party safety expert to determine the extent of the Contractor's compliance and potential mitigation for non-compliance. We recommend that GWA include language in the contract documents requiring the contractor to pay for this additional cost in the event it is necessary.

- 9) **Stop Work Orders:** It is understood that the CM may issue written stop work orders to the Contractor in accordance with GWA policies for a portion of or the entire project for Contract non-compliance issues as follows:
 - a) If in the opinion of the CM, the condition of work or Contractor actions threaten the health and safety of Contractor's personnel, GWA representatives, CM Staff, or the public in such cases, stop work orders may be oral depending on the circumstances (with written stop work order to follow).
 - b) With prior notification and approval of the GWA Chief Engineer or GWA Project Manager in all other cases.
- 10) **Authority to Direct Contractor Operations:** The CM shall direct the Contractor's Operations under the following conditions:
 - a) **Safety and Public Convenience:** In order to minimize inconvenience to the public and businesses, and in order to protect the safety of the public.
 - b) **Compliance:** In order to affect compliance with local and federal regulations, such as those dealing with traffic control, environmental protection, cultural protection, and historic protection.
- 11) No formal Partnering Program will be provided but GHD will incorporate partnering to the extent practicable to ensure that environmental commitments are met; complete the

project on time by resolving disputes quickly; finish within budget by proactively monitoring costs and facilitating creative solutions when faced with potential cost increases; ensure that quality is met by adequate oversight by the Contractor and CM.

- 12) An amount has been budgeted as detailed in the attached **QA Services Summary** to provide QA Testing. Material laboratory testing, Compaction testing, and Concrete Compressive Strength Testing shall be provided by a licensed geotechnical engineering firm. If additional services are required, it shall be brought to GWA's attention and a fee negotiated.
- 13) An amount has been budgeted as detailed in the attached **QA Services Summary** to provide QA Field Survey verification services. Survey verification services will be provided by a licensed land surveyor. If additional work is required it will be brought to GWA's attention and a fee negotiated.
- 14) No generator, fuel storage or pump systems are part of the project.
- 15) No project specific permitting services are included in this scope of work, but GHD will assist GWA, the designer, and the Contractor on a limited basis to help facilitate procurement of permits as expeditiously as possible.
- 16) No Archeological survey, Section 106 Historic Preservation, biological resource monitoring, Section 7 Endangered Species Act or related work is included.
- 17) Any and all permit fees are excluded.
- 18) The scope assumes the processing of up to **100 RFIs** (Task B10.0) per project, with the understanding that the EOR will provide responses to all design related RFIs. The scope also assumes **five (5) change orders** for (Task B13.0) and **three (3) design changes** for (Task B14.0). If additional work is required it will be brought to GWA's attention and a fee negotiated.
- 19) Warranty follow-up is not included in the scope. If required, a fee will be negotiated with GWA.
- 20) These CM Services are being provided for the construction of improvements shown on the **90% Design package**. If additional improvements are added to the construction contract then a fee for additional CM Services will be negotiated with GWA.
- 21) The Construction contract shall include requirements that the Construction Contractor pay for all overtime for inspection and special inspection requested by the Contractor outside of the normal 40 hour work week and this requirement will be strictly enforced and supported by GWA with payment coming out of the Contractor's Pay Request and then distributed to GHD by GWA via change order.
- 22) GWA agrees to negotiate with GHD for change orders for additional construction phase services due to construction delays, time extensions, additional work, adverse weather delays (**in excess of 30 days**), or any other reason not due to negligent acts of GHD until final acceptance of the project is achieved.

VI. FEE SCHEDULE**TABLE 01 - SANTA RITA GWA RESERVOIR**

Task Description	Amount
Pre-Construction	\$45,820.00
Construction	\$905,939.38
Post-Construction	\$31,802.00
SUBTOTAL	\$983,561.38
GRT	\$40,985.00
Santa Rita Total	\$1,024,546.39

TABLE 02 - SANTA ROSA GWA RESERVOIR

Task Description	Amount
Pre-Construction	\$45,820.00
Construction	\$859,665.38
Post-Construction	\$31,802.00
SUBTOTAL	\$937,287.38
GRT	\$39,056.77
Santa Rosa Total	\$976,344.15

TABLE 03 - SINIFA GWA RESERVOIR

Task Description	Amount
Pre-Construction	\$45,820.00
Construction	\$859,665.38
Post-Construction	\$31,802.00
SUBTOTAL	\$937,287.38
GRT	\$39,056.77
Sinifa Total	\$976,344.15

TABLE 04 - SANTA RITA SANTA ROSA & SINIFA GWA RESERVOIR

Task Description	Amount
Pre-Construction	\$137,460.00
Construction	\$2,625,270.15
Post-Construction	\$95,406.00
SUBTOTAL	\$2,858,136.15
GRT	\$119,098.53
GRAND TOTAL	\$2,977,234.69

See attached spreadsheets for detailed information. Note, work to be invoiced monthly based on prorated effort.

Santa Rosa, Sinifa, and Santa Rita Tank System Upgrades
Fee Summary
09/22/2017

	Amount
Pre-Construction	\$45,820.00
Construction	\$905,939.38
Post-Construction	\$31,802.00
SUBTOTAL	\$983,561.38
GRT	\$40,985.00
Santa Rita TOTAL	\$1,024,546.39

	Amount
Pre-Construction	\$45,820.00
Construction	\$859,665.38
Post-Construction	\$31,802.00
SUBTOTAL	\$937,287.38
GRT	\$39,056.77
Santa Rosa TOTAL	\$976,344.15

	Amount
Pre-Construction	\$45,820.00
Construction	\$859,665.38
Post-Construction	\$31,802.00
SUBTOTAL	\$937,287.38
GRT	\$39,056.77
Sinifa TOTAL	\$976,344.15

	Amount
Pre-Construction	\$137,460.00
Construction	\$2,625,270.15
Post-Construction	\$95,406.00
SUBTOTAL	\$2,858,136.15
GRT	\$119,098.53
GRAND TOTAL	\$2,977,234.69

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GHD - PROJECT ESTIMATING SHEET - GHD QA SERVICES SUMMARY	
Project Name: Santa Rosa, Sinifa, and Santa Rita Tank & System Upgrades	Attachment:
GHD Project Number:	of:
Description: SANTA RITA	Checked By: P. Baron
Prepared by: B. Ryley	Date: 09/22/17

QA SURVEY ESTIMATE	
<u>Under Tank Piping:</u>	<u>Quantity</u>
Inlet Piping & Top of Flange	\$1,200
Outlet Piping & Top of Flange	\$1,200
Over-Flow Piping & Top of Flange	\$1,200
Drain Line Piping & Top of Flange	\$1,200
Wash Down Piping	\$1,200
<u>Tank Foundation:</u>	
Top of Formwork	\$1,200
<u>Control Building 1</u>	
Subgrade	\$800
Footing	\$800
Building Corners	\$800
FFE	\$800
<u>Control Building 2</u>	
Subgrade	\$800
Footing	\$800
Building Corners	\$800
FFE	\$800
<u>Manhole:</u>	
Below Base	\$800
Top of Manhole	\$800
Bottom of Pipe	\$800
<u>Ponding Basin 1</u>	
Subgrade	\$800
<u>Ponding Basin 2</u>	
Subgrade	\$800
<u>Vaults:</u>	
Top Outlet Meter Vault Footing Formwork	\$800
Top Outlet Meter Vault Roof Slab Formwork	\$800
Top Inlet Meter Vault Footing Formwork	\$800
Top Inlet Meter Vault Roof Slab Formwork	\$800
Top Electrical Handhole	\$800
<u>Pavement:</u>	
Pavement Formwork	\$800
Sidewalk Formwork	\$800
<u>Fencing</u>	
Corners	\$800

Drilled Piles

Cast In Place Drilled Piles	\$5,500
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Bench Marks:

Establish bench marks on top of all vaults, top of retaining wall, top of footing at water height gauge, over-flow, drian, & outlet.	\$1,200
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Contingency 25%	\$7,675
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TOTAL ESTIMATED BUDGET	\$38,375
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	<u>Rate</u>
Half Day	\$800
Full Day	\$1,200
Hourly	\$150

CQA TESTING ESTIMATE**Material Laboratory Testing:**

<u>Procotor & Sieve Analysis:</u>	<u>Unit Cost</u>	<u>Quantity</u>	<u>Cost</u>
Subgrade	\$295.00	2	\$590.00
Limestone	\$295.00	2	\$590.00
Base course	\$295.00	2	\$590.00
General Fill	\$295.00	2	\$590.00
	Contingency 25%		\$590.00
	TOTAL ESTIMATED BUDGET:		\$2,950.00

Compaction Testing:Control Building 1

Subgrade	\$74.00	1	\$74.00
Limestone	\$74.00	1	\$74.00
Base course	\$74.00	1	\$74.00

Control Building 2

Subgrade	\$74.00	1	\$74.00
Limestone	\$74.00	1	\$74.00
Base course	\$74.00	1	\$74.00

Reservoir Access Road

Subgrade	\$74.00	1	\$74.00
Limestone	\$74.00	2	\$148.00

Ponding Basin 1 Access Road

Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	1	\$74.00
General Fill	\$74.00	1	\$74.00

Ponding Basin 2 Access Road

Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	1	\$74.00
<u>Manhole</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	3	\$222.00
<u>Outlet Meter Vault</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	3	\$222.00
<u>Inlet Meter Vault</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	3	\$222.00
<u>Electrical Handhole (estimated)</u>			
Below Foundation	\$74.00	1	\$74.00
<u>Pavement:</u>			
Subgrade	\$74.00	1	\$74.00
Limestone	\$74.00	2	\$148.00
Base course	\$74.00	1	\$74.00
Contingency 25%			\$573.50
TOTAL ESTIMATED BUDGET:			\$2,867.50

	<u>Rate</u>
1st Test	\$55
2nd Test	\$19
	<u>\$74</u>

Concrete Testing:

<u>Outlet Meter Vault:</u>	<u>Unit Cost</u>	<u>Quantity</u>	<u>Cost</u>
Footing	\$305.00	1	\$305.00
Walls	\$305.00	1	\$305.00
Roof Slab	\$305.00	1	\$305.00
<u>Inlet Meter Vault:</u>			
Footing	\$305.00	1	\$305.00
Walls	\$305.00	1	\$305.00
Roof Slab	\$305.00	1	\$305.00
<u>Encasement:</u>			
Inlet Piping	\$305.00	1	\$305.00
Outlet Piping	\$305.00	1	\$305.00
Over-Flow Piping	\$305.00	1	\$305.00
Drain Line Piping	\$305.00	1	\$305.00
Wash Down Piping	\$305.00	1	\$305.00
Electrical & Communications Ducts	\$305.00	1	\$305.00

<u>Handholes:</u>			
Electrical	\$305.00	1	\$305.00
<u>Pavement:</u>			
Pavement	\$305.00	1	\$305.00
<u>Control Building 1</u>			
Footing	\$305.00	1	\$305.00
Building Corners	\$305.00	1	\$305.00
<u>Control Building 2</u>			
Footing	\$305.00	1	\$305.00
Building Corners	\$305.00	1	\$305.00
<u>Manhole</u>			
Pre-Cast Sections	\$305.00	1	\$305.00
<u>Drilled Piles</u>			
Cast In Drilled Piles	\$305.00	77	\$23,485.00
<u>Water Tank:</u>			
Foundation	\$305.00	1	\$305.00
Core Walls	\$305.00	7	\$2,135.00
Columns	\$305.00	9	\$2,745.00
Column Footings	\$305.00	9	\$2,745.00
Roof Slab	\$305.00	1	\$305.00
Shotcrete	\$305.00	2	\$610.00
		170	
Contingency 15%			\$5,718.75

TOTAL ESTIMATED BUDGET: \$43,843.75

DESCRIPTION OF TESTS:

Compressive Strength of Cylindrical Concrete Specimens (4 at \$17.00 ea.):	\$68.00
Curing and Disposal of Cylindrical Concrete Specimens without test, each:	\$12.00
Air Content of Freshly Mixed Concrete by the Pressure/Volumetric Method, per test:	\$50.00
Unit Weight and Yield of Fresh Concrete, each:	\$50.00
Slump Test & Making Concrete Specimens in the field (2.5 Hours of Labor):	\$125.00
SUBTOTAL:	\$305.00

QA SPECIAL INSPECTIONS**Special Inspections:**Outlet Meter Vault:

Footing	hours	2	110	\$220
Walls	hours	2	110	\$220
Roof Slab	hours	2	110	\$220

Inlet Meter Vault:

Footing	hours	2	110	\$220
Walls	hours	2	110	\$220

Roof Slab	hours	2	110	\$220
<u>Encasement:</u>				
Inlet Piping	hours	2	110	\$210
Outlet Piping	hours	2	110	\$210
Over-Flow Piping	hours	2	110	\$210
Drain Line Piping	hours	2	110	\$210
Wash Down Piping	hours	2	110	\$210
Electrical & Communications Ducts	hours	2	110	\$210
<u>Handholes:</u>				
Electrical	hours	2	110	\$210
<u>Pavement:</u>				
Pavement	hours	4	110	\$420
<u>Manhole:</u>				
Pre-Cast Sections	hours	2	110	\$210
<u>Drilled Piles</u>				
Cast In Drilled Piles	hours	616	110	\$67,760
<u>Water Tank:</u>				
Foundation	hours	8	110	\$880
Core Walls	hours	14	110	\$1,540
Columns	hours	18	110	\$1,980
Column Footings	hours	18	110	\$1,980
Roof Slab	hours	12	110	\$1,320
Shotcrete	hours	24	110	\$2,640
Vertical Post-tensioning	hours	8	110	\$880
Circumferential Pre-stressing	hours	16	110	\$1,760
		766		\$84,160
Contingency 10%				\$8,416.00
TOTAL ESTIMATED BUDGET:				\$92,576.00
GRAND TOTAL:				\$177,662.25

GHD - PROJECT ESTIMATING SHEET - GHD QA SERVICES SUMMARY	
Project Name: Santa Rosa, Sinifa, and Santa Rita Tank & System Upgrades	Attachment:
GHD Project Number:	of:
Description: SANTA ROSA	Checked By: P. Baron
Prepared by: B. Ryley	Date: 09/22/17
QA SURVEY ESTIMATE	
<u>Under Tank Piping:</u>	<u>Quantity</u>
Inlet Piping & Top of Flange	\$1,200
Outlet Piping & Top of Flange	\$1,200
Over-Flow Piping & Top of Flange	\$1,200
Drain Line Piping & Top of Flange	\$1,200
Wash Down Piping	\$1,200
<u>Over Excavation:</u>	
Bottom of Over Excavation	\$800
Top of Base course	\$800
Top of Limestone	\$800
<u>Tank Foundation:</u>	
Top of Formwork	\$1,200
<u>Hydropneumatic Tank Pad</u>	
Top of Formwork	\$800
<u>Control and Pump Room Building</u>	
Subgrade	\$800
Footing	\$800
Building Corners	\$800
FFE	\$800
<u>Manhole:</u>	
Below Base	\$800
Top of Manhole	\$800
Bottom of Pipe	\$800
<u>Ponding Basin</u>	
Subgrade	\$800
<u>Vaults:</u>	
Top Outlet Meter Vault Footing Formwork	\$800
Top Outlet Meter Vault Roof Slab Formwork	\$800
Top Inlet Meter Vault Footing Formwork	\$800
Top Inlet Meter Vault Roof Slab Formwork	\$800
Top Drain Vault Footing Formwork	\$800
Top Drain Vault Roof Slab Formwork	\$800
Top Outlet Check Valve Vault Footing Formwork	\$800
Top Outlet Check Valve Vault Roof Slab Formwork	\$800
<u>Retaining Wall</u>	
Top of Formwork	\$1,200
<u>Pavement:</u>	
Pavement Formwork	\$800

Sidewalk Formwork	\$800
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Fencing

Corners	\$800
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Bench Marks:

Establish bench marks on top of all vaults, top of retaining wall, top of footing at water height gauge, over-flow, drain, & outlet.	\$1,200
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Contingency 25%	\$7,000
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TOTAL ESTIMATED BUDGET	\$35,000
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	<u>Rate</u>
Half Day	\$800
Full Day	\$1,200
Hourly	\$150

CQA TESTING ESTIMATE**Material Laboratory Testing:**

<u>Proctor & Sieve Analysis:</u>	<u>Unit Cost</u>	<u>Quantity</u>	<u>Cost</u>
Subgrade	\$295.00	2	\$590.00
Limestone	\$295.00	2	\$590.00
Base course	\$295.00	2	\$590.00
General Fill	\$295.00	2	\$590.00
Structural Fill	\$295.00	2	\$590.00
		Contingency 25%	\$737.50
		TOTAL ESTIMATED BUDGET:	\$3,687.50

Compaction Testing:

<u>Over-Excavation:</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	1	\$74.00
Limestone	\$74.00	1	\$74.00
<u>Control and Pump Room Building</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	1	\$74.00
Limestone	\$74.00	1	\$74.00
<u>Hydropneumatic Tank Pad</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	1	\$74.00
Limestone	\$74.00	1	\$74.00
<u>Access Road</u>			
Subgrade	\$74.00	1	\$74.00

Structural Fill	\$74.00	2	\$148.00
Limestone	\$74.00	1	\$74.00
<u>Pond Access Road</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	1	\$74.00
<u>Ponding Basin</u>			
General Fill	\$74.00	1	\$74.00
<u>Off-Site Gravel Road</u>			
Subgrade	\$74.00	1	\$74.00
General Fill	\$74.00	1	\$74.00
<u>AC Pavement</u>			
Subgrade	\$74.00	1	\$74.00
Structural Fill	\$74.00	1	\$74.00
Limestone	\$74.00	1	\$74.00
<u>Concrete Sidewalk</u>			
Subgrade	\$74.00	1	\$74.00
Structural Fill	\$74.00	1	\$74.00
Limestone	\$74.00	1	\$74.00
<u>Outlet Meter Vault</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	3	\$222.00
<u>Inlet Meter Vault</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	3	\$222.00
<u>Drain Vault</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	3	\$222.00
<u>Outlet Check Valve Vault</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	3	\$222.00
<u>Retaining Wall</u>			
Limestone	\$74.00	1	\$74.00
<u>Electrical Handhole (estimated)</u>			
Below Foundation	\$74.00	1	\$74.00

Contingency 25% \$777.00

TOTAL ESTIMATED BUDGET: \$3,885.00

	<u>Rate</u>
1st Test	\$55
2nd Test	\$19

\$74

Concrete Testing:

<u>Outlet Meter Vault:</u>	<u>Unit Cost</u>	<u>Quantity</u>	<u>Cost</u>
Footing	\$305.00	1	\$305.00
Walls	\$305.00	1	\$305.00
Roof Slab	\$305.00	1	\$305.00
<u>Inlet Meter Vault:</u>			
Footing	\$305.00	1	\$305.00
Walls	\$305.00	1	\$305.00
Roof Slab	\$305.00	1	\$305.00
<u>Drain Vault:</u>			
Footing	\$305.00	1	\$305.00
Walls	\$305.00	1	\$305.00
Roof Slab	\$305.00	1	\$305.00
<u>Outlet Check Valve Vault:</u>			
Footing	\$305.00	1	\$305.00
Walls	\$305.00	1	\$305.00
Roof Slab	\$305.00	1	\$305.00
<u>Encasement:</u>			
Inlet Piping	\$305.00	1	\$305.00
Outlet Piping	\$305.00	1	\$305.00
Over-Flow Piping	\$305.00	1	\$305.00
Drain Line Piping	\$305.00	1	\$305.00
Wash Down Piping	\$305.00	1	\$305.00
Electrical & Communications Ducts	\$305.00	1	\$305.00
<u>Handholes:</u>			
Electrical	\$305.00	1	\$305.00
<u>Pavement:</u>			
Pavement	\$305.00	1	\$305.00
<u>Retaining Wall</u>			
Footing	\$305.00	1	\$305.00
<u>Hydropneumatic Tank Pad</u>			
Foundation	\$305.00	1	\$305.00
<u>Water Tank:</u>			
Foundation	\$305.00	1	\$305.00
Core Walls	\$305.00	7	\$2,135.00
Columns	\$305.00	9	\$2,745.00
Column Footings	\$305.00	9	\$2,745.00
Roof Slab	\$305.00	1	\$305.00
Shotcrete	\$305.00	2	\$610.00
		<u>94</u>	
Contingency 15%			\$2,333.25

TOTAL ESTIMATED BUDGET: \$17,888.25

DESCRIPTION OF TESTS:

Compressive Strength of Cylindrical Concrete Specimens (4 at \$17.00 ea.):	\$68.00
Curing and Disposal of Cylindrical Concrete Specimens without test, each:	\$12.00
Air Content of Freshly Mixed Concrete by the Pressure/Volumetric Method, per test:	\$50.00
Unit Weight and Yield of Fresh Concrete, each:	\$50.00
Slump Test & Making Concrete Specimens in the field (2.5 Hours of Labor):	\$125.00
SUBTOTAL:	\$305.00

QA SPECIAL INSPECTIONS**Special Inspections:**Outlet Meter Vault:

Footing	hours	2	110	\$220
Walls	hours	2	110	\$220
Roof Slab	hours	2	110	\$220

Inlet Meter Vault:

Footing	hours	2	110	\$220
Walls	hours	2	110	\$220
Roof Slab	hours	2	110	\$220

Drain Vault:

Footing	hours	2	110	\$220
Walls	hours	2	110	\$220
Roof Slab	hours	2	110	\$220

Outlet Check Valve Vault:

Footing	hours	2	110	\$220
Walls	hours	2	110	\$220
Roof Slab	hours	2	110	\$220

Encasement:

Inlet Piping	hours	2	110	\$210
Outlet Piping	hours	2	110	\$210
Over-Flow Piping	hours	2	110	\$210
Drain Line Piping	hours	2	110	\$210
Wash Down Piping	hours	2	110	\$210
Electrical & Communications Ducts	hours	2	110	\$210

Handholes:

Electrical	hours	2	110	\$210
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Pavement:

Pavement	hours	4	110	\$420
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Retaining Wall

Footing	hours	2	110	\$210
Walls	hours	2	110	\$210

Water Tank:

Foundation	hours	8	110	\$880
Core Walls	hours	14	110	\$1,540
Columns	hours	18	110	\$1,980
Column Footings	hours	18	110	\$1,980
Roof Slab	hours	12	110	\$1,320
Shotcrete	hours	24	110	\$2,640
Vertical Post-tensioning	hours	8	110	\$880
Circumferential Pre-stressing	hours	16	110	\$1,760
		164		\$17,930
Contingency 10%				\$1,793.00
TOTAL ESTIMATED BUDGET:				\$19,723.00
GRAND TOTAL:				\$76,496.25

GHD - PROJECT ESTIMATING SHEET - GHD QA SERVICES SUMMARY	
Project Name: Santa Rosa, Sinifa, and Santa Rita Tank & System Upgrades	Attachment:
GHD Project Number:	of:
Description: SINIFA	Checked By: P. Baron
Prepared by: B. Ryley	Date: 09/22/17
QA SURVEY ESTIMATE	
<u>Under Tank Piping:</u>	<u>Quantity</u>
Inlet Piping & Top of Flange	\$1,200
Outlet Piping & Top of Flange	\$1,200
Over-Flow Piping & Top of Flange	\$1,200
Drain Line Piping & Top of Flange	\$1,200
Wash Down Piping	\$1,200
<u>Over Excavation:</u>	
Bottom of Over Excavation	\$800
Top of Base course	\$800
Top of Limestone	\$800
<u>Tank Foundation:</u>	
Top of Formwork	\$1,200
<u>Control Room</u>	
Subgrade	\$800
Footing	\$800
Building Corners	\$800
FFE	\$800
<u>Manhole:</u>	
Below Base	\$800
Top of Manhole	\$800
Bottom of Pipe	\$800
<u>Ponding Basin</u>	
Subgrade	\$800
<u>Vaults:</u>	
Top Outlet Meter Vault Footing Formwork	\$800
Top Outlet Meter Vault Roof Slab Formwork	\$800
Top Inlet Meter Vault Footing Formwork	\$800
Top Inlet Meter Vault Roof Slab Formwork	\$800
Top Drain Vault Footing Formwork	\$800
Top Drain Vault Roof Slab Formwork	\$800
<u>Retaining Wall</u>	
Top of Formwork	\$1,200
<u>Pavement:</u>	
Pavement Formwork	\$800
Sidewalk Formwork	\$800
<u>Fencing</u>	
Corners	\$800

Bench Marks:

Establish bench marks on top of all vaults,
top of retaining wall, top of footing at water
height gauge, over-flow, drain, & outlet.

\$1,200

Contingency 25% \$6,400

TOTAL ESTIMATED BUDGET \$32,000

	<u>Rate</u>
Half Day	\$800
Full Day	\$1,200
Hourly	\$150

CQA TESTING ESTIMATE**Material Laboratory Testing:**

<u>Procotor & Sieve Analysis:</u>	<u>Unit Cost</u>	<u>Quantity</u>	<u>Cost</u>
Subgrade	\$295.00	2	\$590.00
Limestone	\$295.00	2	\$590.00
Base course	\$295.00	2	\$590.00
	Contingency 25%		\$442.50
TOTAL ESTIMATED BUDGET:			\$2,212.50

Compaction Testing:Over-Excavation:

Base course	\$74.00	1	\$74.00
Limestone	\$74.00	1	\$74.00

Control Room

Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	1	\$74.00
Limestone	\$74.00	1	\$74.00

Ponding Basin Access Road

Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	1	\$74.00

Off-Site Gravel Road

Subgrade	\$74.00	1	\$74.00
General Fill	\$74.00	1	\$74.00

AC Pavement

Subgrade	\$74.00	1	\$74.00
Limestone	\$74.00	1	\$74.00
Base course	\$74.00	1	\$74.00

Concrete Sidewalk

Subgrade	\$74.00	1	\$74.00
Structural Fill	\$74.00	1	\$74.00

Limestone	\$74.00	1	\$74.00
<u>Outlet Meter Vault</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	3	\$222.00
<u>Inlet Meter Vault</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	3	\$222.00
<u>Drain Vault</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	3	\$222.00
<u>Retaining Wall</u>			
Limestone	\$74.00	1	\$74.00
<u>Manhole</u>			
Subgrade	\$74.00	1	\$74.00
Base course	\$74.00	3	\$222.00
<u>Electrical Handhole (estimated)</u>			
Below Foundation	\$74.00	1	\$74.00

Contingency 25% \$610.50

TOTAL ESTIMATED BUDGET: \$3,052.50

	<u>Rate</u>
1st Test	\$55
2nd Test	\$19
	<hr/> \$74

Concrete Testing:

<u>Outlet Meter Vault:</u>	<u>Unit Cost</u>	<u>Quantity</u>	<u>Cost</u>
Footing	\$305.00	1	\$305.00
Walls	\$305.00	1	\$305.00
Roof Slab	\$305.00	1	\$305.00
<u>Inlet Meter Vault:</u>			
Footing	\$305.00	1	\$305.00
Walls	\$305.00	1	\$305.00
Roof Slab	\$305.00	1	\$305.00
<u>Drain Vault:</u>			
Footing	\$305.00	1	\$305.00
Walls	\$305.00	1	\$305.00
Roof Slab	\$305.00	1	\$305.00
<u>Control Room</u>			
Footing	\$305.00	1	\$305.00
Building Corners	\$305.00	1	\$305.00

Encasement:

Inlet Piping	\$305.00	1	\$305.00
Outlet Piping	\$305.00	1	\$305.00
Over-Flow Piping	\$305.00	1	\$305.00
Drain Line Piping	\$305.00	1	\$305.00
Wash Down Piping	\$305.00	1	\$305.00
Electrical & Communications Ducts	\$305.00	1	\$305.00

Pavement:

Pavement	\$305.00	1	\$305.00
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Retaining Wall

Footing	\$305.00	1	\$305.00
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Fencing

Posts	\$305.00	1	\$305.00
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Water Tank:

Foundation	\$305.00	1	\$305.00
Core Walls	\$305.00	7	\$2,135.00
Columns	\$305.00	9	\$2,745.00
Column Footings	\$305.00	9	\$2,745.00
Roof Slab	\$305.00	1	\$305.00
Shotcrete	\$305.00	2	\$610.00
		<u>90</u>	

Contingency 15% \$2,241.75

TOTAL ESTIMATED BUDGET: \$17,186.75

DESCRIPTION OF TESTS:

Compressive Strength of Cylindrical Concrete Specimens (4 at \$17.00 ea.):	\$68.00
Curing and Disposal of Cylindrical Concrete Specimens without test, each:	\$12.00
Air Content of Freshly Mixed Concrete by the Pressure/Volumetric Method, per test:	\$50.00
Unit Weight and Yield of Fresh Concrete, each:	\$50.00
Slump Test & Making Concrete Specimens in the field (2.5 Hours of Labor):	\$125.00

SUBTOTAL: \$305.00

QA SPECIAL INSPECTIONS**Special Inspections:**Outlet Meter Vault:

Footing	hours	2	110	\$220
Walls	hours	2	110	\$220
Roof Slab	hours	2	110	\$220

Inlet Meter Vault:

Footing	hours	2	110	\$220
Walls	hours	2	110	\$220
Roof Slab	hours	2	110	\$220

Drain Vault:

Footing	hours	2	110	\$220
Walls	hours	2	110	\$220
Roof Slab	hours	2	110	\$220
<u>Encasement:</u>				
Inlet Piping	hours	2	110	\$210
Outlet Piping	hours	2	110	\$210
Over-Flow Piping	hours	2	110	\$210
Drain Line Piping	hours	2	110	\$210
Wash Down Piping	hours	2	110	\$210
Electrical & Communications Ducts	hours	2	110	\$210
<u>Control Room</u>				
Footing	hours	2	110	\$210
Walls	hours	2	110	\$210
<u>Pavement:</u>				
Pavement	hours	4	110	\$420
<u>Retaining Wall</u>				
Footing	hours	2	110	\$210
Walls	hours	2	110	\$210
<u>Water Tank:</u>				
Foundation	hours	8	110	\$880
Corewalls	hours	14	110	\$1,540
Columns	hours	18	110	\$1,980
Column Footings	hours	18	110	\$1,980
Roof Slab	hours	12	110	\$1,320
Shotcrete	hours	24	110	\$2,640
Vertical Post-tensioning	hours	8	110	\$880
Circumferential Pre-stressing	hours	16	110	\$1,760
		160		\$17,480
Contingency 10%				\$1,748.00
TOTAL ESTIMATED BUDGET:				\$19,228.00
GRAND TOTAL:				\$71,467.25

ID Project Number:

of:

Description: **EXPENSE SUMMARY**Checked by: **P. Baron**Prepared by: **B. Ryley**Date: **09/22/17**

EXPENSE ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT	MARKUP at 10%	TOTAL
RECONSTRUCTION PHASE TASKS						
Report Reproduction, misc.	3	lump sum	1,000.00	3,000.00	300.00	3,300.00
					-	
					-	
SUBTOTAL				3,000.00	300.00	3,300.00
CONSTRUCTION PHASE TASKS						
Lease (1.50 vehicles x 30 miles x 321 days)	43,335	mile	0.52	22,534.20	2,253.42	24,787.62
Report Reproduction, misc.	3	lump sum	3,000.00	9,000.00	900.00	9,900.00
Real Time Video Feed, Website Access & Maintenance	3	each	29,642.54	88,927.61	8,892.76	97,820.37
Project Management Information Systems	3	lump sum	16,500.00	49,500.00	4,950.00	54,450.00
Data Logger	3	lump sum	5,735.35	17,206.04	1,720.60	18,926.64
Minisonic Toughbook 20	1	ea.	2,399.00	2,399.00	239.90	2,638.90
Soil & Aggregate Analysis	3	lump sum	2,950.00	8,850.00	885.00	9,735.00
Compaction Testing	3	lump sum	3,268.33	9,805.00	980.50	10,785.50
Concrete Testing	3	lump sum	26,306.25	78,918.75	7,891.88	86,810.63
Survey Verification	3	lump sum	35,125.00	105,375.00	10,537.50	115,912.50
SUBTOTAL				392,515.59	39,251.56	431,767.15
POST CONSTRUCTION SERVICES						
Report Reproduction, misc.	3	lump sum	1,500.00	4,500.00	450.00	4,950.00
			-			
			-			
SUBTOTAL				4,500.00	450.00	4,950.00
GRAND TOTAL				400,015.59	40,001.56	440,017.15

ID Project Number:

of:

Description: VIDEO CAMERA EXPENSE BREAKDOWN

Checked by: P. Baron

Prepared by: B. Ryley

Date: 09/22/17

EXPENSE ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT	MARKUP at 10%	TOTAL
RECONSTRUCTION PHASE TASKS						
SUBTOTAL						
CONSTRUCTION PHASE TASKS						
BirthCam - Construction Cam Lite HD	1	ea.	4,495.00	4,495.00	449.50	4,944.50
Cellular Power Upgrade	1	ea.	4,022.00	4,022.00	402.20	4,424.20
Global Modem	1	ea.	1,399.00	1,399.00	139.90	1,538.90
Universal Pole Mount	1	ea.	99.00	99.00	9.90	108.90
Software Support & Archiving Services	1	ea.	575.00	575.00	57.50	632.50
FedEx International Economy S&H	1	ls.	2,722.76	2,722.76	272.28	2,995.04
Weather Station w/shipping	1	ea.	1,200.00	1,200.00	120.00	1,320.00
BirthCam Consulting Services	1	incl.	-	-	-	-
Website Development & MP Image Integration	1	incl.	-	-	-	-
Edited Time-Lapse Move	1	incl.	-	-	-	-
Aviavis 6250 Weather Station	1	ea.	465.00	465.00	46.50	511.50
Aviavis 7654 Repeater	1	ea.	353.00	353.00	35.30	388.30
Aviavis 6555 Weather Link IP software	1	ea.	347.00	347.00	34.70	381.70
Adaptivepoint ARC MBR 1400 Series Router	1	ea.	850.00	850.00	85.00	935.00
GB high-speed HSPA data	18	mth.	140.00	2,520.00	252.00	2,772.00
6" Telescoping Light Mast w/Shipping	1	ea.	4,400.00	4,400.00	440.00	4,840.00
Concrete Foundation (5' x 5' x 1') w/single delivery	1	ea.	2,000.00	2,000.00	200.00	2,200.00
Installation & Start up	1	ls.	1,500.00	1,500.00	150.00	1,650.00
SUBTOTAL				26,947.76	2,694.78	29,642.54
POST CONSTRUCTION SERVICES						
SUBTOTAL						
TOTAL				26,947.76	2,694.78	29,642.54

ID Project Number:

of:

Description: DATA LOGGER EXPENSE BREAKDOWN

Checked by: P. Baron

Prepared by: B. Ryley

Date: 09/22/17

EXPENSE ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT	MARKUP at 10%	TOTAL
RECONSTRUCTION PHASE TASKS						
SUBTOTAL						
CONSTRUCTION PHASE TASKS						
ackson PR325: Pressure Data Logger	15	ea.	499.00	7,485.00	748.50	8,233.50
ackson A016: Software w/USB Download Cable	15	ea.	89.00	1,335.00	133.50	1,468.50
ackson 721: Locking Case	15	ea.	79.00	1,185.00	118.50	1,303.50
ackson A220: Card Reader Kit	15	ea.	49.00	735.00	73.50	808.50
ackson R022: Pressure Filter Kit	15	ea.	30.00	450.00	45.00	495.00
ackson A061: USB Download Cable	15	ea.	19.00	285.00	28.50	313.50
ackson A125: 3 Volt (3V) Lithium Battery	15	ea.	16.00	240.00	24.00	264.00
ackson A791: Pressure Kit	15	ea.	149.00	2,235.00	223.50	2,458.50
t. Double Loop Cable w/ Padlock	15	ea.	12.79	191.85	19.19	211.04
udget for Miscellaneous, Fitting, Tubing, etc.	1	ls.	1,500.00	1,500.00	150.00	1,650.00
				-	-	-
				-	-	-
				-	-	-
				-	-	-
				-	-	-
				-	-	-
				-	-	-
				-	-	-
SUBTOTAL				15,641.85	1,564.19	17,206.04
POST CONSTRUCTION SERVICES						
SUBTOTAL						
TOTAL				15,641.85	1,564.19	17,206.04



June 11, 2020 (Revised July 13, 2020)

Reference No. 11136961

Mr. Brett Railey, PE
Acting Chief Engineer
Guam Waterworks Authority
Gloria B. Nelson Public Service Building
688 Route 15
Mangilao, GU 96913

**Re: Line1 GWA Project No: W14-007-BND, GWA Northern Southern Reservoir Project, Santa Rosa, Santa Rita, & Sinifa
Change Order #01 Extension of Contract Time**

Dear Mr. Railey:

GHD is pleased to submit Change Order #01 to GWA for the extension of GHD's construction management contract for the above referenced project. As you are aware, GHD's contract is currently in expired as of July 23, 2019, which is the last construction management services completion date associated with the Santa Rita Reservoir. Since that date, GHD has continued to perform services in accordance with the contract terms in good faith and with GWA's awareness of the issue and with the understanding that GWA would issue a time extension and approve fair compensation for additional services in a timely manner.

As requested by you, Change Order #01 is submitted requesting the contract modifications as required to allow GHD to continue construction management services through the completion of Post Construction services stipulated in the CM contract and accounting for differences between the CM and Construction period of performance. This change order proposal addresses the following issues for the Northern Southern Reservoir Project construction management contract:

1. GHD's contract has expired and a contractual time extension is necessary to extend the contract duration and the performance period for construction management services through the revised construction contract period and in alignment with the time extension GWA is providing to the Contractor. GHD requests a time extension to the Construction Contractor end date for each reservoir site plus a minimum of 60 additional calendar days to complete Post Construction Services. GHD will start when GWA issues Notice to Proceed (NTP) to the CM to start work for each site. GWA will issue a separate NTP for each site.
2. GHD's CM period of performance is less than the Contractor's construction period of performance awarded by GWA. This difference is independent of any time extensions GWA may award the Contractor due to permit acquisition issues, COVID-19 pandemic delays, or other reasons. The time difference is summarized in the table below:



Project	CM Performance Period (Days)	Contractor Performance Period (Days)	CM Performance Period Difference (Days)
Santa Rosa Reservoir	365	455	90 (64 working days)
Santa Rita Reservoir	410	485	75 (54 working days)
Sinifa Reservoir Project	365	425	60 (43 working days)

GHD's labor budget for CM and inspection services is based on the CM Performance Period. The cost of providing full-time CM and inspection services for this additional time is not included in GHD's budget for the project. We have identified two options to address this discrepancy. Option 1 is to increase GHD's budgeted labor effort to account for the difference and allow for the requested full-time CM and inspection services. Option 2 is GHD provides less than full-time CM and inspection services. The cost for Option 1 is included in this change order proposal using original labor rates with a 3% increase over two years. We are open to discussion on GWA's preferences to address this discrepancy.

3. As construction moves forward, GHD will incur additional unbudgeted QA expense cost associated with increased time for providing the services, and increased rates by our subconsultants since they were budgeted in 2017. We propose the following additional expense budget associated with rate increases and length of service:
 - Expense cost budget for the project management information system (ProjectWise) and the live video feed, website access and maintenance are pro-rated for an additional 6 months (180 calendar days) based on the original construction contract durations. If construction extends longer, GHD will invoice for the additional expense at cost plus a 10% markup.
 - Quality Assurance (QA) survey costs have increased significantly since 2017, and we are obligated to compensate our QA survey subconsultant at their current 2020 rates. The increase in QA survey costs due to the rate change is reflected in our fee proposal. Current survey rates and a calculation of the increase are included as an attachment to this proposal.
 - QA testing expenses have increased between 5% and 30% since 2017 depending on the specific test, and we are obligated to compensation our QA testing subconsultant at their current 2020 rates. The increase in QA testing costs due to the rate change is reflected in our fee proposal. Current QA testing rates and a calculation of the increase are included as an attachment to this proposal.

GHD proposes a lump sum fee of \$337,337.39 for Change Order #01. Services not included in this proposal can be provided by a negotiated fee. Additional time and labor budget will be required if any additive bid items are included with the construction contract. We remain open to discussion with you on the specifics of our proposal. We welcome the opportunity to continue working with you on this important



project, and look forward to contributing to its successful completion. Should you have any questions about this proposal, please do not hesitate to contact me.

Very Respectfully,

GHD

A handwritten signature in blue ink, appearing to read "Matthew G. Kennedy", is written over the printed name and title.

Matthew G. Kennedy, PE

Principal Engineer

Attachments:

1. GHD Fee Proposal
2. GHD Revised Labor Rates
3. QA Cost Increase Documentation
4. 2020 QA Survey Rates
5. 2020 QA Testing Rates
6. Video Web Hosting Rates

cc: Bryan Ryley (GHD)
Nancy Heuman, PE (GHD)



Attachment 1

GHD - PROJECT FEE ESTIMATING SHEET

Project Name: North South Reservoir CM Guam Waterworks Authority

Prepared by: Matt Kennedy June 11, 2020

Job Number: 11136961

		LABOR COSTS							FEE COMPUTATION		
	LABOR CATEGORY > RATE >	Prinp. Eng. \$260.98 /Hr	Proj. Mngr. \$176.11 /Hr	Civil Insp. \$133.67 /Hr	Civil/Struct. Insp. \$144.28 /Hr	Proj. Mngr. Asst \$101.85 /Hr	Sbmtl/ RFI Mngr \$126.00 /Hr	TOTAL HOURS	Project Expenses	Sub- con- sultant(s)	TOTAL FEE
Task / Item											
Santa Rosa Reservoir											
B15.1 Project Manager			171					171	\$0.00		\$30,114.81
B15.3 Onsite Construction Inspector				256	256			512	\$0.00		\$71,155.20
B22.1 QA Soil & Aggregate Analysis								0	\$1,250.00		\$1,250.00
B22.2 QA Backfill Compaction & Testing								0	\$346.50		\$346.50
B22.3 QA Concrete Compressive Strength Testing								0	\$1,081.00		\$1,081.00
B22.4 QA Survey Verification								0	\$11,825.00		\$11,825.00
B22.5 Live Video Feed, Website Access & Maintenance								0	\$1,501.10		\$1,501.10
B22.6 Project Management Information System								0	\$7,518.99		\$7,518.99
SUBTOTAL		0	171	256	256	0	0	683	\$23,522.59	\$0.00	\$124,792.60
Santa Rita Reservoir											
B15.1 Project Manager			144					144	\$0.00		\$25,359.84
B15.3 Onsite Construction Inspector				216	216			432	\$0.00		\$60,037.20
B22.1 QA Soil & Aggregate Analysis								0	\$1,000.00		\$1,000.00
B22.2 QA Backfill Compaction & Testing								0	\$255.75		\$255.75
B22.3 QA Concrete Compressive Strength Testing								0	\$2,649.00		\$2,649.00
B22.4 QA Survey Verification								0	\$10,588.00		\$10,588.00
B22.5 Live Video Feed, Website Access & Maintenance								0	\$1,501.10		\$1,501.10
B22.6 Project Management Information System								0	\$7,518.99		\$7,518.99
SUBTOTAL		0	144	216	216	0	0	576	\$23,512.84	\$0.00	\$108,909.88
Sinifa Reservoir											
B15.1 Project Manager			115					115	\$0.00		\$20,252.65
B15.3 Onsite Construction Inspector				172	172			344	\$0.00		\$47,807.40
B22.1 QA Soil & Aggregate Analysis								0	\$750.00		\$750.00
B22.2 QA Backfill Compaction & Testing								0	\$272.25		\$272.25
B22.3 QA Concrete Compressive Strength Testing								0	\$1,038.00		\$1,038.00
B22.4 QA Survey Verification								0	\$11,000.00		\$11,000.00
B22.5 Live Video Feed, Website Access & Maintenance								0	\$1,501.10		\$1,501.10
B22.6 Project Management Information System								0	\$7,518.99		\$7,518.99
SUBTOTAL		0	115	172	172	0	0	459	\$22,080.34	\$0.00	\$90,140.39
Contingency											
2020 GRT (4.167%)								0	\$0.00		\$13,494.53
CHANGE ORDER TOTALS		0	430	644	644	0	0	1,718	\$69,115.76	\$0.00	\$337,337.39

Attachment 2

Position	Class	2017 Approved Rates	2020 Proposed Rates (3% increase over 2 years)
Principal Engineer	Principal F3	\$246.00	\$260.98
Project Manager	Associate E3	\$166.00	\$176.11
QA Manager/Design Review	Associate F2	\$226.00	\$239.76
Resident Engineer	Enginner D1	\$126.00	\$133.67
Civil Inspector	Scientist B1	\$126.00	\$133.67
Civil/Structural Inspector	Engineer B2	\$136.00	\$144.28
Special Inspector	Engineer C1	\$196.00	\$207.94
SCADA Specialty	Sub consultant Budgetary	\$175.00	\$185.66
SR. Mechanical Engineer	Sub consultant Budgetary	\$155.00	\$164.44
Mechanical Inspector	Sub consultant Budgetary	\$125.00	\$132.61
SR. Electrical Engineer	Sub consultant Budgetary	\$155.00	\$164.44
Electrical Inspector	Sub consultant Budgetary	\$125.00	\$132.61
CADD Support	Technician/Technologist D1	\$121.00	\$128.37
Scheduler Mgmt	Sub consultant Budgetary	\$150.00	\$159.14
Submittal/RFI Manager	Engineer B2	\$126.00	\$133.67
Estimating Support	Engineer B1	\$110.00	\$116.70
Project Manager Ass't	Administrative Assistant A1	\$96.00	\$101.85

GHD - PROJECT ESTIMATING SHEET - GHD QA SERVICES SUMMARY									
Project Name: Santa Rosa, Sinifa, and Santa Rita Tank & System Upgrades						Attachment:			
GHD Project Number:						of:			
Description: SANTA RITA						Checked By: M.Kennedy			
Prepared by: B.Riley						Date: 06/11/20			
QA SURVEY ESTIMATE									
Under Tank Piping:		Cost (2017)				Cost (2020)			
Inlet Piping & Top of Flange		\$1,200				\$1,700			
Outlet Piping & Top of Flange		\$1,200				\$1,700			
Over-Flow Piping & Top of Flange		\$1,200				\$1,700			
Drain Line Piping & Top of Flange		\$1,200				\$1,700			
Wash Down Piping		\$1,200				\$1,700			
Tank Foundation:									
Top of Formwork		\$1,200				\$1,700			
Control Building 1									
Subgrade		\$800				\$1,000			
Footing		\$800				\$1,000			
Building Corners		\$800				\$1,000			
FFE		\$800				\$1,000			
Control Building 2									
Subgrade		\$800				\$1,000			
Footing		\$800				\$1,000			
Building Corners		\$800				\$1,000			
FFE		\$800				\$1,000			
Manhole:									
Below Base		\$800				\$1,000			
Top of Manhole		\$800				\$1,000			
Bottom of Pipe		\$800				\$1,000			
Ponding Basin 1									
Subgrade		\$800				\$1,000			
Ponding Basin 2									
Subgrade		\$800				\$1,000			
Vaults:									
Top Outlet Meter Vault Footing Formwork		\$800				\$1,000			
Top Outlet Meter Vault Roof Slab Formwork		\$800				\$1,000			
Top Inlet Meter Vault Footing Formwork		\$800				\$1,000			
Top Inlet Meter Vault Roof Slab Formwork		\$800				\$1,000			
Top Electrical Handhole		\$800				\$1,000			
Pavement:									
Pavement Formwork		\$800				\$1,000			
Sidewalk Formwork		\$800				\$1,000			
Fencing									
Corners		\$800				\$1,000			
Drilled Piles									
Cast In Place Drilled Piles		\$5,500				\$5,500			
Bench Marks:									
Establish bench marks on top of all vaults, top of retaining wall, top of footing at water height guauge, over-flow, drian, & outlet.		\$1,200				\$1,700			
Contingency 25%		\$7,675				\$9,600			
2017 TOTAL ESTIMATED BUDGET		\$38,375	2020 TOTAL ESTIMATED BUDGET		\$48,000				
MARKUP AT 10 %		\$42,213			\$52,800				
		B22.4 COST INCREASE: \$10,588							
2017 Rate						2020 Rate			
Half Day \$800						Half Day \$1,000			
Full Day \$1,200						Full Day \$1,700			
Hourly \$150						Hourly \$250			
CQA TESTING ESTIMATE									
Material Laboratory Testing:									
Procotor & Sieve Analysis:		2017 Unit Cost	Quantity	2017 Cost	2020 Unit Cost		2020 Cost		
Subgrade		\$295.00	2	\$590.00	\$ 395.00	2	\$ 790.00		
Limestone		\$295.00	2	\$590.00	\$ 395.00	2	\$ 790.00		
Base course		\$295.00	2	\$590.00	\$ 395.00	2	\$ 790.00		
General Fill		\$295.00	2	\$590.00	\$ 395.00	2	\$ 790.00		
Contingency 25%				\$590.00			\$ 790.00		
2017 MATERIAL TESTING ESTIMATED BUDGET:		\$2,950.00		MATERIAL ESTIMATED BUDGET:		\$ 3,950.00			
		B22.1 COST INCREASE \$ 1,000.00							

GWA Work Session - July 22, 2020 - ISSUES FOR DECISION

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Compaction Testing:

<u>Control Building 1</u>	<u>2017 Unit Cost</u>	<u>Quantity</u>	<u>2017 Cost</u>	<u>2020 Unit Cost</u>	<u>2020 Cost</u>
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Control Building 2</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Reservoir Access Road</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	2	\$148.00	\$ 80.00	\$ 160.00
<u>Ponding Basin 1 Access Road</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
General Fill	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Ponding Basin 2 Access Road</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Manhole</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	3	\$222.00	\$ 80.00	\$ 240.00
<u>Outlet Meter Vault</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	3	\$222.00	\$ 80.00	\$ 240.00
<u>Inlet Meter Vault</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	3	\$222.00	\$ 80.00	\$ 240.00
<u>Electrical Handhole (estimated)</u>					
Below Foundation	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
				\$ 80.00	\$ -
<u>Pavement:</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	2	\$148.00	\$ 80.00	\$ 160.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Contingency 25%			\$573.50		\$ 620.00
COMPACTION ESTIMATED BUDGET:			\$2,867.50		\$ 3,100.00
TOTAL QA COMPACTION BUDGET:			\$2,867.50		\$3,100.00
MARKUP AT 10 %			\$3,154		\$3,410

B22.2 COST INCREASE \$255.75

	<u>2017 Rate</u>
1st Test	\$55
2nd Test	\$19
	<u>\$74</u>

	<u>2020 Rate</u>
1st Test	\$57
2nd Test	\$23
	<u>\$80</u>

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Concrete Testing:

<u>Outlet Meter Vault:</u>	<u>2017 Unit Cost</u>	<u>Quantity</u>	<u>2017 Cost</u>	<u>2020 Unit Cost</u>	<u>2020 Cost</u>
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Walls	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
 <u>Inlet Meter Vault:</u>					
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Walls	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
 <u>Encasement:</u>					
Inlet Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Outlet Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Over-Flow Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Drain Line Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Wash Down Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Electrical & Communications Ducts	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
 <u>Handholes:</u>					
Electrical	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
 <u>Pavement:</u>					
Pavement	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
 <u>Control Building 1</u>					
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Building Corners	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
 <u>Control Building 2</u>					
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Building Corners	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
 <u>Manhole</u>					
Pre-Cast Sections	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
 <u>Drilled Piles</u>					
Cast In Drilled Piles	\$305.00	77	\$23,485.00	\$ 321.75	\$ 24,774.75
 <u>Water Tank:</u>					
Foundation	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Core Walls	\$305.00	7	\$2,135.00	\$ 321.75	\$ 2,252.25
Columns	\$305.00	9	\$2,745.00	\$ 321.75	\$ 2,895.75
Column Footings	\$305.00	9	\$2,745.00	\$ 321.75	\$ 2,895.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Shotcrete	\$305.00	2	\$610.00	\$ 321.75	\$ 643.50
		170			

Contingency 15% \$5,718.75 \$ 1,254.83 \$6,032.81

TOTAL ESTIMATED BUDGET: \$43,843.75 \$ 9,620.33 \$46,251.56

MARKUP AT 10 % \$48,228 \$10,582 \$50,877

B22.3 COST INCREASE	\$2,649
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DESCRIPTION OF TESTS:

Compressive Strength of Cylindrical Concrete Specimens (4 at \$17.00 ea.):	\$68.00	\$ 66.00
Curing and Disposal of Cylindrical Concrete Specimens without test, each:	\$12.00	\$ 11.50
Air Content of Freshly Mixed Concrete by the Pressure/Volumetric Method, per test:	\$50.00	\$ 34.00
Unit Weight and Yield of Fresh Concrete, each:	\$50.00	\$ 34.00
Slump Test & Making Concrete Specimens in the field (2.5 Hours of Labor):	\$125.00	\$ 176.25
SUBTOTAL:	\$305.00	\$321.75

GHD - PROJECT ESTIMATING SHEET - GHD QA SERVICES SUMMARY			
Project Name: Santa Rosa, Sinifa, and Santa Rita Tank & System Upgrades		Attachment:	
GHD Project Number:		of:	
Description: SANTA ROSA		Checked By: M.Kennedy	
Prepared by: B.Ryley		Date: 06/11/20	
QA SURVEY ESTIMATE			
<u>Under Tank Piping:</u>	<u>Cost (2017)</u>	<u>Cost (2020)</u>	
Inlet Piping & Top of Flange	\$1,200	\$1,700	
Outlet Piping & Top of Flange	\$1,200	\$1,700	
Over-Flow Piping & Top of Flange	\$1,200	\$1,700	
Drain Line Piping & Top of Flange	\$1,200	\$1,700	
Wash Down Piping	\$1,200	\$1,700	
<u>Over Excavation:</u>			
Bottom of Over Excavation	\$800	\$1,000	
Top of Base course	\$800	\$1,000	
Top of Limestone	\$800	\$1,000	
<u>Tank Foundation:</u>			
Top of Formwork	\$1,200	\$1,700	
<u>Hydropneumatic Tank Pad</u>			
Top of Formwork	\$800	\$1,000	
<u>Control and Pump Room Building</u>			
Subgrade	\$800	\$1,000	
Footing	\$800	\$1,000	
Building Corners	\$800	\$1,000	
FFE	\$800	\$1,000	
<u>Manhole:</u>			
Below Base	\$800	\$1,000	
Top of Manhole	\$800	\$1,000	
Bottom of Pipe	\$800	\$1,000	
<u>Ponding Basin</u>			
Subgrade	\$800	\$1,000	
<u>Vaults:</u>			
Top Outlet Meter Vault Footing Formwork	\$800	\$1,000	
Top Outlet Meter Vault Roof Slab Formwork	\$800	\$1,000	
Top Inlet Meter Vault Footing Formwork	\$800	\$1,000	
Top Inlet Meter Vault Roof Slab Formwork	\$800	\$1,000	
Top Drain Vault Footing Formwork	\$800	\$1,000	
Top Drain Vault Roof Slab Formwork	\$800	\$1,000	
Top Outlet Check Valve Vault Footing Formwork	\$800	\$1,000	
Top Outlet Check Valve Vault Roof Slab Formwork	\$800	\$1,000	
<u>Retaining Wall</u>			
Top of Formwork	\$1,200	\$1,700	
<u>Pavement:</u>			
Pavement Formwork	\$800	\$1,000	
Sidewalk Formwork	\$800	\$1,000	
<u>Fencing</u>			
Corners	\$800	\$1,000	
<u>Bench Marks:</u>			
Establish bench marks on top of all vaults, top of retaining wall, top of footing at water height guauge, over-flow, drian, & outlet.	\$1,200	\$1,700	
Contingency 25%	\$7,000	\$9,150	
2017 TOTAL ESTIMATED BUDGET	\$35,000	2020 TOTAL ESTIMATED BUDGET	\$45,750
MARKUP AT 10 %	\$38,500		\$50,325
		B22.4 COST INCREASE:	\$11,825
<u>2017 Rate</u>		<u>2020 Rate</u>	
Half Day	\$800	Half Day	\$1,000
Full Day	\$1,200	Full Day	\$1,700
Hourly	\$150	Hourly	\$250

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CQA TESTING ESTIMATE

Material Laboratory Testing:

<u>Proctor & Sieve Analysis:</u>	<u>2017 Unit Cost</u>	<u>Quantity</u>	<u>2017 Cost</u>	<u>2020 Unit Cost</u>	<u>2020 Cost</u>
Subgrade	\$295.00	2	\$590.00	\$ 395.00	\$ 790.00
Limestone	\$295.00	2	\$590.00	\$ 395.00	\$ 790.00
Base course	\$295.00	2	\$590.00	\$ 395.00	\$ 790.00
General Fill	\$295.00	2	\$590.00	\$ 395.00	\$ 790.00
Structural Fill	\$295.00	2	\$590.00	\$ 395.00	\$ 790.00
Contingency 25%			\$737.50	Contingency 25%	\$ 987.50
2017 MATERIAL TESTING BUDGET:			\$3,687.50	2020 MATERIAL TESTING BUDGET:	\$ 4,937.50

B22.1 COST INCREASE: \$ 1,250.00

Compaction Testing:

<u>Over-Excavation:</u>	<u>2017 Unit Cost</u>	<u>Quantity</u>	<u>2017 Cost</u>	<u>2020 Unit Cost</u>	<u>2020 Cost</u>
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Control and Pump Room Building</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Hydropneumatic Tank Pad</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Access Road</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Structural Fill	\$74.00	2	\$148.00	\$ 80.00	\$ 160.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Pond Access Road</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Ponding Basin</u>					
General Fill	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Off-Site Gravel Road</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
General Fill	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>AC Pavement</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Structural Fill	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Concrete Sidewalk</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Structural Fill	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Outlet Meter Vault</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	3	\$222.00	\$ 80.00	\$ 240.00
<u>Inlet Meter Vault</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	3	\$222.00	\$ 80.00	\$ 240.00
<u>Drain Vault</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	3	\$222.00	\$ 80.00	\$ 240.00
<u>Outlet Check Valve Vault</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	3	\$222.00	\$ 80.00	\$ 240.00
<u>Retaining Wall</u>					
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Electrical Handhole (estimated)</u>					
Below Foundation	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Contingency 25%			\$777.00		\$ 840.00
COMPACTION ESTIMATED BUDGET:			\$3,885.00		\$ 4,200.00
TOTAL QA COMPACTION BUDGET:			\$3,885.00		\$ 4,200.00
MARKUP AT 10 %			\$4,274		\$4,620

B22.2 COST INCREASE: \$346.50

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	<u>2017 Rate</u>
1st Test	\$55
2nd Test	\$19
	\$74

	<u>2020 Rate</u>
1st Test	\$57
2nd Test	\$23
	\$80

Concrete Testing:

<u>Outlet Meter Vault:</u>	<u>2017 Unit Cost</u>	<u>Quantity</u>	<u>2017 Cost</u>	<u>2020 Unit Cost</u>	<u>2020 Cost</u>
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Walls	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Inlet Meter Vault:</u>					
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Walls	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Drain Vault:</u>					
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Walls	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Outlet Check Valve Vault:</u>					
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Walls	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Encasement:</u>					
Inlet Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Outlet Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Over-Flow Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Drain Line Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Wash Down Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Electrical & Communications Ducts	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Handholes:</u>					
Electrical	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Pavement:</u>					
Pavement	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Retaining Wall</u>					
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Hydropneumatic Tank Pad</u>					
Foundation	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Water Tank:</u>					
Foundation	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Core Walls	\$305.00	7	\$2,135.00	\$ 321.75	\$ 2,252.25
Columns	\$305.00	9	\$2,745.00	\$ 321.75	\$ 2,895.75
Column Footings	\$305.00	9	\$2,745.00	\$ 321.75	\$ 2,895.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Shotcrete	\$305.00	2	\$610.00	\$ 321.75	\$ 643.50
		94			
		Contingency 15%	\$2,333.25		\$ 2,461.39
TOTAL ESTIMATED BUDGET:			\$17,888.25		\$ 18,870.64
MARKUP AT 10 %			\$19,677		\$20,758

B22.3 COST INCREASE: \$1,081

DESCRIPTION OF TESTS:

Compressive Strength of Cylindrical Concrete Specimens (4 at \$17.00 ea.):	\$68.00	\$ 66.00
Curing and Disposal of Cylindrical Concrete Specimens without test, each:	\$12.00	\$ 11.50
Air Content of Freshly Mixed Concrete by the Pressure/Volumetric Method, per test:	\$50.00	\$ 34.00
Unit Weight and Yield of Fresh Concrete, each:	\$50.00	\$ 34.00
Slump Test & Making Concrete Specimens in the field (2.5 Hours of Labor):	\$125.00	\$ 176.25
SUBTOTAL:	\$305.00	\$321.75

GHD - PROJECT ESTIMATING SHEET - GHD QA SERVICES SUMMARY			
Project Name: Santa Rosa, Sinifa, and Santa Rita Tank & System Upgrades		Attachment: _____ of: _____	
GHD Project Number: _____		Checked By: M. Kennedy	
Description: SINIFA		Date: 06/11/20	
Prepared by: B. Ryley			
QA SURVEY ESTIMATE			
<u>Under Tank Piping:</u>	Cost (2017)	Cost (2020)	
Inlet Piping & Top of Flange	\$1,200	\$1,700	
Outlet Piping & Top of Flange	\$1,200	\$1,700	
Over-Flow Piping & Top of Flange	\$1,200	\$1,700	
Drain Line Piping & Top of Flange	\$1,200	\$1,700	
Wash Down Piping	\$1,200	\$1,700	
<u>Over Excavation:</u>			
Bottom of Over Excavation	\$800	\$1,000	
Top of Base course	\$800	\$1,000	
Top of Limestone	\$800	\$1,000	
<u>Tank Foundation:</u>			
Top of Formwork	\$1,200	\$1,700	
<u>Control Room</u>			
Subgrade	\$800	\$1,000	
Footing	\$800	\$1,000	
Building Corners	\$800	\$1,000	
FFE	\$800	\$1,000	
<u>Manhole:</u>			
Below Base	\$800	\$1,000	
Top of Manhole	\$800	\$1,000	
Bottom of Pipe	\$800	\$1,000	
<u>Ponding Basin</u>			
Subgrade	\$800	\$1,000	
<u>Vaults:</u>			
Top Outlet Meter Vault Footing Formwork	\$800	\$1,000	
Top Outlet Meter Vault Roof Slab Formwork	\$800	\$1,000	
Top Inlet Meter Vault Footing Formwork	\$800	\$1,000	
Top Inlet Meter Vault Roof Slab Formwork	\$800	\$1,000	
Top Drain Vault Footing Formwork	\$800	\$1,000	
Top Drain Vault Roof Slab Formwork	\$800	\$1,000	
<u>Retaining Wall</u>			
Top of Formwork	\$1,200	\$1,700	
<u>Pavement:</u>			
Pavement Formwork	\$800	\$1,000	
Sidewalk Formwork	\$800	\$1,000	
<u>Fencing</u>			
Corners	\$800	\$1,000	
<u>Bench Marks:</u>			
Establish bench marks on top of all vaults, top of retaining wall, top of footing at water height gauge, over-flow, drain, & outlet.	\$1,200	\$1,700	
Contingency 25%	\$6,400	\$8,400	
2017 TOTAL ESTIMATED BUDGET	\$32,000	2020 TOTAL ESTIMATED BUDGET	\$42,000
MARKUP AT 10%	\$35,200		\$46,200
2017 Rate	B22.4 COST INCREASE: \$11,000		2020 Rate
Half Day \$800			Half Day \$1,000
Full Day \$1,200			Full Day \$1,700
Hourly \$150			Hourly \$250
CQA TESTING ESTIMATE			
Material Laboratory Testing:			
<u>Proctor & Sieve Analysis:</u>	<u>2017 Unit Cost</u>	<u>Quantity</u>	<u>2017 Cost</u>
Subgrade	\$295.00	2	\$590.00
Limestone	\$295.00	2	\$590.00
Base course	\$295.00	2	\$590.00
	Contingency 25%		\$442.50
MATERIAL TESTING ESTIMATED BUDGET:		\$2,212.50	MATERIAL ESTIMATED BUDGET: \$ 2,962.50
		B22.1 COST INCREASE \$750.00	

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Compaction Testing:

<u>Over-Excavation:</u>	<u>2017 Unit Cost</u>	<u>Quantity</u>	<u>2017 Cost</u>	<u>2020 Unit Cost</u>	<u>2020 Cost</u>
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Control Room</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Ponding Basin Access Road</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Off-Site Gravel Road</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
General Fill	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>AC Pavement</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Concrete Sidewalk</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Structural Fill	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Outlet Meter Vault</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	3	\$222.00	\$ 80.00	\$ 240.00
<u>Inlet Meter Vault</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	3	\$222.00	\$ 80.00	\$ 240.00
<u>Drain Vault</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	3	\$222.00	\$ 80.00	\$ 240.00
<u>Retaining Wall</u>					
Limestone	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
<u>Manhole</u>					
Subgrade	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00
Base course	\$74.00	3	\$222.00	\$ 80.00	\$ 240.00
<u>Electrical Handhole (estimated)</u>					
Below Foundation	\$74.00	1	\$74.00	\$ 80.00	\$ 80.00

Contingency 25% \$610.50 \$660.00

COMPACTION ESTIMATED BUDGET: \$3,052.50 \$3,300.00

TOTAL QA COMPACTION BUDGET: \$3,052.50 \$3,300.00

MARKUP AT 10%: \$3,357.75 \$3,630.00

B22.2 COST INCREASE \$272.25

2017 Rate
1st Test \$55
2nd Test \$19
\$74

2020 Rate
1st Test \$57
2nd Test \$23
\$80

GWA Work Session - July 22, 2020 - ISSUES FOR DECISION

Attachment 3

Concrete Testing:

<u>Outlet Meter Vault:</u>	<u>2017 Unit Cost</u>	<u>Quantity</u>	<u>2017 Cost</u>	<u>2020 Unit Cost</u>	<u>2020 Cost</u>
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Walls	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Inlet Meter Vault:</u>					
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Walls	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Drain Vault:</u>					
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Walls	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Control Room</u>					
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Building Corners	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Encasement:</u>					
Inlet Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Outlet Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Over-Flow Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Drain Line Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Wash Down Piping	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Electrical & Communications Ducts	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Pavement:</u>					
Pavement	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Retaining Wall</u>					
Footing	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Fencing</u>					
Posts	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
<u>Water Tank:</u>					
Foundation	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Core Walls	\$305.00	7	\$2,135.00	\$ 321.75	\$ 2,252.25
Columns	\$305.00	9	\$2,745.00	\$ 321.75	\$ 2,895.75
Column Footings	\$305.00	9	\$2,745.00	\$ 321.75	\$ 2,895.75
Roof Slab	\$305.00	1	\$305.00	\$ 321.75	\$ 321.75
Shotcrete	\$305.00	2	\$610.00	\$ 321.75	\$ 643.50
		<u>90</u>			
Contingency 15%			\$2,241.75		\$2,364.86
TOTAL ESTIMATED BUDGET:			\$17,186.75		\$18,130.61
MARKUP AT 10%:			\$18,905.43		\$19,943.67

DESCRIPTION OF TESTS:

	B22.3 COST INCREASE	\$1,038
Compressive Strength of Cylindrical Concrete Specimens (4 at \$17.00 ea.):	\$68.00	\$ 66.00
Curing and Disposal of Cylindrical Concrete Specimens without test, each:	\$12.00	\$ 11.50
Air Content of Freshly Mixed Concrete by the Pressure/Volumetric Method, per test:	\$50.00	\$ 34.00
Unit Weight and Yield of Fresh Concrete, each:	\$50.00	\$ 34.00
Slump Test & Making Concrete Specimens in the field (2.5 Hours of Labor):	\$125.00	\$ 176.25
SUBTOTAL:	\$305.00	\$321.75

GUAM SURVEYOR, LLC

STREET: 171 CHALAN PALE RAMON HAYA RT. 1 (MARINE DRIVE), YIGO, GUAM 96929

MAIL: P.O. Box 6216, TAMUNING, GUAM 96931

WWW.GUAMSURVEYOR.COM

P.671-637-2042/I F.671-637-2041 M.688-0184

SURVEYOR@GUAMSURVEYOR.COM

February 27, 2020

To Whom It May Concern,

RE: Rate Increase

Our unit rates have increased for 2020, please see new rates below:

Description	Quantity	Unit	Unit Price
Full Day - two man	1	LS	1700.00
Half Day - two man	1	LS	1000.00
Hourly	1	Hourly	250.00

Sincerely,



Dennis Balagtas

Vice President/Principal Land Surveyor

Attachment 6



Invoice # ZC0614196607

Arlyn Carpo
GHD Guam
865 South Marine Corps Drive Ste. 202
Tamuning, Guam 96913

Arlyn.Carpo@ghd.com
1 671 472 6792

Ship To:
Bryan J Ryley
GHD Guam
865 South Marine Corps Drive Ste.
202
Tamuning, Guam 96913

bryan.ryley@ghd.com
+1671 472-6792

Invoice Date: June 14, 2019
Purchase Order: TBA
Payment Terms:
PREPAY

Make all checks payable to Work Zone Cam LLC:
Work Zone Cam LLC
Attn: Raymond Kuttner
650 East Crescent Avenue
Upper Saddle River, NJ 07458

Qty		Unit Price	Total
2	18 Megapixel Work Zone Cam Pro	\$4,495.00	\$8,990.00
	Live Video Burst		Included
1	Pole Mount Adapter		Included
1	Pole Mount Adapter		Included
1	18 Megapixel Work Zone Cam Pro		Included
	Live Video Burst		Included
1	Pole Mount Adapter		Included
1	Pole Mount Adapter		Included
2	Work Zone Cam Pro - 4K Fully Hosted Service (12 months)	\$375	\$9000.00
	Pro Services Package: • Custom client embeddable interface for public web page • Project Management Integration (Procore, PlanGrid, Aconex, SharePoint) • Professional HD time-lapse movie		Included
1	Work Zone Cam Pro - 4K Fully Hosted Service (12 months)	\$375	\$4500.00
	Pro Services Package: • Custom client embeddable interface for public web page • Project Management Integration (Procore, PlanGrid, Aconex, SharePoint) • Professional HD time-lapse movie		Included
	FedEx International Economy Shipping and Handling	\$1,229.95	\$1,229.95
	AMOUNT DUE		\$23,719.95

Notes

Client to Provide Power & SIM Card with Data Plan

Available Options.

Rentals

Multi-project discounts

Insured installation

Solar power upgrades


PACIFIC SOILS ENGINEERING & TESTING
MATERIALS TESTING & FIELD SERVICES PRICE LISTS (UPDATE: JUNE 2019)

I. Laboratory Testing		
TEST METHOD	DESCRIPTION	UNIT PRICE
AGGREGATES		
ASTM C-29/AASHTO T-19:	Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate	\$ 40.00
ASTM C-88/AASHTO T-104:	Standard Test Method for Soundness of Aggregates by Use of Magnesium Sulfate, 5 Cycles Maximum, per size:	\$ 374.00
ASTM C-117/AASHTO T-11:	Standard Test Method for Materials Finer than 0.075 mm (No. 200) Sieve in Mineral Aggregates by Washing	\$ 32.00
ASTM C-127/AASHTO T-85:	Standard Test Method for Specific Gravity and Absorption of Coarse Aggregate	\$ 32.00
ASTM C-128/AASHTO T-84:	Standard Test Method for Specific Gravity and Absorption of Fine Aggregate	\$ 32.00
ASTM C-131/AASHTO T-96:	Standard Test Method for Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine (Los Angeles Abrasion Test)	\$ 136.00
ASTM C-535:	Standard Test Method for Resistance to Degradation of Large Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine (Los Angeles Abrasion Test)	\$ 175.50
ASTM C-136/AASHTO T-27:	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates	\$ 57.00
ASTM D-2419/AASHTO T-176:	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregates	\$ 51.00
ASTM C-566:	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying	\$ 23.00
ASTM C-142:	Standard Test Method for Clay Lumps and Friable Particles in Aggregates	\$ 257.50
ASTM D-5821:	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate	\$ 281.50
ASTM D-4791:	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate	\$ 281.50
ASTM D-5711:	Standard Test Method for Determining the Adherent Coating on Coarse Aggregates	\$ 93.00
ASTM C-40:	Standard Test Method for Organic Impurities in Fine Aggregates for Concrete	\$ 93.00
AASHTO M-43:	Standard Specification for Sizes of Aggregate for Road and Bridge Construction	With Consultation


PACIFIC SOILS ENGINEERING & TESTING

TEST METHOD	DESCRIPTION	UNIT PRICE
AASHTO M-80:	Standard Specification for Coarse Aggregate for Portland Cement Concrete	With Consultation
AASHTO M-6:	Standard Specification for Fine Aggregate for Portland Cement Concrete	With Consultation
ASTM D-5240:	Standard Test Method for Testing Rock Slabs to Evaluate Soundness of Riprap by Use of Sodium Sulfate or Magnesium Sulfate	\$ 391.50
ASTM D-3744:	Standard Test Method for Aggregate Durability Index per Fractions	\$ 201.00

SOILS		
ASTM D-698/AASHTO T-99:	Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft ³ (600 KN-m/m ³))	\$ 118.50
ASTM D-1140:	Standard Test Method for Determining the Amount of Material in Soils Finer than the No. 200 (0.075 mm) Sieve in Soils by Washing	\$ 32.00
ASTM D-1557/ AASHTO T-180:	Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³ (2,700 KN-m/m ³))	\$ 118.50
ASTM D-1883/ AASHTO T-193:	Standard Test Method for California Bearing Ratio (CBR) of Laboratory Compacted Soils	\$ 170.00
ASTM D-2216/T-255/C-566:	Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass	\$ 23.00
ASTM D-2487:	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)	\$ 40.00
AASHTO M-145:	Recommended Practice for Classification of Soils and Soils-Aggregate Mixtures for Highway Construction Purposes	\$ 40.00
ASTM D-4318/ AASHTO T-89 & T-96:	Standard Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils	\$ 180.50
ASTM D-854	Standard Test Method for Specific Gravity of Soil Solids by Water Pycnometer	\$ 242.50

CONCRETE/CMU/MORTAR and GROUT		
ASTM C-39/AASHTO T-22:	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens (Includes Curing, Standard Capping, and Handling)	\$ 16.50
	Handling of Spare Cylinders (Curing and Handling)	\$ 11.50
	Cylinders Supplied by Others (Includes Curing, Standard Capping and Handling)	\$ 57.00


PACIFIC SOILS ENGINEERING & TESTING

TEST METHOD	DESCRIPTION	UNIT PRICE
ASTM C-42/AASHTO T-24:	Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete (Includes Trimming and Compressive Strength)	\$ 34.00
ASTM C-78/AASHTO T-97:	Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third Point Loading)	\$ 40.00
	Handling of Spare Beams (Curing and Handling)	\$ 27.50
ASTM C-109:	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2 -inch (50 mm) Cube specimens)	\$ 17.00
ASTM C-231/AASHTO T-152:	Standard Test Method for Air Content of Freshly Mixed Concrete by Pressure Method	\$ 34.00
ASTM C-138:	Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete	\$ 34.00
ASTM C-426:	Standard Test Method for Linear Drying Shrinkage of Concrete Masonry Units	Per hour
ASTM C-805:	Standard Test Method for Rebound Number of Hardened Concrete	Per hour
ASTM C-1019:	Standard Test Method for Sampling and Testing Grout (Prism Specimens)	\$ 17.00

BITUMINOUS MIXTURES (ASPHALTIC CONCRETE)

ASTM D-1559/AASHTO T245:	Standard Test Method for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus with Voids Analysis	\$ 312.00
ASTM D-2041/AASHTO T209:	Standard Test Method for Theoretical Maximum Specific Gravity of Bituminous Paving Mixtures	\$ 77.50
ASTM D-2726/AASHTO T166:	Standard Test Method for Bulk Specific Gravity of Compacted Bituminous Mixtures Using SSD Specimens	\$ 34.00
ASTM D-3549:	Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens	\$ 34.00
ASTM D-5444 (AASHTO T-30)	Standard Test Method for Mechanical Size Analysis of Extracted Aggregates	\$ 89.00
ASTM D-6307 (AASHTO T-308)	Standard Test Method for Asphalt Content of Hot Mix Asphalt by Ignition Method, Method A	\$ 309.00


PACIFIC SOILS ENGINEERING & TESTING

TEST METHOD	DESCRIPTION	UNIT PRICE
II. Field Testing Services:		
ASTM D-1556/AASHTO T-191:	Density of Soil in Place by the Sand-Cone Method (Minimum of three (3) tests per trip)	
	First Test	\$ 68.00
	Subsequent Tests, same trip	\$ 34.00
ASTM D-6938/AASHTO T-310:	Standard Test Method for In-Place Density and Water Content of Soil and Soil Aggregate by Nuclear Methods (Shallow Depth) (Minimum of three (3) tests per trip)	
	First Test	\$ 51.00
	Subsequent Tests, same trip	\$ 17.00
ASTM D-2950:	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods (Minimum of three (3) tests per trip)	
	First Test	\$ 51.00
	Subsequent Tests, same trip	\$ 17.00
Soils and Bituminous Mixtures Sampling, per hour: (Includes Portal to Portal Travel, Sampling and Stand-by Time)		\$ 47.00
Concrete Testing and Sampling, per hour: (Includes Portal to Portal Travel, Sampling and Stand-by Time)		\$ 47.00
Cancellation of Test Schedule, per hour: (Includes Portal to Portal Travel, Sampling and Stand-by Time)		\$ 47.00
III. Consultation Services:		
Principal Engineer, per hour:		\$ 180.00
Senior Civil Engineer, per hour:		\$ 105.00
Field/Laboratory Technician, per hour:		\$ 47.00
IV. Overtime, Weekend or Holiday Rates for Field Testing Services:		
ASTM D-6938/AASHTO T-310:	Standard Test Method for In-Place Density and Water Content of Soil and Soil Aggregate by Nuclear Methods (Shallow Depth) (Minimum of three (3) tests per trip)	
	First Test	\$ 57.00
	Subsequent Tests, same trip	\$ 23.00
ASTM D-2950:	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods (Minimum of three (3) tests per trip)	
	First Test	\$ 57.00
	Subsequent Tests, same trip	\$ 23.00


PACIFIC SOILS ENGINEERING & TESTING

TEST METHOD	DESCRIPTION	UNIT PRICE
Soils and Bituminous Mixtures Sampling, per hour: (Includes Portal to Portal Travel, Sampling and Stand-by Time)		\$ 70.50
Concrete Testing and Sampling, per hour: (Includes Portal to Portal Travel, Sampling and Stand-by Time)		\$ 70.50
Cancellation of Test Schedule, per hour: (Includes Portal to Portal Travel, Sampling and Stand-by Time)		\$ 70.50

*****UNIT PRICES SUBJECT TO CHANGE WITHOUT NOTICE*****

V. Other Services Available--- Prices Subject to Negotiation:

1. Concrete coring for compressive strength determination.
2. Bituminous mixture coring for density and thickness determination.
3. Asphalt cement testing.
4. Rebar testing.
5. Top soil testing.
6. Field CBR testing.
7. Quality Control Services for concrete and asphalt batch plants.
8. Construction Inspection Services for Earthwork, Concrete and Bituminous Mixtures.
9. Pile Driving Monitoring Services.
10. Pile Load Testing Monitoring Services.
11. Field Percolation Testing Services.
12. Slope Stability Consultation.
13. Rock Core Drilling.
14. Foundation Probing Investigations.
15. Complete Foundation Investigation and Testing Services.
16. Concrete, Mortar or Bituminous Mixtures Mix Designs.



PACIFIC SOILS ENGINEERING & TESTING

***** SUMMARY OF BASIS OF CHARGES *****

1. Pacific Soils Engineering & Testing makes no warranty, either expressed or implied, as to its findings, recommendations, specifications, or professional advice except that they are prepared and issued in accordance with generally accepted professional engineering practices.
2. The prices listed on the preceding pages are typical prices for field and laboratory testing services frequently requested by Pacific soils Engineering & Testing's customers. Prices for other services will be given upon request.
3. Invoices will be issued on a monthly basis, or upon completion of a project, whichever is sooner. Billings are payable upon presentation, unless otherwise agree, and are past due 30 days from the invoice date. A finance charge of 1-1/2% per month, or the maximum amount allowed by law, will be charges to past due accounts. Any attorney's fees or other costs incurred in collecting any delinquent amount shall be paid by the client.
4. It was assumed that our company's current comprehensive insurance coverages are adequate for this project, including Worker's Compensation Insurance, Comprehensive General Liability, Errors and Omissions. Upon request, a copy of our company's Certificate of Insurance will be forwarded when received from our insurance company. Any changes to our current comprehensive coverage are subject to additional charges.
5. All field work was assumed to be performed during regular working hours 0800 - 1700 hours. All work performed in excess of 8 hours per day and weekend/holiday work will be charged at 1.5 times the hourly rate. Time worked in excess of 12 hours per day will be charges at 2 times the hourly rate.
6. Advance notification for field test schedules, typically 24 to 48 hours prior, is requested in order to better accommodate your firm's preferred time frame and allow PSE&T to adequately allocate our manpower resources. While it is also understood that field production and weather conditions may require tweaking of this request, every effort will be made to work with you company's designated representative to closely coordinate your request.
7. It is preferred that all field and laboratory test requests be emailed to our office at admin@pacificsoilsguam.com. Otherwise, please contact our office at (671) 646-1471/3278/5790. We ask that all field test schedules be made with our front office personnel instead of the field technicians visiting the project site.
8. Laboratory testing services are performed on a first come, first served basis. Clients are requested to coordinate with our front office through telephone or email (admin@pacificsoilsguam.com or our manager, danielsan@pacificsoilsguam.com) regarding their requested test program and expected completion time. Samples requiring special urgency will be charged additional handling and manhour rates.
9. All field testing services were considered to be ready upon the arrival of our company's field technician. Stand-by time or delays incurred during the test procedure because of external factors were not included in our pricing.
10. All field testing services are charged on a portal to portal basis.
11. A one-hour minimum charge per day will be made for any office services.
12. Outside services will include a 20% markup, unless otherwise noted.
13. In the event of above average increase of fuel costs, a fuel subcharge of up to 3% will be added to all invoices.
14. The proposed fee includes standard invoicing with daily summary charges. Additional administrative services will be invoiced if backup information (eg. daily field reports or work summaries, etc.) is requested.
15. Pacific Soils Engineering & Testing routinely disposes all test samples (soils, aggregates, cylinders and bituminous mixtures) after submission of our final report unless otherwise notified by client.
16. Cylindrical sampling requiring additional handling and preparation are charged on a per hour basis.
17. This price listing assumes our company's current International Accreditation Service (IAS) Accreditation, existing insurance coverages and drug testing program were assumed to be adequate for this project.
18. We assumed that our company's current eBIDs passes for military installations are adequate for this undertaking. Additional secured passes/badges are subject to additional fees.
19. Natural Recourses, Cultural Training, Biological Training, UXO/MEC Safety Training and other safety/training sessions were not included in the price structures.
20. Pacific Soils Engineering & Testing reserves the right to adjust fee schedule on project not completed within 180 days from the contract signature date. For time and material projects, any not to exceed amount will be similarly adjusted.



GUAM WATERWORKS AUTHORITY

"Better Water, Better Lives."

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

Tel: (671) 300-6846

Issues for Decision

Resolution No. 33-FY2020

Relative to Approval of Additional Funding to the Design Contract for Northern and Southern Tanks

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

The project is part of the 2011 Court Order Paragraph 29 – Storage Tank/Reservoir Repair, Replacement, and Relocation Program. As a Court Order project, it is necessary and urgent to work towards meeting the Court Order deadlines. The project's objective is to provide design services for the Northern and Southern reservoirs, which include the Santa Rosa, Santa Rita, Sinifa, Ugum, and Inarajan.

Where is the location?

- Santa Rosa reservoir: located off Route 15 in Yigo
- Santa Rita reservoir: located off Obispo Olaiz Street in Santa Rita
- Sinifa reservoir: located off Cross Island Road in Santa Rita
- Ugum: located off Paulino Street in Inarajan
- Inarajan: located off Belen Avenue in Inarajan

How much will it cost?

TGE's fee proposal is \$128,415.00. The fee includes the following:

1. Ugum reservoir will require a pile foundation due to the poor soil quality. The proposal includes a pile foundation design.
2. Continuation of progress design meetings.

When will it be completed?

- Design completion: December 18, 2020.
- Construction support services will extend until construction is complete.

What is the funding source?

The funding shall be from PW 09-11: Water System Reservoirs 2005 Improvements.

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. 33–FY2020

**RELATIVE TO APPROVAL OF ADDITIONAL FUNDING TO THE DESIGN
CONTRACT FOR NORTHERN AND SOUTHERN TANKS**

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

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

WHEREAS, GWA is currently working on critical reservoir projects under the 2011 Court Order (“CO”) Paragraph 29 – Storage Tank/Reservoir Repair, Replacement, and Relocation Program; and

WHEREAS, the CCU approved Resolution No. 12-FY2018 which authorized the total funding amount to a maximum of \$3,624,912.25 (Exhibit A); and

WHEREAS, GWA issued Change Orders No. 1 through No. 4 to TG Engineers, P.C. for additional design task to bring the contract total to \$3,624,912.25; and

WHEREAS, in the ongoing reservoir designs and the water system served by the noted reservoirs, further design services listed below were identified to move forward with improving the functionality of the water system:

(1) Ugum: The reservoir will require a pile foundation design due to the poor soil quality at the site;

(2) All sites (Ugum, Inarajan, Afgayan, Santa Rosa, Santa Rita, Sinifa): Continuation of progress design meetings;

WHEREAS, GWA engineering and TG Engineers, P.C. negotiated Change Order No. 5 scope and fee of One Hundred Twenty-Eight Thousand Four Hundred Fifteen Dollars (\$128,415.00) for the above services (Exhibit B); and

1 **WHEREAS**, GWA Management is seeking One Hundred Twenty-Eight Thousand Four
2 Hundred Fifteen Dollars (\$128,415.00) to fund Change Order No. 5; and

3
4 **WHEREAS**, funding for this change order will be from the Bond Funds under the line
5 item “PW 09-11 Water System Reservoirs 2005 Improvements”; and

6
7 **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities
8 does hereby approve the following:

- 9
10 1. The recitals set forth above hereby constitute the findings of the CCU.
11 2. The CCU finds that the terms of the fee proposal submitted by TG Engineers,
12 P.C. are fair and reasonable.
13 3. The CCU hereby authorizes \$128,415.00 in additional funding to bring the
14 total authorized funding amount to \$3,753,327.25.
15 4. The CCU hereby authorizes the management of GWA the option to issue
16 Change Order No. 5 in the not-to-exceed amount of \$128,415.00 (Exhibit
17 “B”).
18 5. The CCU hereby authorizes the funding source to be from bond funds under
19 the CIP line Item PW 09-11 “Water System Reservoirs 2005 Improvements”.

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

23
24 **DULY AND REGULARLY ADOPTED**, this 28th day of July 2020.

25
26 Certified by:

26 Attested by:

27
28 _____
29 **JOSEPH T. DUENAS**
30 Chairperson

28 _____
29 **MICHAEL T. LIMTIACO**
30 Secretary

SECRETARY'S CERTIFICATE

I, Michael T. Limtiaco, Board Secretary of the Consolidated Commission on Utilities as evidenced by my signature above do hereby certify as follows:

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

AYES: _____

NAYS: _____

ABSENT: _____

ABSTAIN: _____

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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. 12-FY2018

RELATIVE TO APPROVAL OF CHANGE ORDER NO. 4 FOR THE NORTHERN AND SOUTHERN GUAM RESERVOIR DESIGN SERVICES

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

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

WHEREAS, GWA is currently working on critical reservoir projects under the 2011 Court Order (“CO”) Paragraph 29 – Storage Tank/Reservoir Repair, Replacement, and Relocation Program; and

WHEREAS, The CCU approved via Resolution No. 20-FY2015 (Exhibit A) for GWA management to enter into contract with TG Engineers, P.C. to provide design services for the Northern and Southern Guam Reservoirs, as well as Resolution No. 56-FY2016 (Exhibit B) that approved a Change Order to TG Engineers, P.C. for additional design services that totaled Three Million Eighty-Seven Thousand Thirty-Two Dollars (\$3,087,032.00); and

WHEREAS, GWA issued Change Order No. 1 to No. 3 to TG Engineers, P.C. for additional services that were not identified in the original scope of work but subsequently required due to the following:

- (1) land acquisition for various project sites;
- (2) design for several additions and revisions to the pipe system to complete the pressure zone realignment which includes surveying and environmental service for Santa Rita and Santa Rosa Reservoirs;

- (3) design for the new Unified Facilities Criteria ("UFC") structural code requirements for Ugum, Santa Rosa, Santa Rita, and Sinifa Reservoirs, and Inarajan Booster Pump Station that was not in effect at the time of contract execution;
- (4) additional land acquisition support for the Government of Guam Chamorro Land Trust (CLTC) property, additional Archaeological and Unexploded Ordinances (UXO) monitoring, and design to include the new GWA-AAFB tank interconnection system for the Santa Rosa Reservoir;
- (5) design for new Booster Pump Station and a new Pressure Reducing Valve (PRV) to be added into the system in the vicinity of Agfayan Subdivision in Inarajan as part of the Pressure Zone Realignment plan;
- (6) percolation tests to be included at each project site location for drainage basins,
- (7) design to incorporate the Siemens controls from the existing Ugum plant to be extended to the new Ugum Reservoir and facilities; and

WHEREAS, in the ongoing design and analysis of the reservoirs and the water system served by the noted reservoirs, further design services listed below were identified as being above and beyond original scope requirements but necessary to move forward with improving the functionality of the water system:

- (1) Santa Rosa: design of new 4,120 LF of 12-inch pipe along Route No. 1 in Yigo;
- (2) Santa Rosa: Identification and survey of easements for agreements with DoD;
- (3) Agfayan Booster Pump Station: design of pressure reducing valve near original bps site;
- (4) Agfayan Booster Pump Station: Investigate 4 lots as new alternatives for the new booster pump station location;
- (5) Ugum Reservoir: Investigate a new alternative for the reservoir location. The new alternative involves consolidating 2 lots adjacent and south of the existing plant to provide the site needed for the new reservoir and facilities;
- (6) Ugum Reservoir: Existing water treatment plant drainage will be corrected in the new design and plans;
- (7) Santa Rita: Incorporate roadway repair in the design. New design to replace existing culvert;

1 (8) Sinifa: Prepare construction easements and construction support documents for 2 lots;
2 and
3

4 **WHEREAS**, GWA engineering and TG Engineers, P.C. negotiated the price for the
5 above services to be provided in the amount of Five Hundred Thirty-Seven Thousand Eight
6 Hundred Eighty Dollars and Twenty-Five Cents (\$537,880.25) (See Exhibit C); and
7

8 **WHEREAS**, GWA management is seeking CCU approval of additional funding in the
9 amount of Five Hundred Thirty-Seven Thousand Eight Hundred Eighty Dollars and Twenty-Five
10 Cents (\$537,880.25); and
11

12 **WHEREAS**, the approval of the Five Hundred Thirty-Seven Thousand Eight Hundred
13 Eighty Dollars and Twenty-Five Cents (\$537,880.25), along with the prior authorized contract
14 value of Three Million Eighty-Seven Thousand Thirty-Two Dollars (\$3,087,032.00) will bring
15 the total authorized funding for the design contract with TG Engineers, P.C. to Three Million Six
16 Hundred Twenty-Four Thousand Nine Hundred Twelve Dollars and Twenty-Five Cents
17 (\$3,624,912.25); and
18

19 **WHEREAS**, funding for this change order will be from the Bond Funds under the line
20 item "PW 09-11 Water System Reservoirs 2005 Improvements"; and
21

22 **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities
23 does hereby approve the following:
24

- 25 1. The recitals set forth above hereby constitute the findings of the CCU.
- 26 2. The CCU finds that the terms of the fee proposal submitted by TG Engineers,
27 P.C. are fair and reasonable (Exhibit C).
- 28 3. The CCU authorizes GWA management to execute Change Order No. 4 in the
29 amount of Five Hundred Thirty-Seven Thousand Eight Hundred Eighty
30 Dollars and Twenty-Five Cents (\$537,880.25).
- 31 4. The CCU hereby further approves increasing the total authorized funding for
32 the design contract with TG Engineers, P.C. to Three Million Six Hundred


Twenty-Four Thousand Nine Hundred Twelve Dollars and Twenty-Five Cents (\$3,624,912.25).

5. The CCU hereby further authorizes the funding source to be from bond funds under the CIP line Item PW 09-11 "Water System Reservoirs 2005 Improvements".


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

DULY AND REGULARLY ADOPTED this 23rd day of January 2018.

Certified by:


JOSEPH T. DUENAS
Chairperson

Attested by:


J. GEORGE BAMBA
Secretary

SECRETARY'S CERTIFICATE

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

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

AYES:	<u>5</u>
NAYS:	<u>0</u>
ABSTENTIONS:	<u>0</u>
ABSENT:	<u>0</u>



Exhibit A (1 of 4)

GUAM CONSOLIDATED COMMISSION ON UTILITIES RESOLUTION NO. 20 – FY2015

RELATIVE TO CONTRACT APPROVAL FOR THE NORTHERN AND SOUTHERN GUAM RESERVOIRS DESIGN SERVICES

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

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

WHEREAS, GWA is currently working on critical reservoir projects under the 2011 Court Order (“CO”) Paragraph 29 – Storage Tank/Reservoir Repair, Replacement, and Relocation Program; and

WHEREAS, GWA has advertised the Request For Proposals (RFP-09-ENG-2014) soliciting statement of qualifications from experienced and qualified engineering firms for the preparation of design plans and specifications for the Northern and Southern Guam Reservoirs; and

WHEREAS, the Northern and Southern Guam Reservoir design project includes site investigations and system evaluations at the Santa Rita, Santa Rosa, Inarajan, Sinifa, and Ugum reservoir sites, development of design plans and specifications for various sized concrete reservoirs ranging from 0.2 MG to 2.0 MG nominal capacities, booster station upgrades, instrumentation and control upgrades, control valves upgrades, pipe upgrades, and other general site upgrades; and

WHEREAS, RFP packages were downloaded by forty five (45) interested parties, from which GWA received proposal submittals from ten (10) firms before the RFP submittal deadline; and

Exhibit A (2 of 4)

WHEREAS, the GWA A-E Selection committee reviewed and evaluated the ten (10) proposals (see EXHIBIT A – Evaluation Score) and generated a short list of the top four (4) firms with a recommendation to award a contract to the firm TG Engineers, P.C. and any successor at interest thereto (see EXHIBIT B – Evaluation Summary and GM Determination); and

WHEREAS, TG Engineers, P.C. and GWA negotiated the price for the services to be provided in the amount of Two Million Five Hundred Thirty Two Thousand Five Hundred Eighty Dollars (\$2,532,580.00) (see EXHIBIT C – Fee Proposal); and

WHEREAS, GWA management seeks approval of the fee proposal amount of Two Million Five Hundred Thirty Two Thousand Five Hundred Eighty Dollars (\$2,532,580.00), plus a ten percent (10%) contingency of Two Hundred Fifty Three Thousand Two Hundred Fifty Eight Dollars (\$253,258.00) to bring the total authorized funding amount to a maximum of Two Million Seven Hundred Eighty Five Thousand Eight Hundred Thirty Eight Dollars (\$2,785,838.00); and

WHEREAS, funding for this project will be from the 2010 and 2013 Bond Funds under the line items CIP PW 09-11 Water System Reservoirs 2005 Improvements and CIP PW 11-02 Ugum Water Treatment Plant Reservoir Replacement; and

WHEREAS, GWA management recommends that a contract be entered into with TG Engineers, P.C. in the aforementioned base contract amount.

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

1. The recitals set forth above hereby constitute the findings of the CCU.
2. The CCU finds that the terms of the fee proposal submitted by TG Engineers, P.C. is fair and reasonable.

Exhibit A (3 of 4)

3. The CCU finds that the terms of the conditions set by GWA relative to commencement of subsequent work activities are fair and reasonable and serve as a measure of Quality Assurance/Quality Control (QA/QC).
4. The CCU hereby authorizes the management of GWA to enter into a contract with TG Engineers, P.C., in the amount of Two Million Five Hundred Thirty Two Thousand Five Hundred Eighty Dollars (\$2,532,580.00).
5. The CCU hereby further approves the total funding amount for this project of Two Million Five Hundred Thirty Two Thousand Five Hundred Eighty Dollars (\$2,532,580.00), plus a ten percent (10%) contingency of Two Hundred Fifty Three Thousand Two Hundred Fifty Eight Dollars (\$253,258.00) to bring the total authorized funding amount to a maximum of Two Million Seven Hundred Eighty Five Thousand Eight Hundred Thirty Eight Dollars (\$2,785,838.00).

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

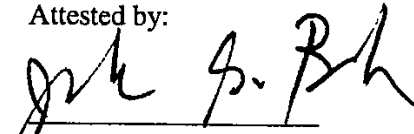
DULY AND REGULARLY ADOPTED, this 24th day of March 2015.

Certified by:



JOSEPH T. DUENAS
Chairperson

Attested by:



J. GEORGE BAMBA
Secretary

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

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/

/

Exhibit A (4 of 4)

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

AYES:

5

NAYS:

0

ABSTENTIONS:

0

ABSENT:

0

Exhibit B (1 of 4)

GUAM CONSOLIDATED COMMISSION ON UTILITIES

RESOLUTION NO. 56-FY2016

RELATIVE TO APPROVAL OF CHANGE ORDER NO. 2 FOR THE NORTHERN AND SOUTHERN GUAM RESERVOIR DESIGN SERVICES

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

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

WHEREAS, GWA is currently working on critical reservoir projects under the 2011 Court Order ("CO") Paragraph 29 – Storage Tank/Reservoir Repair, Replacement, and Relocation Program; and

WHEREAS, Resolution No. 20-FY2015 (See Exhibit A) authorized GWA management to enter into a contract with TG Engineers, P.C. in the amount of Two Million Five Hundred Thirty Two Thousand Five Hundred Eighty Dollars (\$2,532,580.00) to provide design services for the Northern and Southern Guam Reservoirs, which includes:

- (1) site investigations and system evaluations at Santa Rosa, Santa Rita, Sinifa, Inarajan, and Ugum reservoir sites, and
- (2) development of design plans and specifications for various sized concrete reservoirs ranging from 1.0 MG to 2.0 MG nominal capacities, instrumentation and control upgrades, control valves upgrades, pipe upgrades, new booster station, and other general site and system upgrades; and

WHEREAS, Resolution No. 20-FY2015 further authorized on top of the contract amount a ten percent (10%) contingency of Two Hundred Fifty Three Thousand Two Hundred Fifty Eight Dollars (\$253,258.00) bringing the total authorized funding to a maximum of Two

Exhibit B (2 of 4)

1 Million Seven Hundred Eighty Five Thousand Eight Hundred Thirty Eight Dollars
2 (\$2,785,838.00); and
3

4 **WHEREAS**, GWA issued Change Order No. 1 to TG Engineers, P.C. for additional
5 services that were required due to needs for land acquisition for various project sites using the
6 approved contingency funding in the amount of Fifty One Thousand Three Hundred Forty One
7 Dollars and Fifty Cents (\$51,341.50) in which the total value of the Contract was increased to
8 Two Million Five Hundred Eighty Three Thousand Nine Hundred Twenty One Dollars and
9 Fifty Cents (\$2,583,921.50); and
10

11 **WHEREAS**, in the course of the design and analysis of the reservoirs and the water
12 system served by the noted reservoirs additional design services listed below was identified as
13 being necessary to meet new building code requirement and to improve the functionality of the
14 water systems (See Exhibit B – Scope of Work and Fees):
15

- 16 (1) design for several additions and revisions to the pipe system to complete the pressure
17 zone realignment which includes surveying and environmental services for Santa Rita
18 and Santa Rosa Reservoirs,
- 19 (2) design for the new UFC structural code requirements for Ugum, Santa Rosa, Santa Rita
20 and Sinifa Reservoirs; and Inarajan Booster Pump Station,
- 21 (3) additional land acquisition support for the Government of Guam Chamorro Land Trust
22 Commission (CLTC) property, additional Archaeological and Unexploded Ordinance
23 (UXO) monitoring, and design to include the new GWA-AAFB tank interconnection
24 system for the Santa Rosa Reservoir,
- 25 (4) design for new Booster Pump Station and a new Pressure Reducing Valve (PRV) to be
26 added into the system in the vicinity of Agfayan Subdivision in Inarajan as part of the
27 pressure zone realignment plan,
- 28 (5) percolation tests to be included at each project site location for drainage basins,
- 29 (6) design to incorporate the Siemens controls from the existing Ugum plant to be extended
30 to the new Ugum Reservoir and facilities; and
31
32

Exhibit B (3 of 4)

1 **WHEREAS**, GWA engineering and TG Engineers, P.C. negotiated the price for the
2 services to be provided in the amount of Five Hundred Three Thousand One Hundred Ten
3 Dollars and Fifty Cents (\$503,110.50); and

4
5 **WHEREAS**, GWA Management is seeking CCU approval of additional funding in
6 the amount of Three Hundred One Thousand One Hundred Ninety Four Dollars (\$301,194.00)
7 which is the balance needed above the remaining contingency that will fund Change Order No.
8 2; and

9
10 **WHEREAS**, GWA Management further seeks CCU approval of the total authorized
11 funding for the design contract with TG Engineers, P.C. to Three Million Eighty Seven
12 Thousand Thirty Two Dollars (\$3,087,032.00); and

13
14 **WHEREAS**, funding for this project will be from 2013 and/or 2015 Bond Funds under
15 CIP line item PW 09-11 Water System Reservoirs 2005 Improvements; and

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

- 19
20
21 1. The recitals set forth above hereby constitute the findings of the CCU.
22 2. The CCU finds that the terms of the fee proposal submitted by TG
23 Engineers, P.C. are fair and reasonable.
24 3. The CCU finds that the terms of the conditions set by GWA relative to
25 commencement of subsequent work activities are fair and reasonable and
26 serve as a measure of Quality Assurance/Quality Control (QA/QC).
27 4. The CCU hereby authorizes GWA management to execute Change Order No.
28 2 in the amount of Five Hundred Three Thousand One Hundred Ten Dollars
29 and Fifty Cents (\$503,110.50) (Exhibit B).
30 5. The CCU further approves increasing the total authorized funding for the
31 design contract with TG Engineers, P.C to Three Million Eighty Seven
32 Thousand Thirty Two Dollars (\$3,087,032.00);

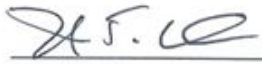
Exhibit B (4 of 4)

6. Funding source will be CIP PW 09-11 Water System Reservoir 2005 Improvements.

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

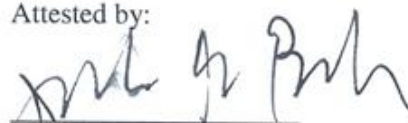
DULY AND REGULARLY ADOPTED, this 23rd day of August, 2016.

Certified by:



JOSEPH T. DUENAS
Chairperson

Attested by:



J. GEORGE BAMBA
Secretary

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

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

AYES:	<u>4</u>
NAYS:	<u>0</u>
ABSTENTIONS:	<u>0</u>
ABSENT:	<u>1</u>



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///

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TG ENGINEERS, PC

November 8, 2017

Mr. Miguel Bordallo, PE
General Manager
Guam Waterworks Authority
Gloria B. Nelson Public Service Building, Room 202
688 Route 15
Mangilao, Guam 96913

ATTN: Mr. Brett Railey, PE, Project Manager

**RE: PW 09-11 Northern and Southern Guam Reservoirs: GWA Project No. W14-007-BND,
Change Order No. 4 – Fee Proposal**

Hafa adai Brett,

TG Engineers, PC (TGE) is pleased to submit our updated Scope of Work and Fee Proposal for the reservoir project Change Order No. 4. We are submitting the proposal file in pdf format by email.

Note we have followed the format from the original project proposal and created the general part of the Scope of Work and then have Attachments A – H with the specific scope for each tank and pump station project.

Based on the last review meeting, held with you and Mr. Garrett Yeoh, we have updated the proposal accordingly. The new task which is added is the new road and utility infrastructure that will be required for the Agfayan 4-alternate sites that will be investigated.

We look forward to your favorable review and reaching an agreement on the Scope and Fee. Let us know if we will schedule a final review meeting.

Please call Teena Barnes or myself directly at 647-0808 with any questions.

Si Yu'os Ma'ase,
TG Engineers, PC



Tor Gudmundsen, PE
President

GWA SOW & FEE
11/8/2017

Attachments:

Scope of Work
Dated 11/08/17, 15-pages

Fee Proposal Spreadsheets
Dated 11/08/17, 9-pages

TG Engineers, PC

DESIGN OF NORTHERN AND SOUTHERN GUAM RESERVOIRS, PROJECT NO. 2
CHANGE ORDER NO. 4 – SCOPE OF WORK

1. INTRODUCTION

TG Engineers, PC (TGE) is under contract with the Guam Waterworks Authority (GWA) for the Design of Northern and Southern Guam Reservoirs. The work completed to date varies for each site and is listed as follows.

- Ugum – Basis of Design Report
- Santa Rita – 90% Design Submittal
- Santa Rosa – 100% Design Submittal (Dod Intertie at 60%)
- Sinifa – 90% Design Submittal
- Inarajan Reservoir – Cancelled
- Agfayan Booster Pump Station – New Facility
- Inarajan Booster Pump Station – BOD complete and pending the Agfayan BOD to combine projects

Change Orders 1.0 – 3.0 have been processed and include the following.

- Change Order No. 1 – processed for land acquisition support services. No schedule changes.
- Change Order No. 2 – processed for additional engineering services. Schedule extended 387-days to 4/14/2017.
- Change Order No. 3 – processed for a time extension. Schedule extended 630-days to 1/04/2019.

Change Order No. 4 is proposed with the Scope of Work as follows.

2. SCOPE OF SERVICES**2.1 GENERAL DESCRIPTION OF SERVICES****A. Project Management Services**

Team members will join Bi-weekly progress meetings for the 21-month time extension, ending 1/04/2019.

B. Pressure Zone Re-alignment

The Brown & Caldwell Report, Pressure Zone Realignment and Pressure Improvement Report, June 2017 includes several additions and revisions to the pipe system to complete the pressure zone re-alignment within the project areas. The changes are described as follows.

B1 – Santa Rosa (note scope for Details 1 & 2 are included in CO#2)

- 1) Detail 4 - Install an 8-inch valve on the existing line approx. 500-ft NW of Chalan Bernadita and construct 1-jumper line to connect existing 8-inch lines at the Chalan

November 07, 2017

Page 1 of 15

TG Engineers, PC

Bernadita / Route 9 intersection. The work is located in public ROW or utility easement areas.

- 2) Detail 5 – install an 8-inch valve on the existing 8-inch line along Route 9, near Chalan Bada.
- 3) Details 6 & 7 – Construct approx. 4,120-lf of 12-inch pipe along Route 1 in Yigo.

B2 – Agfayan BPS

- 1) Install 1-PRV at an appropriate site near the original 3-BPS site alternatives, as determined by the design team.

B3 – General

- 1) Team members have completed multiple reviews of the ongoing revisions by B&C to the PZR documents.

2.2 UGUM RESERVOIR SITE

Investigate a new alternative for the new reservoir location. The new alternative involves consolidating 2-lots adjacent and south of the existing plant to provide the site needed for the new reservoir and facilities. The 2-lots are Lot 3 & Lot 4, Block 4, Tract 3521.

2.3 UGUM EXISTING WATER TREATMENT PLANT & TANK

The existing plant site drainage will be corrected with a new design and plans.

2.4 SANTA ROSA RESERVOIR SITE – Dod Intertie

Easements were developed for use by GWA to reach operational agreements with Dod. There were 3-easement exhibits created as follows.

- Temporary Construction Easement
- GWA Access Easement
- Dod Access Easement

2.5 SANTA RITA RESERVOIR SITE

Review the access road flood damage and repair plans.

Confirm the road repair design interface with the road reconstruction plans

2.6 AGFAYAN BOOSTER PUMP STATION SITE

Investigate 4-lots as new alternatives for the new booster pump station location. The lots are along an existing Right-of-Way (ROW) and will require a new road, piping, electrical service and appurtenances. The estimated ROW length is 2,000-ft for the utility infrastructure required, this is approx. 1,000-ft of new road and utility infrastructure and another 1,000-ft of new pipeline in an existing paved road.

Refer to the following maps.

- LM Checked No. 086 FY92, sheet 1 of 3

Exhibit C (5 of 2)

TG Engineers, PC

- LM Checked No. 485 FY97, sheet 1 of 3

2.7 SINIFA RESERVOIR SITE

Provide Temporary Construction Easements and construction support documents on 2-lots as follows.

- Lot 2, Block 2, Tract 24404
- Lot 3, Block 2, Tract 24404

3 – 10. No change.

ATTACHMENTS:

- A. Ugum Reservoir Site
- B. Existing Ugum Water Plant Site Drainage
- C. Santa Rosa 2-PZR Sites
- D. Santa Rosa PZR Pipeline
- E. Sinifa Reservoir Site
- F. Agfayan BPS, 4-Alt Sites
- G. Project Management

TG Engineers, PC

Attachment A – Ugum Reservoir Site**A. Preliminary Design**

1. Define design objective, design criteria, and methodology that shall be used to prepare the design. Identify all relevant codes, standards, environmental regulations, and all applicable local and federal laws that will be incorporated in the design.
2. Create a draft Property Map and Concept Site Plan for analysis. Combine the mapping of the 2-new lots to develop the consolidated lot site. This will be consolidated with the existing plant site.
3. Complete an Abbreviated Appraisal Report for the preliminary property value.
4. Complete the Construction Cost Estimate based on the Concept Site Plan developed.
5. Update the BOD Report for the combined lot development plan.
6. Open discussions with the property owner about the proposed land use, access for investigations and the acquisition process.
7. Provide surveying services, consisting of property boundary and topographic field survey and preparation of topographical mapping. These services include preparation of topographical and boundary mapping of the tank site including existing facilities above ground within the project area and adjacent sites which may be impacted. The consultant shall make all necessary research for determination of land ownership.

The boundary survey and mapping scope will be expanded to include consolidation of the 2-new lots with the existing plant site. The topographic survey and mapping scope is expanded to include the 2nd parcel of the 2-new parcels.

8. Other services are included in the existing scope.

B. Design

1. Develop updated Basis of Design Report.

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

- a. Site Geometry and Access
- b. Site Grading & Drainage
- c. Site Piping
- d. Site Utilities

TG Engineers, PC

Attachment B – Existing Ugum Water Plant Site Drainage

A. Preliminary Design

1. Define design objective, design criteria, and methodology that shall be used to prepare the design. Identify all relevant codes, standards, environmental regulations, and all applicable local and federal laws that will be incorporated in the design.
2. Provide surveying services, consisting of the topographic field survey and preparation of topographical mapping. These services include preparation of the topographical mapping of the plant site, including existing facilities above ground within the project area and adjacent sites which may be impacted.
3. Complete Concept Drainage system design. It is proposed to channel stormwater to a new basin or percolation facility on Lot 3, Block 4, Tract 3521.
4. Complete the Construction Cost Estimate based on the Concept Drainage Plan developed.

B. Design

1. Complete the Drainage Design and prep construction documents. The design will be developed through 30%, 60%, 90% and 100% design stages and submittals made for review and acceptance by GWA before continuing to the next submittal.
2. The Construction Document package will include the following at each design submittal

30% - Plans, Basis of Design and Draft Drainage Calculations

60% - Plans, Final Drainage Calculations, Specification TOC and Estimate.

90% - Plans, Specifications, Estimate and Construction Schedule.

100% - Plans, Specifications, Estimate and Construction Schedule.

TG Engineers, PC

Attachment C – Santa Rosa, 2-PZR Sites**A. Site List (2-sites)**

1. Detail 4 - Install an 8-inch valve on the existing line approx. 500-ft NW of Chalan Bernadita and construct 1-jumper line to connect existing 8-inch lines at the Chalan Bernadita / Route 9 intersection. The work is located in public ROW or utility easement areas.
2. Detail 5 – install an 8-inch valve on the existing 8-inch line along Route 9, near Chalan Bada. The work is located in public ROW or utility easement areas.
3. Preliminary Design
 - a. Perform site investigation to determine existing condition and system configuration, in accordance with existing contract scope terms.
 - b. Provide surveying services, consisting of property boundary and topographic field survey and preparation of topographical mapping. These services include preparation of topographical and boundary mapping of the 2-facility sites including existing facilities above ground within the project area and adjacent sites which may be impacted. The consultant shall make all necessary research for determination of land ownership.
 - c. Provide environmental services to determine any adverse impact of the project on cultural resources and to make recommendations regarding their historical properties. This shall include a technical report, which defines background research, field methodology, results of survey and mitigation recommendations. The archaeological party will conduct cultural resource inventory and evaluation of historic resources that might be affected by this project. This will require preparing and submitting an inventory survey plan, conducting inventory survey, and reporting to the Department of Parks and Recreation/Guam Historic Preservation Office and all other required agencies (which may include Department of Agriculture, Guam Environmental Protection Agency, U.S. Fish and Wildlife Services, and etc.) regarding the project and recommendations as to eligibility and effect from the undertaking.

B. Design

1. Develop the Basis of Design Report.
 - a. Incorporate the UFC code and added facilities and issue an addendum to the BOD with the project design submittals.
2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, and all other documents necessary for project construction.

TG Engineers, PC

3. Design Services:

a. Civil Engineering:

- i. Site work at each facility site shall include demolition plans, site layout plans, grading, drainage, erosion control measures, underground utility plans, utility profiles, vault plans and sections, details.

TG Engineers, PC

Attachment D – Santa Rosa PZR Pipeline**A. Site List (1-site)**

1. Details 6 & 7 – Construct approx. 4,120-lf of 12-inch pipe along Route 1 in Yigo.
2. Preliminary Design
 - a. Perform site investigation to determine existing condition and system configuration, in accordance with existing contract scope terms.
 - b. Provide surveying services, consisting of property boundary and topographic field survey and preparation of topographical mapping. These services include preparation of topographical and boundary mapping of the pipe line alignment including existing facilities above ground within the project area and adjacent sites which may be impacted. The consultant shall make all necessary research for determination of land ownership.
 - c. Provide environmental services to determine any adverse impact of the project on cultural resources and to make recommendations regarding their historical properties. This shall include a technical report, which defines background research, field methodology, results of survey and mitigation recommendations. The archaeological party will conduct cultural resource inventory and evaluation of historic resources that might be affected by this project. This will require preparing and submitting an inventory survey plan, conducting inventory survey, and reporting to the Department of Parks and Recreation/Guam Historic Preservation Office and all other required agencies (which may include Department of Agriculture, Guam Environmental Protection Agency, U.S. Fish and Wildlife Services, and etc.) regarding the project and recommendations as to eligibility and effect from the undertaking.
3. Perform geotechnical investigations to assess the stability of the sub-grade and develop a soils report, including field exploration and laboratory tests and seismic investigations. The geotechnical investigations will assess the general conditions of the project site and provide design recommendations for the proposed pipeline and ancillary facilities including the following:
 - a. Characterization of earth materials and ground water level
 - b. Determination of bearing pressure and settlement
 - c. Lateral earth pressures – static and seismic
 - d. Assessment of liquefaction potential

B. Design

1. Develop Basis of Design Report.
2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, and all other documents necessary for project construction.

November 07, 2017

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TG Engineers, PC

3. Design Services:

a. Civil Engineering:

- i. The 4,120-lf pipeline will include demolition plans, plan and profiles, erosion control measures, underground utility plans, utility profiles, vault plans and sections, details.

TG Engineers, PC

Attachment E – Sinifa Reservoir Site

A. Preliminary Design

1. The TGE team will obtain Temporary Construction Easements (TCE) from the private property owners for construction access at the new tank site. The TCE exhibit sketches will be created and issued for the following lots.
 - Lot 2, Block 2, Tract 24404
 - Lot 3, Block 2, Tract 24404

B. Lewis Property

1. Create the TCE Exhibit Drawing
2. Create the Perpetual Easement Exhibit Drawing
3. Complete the engineering design for the new driveway including geometry, grading and drainage.
4. Complete construction documents with a cost estimate for comparison of alternatives.

C. Paulino Property

1. Create the TCE Exhibit Drawing
2. Complete the concept retaining wall design and cost estimate for comparison of alternatives.

TG Engineers, PC

Attachment F – Agfayan BPS 4-Site Alternatives Review

A. The 4-lots include the following.

- Lots 28 & 29, Subdivision Survey Map of TRACT 3734, Land for the Landless Project (Formerly Lot 8-3), LM Checked No. 086 FY92, sheet 1 of 3
- Lots 61-R2 and 106, Real Estate Requirement (Access Easement for Ija Subdivision) Lots 60, 61 and 64-1 thru 64-R11, LM Checked No. 485 FY97, sheet 1 of 3

B. Preliminary Design

1. Define design objective, design criteria, and methodology that shall be used to prepare the design. Identify all relevant codes, standards, environmental regulations, and all applicable local and federal laws that will be incorporated in the design.
2. Create 4-draft Property Maps and 4-Concept Site Plans for analysis.
3. Complete the 4-Abbreviated Appraisal Reports for the preliminary property values.
4. Complete the 4-Construction Cost Estimates based on the Concept Site Plans developed.
5. Update the BOD Report with the 4-alternative Site Plans.
6. Open discussions with the property owners about the proposed land use, access for investigations and the acquisition process.

C. Design

1. Develop updated Basis of Design Report.

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

- a. Site Geometry
- b. Site Grading & Drainage
- c. Site Piping
- d. Site Utilities

TG Engineers, PC

Attachment G – Agfayan BPS 4-Site Alternatives-Road & Offsite Utilities**A. Description of Road & Offsite Utilities**

The lots being considered are the following.

- Lots 28 & 29, Subdivision Survey Map of TRACT 3734, Land for the Landless Project (Formerly Lot 8-3), LM Checked No. 086 FY92, sheet 1 of 3
- Lots 61-R2 and 106, Real Estate Requirement (Access Easement for Ija Subdivision) Lots 60, 61 and 64-1 thru 64-R11, LM Checked No. 485 FY97, sheet 1 of 3

Based on reviews of the mapping, we understand the new infrastructure as follows.

Part 1 – Approx. 1,400-ft of new road through the jungle along an existing coral road / trail. This section will have new road construction and new water pipeline.

Part 2 – Approx 1,000-ft of existing paved roads through part of Inarajan Village. This section will have a new waterline constructed in the existing paved roads and connect to the waterline in Route 4 in the Inarajan Village area.

Part 3 – Approx 500-ft of existing paved road in the Ija Subdivision. This section will have a new waterline constructed and the existing OH power line extended to the pump station site.

B. Preliminary Design

1. Define design objective, design criteria, and methodology that shall be used to prepare the design. Identify all relevant codes, standards, environmental regulations, and all applicable local and federal laws that will be incorporated in the design.
1. Perform site investigation to determine existing condition and system configuration, consisting of the following:
 - a. Existing site conditions and facilities
 - b. Proposed site improvement
 - c. Preliminary site layout
 - d. Research existing property map
 - e. Demolition requirements
 - f. Grading requirements
 - g. Drainage requirements
 - h. Piping and valving requirements
 - i. Operational requirements
 - j. Fire flow requirements
 - k. Electrical power supply
 - l. Construction access
 - m. Construction sequencing

Exhibit C (15 of 2)

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2. Provide surveying services, consisting of ROW boundary and topographic field survey and preparation of topographical mapping. These services include preparation of topographical and boundary mapping of the roads including existing facilities above ground within the project area and adjacent sites which may be impacted. The consultant shall make all necessary research for determination of land ownership.
3. Provide environmental services to determine any adverse impact of the project on cultural resources and to make recommendations regarding their historical properties. This shall include a technical report, which defines background research, field methodology, results of survey and mitigation recommendations. The archaeological party will conduct cultural resource inventory and evaluation of historic resources that might be affected by this project. This will require preparing and submitting an inventory survey plan, conducting inventory survey, and reporting to the Department of Parks and Recreation/Guam Historic Preservation Office and all other required agencies (which may include Department of Agriculture, Guam Environmental Protection Agency, U.S. Fish and Wildlife Services, and etc.) regarding the project and recommendations as to eligibility and effect from the undertaking.
4. Perform geotechnical investigations to assess the stability of the sub-grade and develop a soils report, including field exploration and laboratory tests, corrosion, and seismic investigations. The geotechnical investigations will assess the general conditions of the project site and provide design recommendations for the proposed pump station and ancillary facilities including the following:
 - a. Characterization of earth materials and ground water level
 - b. Development of seismic design criteria for the pump station building per updated codes
 - c. Determination of bearing pressure and settlement
 - d. Lateral earth pressures – static and seismic
 - e. Assessment of liquefaction potential
 - f. Foundation design of the proposed pump station building and ancillary structures
 - g. Earthwork requirements

C. Design

1. Develop updated Basis of Design Report.

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

- a. Site Geometry
- b. Site Grading & Drainage
- c. Site Piping
- d. Site Utilities

TG Engineers, PC

2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, and all other documents necessary for project construction.
 - a. The design plans for the offsite road and utility infrastructure will include the necessary piping, valving, fittings, and appurtenances to connect to the existing water system as indicated in the Basis of Design Report. The plan will also include necessary erosion control measures such as erosion control seeding, silt fencing, protection of stockpiled materials, and other necessary measures to mitigate the impact of erosion and sedimentation.
 - b. Based on the Basis of Design report approved by GWA, the design consultant will prepare and submit the following:
 1. Multidiscipline plans to the 60%, 90%, and 100% completion levels. (60% will consist of an Over-the-Shoulder review with GWA.)
 2. Specifications at 60%, 90%, and 100% completion levels, which will include front end documents and technical specifications applicable to the indicated completion levels.
 3. Construction cost estimate update at 60% Completion level. This estimate will be a Class 3 estimate in accordance with the AACE International Cost Estimate Classification System. All costs will be in current dollars and escalated to the estimated midpoint of construction.
 4. Final construction cost estimate based on quantity takeoffs and the requirements of the 100% design plans and specifications. This estimate will be a Class 2 estimate in accordance with the AACE International Cost Estimate Classification System. All costs will be in current dollars and escalated to the estimated midpoint of construction.
 5. The design consultant shall coordinate with the relevant agencies such as Guam Environmental Protection Agency, Department of Public Works, and other relevant agencies at the 30%, 60%, 90%, and 100% submittals. This includes submitting design documents (full size plans and specifications at each phase) and maintaining communication throughout the duration of the project and incorporating any relevant regulation requirements in the design.
3. Design Services:
 - a. Civil Engineering:
 - i. Site work for the road and utility infrastructure shall include demolition plans, site layout plans, grading, paving, fencing, drainage, erosion control measures, retaining walls, underground utility plans, utility profiles, vault plans and sections, details. Demolition plans will be provided as required.
 - b. Electrical Power/Lighting Engineering:
 - i. Electrical standard details, one-line diagrams, electrical site plans, lighting plans and details

TG Engineers, PC

Attachment H – Project Management

- A. Project Management – prep and complete bi-weekly Progress Meetings for 21-months.
 - 1. Issue meeting minutes with ACTION items listed within 5-working days after the meeting and work to resolve any ACTION items prior to the next meeting.
 - 2. The meeting minutes will be expanded to include any new items at the beginning of each meeting.
- B. GWA - B&C PZR Report Reviews
 - 1. TGE has completed multiple reviews and provided comments on the B&C PZR report relative to the project site areas.

Guam Waterworks Authority

Design of Northern and Southern Guam Reservoirs

Fee Proposal Spreadsheet

CHANGE ORDER NO. 4

11/8/2017

Page 1 of 1

A UGUM RESERVOIR SITE		TOTAL
Engineering Services	\$	18,890.00
Survey Services	\$	16,715.00
Subconsultants	\$	8,021.00
Direct Expenses	\$	267.25
TOTAL - UGUM RESERVOIR SITE		\$ 43,893.25

B EXISTING UGUM WATER PLANT SITE DRAINAGE		TOTAL
Engineering Services	\$	21,100.00
Survey Services	\$	14,775.00
Subconsultants	\$	4,011.00
Direct Expenses	\$	559.50
TOTAL - EXISTING UGUM WATER PLANT SITE DRAINAGE		\$ 40,445.50

C SANTA ROSA 2-PZR SITES		TOTAL
Engineering Services	\$	18,660.00
Survey Services	\$	12,005.00
Subconsultants	\$	8,594.00
Direct Expenses	\$	245.00
TOTAL - SANTA ROSA 2-PZR SITES		\$ 39,504.00

D SANTA ROSA PZR PIPELINE		TOTAL
Engineering Services	\$	29,655.00
Survey Services	\$	20,000.00
Subconsultants	\$	18,907.00
Engineering Services	\$	573.00
TOTAL - SANTA ROSA PZR PIPELINE		\$ 69,135.00

E SINIFA RESERVOIR SITE		TOTAL
Engineering Services	\$	6,745.00
Survey Services	\$	4,635.00
Subconsultants	\$	-
Direct Expenses	\$	101.50
TOTAL - SINIFA RESERVOIR SITE		\$ 11,481.50

F AGFAYAN BPS 4-ALTERNATIVE SITE REVIEW		TOTAL
Engineering Services	\$	25,960.00
Survey Services	\$	21,900.00
Subconsultants	\$	29,793.00
Direct Expenses	\$	531.00
TOTAL - AGFAYAN BPS 4-ALTERNATIVE SITE REVIEW		\$ 78,184.00

G AGFAYAN BPS 4-ALTERNATIVE SITES ROAD		TOTAL
Engineering Services	\$	66,645.00
Survey Services	\$	33,585.00
Subconsultants	\$	40,105.00
Direct Expenses	\$	1,641.00
TOTAL - AGFAYAN BPS 4-ALTERNATIVE SITES ROAD		\$ 141,976.00

H PROJECT MANAGEMENT		TOTAL
Engineering Services	\$	88,990.00
Survey Services	\$	-
Subconsultants	\$	24,063.00
Direct Expenses	\$	208.00
TOTAL - PROJECT MANAGEMENT		\$ 113,261.00

TOTAL FEE - CHANGE ORDER NO. 4		\$ 537,880.25
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Guam Waterworks Authority
Design of Northern and Southern Guam Reservoirs

Fee Proposal Spreadsheet
UGUM RESERVOIR SITE

Exhibit C (19 of 26)

11/8/2017

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DESIGN TASK		Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Std Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
ENGINEERING SERVICES										
A./B. Site List/Preliminary Design										
1. Coordinate Property Boundary & Topographic Survey Maps			1.0		5.0					
2. Develop Concept Site Plan			1.0		8.0		8.0	32.0		
3. Coordinate Abbreviated Appraisal Report			4.0							
4. Develop Construction Cost Estimate			2.0		2.0					
5. Open Discussions with Landowner			2.0				16.0			
C. Design										
1. Develop Basis of Design Report			2.0	5.0	20.0		20.0	40.0		
Subtotal Hours		0.0	12.0	5.0	35.0	0.0	44.0	72.0	0.0	
Hourly Rate		\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
Subtotal Direct Labor		\$0.00	\$2,040.00	\$825.00	\$4,725.00	\$0.00	\$3,740.00	\$7,560.00	\$0.00	\$18,890.00
DESIGN TASK		PLS	Survey Tech	Field Crew	CAD	TOTAL COST				
SURVEY SERVICES										
1.0 Site Surveys										
Property Research		1.0	5.0							
Control Survey		1.0		8.0						
Boundary Survey		1.0		24.0	20.0					
Consolidation 3-lots		1.0		8.0	16.0					
Topographic Survey & Map		2.0		24.0	40.0					
2.0 Land Acquisition										
Subtotal Hours		6.0	5.0	64.0	76.0	0.0	0.0	0.0	0.0	
Hourly Rate		\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00	
Subtotal Direct Labor		\$870.00	\$425.00	\$8,960.00	\$6,460.00	\$0.00	\$0.00	\$0.00	\$0.00	\$16,715.00
SUBCONSULTANTS										
Subconsultant		Total Fee		% This Task		Task Fee				
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)		\$0.00		0%		\$0.00				
2.0 Wixon & Associates, LLC (Electrical)		\$0.00		0%		\$0.00				
3.0 Southeastern Archaeological Research, Inc. (Archaeological)		\$0.00		0%		\$0.00				
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)		\$0.00		0%		\$0.00				
5.0 PCR Environmental, LLC (Environmental)		\$0.00		0%		\$0.00				
6.0 Rider Levett Bucknall (Cost Estimating)		\$3,500.00		100%		\$3,500.00				
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)		\$3,500.00		100%		\$3,500.00				
Subtotal - Subconsultants							\$7,000.00			
TGE Sub Admin Fee (10%)							\$700.00			
GRT (4.17%)							\$321.00		\$8,021.00	
DIRECT EXPENSES										
1.0 Reproduction		Sheets	Sets	Total Pages	Unit Cost	Subtotal				
Drawings (Full Size - 24x36)					\$1.00	\$0.00				
Drawings (Tabloid Size - 11x17)		25	5	125	\$0.50	\$62.50				
Documents (Letter Size - 8.5x11)		25	5	125	\$0.15	\$18.75				
CD					\$1.00	\$0.00				
Subtotal - Reproduction						\$81.25				
2.0 Vehicles/Fuel		Days	Crews	Rate	Subtotal					
Survey Field Crews		7	1	\$25.00	\$175.00					
3.0 Miscellaneous		0	0	\$0.00	\$0.00					
Subtotal - Task A Direct Expenses					\$256.25					
GRT (4.17%)					\$11.00	\$267.25				
TOTAL - UGUM RESERVOIR SITE										\$43,893.25

Guam Waterworks Authority
Design of Northern and Southern Guam Reservoirs

Fee Proposal Spreadsheet
EXIST UGUM WATER PLANT SD

Exhibit C (20 of 26)

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DESIGN TASK		Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Stf Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
ENGINEERING SERVICES										
A./B. Site List/Preliminary Design										
1. Review TGE Drainage Report				1.0	2.0					
2. Site Review					16.0		16.0			
3. Drainage Concept Development - Submittal - Approval			2.0	5.0	16.0					
4. Drainage System Cost Estimate										
C. Design										
1. Drainage Design with PS&E (90% / 100%)			2.0	16.0	24.0		40.0	40.0		
Subtotal Hours		0.0	4.0	22.0	58.0	0.0	56.0	40.0	0.0	
Hourly Rate		\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
Subtotal Direct Labor		\$0.00	\$680.00	\$3,630.00	\$7,830.00	\$0.00	\$4,760.00	\$4,200.00	\$0.00	\$21,100.00
DESIGN TASK		PLS	Survey Tech	Field Crew	CAD	TOTAL COST				
SURVEY SERVICES										
1.0 Site Surveys										
Property Research		1.0	5.0							
Control Survey				8.0						
Boundary Survey				16.0	20.0					
Topographic Survey & Map		1.0		40.0	40.0					
2.0 Land Acquisition										
Subtotal Hours		2.0	5.0	64.0	60.0	0.0	0.0	0.0	0.0	
Hourly Rate		\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00	
Subtotal Direct Labor		\$290.00	\$425.00	\$8,960.00	\$5,100.00	\$0.00	\$0.00	\$0.00	\$0.00	\$14,775.00
SUBCONSULTANTS										
Subconsultant		Total Fee		% This Task		Task Fee				
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)		\$0.00		0%		\$0.00				
2.0 Wixon & Associates, LLC (Electrical)		\$0.00		0%		\$0.00				
3.0 Southeastern Archaeological Research, Inc. (Archaeological)		\$0.00		0%		\$0.00				
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)		\$0.00		0%		\$0.00				
5.0 PCR Environmental, LLC (Environmental)		\$0.00		0%		\$0.00				
6.0 Rider Levett Bucknall (Cost Estimating)		\$3,500.00		100%		\$3,500.00				
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)		\$0.00		0%		\$0.00				
Subtotal - Subconsultants						\$3,500.00				
TGE Sub Admin Fee (10%)						\$350.00				
GRT (4.17%)						\$161.00		\$4,011.00		
DIRECT EXPENSES										
1.0 Reproduction		Sheets	Sets	Total Pages	Unit Cost	Subtotal				
Drawings (Full Size - 24x36)					\$1.00	\$0.00				
Drawings (Tabloid Size - 11x17)		15	15	225	\$0.50	\$112.50				
Documents (Letter Size - 8.5x11)		100	15	1500	\$0.15	\$225.00				
CD					\$1.00	\$0.00				
Subtotal - Reproduction						\$337.50				
2.0 Vehicles/Fuel		Days	Crews	Rate	Subtotal					
Survey Field Crews		8	1	\$25.00	\$200.00					
3.0 Miscellaneous		0	0	\$0.00	\$0.00					
Subtotal - Task A Direct Expenses					\$537.50					
GRT (4.17%)					\$22.00	\$559.50				
TOTAL - EXISTING UGUM WATER PLANT SITE DRAINAGE						\$40,445.50				

Guam Waterworks Authority
Design of Northern and Southern Guam Reservoirs

Fee Proposal Spreadsheet
SANTA ROSA 2-PZR SITES

DESIGN TASK		Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Stf Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
ENGINEERING SERVICES										
A./B. Site List/Preliminary Design										
1. Detail 4 - Install 8-inch Valve			1.0		1.0		2.0			
2. Detail 4 - Construct 1-Jumper					1.0		3.0			
3. Detail 5 - Install 8-inch Valve			1.0		1.0		3.0			
C. Design										
1. Develop Basis of Design Report			1.0		5.0					
2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, etc.			1.0		40.0		40.0	40.0		
3. Design Services										
a. Civil Engineering			1.0		10.0		20.0			
Subtotal Hours		0.0	5.0	0.0	58.0	0.0	68.0	40.0	0.0	
Hourly Rate		\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
Subtotal Direct Labor		\$0.00	\$850.00	\$0.00	\$7,830.00	\$0.00	\$5,780.00	\$4,200.00	\$0.00	\$18,660.00
DESIGN TASK		PLS	Survey Tech	Field Crew	CAD	TOTAL COST				
SURVEY SERVICES										
1.0 Site Surveys										
Property Research			5.0							
Control Survey				24.0						
Boundary Survey				16.0	20.0					
Topographic Survey & Map				16.0	24.0					
2.0 Land Acquisition										
Subtotal Hours		0.0	5.0	56.0	44.0	0.0	0.0	0.0	0.0	
Hourly Rate		\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00	
Subtotal Direct Labor		\$0.00	\$425.00	\$7,840.00	\$3,740.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12,005.00
SUBCONSULTANTS										
Subconsultant		Total Fee		% This Task		Task Fee				
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)		\$0.00		0%		\$0.00				
2.0 Wixon & Associates, LLC (Electrical)		\$0.00		0%		\$0.00				
3.0 Southeastern Archaeological Research, Inc. (Archaeological)		\$5,000.00		100%		\$5,000.00				
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)		\$0.00		0%		\$0.00				
5.0 PCR Environmental, LLC (Environmental)		\$0.00		0%		\$0.00				
6.0 Rider Levett Bucknall (Cost Estimating)		\$2,500.00		100%		\$2,500.00				
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)		\$0.00		0%		\$0.00				
Subtotal - Subconsultants						\$7,500.00				
TGE Sub Admin Fee (10%)						\$750.00				
GRT (4.17%)						\$344.00				
DIRECT EXPENSES										
1.0 Reproduction		Sheets		Sets		Total Pages		Unit Cost		Subtotal
Drawings (Full Size - 24x36)								\$1.00		\$0.00
Drawings (Tabloid Size - 11x17)		5		15		75		\$0.50		\$37.50
Documents (Letter Size - 8.5x11)		10		15		150		\$0.15		\$22.50
CD								\$1.00		\$0.00
Subtotal - Reproduction										\$60.00
2.0 Vehicles/Fuel		Days		Crews		Rate		Subtotal		
Survey Field Crews		7		1		\$25.00				\$175.00
3.0 Miscellaneous		0		0		\$0.00				\$0.00
Subtotal - Task A Direct Expenses										\$235.00
GRT (4.17%)										\$10.00
										\$245.00
TOTAL - SANTA ROSA 2-PZR SITES										\$39,504.00

Guam Waterworks Authority
Design of Northern and Southern Guam Reservoirs

Fee Proposal Spreadsheet
SANTA ROSA PZR PIPELINE

Exhibit C (22 of 2)

11/8/2017
Page 1 of 1

DESIGN TASK		Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Slt Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
ENGINEERING SERVICES										
A./B. Site List/Preliminary Design										
4. Detail 6 & 7 - Install 4,120lf of 12-inch pipe, Rt 1 in Yigo			1.0	5.0	5.0		10.0	20.0		
C. Design										
1. Develop Basis of Design Report				2.0	5.0					
2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, etc.			2.0		50.0		50.0	50.0		
3. Design Services										
a. Civil Engineering			2.0		40.0		20.0			
Subtotal Hours		0.0	5.0	7.0	100.0	0.0	80.0	70.0	0.0	
Hourly Rate		\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
Subtotal Direct Labor		\$0.00	\$850.00	\$1,155.00	\$13,500.00	\$0.00	\$6,800.00	\$7,350.00	\$0.00	\$29,655.00
DESIGN TASK		PLS	Survey Tech	Field Crew	CAD	TOTAL COST				
SURVEY SERVICES										
1.0 Site Surveys										
Property Research			24.0							
Control Survey				24.0						
Boundary Survey				40.0	20.0					
Topographic Survey & Map				40.0	20.0					
2.0 Land Acquisition										
Subtotal Hours		0.0	24.0	104.0	40.0	0.0	0.0	0.0	0.0	
Hourly Rate		\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00	
Subtotal Direct Labor		\$0.00	\$2,040.00	\$14,560.00	\$3,400.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20,000.00
SUBCONSULTANTS										
Subconsultant	Total Fee	% This Task	Task Fee							
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$0.00	0%	\$0.00							
2.0 Wixon & Associates, LLC (Electrical)	\$0.00	0%	\$0.00							
3.0 Southeastern Archaeological Research, Inc. (Archaeological)	\$5,500.00	100%	\$5,500.00							
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)	\$6,500.00	100%	\$6,500.00							
5.0 PCR Environmental, LLC (Environmental)	\$0.00	0%	\$0.00							
6.0 Rider Levett Bucknall (Cost Estimating)	\$4,500.00	100%	\$4,500.00							
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)	\$0.00	0%	\$0.00							
Subtotal - Subconsultants			\$16,500.00							
TGE Sub Admin Fee (10%)			\$1,650.00							
GRT (4.17%)			\$757.00							
				\$18,907.00						
DIRECT EXPENSES										
1.0 Reproduction	Sheets	Sets	Total Pages	Unit Cost	Subtotal					
Drawings (Full Size - 24x36)				\$1.00	\$0.00					
Drawings (Tabloid Size - 11x17)	15	15	225	\$0.50	\$112.50					
Documents (Letter Size - 8.5x11)	50	15	750	\$0.15	\$112.50					
CD				\$1.00	\$0.00					
Subtotal - Reproduction					\$225.00					
2.0 Vehicles/Fuel	Days	Crews	Rate	Subtotal						
Survey Field Crews	13	1	\$25.00	\$325.00						
3.0 Miscellaneous	0	0	\$0.00	\$0.00						
Subtotal - Task A Direct Expenses				\$550.00						
GRT (4.17%)				\$23.00	\$573.00					
TOTAL - SANTA ROSA PZR PIPELINE										\$69,135.00

Guam Waterworks Authority
Design of Northern and Southern Guam Reservoirs

Fee Proposal Spreadsheet
SINIFA RESERVOIR

EXHIBIT C 125 01 2

11/8/2017

Page 1 of 1

DESIGN TASK		Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Sst Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
ENGINEERING SERVICES										
A/B. Site List/Preliminary Design										
Lot 2, Block 2, Tract 24404										
1. Owner Negotiations										
2. D/W Design										
3. Cost Estimate / Alternative Comparisons										
4. TCE Exhibit Sketch										
5. Perpetual Easement Exhibit Sketch										
Lot 3, Block 2, Tract 24404										
1. Cost Estimate / Alternative Comparisons										
2. TCE Exhibit Sketch										
Subtotal Hours										
Hourly Rate										
Subtotal Direct Labor										
TOTAL COST										
\$6,745.00										
DESIGN TASK		PLS	Survey Tech	Field Crew	CAD	TOTAL COST				
SURVEY SERVICES										
1.0 Site Surveys										
Property Research										
Control Survey										
Boundary Survey										
Topographic Survey & Map										
2.0 Land Acquisition										
Subtotal Hours										
Hourly Rate										
Subtotal Direct Labor										
TOTAL COST										
\$4,635.00										
SUBCONSULTANTS										
Subconsultant		Total Fee	% This Task	Task Fee						
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)		\$0.00	0%	\$0.00						
2.0 Wixon & Associates, LLC (Electrical)		\$0.00	0%	\$0.00						
3.0 Southeastern Archaeological Research, Inc. (Archaeological)		\$0.00	0%	\$0.00						
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)		\$0.00	0%	\$0.00						
5.0 PCR Environmental, LLC (Environmental)		\$0.00	0%	\$0.00						
6.0 Rider Levett Bucknall (Cost Estimating)		\$0.00	0%	\$0.00						
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)		\$0.00	0%	\$0.00						
Subtotal - Subconsultants				\$0.00						
TGE Sub Admin Fee (10%)				\$0.00						
GRT (4.17%)				\$0.00						
TOTAL COST										
\$0.00										
DIRECT EXPENSES										
1.0 Reproduction		Sheets	Sets	Total Pages	Unit Cost	Subtotal				
Drawings (Full Size - 24x36)					\$1.00	\$0.00				
Drawings (Tabloid Size - 11x17)		3	10	30	\$0.50	\$15.00				
Documents (Letter Size - 8.5x11)		5	10	50	\$0.15	\$7.50				
CD					\$1.00	\$0.00				
Subtotal - Reproduction						\$22.50				
2.0 Vehicles/Fuel		Days	Crews	Rate	Subtotal					
Survey Field Crews		3	1	\$25.00	\$75.00					
3.0 Miscellaneous		0	0	\$0.00	\$0.00					
Subtotal - Task A Direct Expenses						\$97.50				
GRT (4.17%)						\$4.00				
TOTAL COST										
\$101.50										
TOTAL - SINIFA RESERVOIR SITE										\$11,481.50

Guam Waterworks Authority
Design of Northern and Southern Guam Reservoirs

Fee Proposal Spreadsheet
AGFAYAN BPS, 4-ALT SITES

EXHIBIT C (24 OF 24)
11/8/2017

Page 1 of 1

DESIGN TASK		Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Stl Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
ENGINEERING SERVICES										
A./B. Site List/Preliminary Design										
1. Coordinate Property Boundary & Topographic Survey Maps (4-lots)				2.0			10.0	16.0		
2. Develop Concept Site Plans (4-lots)		2.0			8.0		40.0	40.0		
3. Develop Road and Utility Service Concepts / Cost Estimate		1.0			8.0		10.0	10.0		
3. Coordinate Abbreviated Appraisal Report (4-lots)		5.0								
4. Develop Construction Cost Estimate (4-lots)		4.0					4.0			
5. Open Discussions with Landowners		4.0					8.0			
6. Install PRV					2.0		5.0	2.0		
C. Design										
1. Develop Basis of Design Report				2.0	20.0		10.0	5.0		
2. PRV Construcion Documents			2.0		5.0		10.0	5.0		
Subtotal Hours	0.0	18.0	4.0	43.0	0.0	97.0	78.0	0.0		
Hourly Rate	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00		
Subtotal Direct Labor	\$0.00	\$3,060.00	\$660.00	\$5,805.00	\$0.00	\$8,245.00	\$8,190.00	\$0.00		\$25,960.00
DESIGN TASK		PLS	Survey Tech	Field Crew	CAD	TOTAL COST				
SURVEY SERVICES										
1.0 Site Surveys										
Property Research		20.0								
Control Survey			40.0							
Boundary Survey			40.0	20.0						
Topographic Survey & Map			40.0	20.0						
2.0 Land Acquisition										
Subtotal Hours	0.0	20.0	120.0	40.0	0.0	0.0	0.0	0.0		
Hourly Rate	\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00		
Subtotal Direct Labor	\$0.00	\$1,700.00	\$16,800.00	\$3,400.00	\$0.00	\$0.00	\$0.00	\$0.00		\$21,900.00
SUBCONSULTANTS										
Subconsultant	Total Fee	% This Task	Task Fee							
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$0.00	0%	\$0.00							
2.0 Wixon & Associates, LLC (Electrical)	\$0.00	0%	\$0.00							
3.0 Southeastern Archaeological Research, Inc. (Archaeological)	\$0.00	0%	\$0.00							
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)	\$0.00	0%	\$0.00							
5.0 PCR Environmental, LLC (Environmental)	\$0.00	0%	\$0.00							
6.0 Rider Levett Bucknall (Cost Estimating)	\$14,000.00	100%	\$14,000.00							
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)	\$12,000.00	100%	\$12,000.00							
Subtotal - Subconsultants			\$26,000.00							
TGE Sub Admin Fee (10%)			\$2,600.00							
GRT (4.17%)			\$1,193.00							
				\$29,793.00						
DIRECT EXPENSES										
1.0 Reproduction										
Drawings (Full Size - 24x36)	Sheets	Sets	Total Pages	Unit Cost	Subtotal					
Drawings (Tabloid Size - 11x17)	12	10	120	\$0.50	\$60.00					
Documents (Letter Size - 8.5x11)	50	10	500	\$0.15	\$75.00					
CD				\$1.00	\$0.00					
Subtotal - Reproduction					\$135.00					
2.0 Vehicles/Fuel										
Survey Field Crews	Days	Crews	Rate	Subtotal						
	15	1	\$25.00	\$375.00						
3.0 Miscellaneous										
	0	0	\$0.00	\$0.00						
Subtotal - Task A Direct Expenses				\$510.00						
GRT (4.17%)				\$21.00	\$531.00					
TOTAL - AGFAYAN BPS 4 ALTERNATIVE SITE REVIEW										\$78,184.00

Guam Waterworks Authority
Design of Northern and Southern Guam Reservoirs

Fee Proposal Spreadsheet
AGFAYAN BPS, 4-ALT SITES

EXHIBIT C (25 OF 26)
11/8/2017

Page 1 of 1

DESIGN TASK	Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Sr Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
ENGINEERING SERVICES									
A/B. Site List/Preliminary Design									
1. Coordinate Property Boundary & Topographic Survey Maps (4-lots)		4.0				4.0			
2. Develop 2,000-ft Road and Utility Service Concepts / Cost Estimate		2.0		4.0		24.0	24.0		
3. Coordinate Geotechnical Investigation		4.0				4.0			
4. Develop 2,900-ft Road & Utility Concepts		1.0		10.0		10.0	40.0		
C. Design									
1. Develop Basis of Design Report				4.0		10.0	5.0		
2. Road Engineering & Plans		4.0		20.0		40.0	40.0		
3. Water line Engineering & Plans		2.0		40.0		60.0	40.0		
4. Coordinate OH Power Engineering & Plans		4.0		10.0			5.0		
5. Develop Technical Specifications				10.0		20.0			
6. Develop Cost Estimate & Schedules				5.0		20.0			
7. Design & 60%, 90% and 100% Submittals		12.0		24.0		60.0	60.0		
Subtotal Hours	0.0	33.0	0.0	127.0	0.0	252.0	214.0	0.0	
Hourly Rate	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
Subtotal Direct Labor	\$0.00	\$5,610.00	\$0.00	\$17,145.00	\$0.00	\$21,420.00	\$22,470.00	\$0.00	\$66,645.00
SURVEY SERVICES									
1.0 Site Surveys									
Property Research		40.0							
Control Survey		5.0	24.0	10.0					
Boundary Survey		10.0	60.0	10.0					
Topographic Survey & Map		10.0	80.0	40.0					
2.0 Land Acquisition									
Subtotal Hours	0.0	65.0	164.0	60.0	0.0	0.0	0.0	0.0	
Hourly Rate	\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00	
Subtotal Direct Labor	\$0.00	\$5,525.00	\$22,960.00	\$5,100.00	\$0.00	\$0.00	\$0.00	\$0.00	\$33,585.00
SUBCONSULTANTS									
Subconsultant	Total Fee	% This Task	Task Fee						
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$0.00	0%	\$0.00						
2.0 Wixon & Associates, LLC (Electrical)	\$8,000.00	100%	\$8,000.00						
3.0 Southeastern Archaeological Research, Inc. (Archaeological)	\$12,500.00	100%	\$12,500.00						
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)	\$10,000.00	100%	\$10,000.00						
5.0 PCR Environmental, LLC (Environmental)	\$0.00	0%	\$0.00						
6.0 Rider Levett Bucknall (Cost Estimating)	\$4,500.00	100%	\$4,500.00						
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)	\$0.00	100%	\$0.00						
Subtotal - Subconsultants			\$35,000.00						
TGE Sub Admin Fee (10%)			\$3,500.00						
GRT (4.17%)			\$1,605.00						\$40,105.00
DIRECT EXPENSES									
1.0 Reproduction	Sheets	Sets	Total Pages	Unit Cost	Subtotal				
Drawings (Full Size - 24x36)	50	5	250	\$1.00	\$250.00				
Drawings (Tabloid Size - 11x17)	50	15	750	\$0.50	\$375.00				
Documents (Letter Size - 8.5x11)	200	15	3000	\$0.15	\$450.00				
CD				\$1.00	\$0.00				
Subtotal - Reproduction					\$1,075.00				
2.0 Vehicles/Fuel	Days	Crews	Rate	Subtotal					
Survey Field Crews	20	1	\$25.00	\$500.00					
3.0 Miscellaneous	Days	Crews	Rate	Subtotal					
	0	0	\$0.00	\$0.00					
Subtotal - Task A Direct Expenses					\$1,575.00				
GRT (4.17%)					\$66.00				\$1,641.00
TOTAL - AGFAYAN BPS 4-ALTERNATIVE SITE REVIEW									\$141,976.00

Guam Waterworks Authority
Design of Northern and Southern Guam Reservoirs

Fee Proposal Spreadsheet
PROJECT MANAGEMENT

EXHIBIT C (49-01-20)

11/8/2019
Page 1 of 1

DESIGN TASK		Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Sr Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
ENGINEERING SERVICES										
Project Management										
1.0	Prep / Attend Bi-weekly Meetings / Webex (21-mos)	24.0	168.0	168.0			168.0	60.0	60.0	\$88,990.00
2.0	Review B&C PZR Report / Provide Comments		20.0	10.0						
	Subtotal Hours	24.0	188.0	178.0	0.0	0.0	168.0	60.0	60.0	
	Hourly Rate	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
	Subtotal Direct Labor	\$4,200.00	\$31,960.00	\$29,370.00	\$0.00	\$0.00	\$14,280.00	\$6,300.00	\$2,880.00	
DESIGN TASK		PLS	Survey Tech	Field Crew	CAD	TOTAL COST				
SURVEY SERVICES										
1.0	Site Surveys									\$0.00
	Property Research									
	Control Survey									
	Boundary Survey									
	Topographic Survey & Map									
2.0	Land Acquisition									
	Subtotal Hours	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Hourly Rate	\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00	
	Subtotal Direct Labor	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
SUBCONSULTANTS										
Subconsultant		Total Fee		% This Task		Task Fee				
1.0	RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$21,000.00		100%		\$21,000.00				
2.0	Wixon & Associates, LLC (Electrical)	\$0.00		0%		\$0.00				
3.0	Southeastern Archaeological Research, Inc. (Archaeological)	\$0.00		0%		\$0.00				
4.0	Geo-Engineering & Testing, Inc. (Geotechnical)	\$0.00		0%		\$0.00				
5.0	PCR Environmental, LLC (Environmental)	\$0.00		0%		\$0.00				
6.0	Rider Levett Bucknall (Cost Estimating)	\$0.00		0%		\$0.00				
7.0	Cornerstone Valuation Guam, Inc. (Appraisal)	\$0.00		0%		\$0.00				
Subtotal - Subconsultants						\$21,000.00				
TGE Sub Admin Fee (10%)						\$2,100.00				
GRT (4.17%)						\$963.00				
\$24,063.00										
DIRECT EXPENSES										
1.0	Reproduction	Sheets	Sets	Total Pages	Unit Cost	Subtotal				
	Drawings (Full Size - 24x36)				\$1.00	\$0.00				
	Drawings (Tabloid Size - 11x17)	5	50	250	\$0.50	\$125.00				
	Documents (Letter Size - 8.5x11)	5	100	500	\$0.15	\$75.00				
	CD				\$1.00	\$0.00				
Subtotal - Reproduction						\$200.00				
2.0	Vehicles/Fuel	Days	Crews	Rate	Subtotal					
	Survey Field Crews	0	1	\$25.00	\$0.00					
3.0	Miscellaneous	0	0	\$0.00	\$0.00					
Subtotal - Task A Direct Expenses					\$200.00					
GRT (4.17%)					\$8.00					
\$208.00										
TOTAL - PROJECT MANAGEMENT									\$113,261.00	

TG ENGINEERS, PC

July 1, 2020

Mr. Miguel Bordallo, PE
General Manager
Guam Waterworks Authority
Gloria B. Nelson Public Service Building, Room 202
688 Route 15
Mangilao, Guam 96913

ATTN: Mr. Brett Railey, P.E., Acting Chief Engineer

**RE: PW 09-11 Northern and Southern Guam Reservoirs: GWA Project No. W14-007-BND,
Change Order No. 5 – Fee Proposal**

Hafa adai Brett,

TG Engineers, PC (TGE) is pleased to submit our updated Scope of Work and Fee Proposal for the reservoir project Change Order No. 5. We are submitting the proposal file in pdf format by email.

1.0 PROJECT DESCRIPTION

TG Engineers, PC (TGE) is under contract with the Guam Waterworks Authority (GWA) for the Design of Northern and Southern Guam Reservoirs. The work completed to date varies for each site and is listed as follows.

- Ugum – Basis of Design Report
- Santa Rita – Construction started
- Santa Rosa – Construction started
- Sinifa – Construction started
- Inarajan Reservoir – Cancelled
- Agfayan Booster Pump Station – New Facility, pending the site location
- Inarajan Booster Pump Station – BOD complete and pending the Agfayan BOD to combine projects

We note Change Orders 1.0 – 4.0 have been processed and include the following.

- Change Order No. 1 – processed for land acquisition support services.
No schedule change.
- Change Order No. 2 – processed for additional engineering services.
Schedule extended 387-days to 4/14/2017.
- Change Order No. 3 – processed for a time extension.
Schedule extended 630-days to 1/04/2019.
- Change Order No. 4 – processed for additional engineering services.
- Change Order No. 5 (PRV Additions, March 2019) – cancelled.
- Change Order No. 5 is proposed with the Scope of Work as follows.

GWA SOW & FEE
7/1/2020

2.0 CONTRACT TIME EXTENSION

We propose to extend the contract 714-Calendar Days from Saturday 1/5/2019 to a new completion date of Friday 12/18/2020. It is estimated this duration will allow the completion of the Engineering Design Phase services included in the contract.

3.0 SCOPE OF SERVICES

The Ugum Reservoir will require a pile foundation based on the poor quality soils at the site. The scope to add the pile foundation to the design is included.

An additional 24-months of Progress Meetings are proposed for the contract extension to December 18, 2020.

See the TGE Scope of Services attached.

4.0 FEES

We propose to complete this work for the lump sum fee of \$128,415.00. See the TGE Fee Spreadsheets attached.

TASK	FEE
Ugum Pile Foundations	\$48,100.00
Progress Meetings (23-mos)	\$80,315.00
GRAND TOTAL	\$128,415.00

We will invoice monthly according to the percent completed.

5.0 SCHEDULE AND DELIVERABLES

The schedule is planned as follows.

- Ugum PS&E ready to bid by August 31, 2020
- Inarajan PS&E ready to bid by December 18, 2020
- Agfayan PS&E ready to bid by December 18, 2020

6.0 ASSUMPTIONS

- 6.1 The Scope of Work was defined through discussions in team Progress Meetings with GWA and email correspondence between Mr. Garrett Yeoh and the TGE Team in October 2019 – May 2020.
- 6.2 All other tasks remain unchanged.

GWA SOW & FEE
7/1/2020

We look forward to your favorable review and reaching an agreement on the Scope and Fee. Please call Shirley Itliong or myself directly at 647-0808 with any questions.

Si Yu'os Ma'ase,
TG Engineers, PC

A handwritten signature in blue ink, appearing to read 'Tor Gudmundsen', is written over the printed name.

Tor Gudmundsen, PE,
President

Attachments:
Scope of Work
Dated 7/01/20, 1-page

TGE Fee Proposal Spreadsheet
Dated 7/01/20, 3-pages

MBI Fee Proposal Spreadsheet
Dated 5/31/20, 1-page

TG Engineers, PC

DESIGN OF NORTHERN AND SOUTHERN GUAM RESERVOIRS
CHANGE ORDER NO. 5 – SCOPE OF WORK

1. INTRODUCTION

TG Engineers, PC (TGE) is under contract with the Guam Waterworks Authority (GWA) for the Design of Northern and Southern Guam Reservoirs.

2. SCOPE OF SERVICES

2.1 PROJECT MANAGEMENT SERVICES

The current bi-weekly meeting task was completed on January 04, 2019. We propose extending the Bi-weekly progress meetings for a 24-month time extension, ending Friday, 12/18/2020. Based on meeting records, there were 19-meetings held in 2019 and we estimate 16-meetings to complete the contract scope by December 2020.

The scope includes the following tasks.

- a. Meeting Agenda and document preparation.
- b. Meeting attendance.
- c. Writing and issuing the Meeting Minutes within 5-working days after the meeting.
- d. Completing ACTION item tasks in preparation for the next meeting.

2.2 UGUM RESERVOIR SITE – PILE FOUNDATION

A concrete pile foundation will be added to the foundation design for the Ugum Reservoir. The pile foundation requirement was determined when the Geotechnical Investigation was completed and poor quality soils were found at the project site. The Geotechnical borings indicated deep, soft and weak subgrade soils. The large diameter tank is also close to existing slopes.

This results in a large stress influence area together with very high lateral loads requiring the loads to be transferred below the slope plane with the use of piles.

ATTACHMENTS: None

Guam Waterworks Authority
Design of Northern and Southern Guam Reservoirs

Fee Proposal Spreadsheet
CHANGE ORDER NO. 5

7/1/2020
Page 1 of 1

A UGUM RESERVOIR SITE		TOTAL
Engineering Services	\$	3,700.00
Survey Services	\$	-
Subconsultants	\$	44,058.00
Direct Expenses	\$	342.00
TOTAL - UGUM RESERVOIR SITE		\$ 48,100.00
B EXISTING UGUM WATER PLANT SITE DRAINAGE		TOTAL
TOTAL - EXISTING UGUM WATER PLANT SITE DRAINAGE		\$ -
C SANTA ROSA 2-PZR SITES		TOTAL
TOTAL - SANTA ROSA 2-PZR SITES		\$ -
D SANTA ROSA PZR PIPELINE		TOTAL
TOTAL - SANTA ROSA PZR PIPELINE		\$ -
E SINIFA RESERVOIR SITE		TOTAL
TOTAL - SINIFA RESERVOIR SITE		\$ -
F AGFAYAN BPS 4-ALTERNATIVE SITE REVIEW		TOTAL
TOTAL - AGFAYAN BPS 4-ALTERNATIVE SITE REVIEW		\$ -
G AGFAYAN BPS 4-ALTERNATIVE SITES ROAD		TOTAL
TOTAL - AGFAYAN BPS 4-ALTERNATIVE SITES ROAD		\$ -
H PROJECT MANAGEMENT		TOTAL
Engineering Services	\$	61,384.00
Survey Services	\$	-
Subconsultants	\$	18,526.00
Direct Expenses	\$	405.00
TOTAL - PROJECT MANAGEMENT		\$ 80,315.00
TOTAL FEE - CHANGE ORDER NO. 5		\$ 128,415.00

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Guam Waterworks Authority
Design of Northern and Southern Guam Reservoirs

Fee Proposal Spreadsheet
CO#5 PROJECT MANAGEMENT

7/1/2020
Page 1 of 1

DESIGN TASK		Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Stf Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
ENGINEERING SERVICES										
Project Management										
1.0	Prep / Attend Bi-weekly Meetings / Webex (Jan 2019 - Nov 2020 = 23-mos)									
	Meetings (Jan - Dec) 2019 = 19	10.0	96.0	96.0			10.0	10.0	10.0	
	Meetings (Jan - Dec) 2020 = 16	10.0	64.0	64.0			8.0	8.0	8.0	
						</				

GWA - UGUM RESERVOIR 5.31.20				
PILE FOUNDATION DESIGN CHANGE ORDER				
Task Description	Project Mgr/Str Engineer	Structural Engineer	CAD Designer	Cost
Hourly Rate	\$ 235.00	\$ 210	\$ 150	
Structural design/review/coordination	48	96	72	\$ 42,240
Specifications	6			\$ 1,410
Subtotal	54	96	72	\$ 43,650
Deduction for continuous footing	8	12	8	\$ (5,600)
Total				\$ 38,050



GUAM WATERWORKS AUTHORITY

"Better Water, Better Lives."

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

Tel: (671) 300-6846

Issues for Decision

Resolution No. 34-FY2020

Relative to Approval of Fund Increase to the Construction Management Contract for the Route 4 Relief Sewerline Rehabilitation and Replacement Project S15-006-EPA

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

The objective of this project is to improve the sewer collection system, which included repairing and/or replacing sewer manholes and over 4,200 linear feet of gravity sewer line along Route 4 and Route 1 in the village of Agaña. These sewer infrastructure elements have been identified by GWA, through an SSES investigation, to be subjected to either inactivity due to incomplete construction work or excessive infiltration and inflow (I&I). Successful completion of this project will result in proper maintenance and operation of the sewer collection system and USEPA agrees that efforts to rehabilitate, repair or replace the sewer line are necessary. One of two construction contracts to fulfill the scope of work of this project has been completed as of March 2020. The second contract, that with PPBC, continues and is scheduled to be completed by the end of September with the bulk of construction completed by the end of August. The construction management services are required for the remainder of the project.

Where is the project located?

This project is located along Route 4 and Route 1, from the base of the Sinajaña hill in Hagatña to the Hagatña Main Pump Station. Construction activities will be limited to the government easements of the sewer infrastructure elements.

How much will it cost?

GWA management is seeking funding increase for the construction management services contract with EMPSCO for an additional not-to-exceed amount of Eighty-Two Thousand Forty-Two Dollars and Twenty Cents (\$82,042.20), which brings the total authorized funding to a maximum not-to-exceed amount of One Million Fifteen Thousand Four Hundred Seventy-Nine Dollars and Ninety-Five Cents (\$1,015,479.95).

When will it be completed?

The construction is estimated to be completed by September 28, 2020.

What is the funding source?

The funding for this project will be from the USEPA Title 2 Construction Grants Program and, if necessary, GWA Bond Funds with a maximum project budget of One Million Fifteen Thousand Four Hundred Seventy-Nine Dollars and Ninety-Five Cents (\$1,015,479.95).

The RFP/BID responses (if applicable):

N/A



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

GWA RESOLUTION NO. 34-FY2020

**RELATIVE TO APPROVAL OF FUND INCREASE TO THE CONSTRUCTION
MANAGEMENT CONTRACT FOR THE ROUTE 4 RELIEF SEWERLINE
REHABILITATION AND REPLACEMENT
PROJECT S15-006-EPA**

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 is a Guam Public Corporation established and existing under the laws of Guam; and

WHEREAS, GWA received a grant from USEPA under the Title 2 Construction Grants Program to improve the sewer collection system, which included over 4,200 linear feet of gravity sewer line along Route 4 and Route 1, from the base of the Sinajaña hill in Hagatña to the Hagatña Main Pump Station; and

WHEREAS, the gravity sewer line noted above has a section that has been inactive since its original installation due to incomplete construction work, and sections that need repair due to high infiltration and inflow (I/I), and the intent of this project is to rehabilitate, repair or replace these sections; and

WHEREAS, in September 2018 GWA management executed two separate construction contracts (Schedule A and Schedule B) to rehabilitate the Route 4 Relief Sewerline, the first (Schedule A) with ProPacific Builder Corporation (PPBC), and the second (Schedule B) with Insituform Technologies LLC (Insituform); and

WHEREAS, to provide construction management (CM) services on both construction contracts, in June 2018 GWA management entered into a contract with EMPSCO Engineering

1 Consultants (EMPSCO) in the amount of Seven Hundred Two Thousand Six Hundred Seventy-
2 Eight Dollars and Thirteen Cents (\$702,678.13); and

3
4 **WHEREAS**, while both construction contractors received the Notice to Proceed in
5 September 2018, the start of construction was delayed due to complications with obtaining
6 approvals during the permitting process; and

7
8 **WHEREAS**, construction by Insituform Technologies LLC was substantially completed
9 in March 2020; and

10
11 **WHEREAS**, construction by ProPacific Builder Corporation continues but is scheduled
12 to be completed by the end of September 2020, and the CM services are anticipated to be
13 required through September 2020; and

14
15 **WHEREAS**, GWA has amended the CM contract with EPMSO to provide continued
16 construction management services on both construction contracts through June 2020 on a Time
17 and Materials basis, as authorized by Resolution 14-FY2020; and

18
19 **WHEREAS**, GWA has negotiated Change Order No.2 with EPMSO, shown in Exhibit
20 A, to provide continued construction management services on both construction contracts
21 through September 2020 on a Time and Materials basis; and

22
23 **WHEREAS**, GWA Management seeks CCU approval of EMPSCO's Change Order No.
24 2 fee proposal for additional construction management services funding with a not-to-exceed
25 amount of Eighty-Two Thousand Forty Two Dollars and Twenty Cents (\$82,042.20), to bring
26 the total authorized funding amount to a maximum not-to-exceed amount of One Million Fifteen
27 Thousand Four Hundred Seventy-Nine Dollars and Ninety-Five Cents (\$1,015,479.95); and

28
29 **WHEREAS**, funding for this project will be from the USEPA Title 2 Construction
30 Grants Program and, if necessary, GWA Bond funds with an estimated project budget One
31 Million Fifteen Thousand Four Hundred Seventy-Nine Dollars and Ninety-Five Cents
32 (\$1,015,479.95);

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

- 3 1. The recitals set forth above hereby constitute the findings of the CCU.
- 4 2. The CCU hereby approves the funding increase for construction management
5 services of an additional not-to-exceed amount of One Million Fifteen Thousand
6 Four Hundred Seventy-Nine Dollars and Ninety-Five Cents (\$1,015,479.95).
- 7 3. The CCU hereby further approves the total funding authorization for the contract
8 with EMPSCO to an amount not-to-exceed One Million Fifteen Thousand Four
9 Hundred Seventy-Nine Dollars and Ninety-Five Cents (\$1,015,479.95).
- 10 4. The CCU hereby further approves management to duly notify the PUC that this
11 contract will now exceed One Million Dollars (\$1,000,000.00), funded primarily
12 by USEPA grants and, if necessary, GWA Bond Funds.

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

16
17 **DULY AND REGULARLY ADOPTED**, this 28th day of July 2020.

18 Certified by:

Attested by:

19
20
21 _____
22 **JOSEPH T. DUENAS**
23 Chairperson

24 _____
25 **MICHAEL T. LIMTIACO**
26 Secretary

27 //

28 //

29 //

30 //

31 //

SECRETARY'S CERTIFICATE

I, Michael T. Limtiaco, Board Secretary of the Consolidated Commission on Utilities as evidenced by my signature above do hereby certify as follows:

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

AYES: _____

NAYS: _____

ABSENT: _____

ABSTAIN: _____

///

///

///

///

///

///

///

Exhibit A



ENGINEERING MANAGEMENT & PLANNING SERVICES CORPORATION

1998 Army Drive Route 16, 2/F EMPSCO Bldg., Dededo, Guam 96929 • P.O. Box 21794 GMF, Barrigada, Guam 96921 • Tel No. 1.671.638.4716/5716 • Fax No. 1.671. 638.2136 • Email:empsco@guam.net

June 30, 2020

Thomas F. Cruz, P.E.

Chief Engineer

Guam Waterworks Authority

Gloria B. Nelson Public Service Building

688 Route 15 Mangilao, Guam 96913

Attention: **John Riegel, P.E.**

Senior Manager

Brown & Caldwell

Project: GWA Project no. S15-006-EPA, Route 4 Relief Sewer line Rehabilitation and Replacement

Subject: Proposed Change Order No.2 – Time Extension for Construction Management Services

Gentlemen,

We would like to submit our fee proposal of **Eighty Two Thousand Forty Two and 20/100 U.S. Dollars (\$82,042.20)** to cover the additional time extension of 90 calendar days based on projected PBBC's construction work completion.

The extended CM efforts will involve to the following Project Management, Project Engineering/Inspection and Administration tasks during the additional time period:

1. Prepare and continue project correspondence, reports and inspection documentation as required to monitor project activities and foresee issues during construction.
2. Continue conduct project meetings as required for clear communication of contract requirements and adherence to schedules.
3. Track all requests for information and continue to assist GWA with the development of a response to RFIs regarding any aspect of the contract documents.
4. Notify GWA regarding any issues that arise during construction of the project that could result in claims and/or disputes.
5. Provide and ensure that the project is efficiently managed and constructed according to the terms of the contract.
6. Provide a full time competent on-site inspector to observe all activities of other Contractor on-site to ensure that the work is accomplished by the Contract documents and applicable permits.

Please give us a call or contact us via email if you have questions regarding this proposal.

Thank you very much.

Very Truly,

Reynaldo M C. Arce, P.E.

Principal Engineer

EMPSCO Engineering Consultants

Attached: Fee Proposal Breakdown



EMPSCO ENGINEERING CONSULTANTS



Construction Management Services for GWA Route 4 Sewerline Rehabilitation and Replacement Project
CM Proposed Change No. 2 - 90 CD Time Extension (from July 1, 2020 to September 30, 2020)

June 2020

SUMMARY

ORIGINAL CONTRACT AMOUNT		\$	702,678.13	
APPROVED CHANGE ORDER (CO No.1)		\$	230,759.62	
CURRENT CONTRACT PRICE INCLUDING APPROVED CO		\$	933,437.75	
PROPOSED CHANGE ORDER (CO No.2)		\$	82,042.20	
REVISED CONTRACT AMOUNT				
Item	Task Description	ORIGINAL CONTRACT AMOUNT	APPROVED CHANGE ORDER (CO No. 1)	PROPOSED CHANGE ORDER (PCO NO. 2)
CONSTRUCTION PHASE				
Project Controls				
1	Project Correspondences	\$ 27,158.28	\$ 13,514.20	\$ 5,728.71
2	Submittals	\$ 34,630.67	\$ -	\$ -
3	Payment requests	\$ 31,477.28	\$ -	\$ -
4	Project Meetings	\$ 58,458.00	\$ 27,280.40	\$ 2,909.76
5	Request for Information	\$ 25,078.88	\$ 13,180.16	\$ 5,585.55
6	Claims and Disputes	\$ 25,078.88	\$ 14,453.60	\$ 6,131.31
7	Project Records	\$ 26,898.08	\$ 14,453.60	\$ 6,131.31
	subtotal	\$ 228,780.07	\$ 82,881.96	\$ 26,486.64
Construction Inspection				
8	Onsite Inspections/Site Issues	\$ 291,834.88	\$ 137,325.86	\$ 54,355.56
9	Acceptance of Work	\$ 11,569.28	\$ 8,451.80	\$ -
10	Stop Work Order	\$ -	\$ -	\$ -
	subtotal	\$ 303,404.16	\$ 145,777.66	\$ 54,355.56
Change Orders				
11	Change Order Review	\$ 17,293.61	\$ -	\$ -
12	Design Change	\$ 13,734.50	\$ -	\$ -
13	DCVR	\$ 13,881.71	\$ -	\$ -
14	Negotiations	\$ 14,617.76	\$ -	\$ -
15	Change Order Documents	\$ 16,030.04	\$ -	\$ -
	subtotal	\$ 75,557.62	\$ -	\$ -
Construction Survey				
16	Pipeline Alignments	\$ 4,842.92	\$ -	\$ -
17	Elevations	\$ 4,842.92	\$ -	\$ -
	subtotal	\$ 9,685.84	\$ -	\$ -
Project Close-out				
18	Timely/Substantial Completion	\$ 19,692.62	\$ -	\$ -
19	Punch List Development	\$ 9,941.28	\$ -	\$ -
20	Inspections	\$ 14,409.72	\$ -	\$ -
21	Training & Warranty	\$ -	\$ -	\$ -
	subtotal	\$ 44,043.62	\$ -	\$ -
SUBTOTAL - CONSTRUCTION PHASE		\$ 661,471.31	\$ 228,659.62	\$ 80,842.20



EMPSCO ENGINEERING CONSULTANTS



Construction Management Services for GWA Route 4 Sewerline Rehabilitation and Replacement Project
 CM Proposed Change No. 2 - 90 CD Time Extension (from July 1, 2020 to September 30, 2020)
 June 2020

SUMMARY

ORIGINAL CONTRACT AMOUNT		\$	702,678.13		
APPROVED CHANGE ORDER (CO No.1)		\$	230,759.62		
CURRENT CONTRACT PRICE INCLUDING APPROVED CO		\$	933,437.75		
PROPOSED CHANGE ORDER (CO No.2)		\$	82,042.20		
REVISED CONTRACT AMOUNT					
Item	Task Description	ORIGINAL CONTRACT AMOUNT	APPROVED CHANGE ORDER (CO No. 1)	PROPOSED CHANGE ORDER (PCO NO. 2)	
	POST CONSTRUCTION				
1	Final Report	\$ 7,620.90	\$ -	\$ -	
2	Project Records	\$ 7,257.06	\$ -	\$ -	
3	Record Drawings	\$ 8,815.86	\$ -	\$ -	
	subtotal	\$ 23,693.82	\$ -	\$ -	
	EXPENSE ITEMS				
	CONSTRUCTION PHASE				
1	Mailing & Expediting	\$ -	\$ -	\$ -	
2	Report Reproduction	\$ 2,800.00	\$ -	\$ -	
3	Drawing Reproduction	\$ 1,000.00	\$ -	\$ -	
4	Photo film dev	\$ -	\$ -	\$ -	
5	Fuel	\$ 4,000.00	\$ 2,100.00	\$ 1,200.00	
6	Office Supplies	\$ 600.00	\$ -	\$ -	
7	Digital Cameras	\$ -	\$ -	\$ -	
8	Testing	\$ 8,363.00	\$ -	\$ -	
	POST CONSTRUCTION				
1	Mailing & Expediting	\$ -	\$ -	\$ -	
2	Report Reproduction	\$ 250.00	\$ -	\$ -	
3	Record Drawing Reproduction	\$ 500.00	\$ -	\$ -	
	subtotal	\$ 17,513.00	\$ 2,100.00	\$ 1,200.00	
	Grand Total	\$ 702,678.13	\$ 230,759.62	\$ 82,042.20	

Construction Management Services for GWA Route 4 Sewerline Rehabilitation and Replacement Project
CM Proposed Change No. 2 - 90 CD Time Extension

Item	Task Description	Principal Engineer	Project Manager	Project Engineer	Project Inspector	Secretary/Clerk	CADD Operator	3-man survey crew	PROPOSED CHANGE ORDER NO. 2 (From July 1, 2020 up to September 30, 2020)
		\$ 147.21	\$ 147.21	\$ 112.58	\$ 95.27	\$ 45.48	\$ 57.42	\$ 1,210.73	
	CONSTRUCTION PHASE								
	Project Controls								
1	Project Correspondences	3.00	12.00	24.00		18.00			\$ 5,728.71
2	Submittals								\$ -
3	Payment requests								\$ -
4	Project Meetings	-	12.00	-	12.00				\$ 2,909.76
5	Request for Information	3.00	12.00	30.00					\$ 5,585.55
6	Claims and Disputes	3.00	12.00	30.00		12.00			\$ 6,131.31
7	Project Records	3.00	12.00	30.00		12.00			\$ 6,131.31
	subtotal								\$ 26,486.64
	Construction Inspection								
8	Onsite Inspection	-	12.00	-	552.0				\$ 54,355.56
9	Acceptance of Work	-	-	-					\$ -
10	Stop Work Order								\$ -
	subtotal								\$ 54,355.56
	Change Orders								
11	Change Order Review								\$ -
12	Design Change								\$ -
13	DCVR								\$ -
14	Negotiations								\$ -
15	Change Order Documents								\$ -
	subtotal								\$ -
	Construction Survey								
16	Pipeline Alignments								\$ -
17	Elevations								\$ -
	subtotal								\$ -
	Project Close-out								
18	Timely Completion								\$ -
19	PunchList Review & Verification								\$ -
20	Inspections								\$ -
21	Training & Warranty								\$ -
	subtotal								\$ -
	SUBTOTAL - CONSTRUCTION PHASE								\$ 80,842.20
	POST CONSTRUCTION								

Item	Task Description	Principal Engineer	Project Manager	Project Engineer	Project Inspector	Secretary/Clerk	CADD Operator	3-man survey crew	PROPOSED CHANGE ORDER NO. 2 (From July 1, 2020 up to September 30, 2020)
		\$ 147.21	\$ 147.21	\$ 112.58	\$ 95.27	\$ 45.48	\$ 57.42	\$ 1,210.73	
1	Final Report								\$ -
2	Project Records								\$ -
3	Record Drawings								\$ -
	subtotal								\$ -
	EXPENSE ITEMS								
	CONSTRUCTION PHASE								
1	Mailing & Expediting								\$ -
2	Report Reproduction								\$ -
3	Drawing Reproduction								\$ -
4	Photo film dev								\$ -
5	Fuel								\$ 1,200.00
6	Office Supplies								\$ -
7	Digital Cameras								\$ -
8	Testing								\$ -
	subtotal								\$ 1,200.00
	Grand Total								\$ 82,042.20



Management Report

GWA CCU Work Session, July 22, 2020



Management Update

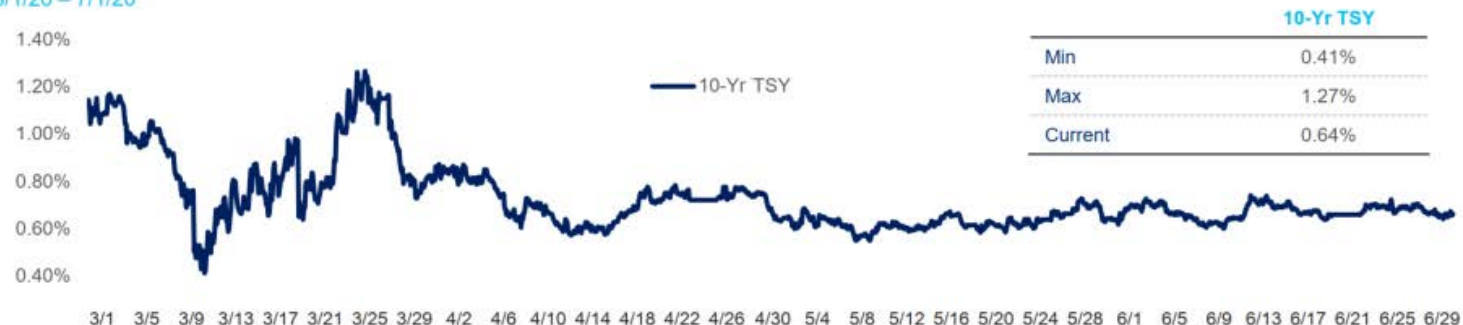
- **Series 2020B Bonds – Taxable Refunding Preliminary Information**
 - Estimated Refunding Par Amount: \$142,595,000
 - Estimated PV Savings (as of Jul 16): \$10,400,000
 - Estimated All-in TIC: 3.76%
 - Estimated Annual Debt Service Savings: \$1,276,000 to \$1,781,000 for FY2021 to FY2027
 - Projected Sale Date: August 11/12, 2020
 - Projected Closing Date: August 19/20, 2020
- Market Conditions (based on information from Citi)
 - COVID-19 pandemic closed the municipal bond market for several weeks
 - April saw signs of market stabilization, but all issuances were “AA” rated credits or higher
 - Corporate taxable issuers starting issuing debt in record amounts beginning in April 2020 to weather COVID-19 pandemic
 - Municipal markets were slower to recover, as investors were unsure how governments would be impacted by the pandemic
 - As corporate credit spreads tightened throughout April and May, investors starting buying municipal bonds, which helped drive the taxable municipal rates lower
 - This caused taxable municipal issuances to surge in June, which saw 800%+ increase in new issue taxable supply compared to 2019
 - Improvement in market conditions is projected to allow for savings similar to pre-COVID-19 estimates for GWA Refunding

Taxable Market Overview

Treasury rates have stabilized following the onset of the COVID-19 Pandemic

10-Year MMD and TSY

3/1/20 – 7/1/20



30-Year MMD and TSY

3/1/20 – 7/1/20



1. Citi Velocity as of market close on July 10, 2020

2

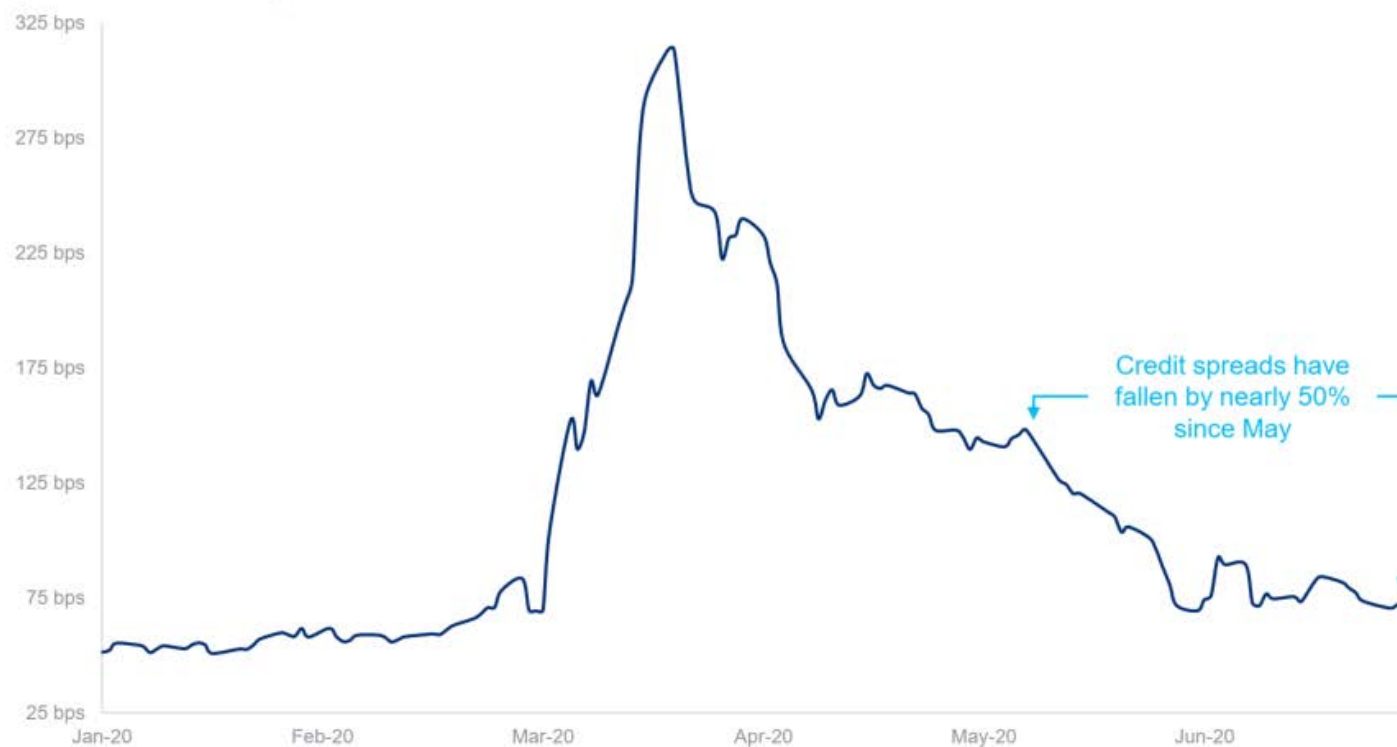


Investment Grade Taxable Credit Spreads have Tightened

Since March 2020, taxable investment grade credit spreads have declined by more than 230 bps

USBIG Investment Grade Index Spread to 30-Year Treasury

April 10, 2020 to July 10, 2020



Source: Citi Velocity

3



Municipal Supply

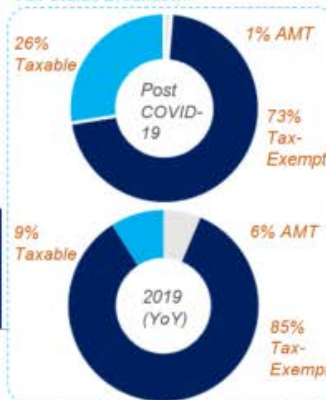
Municipal supply has returned to more normalized levels with June supply rising +34% YoY after the market effectively closed amid COVID-19 volatility.

Municipal Supply Returns to More Normalized Levels as Issuance Dynamics Improve

Past 6 Months Weekly Municipal Supply



Tax-Status Breakdown



Supply Summary (\$MM)			
	2020 YTD	2019 YTD	YoY Change
Tax-Exempt	147,142	147,812	-0.5%
Taxable	56,222	15,928	+253.0%
AMT	2,239	10,004	-77.6%
Total	205,603	173,744	+18.3%

2020 Supply Outpaces 2019

Total Monthly Supply 2018-2020YTD



2020 YTD	\$205.6bn
2019 Total	\$422.1bn
Volume YoY	+18.3%

Supply driven by taxable volume

Taxable Supply Advances into 2020

Monthly Taxable Supply 2018-2020YTD



2020 YTD	\$56.2bn
2019 Total	\$70.8bn
Volume YoY	+253.0%

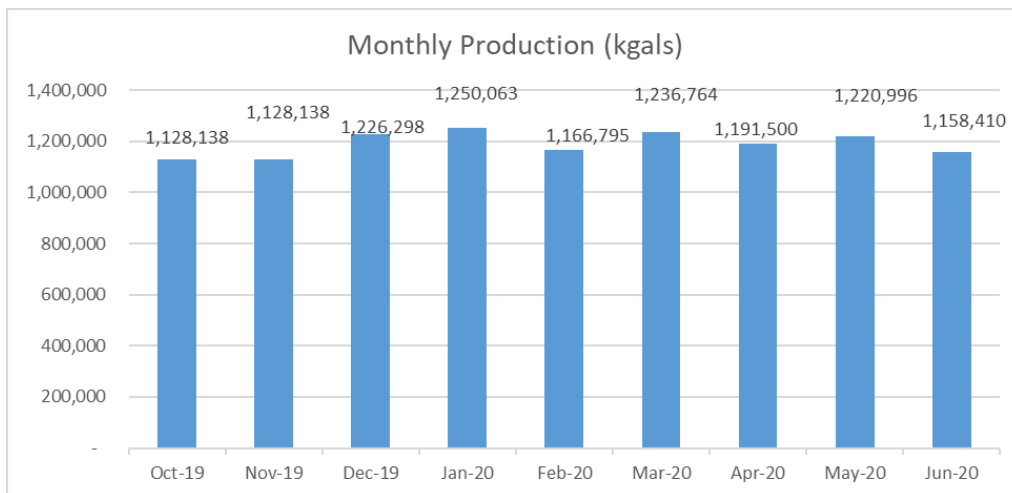
Source: SDC as of July 02, 2020. Does not include Corporate CUSIP supply.

Operations Update

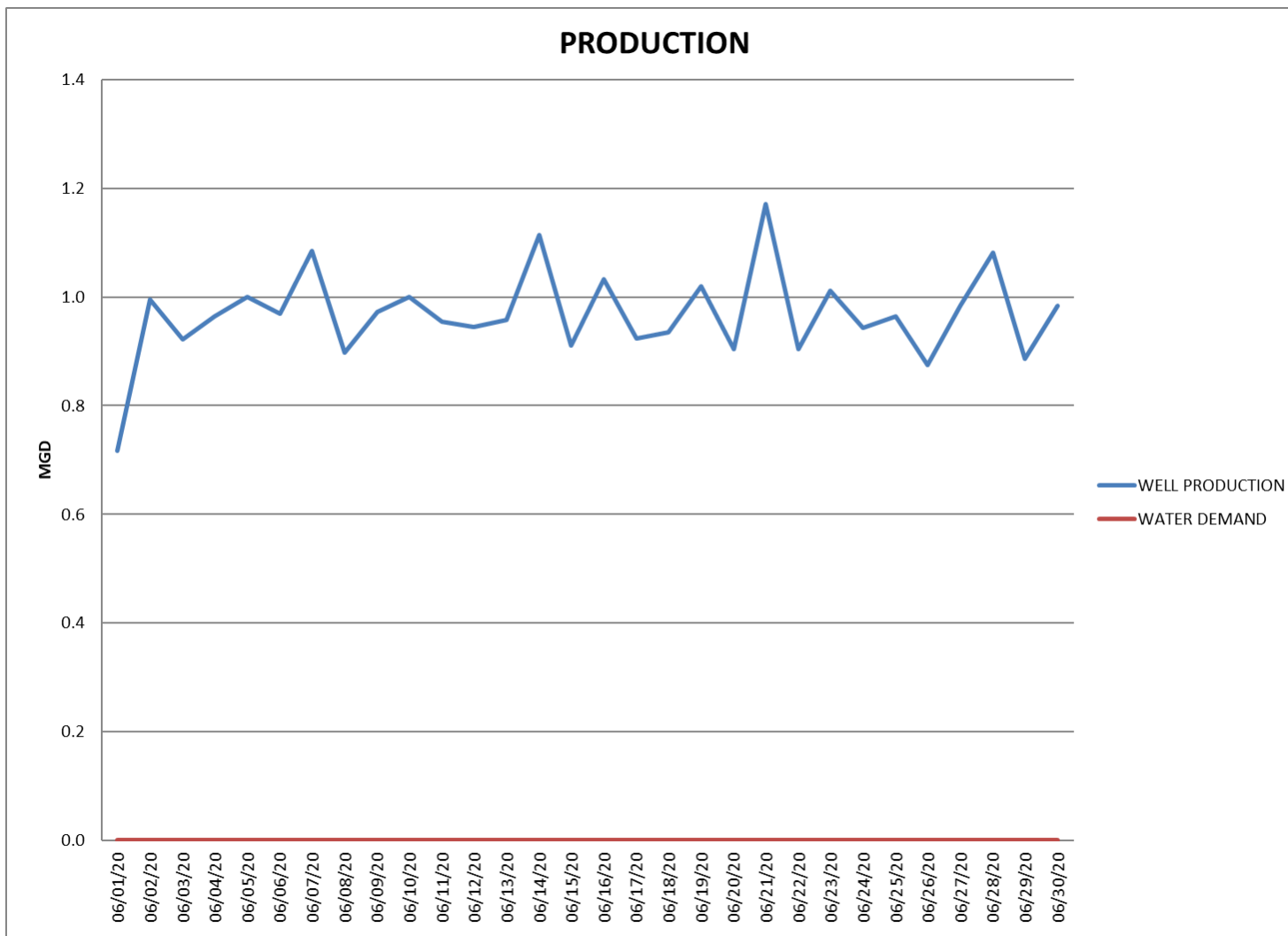
Production (June 2020)

Monthly Production Summary - JUNE 2020				
Deep Wells		35.3 MGD		
Active wells =	93 of 120			
Avg days in operation =	30 days			
Total Production =	1,057,586 Kgals			
Springs		0.18 MGD		
Avg days in operation =	30 days			
Total Production =	5288 Kgals			
Ugum Surface Water Plant		2.2 MGD		
Avg days in operation =	30 days			
Total Production =	66,508 Kgals			
Tumon Maui Well		0.97 MGD		
Avg days in operation =	30 days			
Total Production =	29,028 Kgals			
		1,158,410 Kgals	38.6 MGD	

DW Status as of 6/30/2020						
Active	93					
Grounded motor or Pump Failure	7	A26-D03-F01-F05-F06-F13-F20				
Out of commission	8	A02-A07-A28-D05-D13-M14-MJ01-MJ05				
Temporarily Secured	2	A23-A25				
Standby	10	A10-A29-D01-D24-F04-F10-F16-M09-M12-M17A				
TOTAL	120					

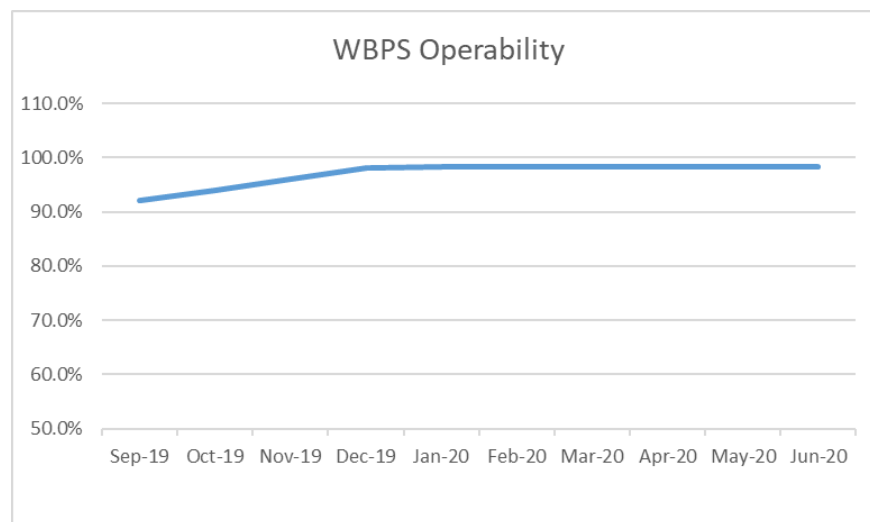


Tumon Maui Well Production (June 2020)

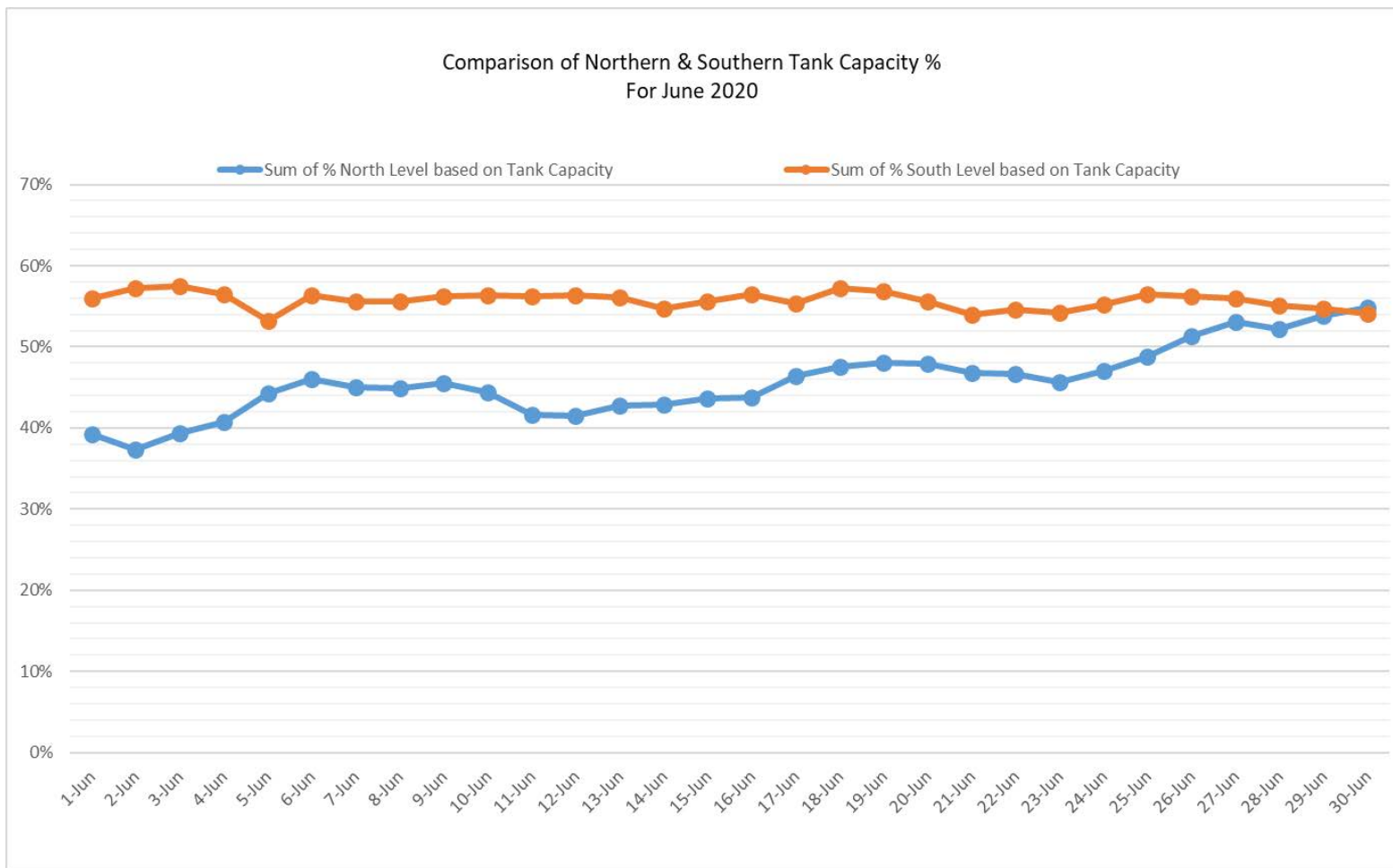


Distribution (June 2020)

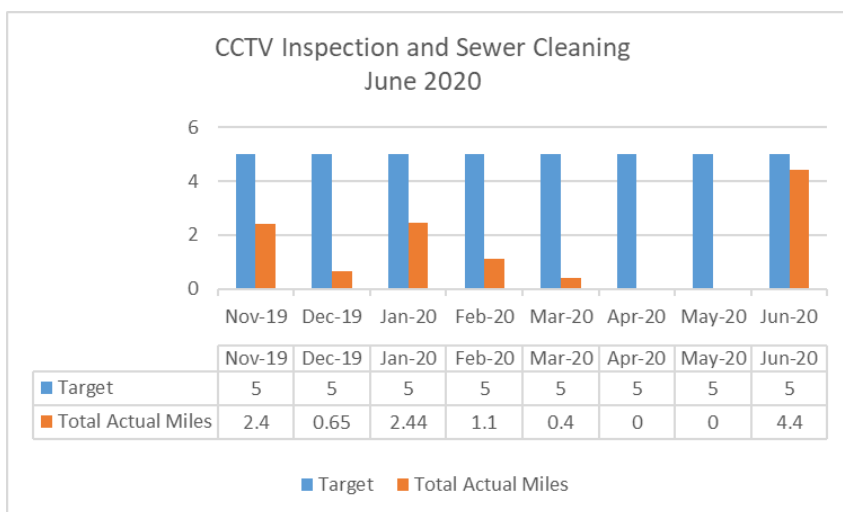
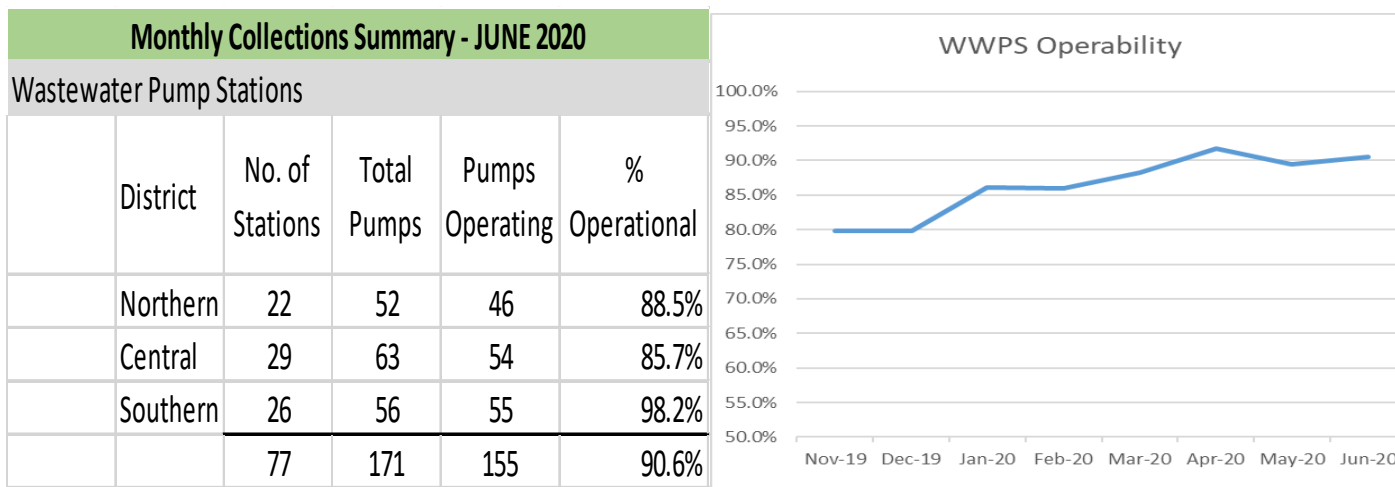
Monthly Distribution Summary - JUNE 2020					
Water Booster Pump Stations					
	District	No. of Stations	Total Pumps	Pumps Operating	% Operational
	Northern	13	26	25	96.2%
	Central	7	15	15	100.0%
	Southern	7	15	15	100.0%
		27	56	55	98.2%

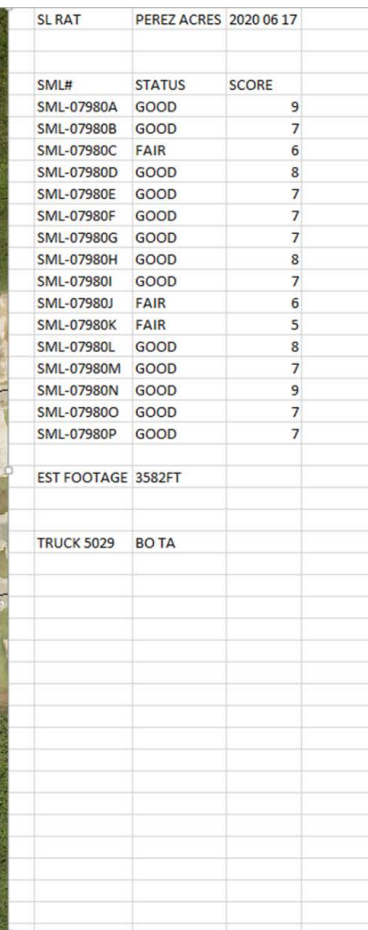


Distribution – Tank Levels (June 2020)



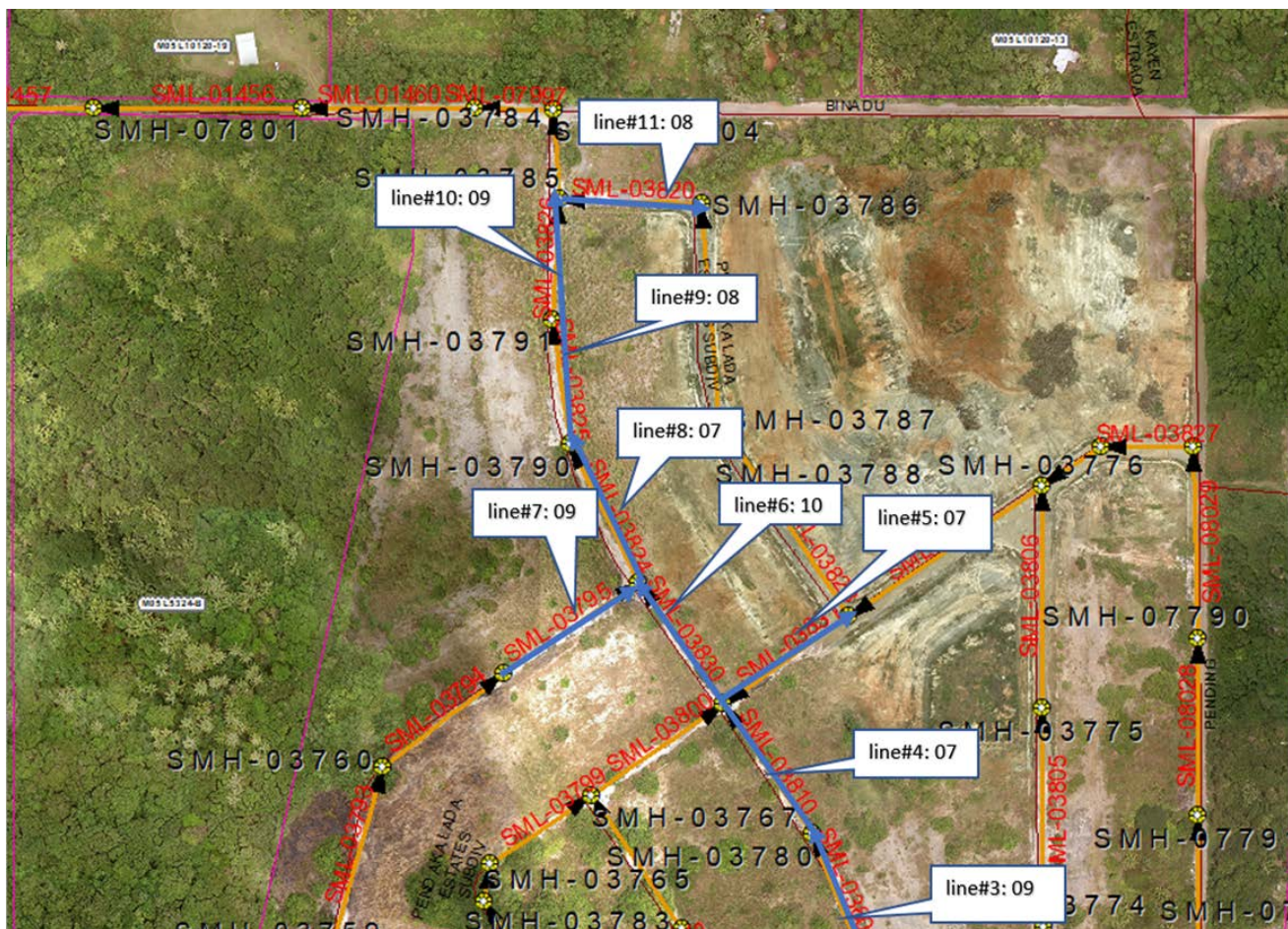
Wastewater Collections (June 2020)





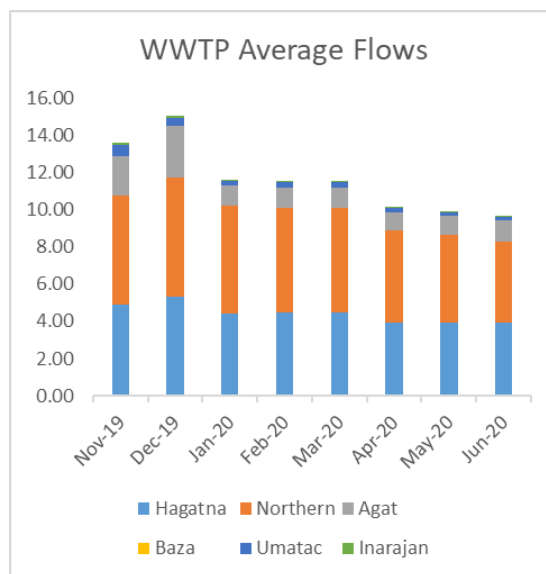
Wastewater Collections –Cleaning/Jetting (June 2020)

Lada Mapping photo 1



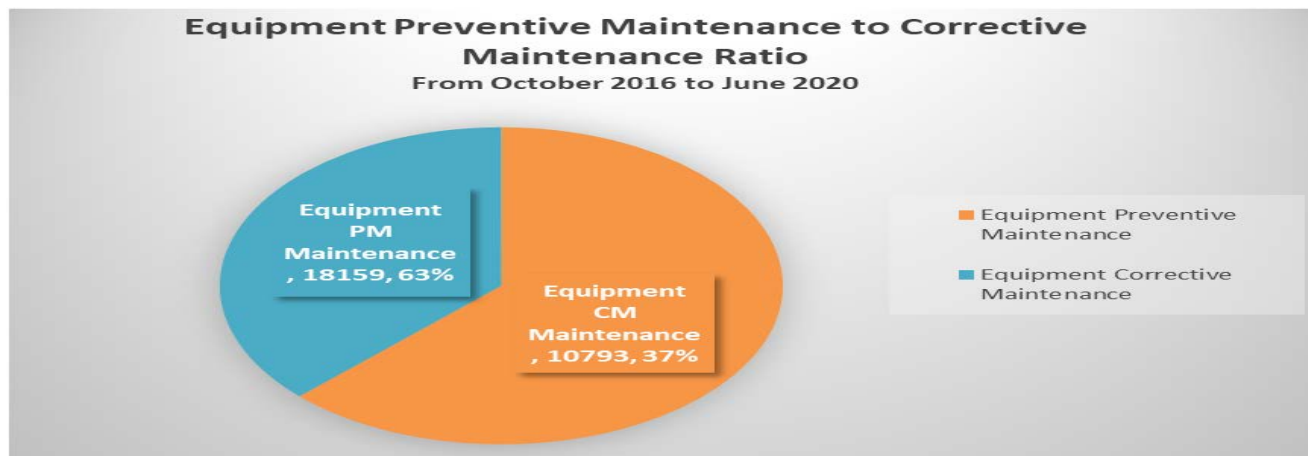
Wastewater Treatment (June 2020)

Monthly Wastewater Treatment Summary - June 2020				
WW Treatment Plants - Flows				
	Facility	Avg. Daily Flows	Sludge (lbs)	Sludge Disp. (\$)
	Hagatna	3.94	240,180	\$ 21,616
	Northern	4.32	1,204,995	\$ 108,450
	Agat	1.16	62,260	\$ 5,603
	Baza	0		
	Umatac	0.20		
	Inarajan	0.05		
		9.67	1,507,435	\$ 135,669

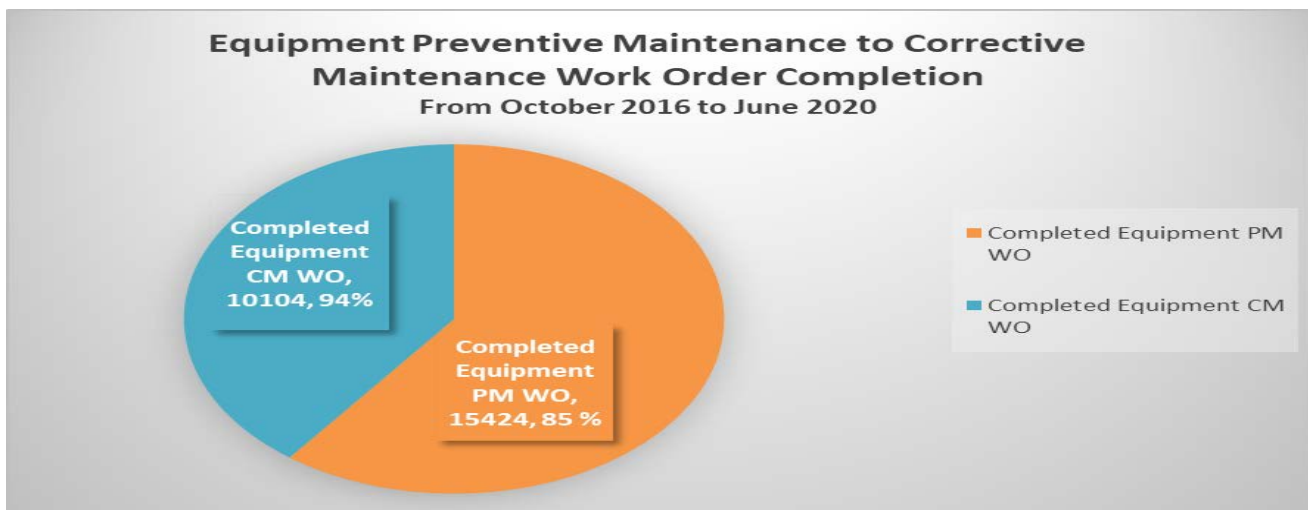


Asset Management (June 2020)

I. Equipment Preventive Maintenance to Corrective Maintenance *Ratio*

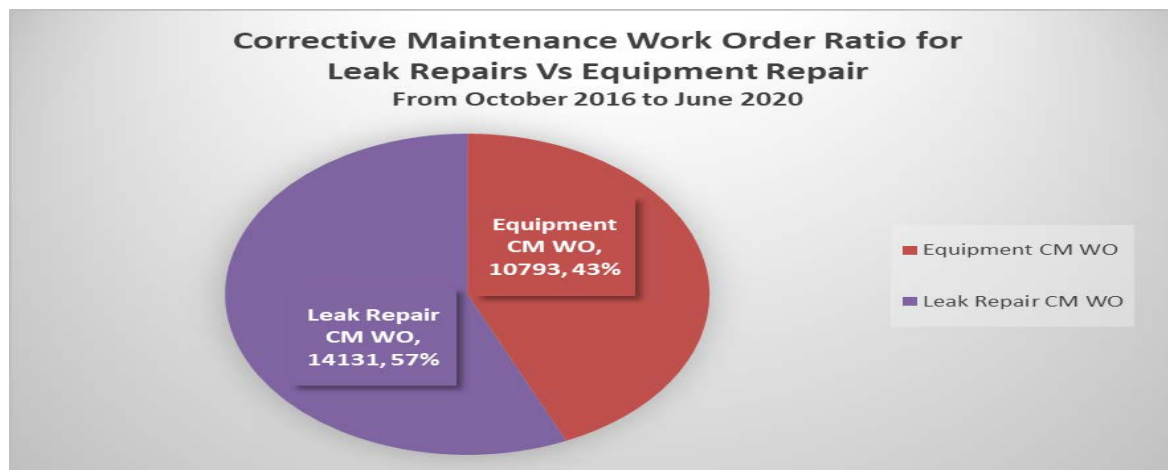


II. Equipment Preventive Maintenance to Corrective Maintenance *Work Order Completion*

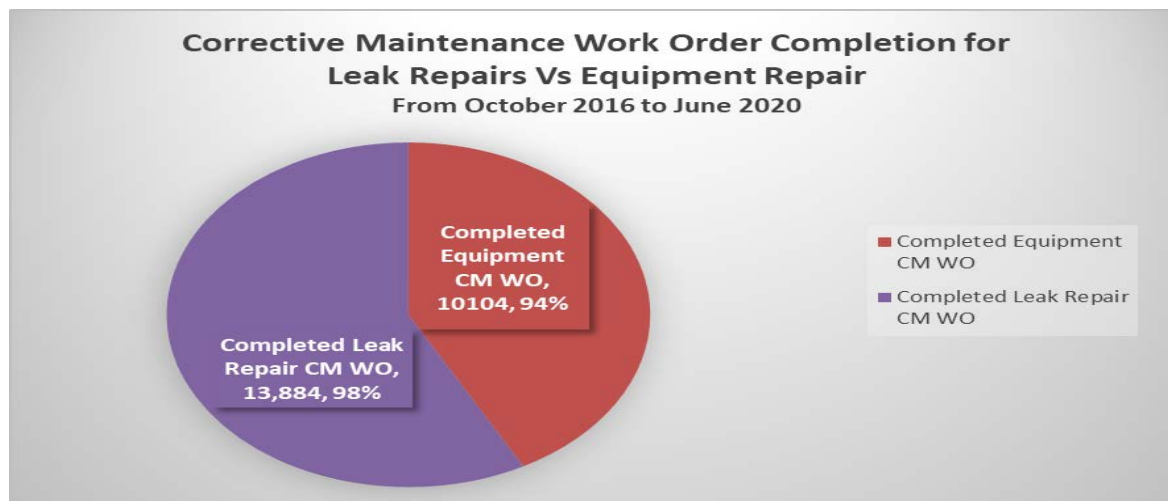


Asset Management (June 2020)

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



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



Meters from January 2017 through July 6, 2020

COMPLETED FIELD ACTIVITY JAN 2017 THRU JULY 06 2020 (POSTED IN CIS)												COMPLETED FIELD ACTIVITIES (IN PROCESS) TO BE POSTED IN CIS
2017	2018	2019	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	TOTAL:		
GWA - Meter Exchange	6487	13353	10850	1079	714	548	117	44	59	3	33254	22
# OF METERS TESTED AS PER METER TEST FACILITY REPORTS:	6079	12259	9278	749	908	1116	341	662	635	720	32747	
AVG # OF FIELD STAFF PERFORMING CHANGE OUTS (MON THRU FRI):	19	16	7	7	7	7	7	1	1	1		
# OF ADMIN STAFF TO CREATE AND POST FIELD ACTIVITIES IN CIS:	10	6.3	5	5	5	2	1	1	1	1		
TOTAL:	29	22	12	12	12	9	8	2	2	2		

*project suspended effective 04/13/20 and resumed 07/02/20.

REMAINING ACTIVE BADGER LP MODELS TO BE REPLACED AS OF 07/06/20:

459

3/4" BADGER METERS IN STOCK AS OF July 06, 2020:

Size	Meter Description	New Meters Passed	New Meters Untested	Passed Field Meters	MMP	Meters Available
3/4"	METER, Badger AMR 5/8" X 3/4" RCDL Model M25 Disc Meter	239	0	278	0	517
3/4"	METER, Badger AMR 5/8" x 3/4" **WARRANTY** RCDL Model M25	0	0	0	0	0
3/4"	METER,Badger 5/8"x3/4" NSF61-G RCDL M25LL Disc Meter Integral	67	398	3	0	468
3/4"	METER, Badger AMR 5/8" x 3/4" RCDL Model M25 ***RMJ***	0	0	0	0	0
3/4"	METER, Badger E-SERIES 5/8"X3/4" ULTRASONIC	960	0	1	0	961

Backbilling through June 2020

Guam Waterworks Authority

Collections Report¹ on Accounts Backbilled thru June 30, 2020

For fiscal years 2015 thru 2020 (Jun)

Accounts Billed			Collection Status											
			Amounts Collected ¹			Amounts Adjusted			Total Uncollected (Active)			Total Uncollected (Inactive)		
FY Billed	No. of Accounts	Amount	No. of Accounts	Amount	%	No. of Accounts	Amount	%	No. of Accounts	Amount	%	No. of Accounts	Amount	%
FY2015														
FY2016	17	\$ 882	17	\$ 882	100%	0	\$ -		0	\$ -		0	\$ -	
FY2017	537	\$ 397,450	466	302,049	76%	17	22,418	6%	28	48,302	12%	26	24,681	6%
FY2018	1,374	\$ 742,109	1,198	565,312	76%	58	68,248	9%	69	66,606	9%	49	41,943	6%
FY2019	8,324	\$ 3,064,384	7,507	2,081,179	68%	175	152,950	5%	419	720,052	23%	223	110,203	4%
FY2020	2,044	\$ 580,566	1,641	297,714	51%	25	9,525	2%	342	264,611	46%	36	8,715	0%
Total	12,296	\$ 4,785,391	10,829	\$ 3,247,136	68%	275	\$ 253,142	5%	858	\$ 1,099,571	23%	334	\$ 185,542	4%

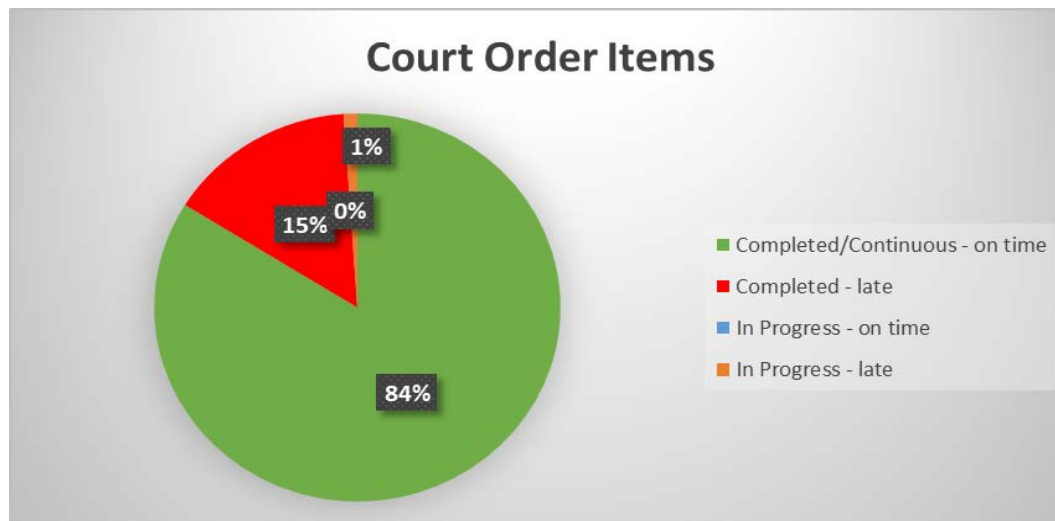
¹ Collections thru July 14, 2020

One Guam Update (June 2020)

- Tumon Maui Well
 - Quarterly Inspection & Reports
 - Maria Lewis received the remaining 1st quarter reports from Ron Topasna.
 - The next inspection is scheduled for August 12.
- OEA Projects
 - Observation Wells/NGLA
 - The request for proposals (RFP) for the new wells went out on June 22; the existing well refurbishment RFP will go out on June 29. The virtual pre-bid conference will be held July 15 for the new wells contract, and a week later (July 22) for existing well refurbishment. Notice to Proceed (NTP) is anticipated by the end of September.
 - Sewer Interceptor
 - Completed
 - Transfer of Navy Laterals at Murray Road to GWA
 - The transfer memo has gone to the ICO; looking forward to seeing if it is done on Monday, June 29.
- Property Transfers
 - Transfer of BPM-1: Navy advised GWA will move forward with transfer; WERI/USGS confirmed continued use of BPM-1 so GWA will need to maintain.
- Billing: GWA is working with Navy to streamline invoicing and payment timelines to address delays.
- Andersen AFB – Sewer Line Meters / Fence
 - For the sewer line meters, Maria Lewis remembered seeing an email that the project got pushed to 2021. Lance Reynolds states that the plan is maybe 2nd quarter 2021.

Court Order Summary (June 2020)

	Total Items	On-time Items Completed / Continuous	In Progress - late	Completed - Late	In Progress - on time	Performance %
Court order total	93	78	1	14	0	98.90%



	Court Order Items	%	Performance (on-time or completed)
Completed/Continuous - on time	78	84%	98.9%
Completed - late	14	15%	
In Progress - on time	0	0%	
In Progress - late	1	1%	
Totals	93	100%	

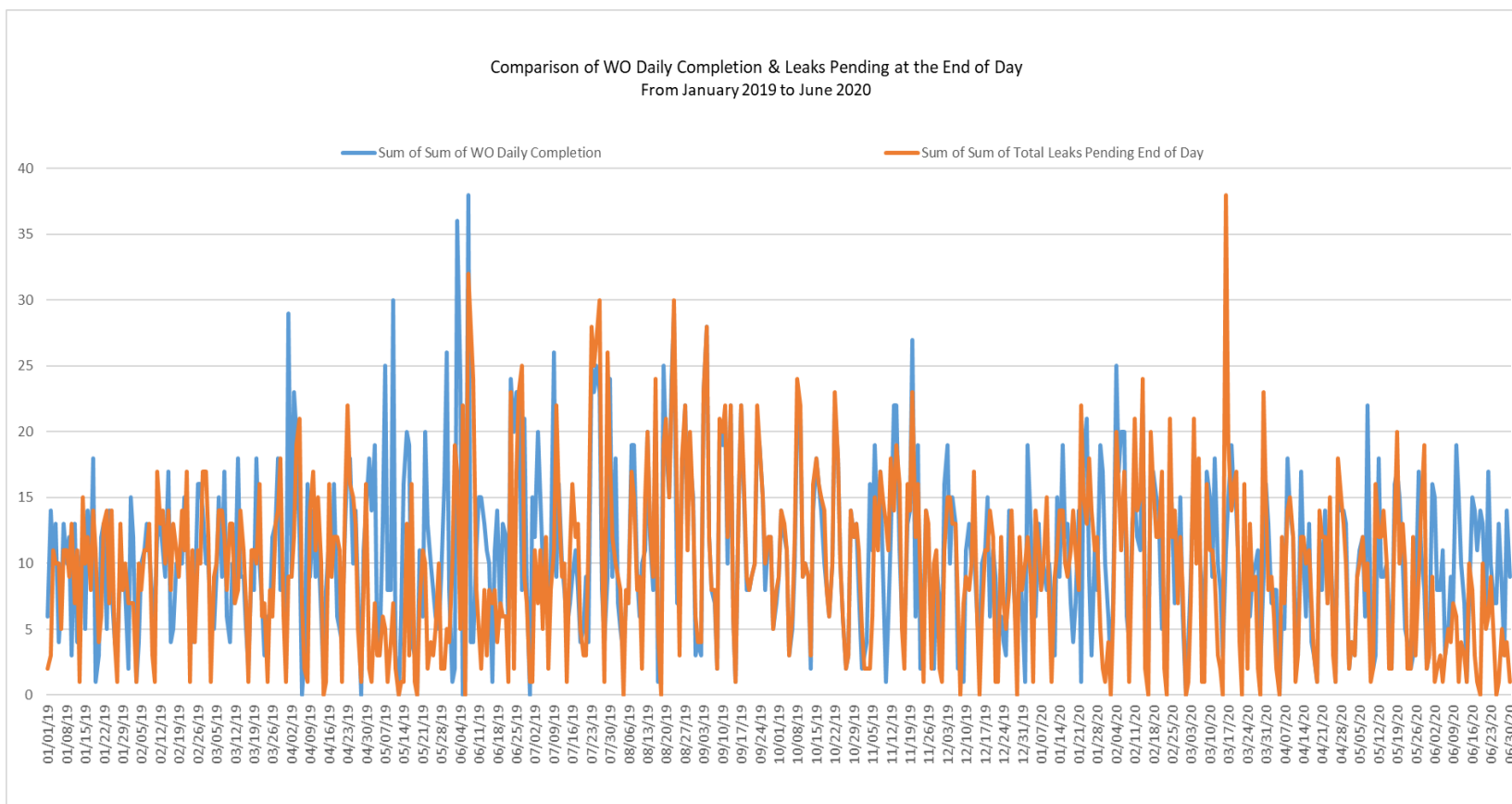
Court Order – Status Information (June 2020)

- 1 item delayed - The Court Order is down to one item remaining, § II, (C), (29) – Storage tank Repair. Restoration, Replacement or Relocation – which is the item that will take longer than the “end” of the court order. That makes us 98.9% done with the CO.
- Final Date to complete all Court Order items will be delayed past December 31, 2020.
 - CO 29(b) has been expanded by 31% beyond the original Court Order Requirements
 - General Counsel is reviewing filing requirements and content
 - Additional impact from 2020 Bond issuance delay is being assessed
- Overflow or Bypass events reported to USEPA:
 - 6-02-2020 Hernan Cortez Ave, Hagatna – FOG (reported in June CCU meeting)
 - 6-12-2020 Vietnam Veterans Memorial Highway – Pump Station Failure
 - 6-15-2020 Melindes Street, Dededo -FOG
 - 6-22-2020 Lalonghita Street, Santa Rita

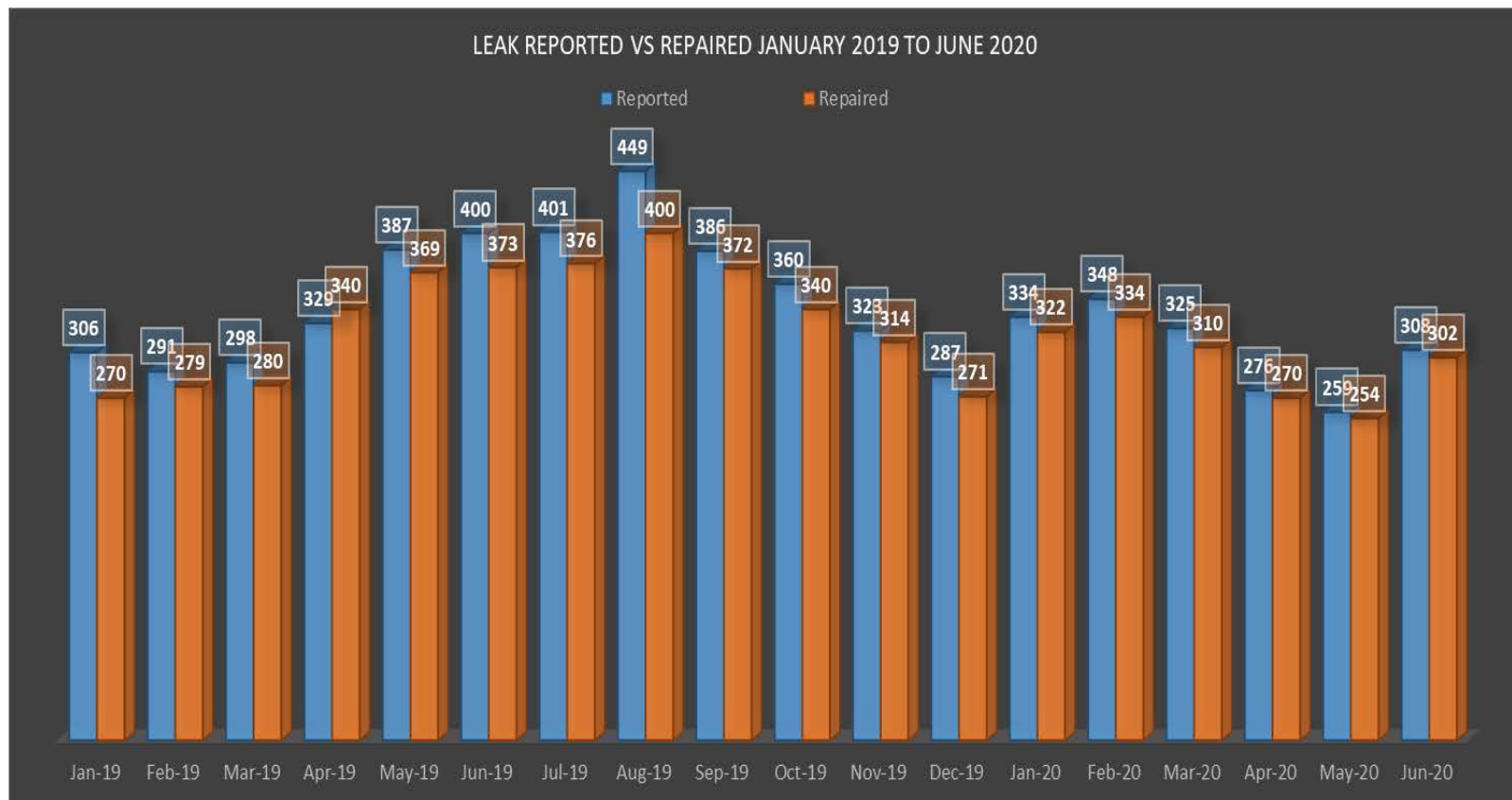
Land Acquisition Summary (June 2020)

GWA Facility	Location	Gov. or Private Property	Land Acquisition Status
Tanks	Astumbo	Gov't. - CLTC	Petition of Land Registration package forwarded to Attorney General by DLM 11/04/19. Follow up update status request emailed to DLM 05/14/2020.
	Piti	Private	Letter sent to DoAg on 5/28/2020 & No response within 30 days of receipt. Vangie and the GM's office are reaching out to DoAg.
	Airport	Private	Property owners need more time for discussion with family regarding GWA's Offer Letter 07/04/2020.
Deep Wells	AG-12	Dept. of Agriculture/Manhita Farms	Right of Entry Agreement sent to Dept of AG for signature 05/24/18. 2 nd follow up sent on 09/12/18. 3rd follow up sent on 04/10/19. Retracement Survey Property Map filed and recorded at DLM 7/10/19.
Booster Pump Station	Agfayan	Private	TGE working on structural design for pump station area for L28, B19, T3734, Inarajan 11/07/19.
Asan Springs	Asan	Federal	Received remaining comments from Federal and GovGuam agencies in regards to Section 106 on 12/16/19. GWA and Designer negotiated on a Revised Change Order No. 2 submitted on 2/26/2020. CO. No. 2 is to address Federal and Local agencies concerns, specifically on developing an Environmental Assessment and performing Biological Survey work. Pending approval for revised CO. No.2 as of 3/3/2020. Negotiations with NPS on a ROW agreement is ongoing.

Leak Repair Summary (June 2020)



Comparison of Leaks Reported vs. Leaks Repaired (June 2020)



Monthly Leak Report Cost (June 2020)



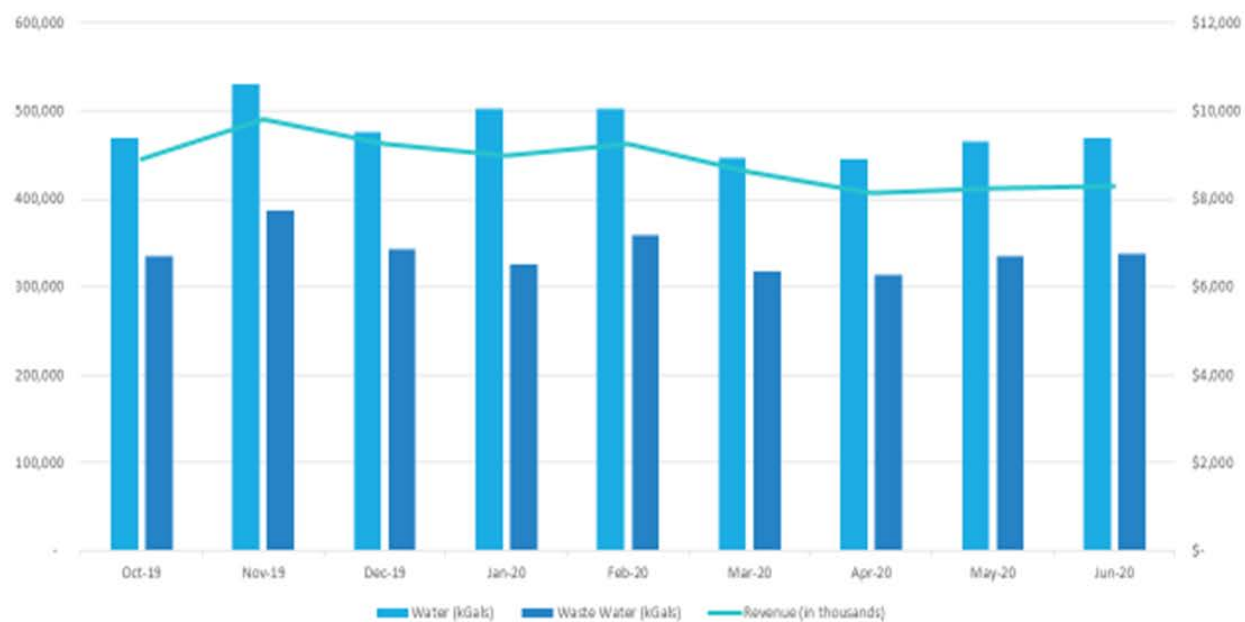
Assumptions:

1. Leak rate = 4 gpm
2. Cost per kgal = \$4.00

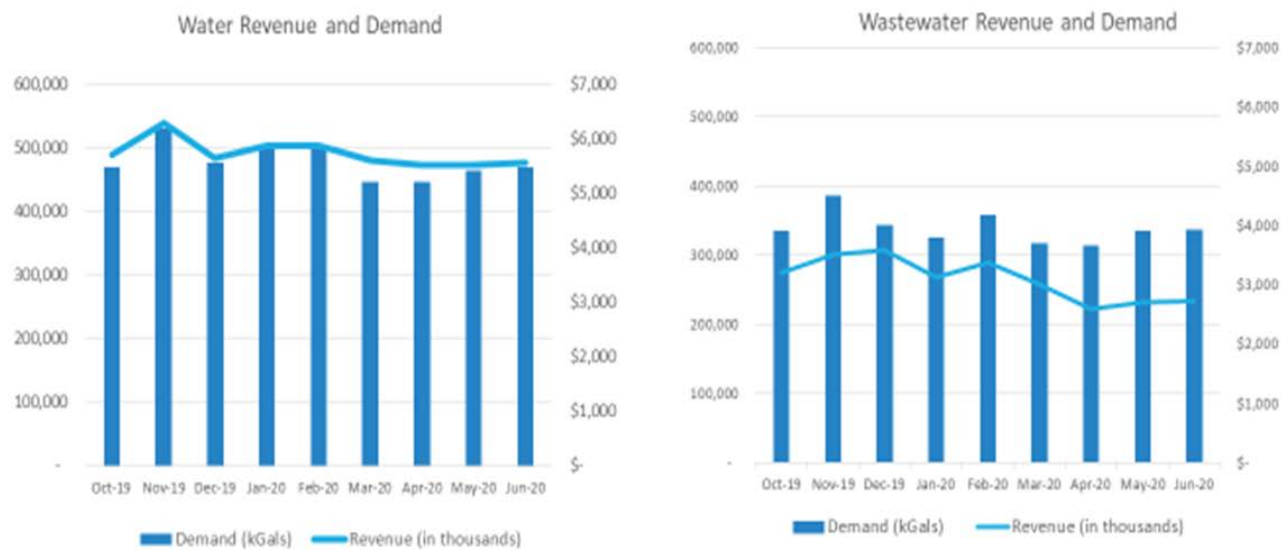
GWA Financial Overview

JUNE 2020

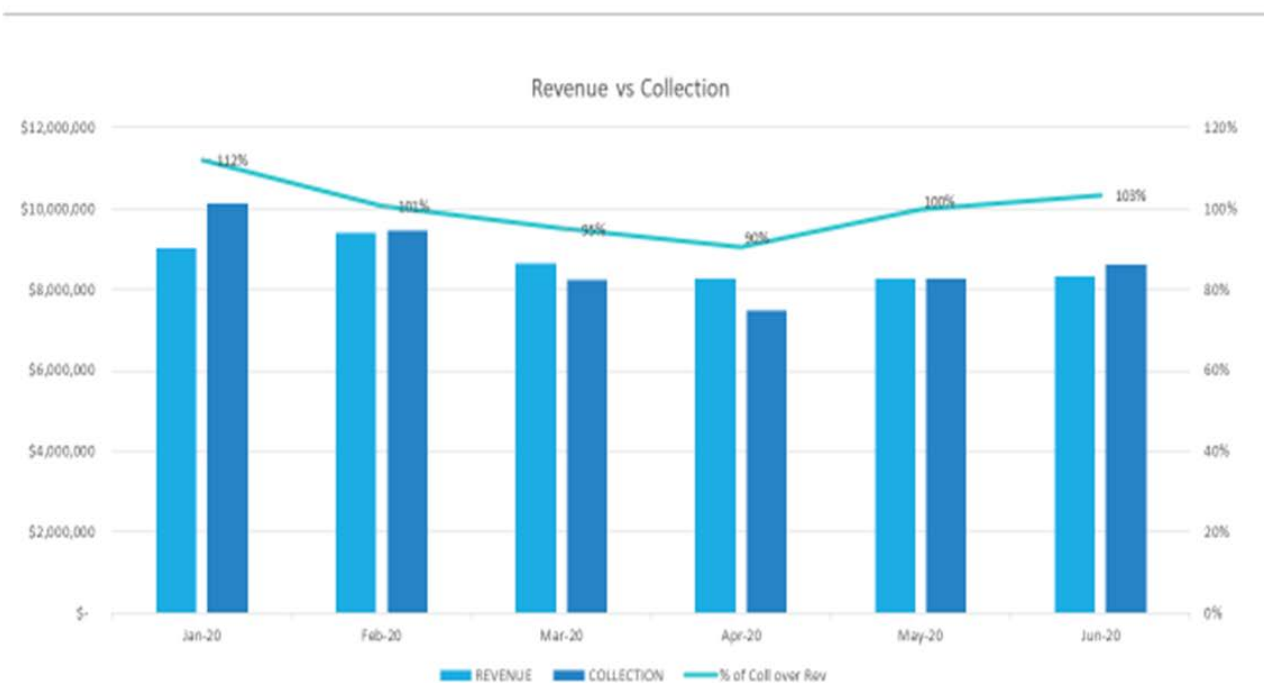
Overall Revenues and Demand



Overall Revenues and Demand



Overall Revenues and Collections



* Revenues include miscellaneous revenue

4

Income Statement FY2020



GWA Key Financial Indicators

Indicator	Target	May 2020	June 2020
DSC YTD			
• Per Section 6.12 of Indenture	1.25	1.28	1.27
• Per PUC / CCU	1.40	1.28	1.27
YTD Month to Month Change in Net Assets		10%	22%
Days – Cash on Hand	120 days	298 days	292 days
Collection Ratio			
• Month to Date	98%	100%	103%
• Year to Date	98%	97%	98%
Days Billed	30	30	31
Account Receivable Days	45	50	48
Account Payable Days	45	36	35
Employee Count	400 FTE	384 FTE	384 FTE
Water Demand			
• Month to Date	467,615	465,477	469,531
• Year to Date	3,740,923	3,837,672	4,306,513
Wastewater Demand			
• Month to Date	382,224	335,721	337,574
• Year to Date	2,775,095	2,718,351	3,055,924
Water Customers	42,724	42,889	42,838
Wastewater Customers	29,604	29,673	29,518

GWA Work Session - July 22, 2020 - DIVISION REPORTS

GWA Utility Services Division
Monthly Status Report
Month ending JUNE 2020

FY2020		WEEK ENDING: 06/06/20	WEEK ENDING: 06/13/20	WEEK ENDING: 06/20/20	WEEK ENDING: 06/27/20	WEEK ENDING: 07/04/20	JUNE 2020 MONTHLY TOTAL	WEEKLY AVERAGE JUNE 2020	PREVIOUS MONTH	
UTILITY SERVICES DIVISION ACTIVITIES									WEEKLY AVERAGE MAY 2020	MAY 2020 MONTHLY TOTAL
Collections Activities:										
I.	Number of accounts cut for nonpayment:	0	0	0	0	0	0	0	0	0
II.	Number of accounts restored for nonpayment:	0	0	0	0	0	0	0	0	2
III.	Number of No water reports responded to:	0	0	0	0	0	0	0	0	0
IV.	Number of Secure/Unsecure valve reports responded to:	0	0	0	0	0	0	0	0	0
V.	Number of Verify reads responded to:	0	0	0	0	0	0	0	0	0
VI.	Number of new pay plans negotiated for active accounts:	126	90	111	164	275	766	153	55	276
VII.	Number of active pay plans negotiated and ongoing:	431	443	463	576	786		540	367	
VIII.	Number of inactive accounts with a payment arrangement:	0	0	0	0	0		0	0	
IX.	Number of broken payment plans:	66	41	56	37	2	202	40	13	67
Customer Service Activities (lobby visits):										
A. GBN Public Service Building – Fadjan										
i.	Total Customers Assisted:	271	263	185	175	249	1143	229	101	504
ii.	Total Abandoned Requests:	2	2	3	0	1	8	2	1	3
iii.	Average Wait Time:	9 minutes	9 minutes	9 minutes	8 minutes	12 minutes		9.4 minutes	5 minutes	
iv.	Average Service Time:	10 minutes	12 minutes	13 minutes	12 minutes	10 minutes		11.4 minutes	6.6 minutes	
v.	Purpose of lobby visit:									
1.	Apply for water:	93	73	67	43	55	331	66	28	141
2.	Restore water cut for non payment:	2	2	2	0	0	6	1	2	8
3.	Terminate Water:	25	23	7	9	12	76	15	7	36
4.	Copy of Bill:	24	24	8	20	15	91	18	11	53
5.	Billing Dispute:	55	48	45	35	57	240	48	30	150
6.	Billing Dispute follow up:	0	0	0	0	0	0	0	0	0
7.	General Questions & Other:	51	79	38	40	47	255	51	19	95
8.	Report a water leak:	1	1	1	0	0	3	1	0	2
9.	Report water theft:	0	0	0	0	0	0	0	0	0
10.	Payment Arrangement:	13	20	17	28	63	141	28	5	25
B. Julale Satellite Office – Hagatna										
i.	Total Customers Assisted:	0	0	56	161	219	436	87	0	0
ii.	Total Abandoned Requests:	0	0	4	6	13	23	5	0	0
iii.	Average Wait Time:	0 minutes	0 minutes	9 minutes	8 minutes	20 minutes		7.4 minutes	0 minutes	
iv.	Average Service Time:	0 minutes	0 minutes	10 minutes	8 minutes	7 minutes		5 minutes	0 minutes	
v.	Purpose of lobby visit:									
1.	Apply for water:	0	0	16	40	62	118	24	0	0
2.	Restore water cut for non payment:	0	0	0	1	1	2	0	0	0
3.	Terminate Water:	0	0	6	15	25	46	9	0	0
4.	Copy of Bill:	0	0	14	36	39	89	18	0	0
5.	Billing Dispute:	0	0	11	29	50	90	18	0	0
6.	Billing Dispute follow up:	0	0	1	4	0	5	1	0	0
7.	General Questions & Other:	0	0	7	36	19	62	12	0	0
8.	Report a water leak:	0	0	0	0	0	0	0	0	0
9.	Report water theft:	0	0	0	0	0	0	0	0	0
10.	Payment Arrangement:	0	0	5	32	73	110	22	0	0
C. Upper Tumon Satellite Office – Upper Tumon										
i.	Total Customers Assisted:	163	163	109	128	205	768	154	87	434
ii.	Total Abandoned Requests:	5	8	4	0	7	24	5	6	28
iii.	Average Wait Time:	7 minutes	3 minutes	1 minute	2 minutes	4 minutes		3.4 minutes	3.8 minutes	
iv.	Average Service Time:	14 minutes	13 minutes	12 minutes	13 minutes	11 minutes		12.6 minutes	9.8 minutes	
v.	Purpose of lobby visit:									
1.	Apply for water:	53	52	41	28	40	214	43	35	174
2.	Restore water cut for non payment:	2	1	0	0	4	7	1	2	10
3.	Terminate Water:	17	24	13	15	15	84	17	10	52
4.	Copy of Bill:	35	10	8	10	13	76	15	8	38
5.	Billing Dispute:	36	35	26	33	43	173	35	22	111
6.	Billing Dispute follow up:	1	0	0	0	0	1	0	0	0
7.	General Questions & Other:	15	31	13	12	17	88	18	7	33
8.	Report a water leak:	0	0	0	0	0	0	0	0	0
9.	Report water theft:	0	0	0	0	0	0	0	0	0
10.	Payment Arrangement:	12	12	12	30	73	139	28	7	34

GWA Work Session - July 22, 2020 - DIVISION REPORTS

GWA Utility Services Division
Monthly Status Report
Month ending JUNE 2020

FY2020 UTILITY SERVICES DIVISION ACTIVITIES								PREVIOUS MONTH	
	WEEK ENDING: 06/06/20	WEEK ENDING: 06/13/20	WEEK ENDING: 06/20/20	WEEK ENDING: 06/27/20	WEEK ENDING: 07/04/20	JUNE 2020 MONTHLY TOTAL	WEEKLY AVERAGE JUNE 2020	WEEKLY AVERAGE MAY 2020	MAY 2020 MONTHLY TOTAL
Customer Service Activities (Electronic):									
i. Emails Received:									
1. customers@guamwaterworks.org:	250	155	255	169	291	1120	224	149	743
Request type (email):									
a. Apply for water:	39	34	26	32	36	167	33	45	226
b. Terminate Water:	15	22	16	12	23	88	18	26	131
c. Copy of Bill:	8	13	4	5	1	31	6	4	20
d. Billing Dispute & follow up:	16	25	13	14	10	78	16	12	59
e. General Questions & Other:	35	47	84	12	119	297	59	45	223
f. Report a water leak:	7	1	2	2	0	12	2	4	22
g. Report water theft:	0	0	0	12	0	12	2	0	0
h. Online services inquiry:	130	13	110	80	102	435	87	12	62
2. gwaservesme@guamwaterworks.org (realtors/prop	0	0	0	0	0	0	0	0	0
ii. Emails Replied (both):	229	204	165	176	161	935	187	152	760
Call Center Activities:									
i. Calls Recieved:	3243	1640	1881	2154	1018	9936	1987	1489	7447
ii. Calls Immediately Answered:	906	870	767	836	638	4017	803	666	3331
iii. Calls Abandoned:	141	54	73	94	139	501	100	74	370
iv. Calls Handled by Voice mail:	2196	716	1039	1221	241	5413	1083	763	3813
v. Average duration of call:	4 minutes	6 minutes	9 minutes	7 minutes	7 minutes		6.6 minutes	5.8 minutes	
vi. Breakdown by request type:									
1. Apply/Terminate info:	37	45	38	44	25	189	38	54	272
2. Automated Telephone Call:	0	0	0	0	1	1	0	0	2
3. Balance Inquiry:	118	64	84	90	49	405	81	129	643
4. Call Back:	52	29	33	25	27	166	33	16	79
5. Dispatch:	30	16	15	14	8	83	17	15	76
6. Dispute:	3	5	1	1	3	13	3	2	9
7. Follow-up:	25	46	41	47	24	183	37	29	147
8. General Questions & Other:	141	114	185	126	123	689	138	113	565
9. Route Calls to GWA Staff:	35	58	62	156	109	420	84	28	141
10. No Water:	123	12	17	7	7	166	33	8	40
11. Online/Phone App Help:	359	295	232	219	130	1235	247	34	169
12. Pay by Phone:	130	175	142	140	100	687	137	214	1070
13. Pay Plan:	15	14	30	49	83	191	38	24	121
14. Restore Non-payment:	0	0	0	0	0	0	0	0	2
15. Secure/Unsecure Valve:	6	17	14	14	12	63	13	11	55
16. Voice Mail:	199	91	167	195	310	962	192	71	356
17. Water leak:	17	10	12	6	7	52	10	8	41
Bill Dispute & Resolution Activities:									
i. Dispute Resolution:									
1. Number of disputed accounts resolved:	18	38	53	76	0	185	37	20	102
2. Number of disputed accounts under review:	1827	1899	1913	1933	1959		1906	2043	
Data Entry of Completed Field work in CIS:									
i. Document Control:									
1. Number of field activities posted:	452	398	326	341	373	1890	378	416	2082
2. Number of field activities pending:	465	349	293	163	360	1630	326	412	2061
Field Response Activities:									
I. Number of field activities assigned:	283	202	210	163	269	1127	225	142	709
II. Number of field activities completed:	375	282	270	211	400	1538	308	189	943
III. Number of field activities pending field action:	3	5	2	4	5	19	4	1	3

GWA Work Session - July 22, 2020 - DIVISION REPORTS

GWA Utility Services Division
Monthly Status Report
Month ending JUNE 2020

FY2020		WEEK ENDING:	WEEK ENDING:	WEEK ENDING:	WEEK ENDING:	WEEK ENDING:	JUNE 2020 MONTHLY TOTAL	WEEKLY AVERAGE JUNE 2020	PREVIOUS MONTH	
UTILITY SERVICES DIVISION ACTIVITIES		06/06/20	06/13/20	06/20/20	06/27/20	07/04/20			WEEKLY AVERAGE MAY 2020	MAY 2020 MONTHLY TOTAL
Meter Reading Activities:										
I.	Number of meters read:									
A.	Electronically Read Meters:	7917	10857	14462	6387	2724	42347	8469	8183	40914
B.	Manually Read Meters:	24	33	37	33	17	144	29	29	147
i.	Unread meters (Meters scheduled but not read):	16	5	7	10	4	42	8	8	39
ii.	Number of data logs received:	38	29	30	20	17	134	27	28	139
iii.	Number of data logs retrieved:	38	28	22	35	9	132	26	24	122
iv.	Number of data logs pending field action:	0	0	0	0	0	0	0	0	0
v.	Communication Errors/Reprogramming requests:	6	0	0	0	0	6	1	4	18
vi.	Number of estimated readings (for the week):	22	8	12	13	11	111	22	22	111
vii.	Reasons for Estimations:									
1.	Cant locate meter:	1	0	1	4	2	8	2	1	4
2.	Temporary Obstruction:	0	0	0	0	0	0	0	0	0
3.	Vicious Dog:	0	0	0	0	0	0	0	0	0
4.	Flooded meter:	0	0	0	0	0	0	0	0	1
5.	Corrective action to database requested:	5	3	4	3	7	22	4	7	36
6.	Possible changed out meter:	15	4	7	4	1	31	6	5	27
7.	Communication/Programming error (code 92's):	0	0	0	0	0	0	0	4	21
8.	Other:	1	1	0	2	1	5	1	2	12
a.	Leaks detected on customer's private line:	1132	1734	2476	998	330	6670	1334	1391	6953
b.	Reverse Flow Detected:	83	662	136	257	53	1191	238	145	725
c.	No Usage Detected:	291	317	363	258	143	1372	274	305	1527
d.	Tamper Code:	10	13	15	7	8	53	11	8	39
C.	Electronic Read Percentage:	99.7%	99.7%	99.7%	99.5%	99.4%		99.6%	99.6%	
Illegal Connection & Unauthorized Use of Water Activities:										
I.	Number of Inactive Still Consuming Reports rec'd & Investigated:	0	0	0	0	0	0	0	0	1
II.	Number of Illegal Connection reports rec'd & investigated:	1	0	0	3	0	4	1	0	0



Engineering Monthly Report July 2020

**Prepared By:
Brett E. Railey, P.E., Acting Chief Engineer**

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A. Summary Table of 2010, 2013 and 2016 Bond

Potable Water

CIP #	CIP Description	2010 Bond Allotment	% encumbered	% available	2013 Bond Allotment	% encumbered	% available	2016 Bond Allotment	% encumbered	% available
PW 05-01	Ground Water Disinfection	\$ 500,000.00	93.00%	7.00%	\$ -	N/A	N/A	\$ -	N/A	N/A
PW 05-03	Santa Rita Springs Booster Pump Rehab Phase II	\$ -	N/A	N/A	\$ 100,000.00	100.00%	0.00%	\$ -	N/A	N/A
PW 05-05	"A Series Well Transmission Line	\$ 475,709.00	100.00%	0.00%	\$ 369,846.00	100.00%	0.00%	\$ -	N/A	N/A
PW 05-06	Water Booster Pump Station	\$ 500,000.00	100.00%	0.00%	\$ 1,679,964.00	99.22%	0.78%	\$ -	N/A	N/A
PW 05-07	Meter Replacement Program	\$ 10,450,000.00	97.43%	2.57%	\$ 996,532.00	85.75%	14.25%	\$ 1,400,000.00	100.00%	0.00%
PW 05-08	Barrigada Tank Repair/Replacement	\$ 5,450,000.00	99.16%	0.84%	\$ 4,987,000.00	96.17%	3.83%	\$ -	N/A	N/A
PW 05-09	Leak Detection	\$ 200,000.00	8.52%	91.48%	\$ 16,916.00	0.00%	100.00%	\$ 100,000.00	0.00%	100.00%
PW 05-10	Potable Water System Planning	\$ 210,487.45	100.00%	0.00%	\$ 624,000.00	100.00%	0.00%	\$ 876,294.00	100.00%	0.00%
PW 05-11	Implement Ground Water Rule	\$ 1,699,999.00	100.00%	0.00%	\$ 1,000,000.00	98.18%	1.82%	\$ -	N/A	N/A
PW 05-12	Brigade II (Ugum Lift) BPS Upgrade	\$ 1,900,000.00	19.71%	80.29%	\$ -	N/A	N/A	\$ -	N/A	N/A
PW 05-13	Deep Well Rehabilitation	\$ 548,000.00	73.73%	26.27%	\$ 200,000.00	100.00%	0.00%	\$ 250,000.00	44.01%	55.99%
PW 05-14	New Deep Wells at Down Hard	\$ 485,743.00	100.00%	0.00%	\$ -	N/A	N/A	\$ 1,190,000.00	0.00%	100.00%
PW 05-15	Rehabilitation of Asan Springs	\$ 1,100,000.00	53.75%	46.25%	\$ -	N/A	N/A	\$ -	N/A	N/A
PW 05-16	Master Meters	\$ 1,489,957.00	100.00%	0.00%	\$ 712,060.00	92.29%	7.71%	\$ 2,151,539.00	90.70%	9.30%
PW 09-01	Ugum Water Treatment Plant Intake	\$ 700,000.00	87.19%	12.81%	\$ 859,801.00	42.88%	57.12%	\$ -	N/A	N/A
PW 09-02	Water Wells	\$ -	N/A	N/A	\$ 3,030,029.00	53.03%	46.97%	\$ 2,500,000.00	8.39%	91.61%
PW 09-03	Water Distribution System	\$ 3,174,748.00	100.00%	0.00%	\$ 10,912,453.00	95.87%	4.13%	\$ -	N/A	N/A
PW 09-04	Pressure Zone Realignment	\$ -	N/A	N/A	\$ 337,110.00	100.00%	0.00%	\$ 1,141,000.00	100.00%	0.00%
PW 09-06	Central Water Distribution System 2005	\$ 775,002.00	91.49%	8.51%	\$ -	N/A	N/A	\$ -	N/A	N/A
PW 09-08	Mechanical/Electrical Equipment	\$ 1,200,000.00	100.00%	0.00%	\$ 426,799.00	98.71%	1.29%	\$ -	N/A	N/A
PW 09-09	Water Reservoir Internal/External	\$ 2,150,000.00	98.11%	1.89%	\$ -	N/A	N/A	\$ -	N/A	N/A
PW 09-10	Water Reservoir Internal/External	\$ -	N/A	N/A	\$ -	N/A	N/A	\$ 800,000.00	100.00%	0.00%
PW 09-11	Water System Reservoirs 2005 Improvements	\$ 1,050,000.00	100.00%	0.00%	\$ 13,878,000.00	99.68%	0.32%	\$ 58,830,170.00	90.32%	9.68%
PW 11-01	Distribution System Upgrades	\$ 474,160.00	94.70%	5.30%	\$ -	N/A	N/A	\$ -	N/A	N/A
PW 11-02	Ugum Water Treatment Plant Reservoir	\$ -	N/A	N/A	\$ -	N/A	N/A	\$ -	N/A	N/A
PW 12-01	Water Audit Program & Water Loss Control Plan	\$ 78,459.00	99.45%	0.55%	\$ -	N/A	N/A	\$ 550,000.00	38.59%	61.41%
PW 12-02	Production Plan / Reduce Navy Purchases	\$ 100,000.00	99.90%	0.10%	\$ -	N/A	N/A	\$ -	N/A	N/A
PW 12-03	Hydraulic Assessment of Tanks	\$ 500,000.00	98.37%	1.63%	\$ -	N/A	N/A	\$ -	N/A	N/A
PW 12-04	Agana Heights & Chaot Tanks	\$ 4,700,000.00	98.88%	1.12%	\$ 1,330,287.00	100.00%	0.00%	\$ 1,220,000.00	100.00%	0.00%
PW 12-05	Tank Major Repair Yigo #1, Manglao #2, Astumbo #1	\$ 1,848,013.00	99.72%	0.28%	\$ 11,605,000.00	100.00%	0.00%	\$ 1,822,133.00	100.00%	0.00%
PW 12-06	Tank Replacement Pti & Hyundai	\$ -	N/A	N/A	\$ -	N/A	N/A	\$ 7,300,000.00	100.00%	0.00%
PW 12-07	Assessment of Malojlo Elevated & Yigo Elevated	\$ 200,000.00	100.00%	0.00%	\$ 485,117.00	100.00%	0.00%	\$ -	N/A	N/A
PW 12-08	Public Water System Asset Inventory/ Condition Assessment	\$ 100,000.00	78.39%	21.61%	\$ -	N/A	N/A	\$ -	N/A	N/A
PW 12-09	Public Water System GIS & Mapping	\$ 50,000.00	100.00%	0.00%	\$ -	N/A	N/A	\$ -	N/A	N/A
PW 14-01	Fire Hydrant Replacement Program	\$ -	N/A	N/A	\$ -	N/A	N/A	\$ 1,200,000.00	99.70%	0.30%
		\$ 42,110,277.45			\$ 53,550,914.00			\$ 81,331,136.00		

Wastewater

CIP #	CIP Description	2010 Bond Allotment	% encumbered	% available	2013 Bond Allotment	% encumbered	% available	2016 Bond Allotment	% encumbered	% available
WW 05-04	Wastewater System Planning	\$ 1,492,857.19	100.00%	0.00%	\$ 650,901.00	84.61%	15.39%	\$ 312,983.00	100.00%	0.00%
WW 05-05	Wastewater Vehicles	\$ 235,000.00	89.27%	10.73%	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 05-07	NDWWTP - Chlorine Tanks	\$ 457,981.68	100.00%	0.00%	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 09-01	Lift station upgrades	\$ -	N/A	N/A	\$ 563,148.00	96.89%	3.11%	\$ 1,714,755.00	19.97%	80.03%
WW 09-06	Wastewater Collection System Rep/ Rehabilitation	\$ 1,001,323.00	90.32%	9.68%	\$ 732,358.36	88.82%	11.18%	\$ 1,055,478.00	37.16%	62.84%
WW 09-08	Facilities Plan/Design for Baza Gardens WWTP	\$ 1,250,000.00	100.00%	0.00%	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 09-10	Facilities Plan/Design for Agat-Santa Rita WWTP	\$ 899,630.00	100.00%	0.00%	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 11-03	Baza Gardens STP Replacement	\$ 1,488,378.00	97.11%	2.89%	\$ 9,656,874.00	96.51%	3.49%	\$ 25,048,522.50	90.16%	9.84%
WW 11-04	Facilities Plan/Design for Umatac-Merizo WWTP	\$ 853,858.00	100.00%	0.00%	\$ 371,699.00	100.00%	0.00%	\$ 252,105.00	100.00%	0.00%
WW 11-08	Agat/Santa Rita STP Replacement	\$ 2,217,700.00	99.94%	0.06%	\$ 67,200,000.00	99.60%	0.40%	\$ 2,226,659.06	89.93%	10.07%
WW 12-01	Northern District WWTP Primary Treatment Upgrade	\$ 11,743,514.00	98.75%	1.25%	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 12-02	Biosolids Management Plan	\$ 200,000.00	81.04%	18.96%	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 12-03	Agana WWTP Interim Measures	\$ 11,300,000.00	99.63%	0.37%	\$ 718,075.68	100.00%	0.00%	\$ -	N/A	N/A
WW 12-04	ISI SSES Southern	\$ 800,000.00	99.87%	0.13%	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 12-05	ISI SSES Central	\$ 850,000.00	93.36%	6.64%	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 12-06	ISI SSES Northern	\$ -	N/A	N/A	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 12-07	Umatac Merizo Replacement	\$ 250,000.00	99.21%	0.79%	\$ -	N/A	N/A	\$ 20,952,871.63	99.93%	0.07%
WW 12-08	Wastewater System GIS & Mapping	\$ -	N/A	N/A	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 12-09	Wastewater Facility Back Up Power	\$ -	N/A	N/A	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 12-10	Wastewater System Asset Inventory	\$ -	N/A	N/A	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 17-01	Wastewater Sewer System Expansion	\$ -	N/A	N/A	\$ -	N/A	N/A	\$ -	N/A	N/A
WW 17-02	Northern District WWTP Secondary Treatment Upgrade	\$ 948,250.00	100.00%	0.00%	\$ -	N/A	N/A	\$ -	N/A	N/A
		\$ 35,988,491.87			\$ 79,893,056.04			\$ 51,563,374.19		

Electrical Engineering Support

CIP #	CIP Description	2010 Bond Allotment	% encumbered	% available	2013 Bond Allotment	% encumbered	% available	2016 Bond Allotment	% encumbered	% available
EE 05-02	SCADA Pilot Project	\$ 61,950.00	31.98%	68.02%	\$ -	N/A	N/A	\$ -	N/A	N/A
EE 09-01	Wastewater Pumping Station Electrical Upgrade	\$ -	N/A	N/A	\$ 99,861.00	100.00%	0.00%	\$ -	N/A	N/A
EE 09-02	Electrical Upgrade - Water Wells	\$ 354,227.00	100.00%	0.00%	\$ 1,500,000.00	99.31%	0.69%	\$ -	N/A	N/A
EE 09-03	Electrical Upgrade - Water Booster	\$ -	N/A	N/A	\$ -	N/A	N/A	\$ -	N/A	N/A
EE 09-04	Electrical Upgrade - Water Booster	\$ -	N/A	N/A	\$ 977.00	100.00%	0.00%	\$ -	N/A	N/A
EE 09-05	Electrical Upgrade - Other Water	\$ -	N/A	N/A	\$ 60,700.00	100.00%	0.00%	\$ -	N/A	N/A
EE 09-06	SCADA Improvements - Phase 1	\$ 250,000.00	83.80%	16.20%	\$ -	N/A	N/A	\$ -	N/A	N/A
EE 09-07	SCADA Improvements - Phase 2	\$ 1,056,986.00	97.77%	2.23%	\$ -	N/A	N/A	\$ -	N/A	N/A
EE 09-08	SCADA Improvements - Phase 3	\$ 74,955.00	100.00%	0.00%	\$ 722,359.00	95.33%	4.67%	\$ 1,077,497.00	48.86%	51.14%
EE 09-09	SCADA Improvements - Phase 4	\$ -	N/A	N/A	\$ -	N/A	N/A	\$ 4,378,118.00	72.87%	27.13%
		\$ 1,798,118.00			\$ 2,383,897.00			\$ 5,455,615.00		

Miscellaneous Engineering Support

CIP #	CIP Description	2010 Bond Allotment	% encumbered	% available	2013 Bond Allotment	% encumbered	% available	2016 Bond Allotment	% encumbered	% available
MC 05-01	Laboratory Modernization	\$ -	N/A	N/A	\$ 1,171,465.00	99.95%	0.05%	\$ 1,127,000.00	100.00%	0.00%
MC 05-02	Land Survey	\$ 499,688.00	95.28%	4.72%	\$ 1,052.00	100.05%	-0.05%	\$ 1,260,524.00	99.35%	0.65%
MC 09-01	General Plant Improvements	\$ 7,241,000.00	99.46%	0.54%	\$ 2,441,737.00	93.27%	6.73%	\$ 1,543,760.00	96.97%	3.03%
MC 15-01	Information Technology Integration Improvements							\$ 500,000.00	49.24%	50.76%
		\$ 7,740,688.00			\$ 3,614,254.00			\$ 4,431,284.00		

	2010 Bond Allotment
CIP Water	\$ 42,110,277
CIP Wastewater	\$ 35,988,492
CIP Electrical	\$ 1,798,118
CIP Miscellaneous	\$ 7,740,688
	\$ 87,637,575

	2013 Bond Allotment
	\$ 53,550,914
	\$ 79,893,056
	\$ 2,383,897
	\$ 3,614,254
	\$ 139,442,121

	2016 Bond Allotment
	\$ 81,331,136
	\$ 51,563,374
	\$ 5,455,615
	\$ 4,431,284
	\$ 142,781,409

Bond Fund	Construction Fund Amount (\$M)	Estimated # of months fund available for use	Total Funds encumbered to date (\$M)	% of fund used	Rate of Spending: (\$M) per year
2005	\$82.930	82*	\$82.930	100.00%	12.14
2010	\$87.402	113**	\$83.541	95.58%	8.87
2013	\$139.325	76**	\$136.483	97.96%	21.55
2015	\$140.019	46	\$90.326	64.51%	23.56

* - End date November 2013 via CCU Resolution 06-FY2014

** - Includes month of June 2020

B. Projects Procurement

Percentage Key:

- | | |
|---------------|--|
| 100% | Approved by GM |
| 99% | Signature required from either Accounting/Legal/GM |
| 98% | Processing engineering service or construction contract (with legal) |
| 95% | Request for CCU approval (GM/engineering) |
| 90% | A/E fee negotiation or contractor bid evaluation (engineering) |
| 80% | Selected A/E or Conducted bid opening (engineering) |
| 70% | Advertised RFP/IFB (engineering) |
| 60% | RFP/IFB Package under legal review |
| 50% | RFP/IFB Package completed (engineering) |
| Less than 50% | Project Scope of work development in progress |
- Red text anywhere indicates a change from the last report.

BOX KEY FOR PROCUREMENT:

(Type of Procurement) (Relevant CIP NO. or Funding Source)	(Project Title)	
(Percentage complete for procurement)	Activities/Notes: (see percentage key above)	Consultant (listed when selected)
Project Description	Summary of project description	

<u>BID PACKAGE</u> PW 09-02	New Well Construction (AG-10-Y-8 & AG-12)	
<50% Complete	Activities/Notes: GWA engineering continuing discussion with Dept. of Agriculture and lessee on options of acquisition of property for well site at AG-12. Internal GWA discussions underway for survey and appraisal services. GWA executed Change Order with GHD to update the design plans specific to the new well locations.	
Project Description:	The project is to construct three new production wells for GWA as well as installation of a water main to connect the new production wells to the Ysengsong Reservoirs.	

<u>RFP</u> PW 09-02	New Well Construction (Construction Management)	
<50% Complete	Activities/Notes: SOW being developed	
Project Description:	The work performed under this project procurement shall consist of Construction Management and Inspection Services for the construction of up to three (3) new production wells for GWA. GWA plans to increase source water production to improve system redundancy that allows for operating the water production wells more effectively. The overall goal of the Construction Manager (CM) is to manage the entire construction process so that the project can be delivered efficiently and professionally.	

RFP USEPA	Design of Dungca Beach Sewer Relocation	
<70% Complete	Activities/Notes: Project was advertised on June 9, 2020. RFP proposals are due on July 7, 2020.	
Project Description:	The work performed under this project procurement shall consist of replacement of a sewer main located along the shores of Dungca Beach, from the Bayside Sewer Pump Station (SPS) to an area north of Lagoon Drive. The new sewer main shall be located within the public right of way along Trankilo Road and Lagoon.	

RFP USEPA	Design of Hagatna Main Sewage Pump Station Redundant Force Main	
<60% Complete	Activities/Notes: RFP documents under legal review.	
Project Description:	The work to be performed under this project procurement shall consist of identifying redundant force main options and to investigate the current condition of the existing force main. If repair/relocation is needed, then identify options and provide the design for the selected options, including pump station upgrades, if necessary.	

<u>BID PACKAGE</u> WW 09-06	Bayside Sewer Pump Station Improvements Project	
100% Complete	Activities/Notes: Contract was approved on June 4, 2020. NTP issued on June 9, 2020.	
Project Description:	Work to be performed under this project shall consist of converting existing facility to pump station to house two submersible pumps along with improvements to the electrical system and the relocation of a power transformer located near the facility out to the nearest GPA power pole.	

<u>BID PACKAGE</u> USEPA	Asan-Adelup-Hagatna, Route 1 Sewer Rehabilitation and Replacement – Phase II	
70% Complete	Activities/Notes: Project was advertised on June 16, 2020. Bid opening is scheduled for August 14, 2020.	
Project Description:	Work to be performed under this project shall consist of cleaning and rehabilitating existing 16-inch, 24-inch and 27-inch diameter gravity sewer lines with cured-in-place pipe (CIPP) liner, reinstating sewer laterals after CIPP rehabilitation is complete, replacing sewer manhole concrete collars, and providing temporary bypassing and traffic control as necessary to complete the rehabilitation work.	

<u>BID PACKAGE</u> USEPA-SRF	Groundwater Wells A-02, A-07, A-12, D-05 and F-03 Rehabilitation	
70% Complete	Activities/Notes: No bid was submitted on December 13, 2019. Design consultant is revising the bid documents for re-bid of the project.	
Project Description:	Work to be performed under this project consist of rehabilitating four (4) existing production well sites including development, testing and permitting of a new production well.	

<u>BID PACKAGE</u> OEA GRANT	Outfall Effluent Diffuser Installation Project for Upgrade of the Northern District Wastewater Treatment Plant (NDWWTP) to Secondary Treatment (Re-Bid)	
100% Complete	Activities/Notes: Contract was approved on June 5, 2020. NTP issued on June 10, 2020.	
Project Description:	Work to be performed under this project consist of approximately 2,000 LF at a depth of 140 feet ocean-installation of an outfall diffuser.	

<u>BID PACKAGE</u> OEA GRANT	Northern Guam Lens Aquifer (NGLA) Monitoring System Expansion Project for the Guam Water and Wastewater Infrastructure Improvements Program	
70% Complete	Activities/Notes: Project was advertised on June 22, 2020. Bid opening is scheduled for August 7, 2020.	
Project Description:	Work to be performed under this project consist of installation of seven new monitoring wells and rehabilitation for two existing monitoring wells on Department of Defense (DoD) property.	

<u>BID PACKAGE</u> OEA GRANT	Northern Guam Lens Aquifer (NGLA) Monitoring System Rehabilitation Project for the Guam Water and Wastewater Infrastructure Improvements Program	
70% Complete	Activities/Notes: Project was advertised on June 30, 2020. Bid opening is scheduled for August 21, 2020.	
Project Description:	Work to be performed under this project consist of rehabilitation of ten existing monitoring wells located on GovGuam or private property. Upon construction completion, all wells will be used to monitor water level and other groundwater characteristics of the NGLA.	

BOX KEY FOR PROJECT:

(Type of Project) (Relevant CIP NO.)	(Project Title) (Contractor or consultant)	Start Date: (month and year)
(Percentage complete for project)	Activities/Notes: (brief description of activity)	Completion Date: (month and year)
(Court Order Paragraph No.)	(Project type)	
Project Description	Project Description Narrative	

C. CIP Water Section

<u>INSPECTION</u> CIP PW 05-02	Inspection & Maintenance Repairs to GWA Island-Wide Steel Water Tank Reservoirs Phase 2 (DCA)	Start Date: April 2010
75% Complete	Activities/Notes: Remaining work is construction management services for the Tank Repair and Bypass Construction. Meeting conducted with DCA to discuss CM plan for the Tank Repair/bypass construction project.	Completion Date: To be determined (TBD)
CO 38C	Engineering inspection services	
Project Description:	The Court Order requires GWA to inspect all active and in some cases inactive water reservoirs. The inspection results will allow GWA to determine if a reservoir requires repair or replacement.	

<u>DESIGN</u> CIP PW 05-12	Brigade II BPS Upgrade (EM Chen)	Start Date: April 2012
100% Complete (Basis of Design) 99% Complete (Design)	Activities/Notes: Design plans and specs continue to be reviewed and revised.	Completion Date: TBD
N/A	Engineering design services	
Project Description:	The design project is intended to assess system water supply feed from the north as well as Ugum WTP and the water demands downstream from the Brigade BPS so as to reconfigure the piping into the BPS and resize the pumps to meet system head requirements.	

<u>DESIGN</u> PW 09-11	Northern and Southern Guam Reservoir Design (TG Engineers)	Start Date: May 2015
74% Complete	Activities/Notes: <u>Ugum Reservoir</u> Design is at approximately 50%. GWA and TGE is clarifying SCADA scope. TGE has submitted a change order for additional foundation design and meeting extension. Change order comments have been submitted to TGE. Biological Assessment report pending. Archaeological report completed.	Completion Date: None. (Expected 6 months after Agfayan property issue is resolved)

	<p><u>Inarajan and Agfayan Booster Pump Station</u> Meeting needs to be scheduled with GFD to discuss fire flow requirement before pumps can be sized for both sites. GWA called GFD to schedule, but no answer. GWA will follow up with GFD. Biological Assessment and Archaeological report are pending.</p> <p><u>Santa Rosa, Santa Rita, and Sinifa Reservoir</u> Under construction. See Santa Rosa, Santa Rita, and Sinifa Construction for update.</p>	
CO 29 (b)(4)	Engineering design services	
Project Description:	<p>The design services will consist of preparation of plans, specifications, and estimates (PS&E), which includes Basis of Design, design calculations, hydraulic modeling (EPANET), computational fluid dynamic modeling (CFD), construction schedule, topographical survey, property research, property mapping, geotechnical engineering, cultural resource inventory and evaluation of historic resources, hazardous materials survey, construction documents, design drawings in Auto CAD, relevant permit, construction bid support service, and response to request for interpretation/information during construction. The tank locations are Ugum, Santa Rita, Santa Rosa, Inarajan and Sinifa.</p>	

DESIGN PW 12-04	Central Guam Reservoirs Design (GHD Inc.)	Start Date: May 2015
88% Complete	<p>Activities/Notes:</p> <p><u>Tamuning No. 2 Reservoir and Tamuning Booster Pump Station</u> Design is at approximately 60%. Per Bobbie, property acquisition letter for Lot 1, Block 5, Tract 1427 has been signed by GM. Letter sent to property owner. GWA is waiting for a response on the land purchase.</p> <p><u>Manenggon Reservoir and Access Booster Pump Station</u> Design is at 100% pre-final. Designer is performing QC checks before submitting to GWA for review. Biological Assessment report completed. Archaeological report completed.</p> <p><u>Piti Reservoir</u> DCA and GHD are working to put the bid package together. DCA has already completed the major steel tank repair plan and specifications. GHD is working on site utility plan and specifications. GWA has not submitted the Right of Way application to National Parks Services yet. GWA is waiting for Dept. of Agriculture consultation response letter before applying. Biological Assessment report has been completed. Archaeological report is pending. DCA is wrapping up the structural</p>	Completion Date: TBD

	<p>repair plans. After plans have been completed, GWA will have the Tank Repair/Bypass contractor price out the work.</p> <p><u>A23-A25 Deepwell (PFAS Treatment)</u> Water sampling test results received. Designer is working on finalizing site layout for A-23. Biological assessment will be scheduled for the sites. Layout sent to DPW for review and approval. DOI has approved grant funding transfer to this project.</p> <p><u>Tumon No. 1, Hyundai, Chaot No. 2 Reservoir</u> Under construction. See Tumon No. 1, Hyundai, Chaot No. 2 Reservoir Construction for update.</p>	
CO 29 (b)(4)	Engineering design services	
Project Description:	<p>The design services will consist of preparation of plans, specifications, and estimates (PS&E), which includes Basis of Design, design calculations, hydraulic modeling (EPANET), computational fluid dynamic modeling (CFD), construction schedule, topographical survey, property research, property mapping, geotechnical engineering, cultural resource inventory and evaluation of historic resources, hazardous materials survey, construction documents, design drawings in Auto CAD, relevant permit, construction bid support service, and response to request for interpretation/information during construction. The tank locations are Hyundai, Pulantat, Chaot #2, Tumon #2, Piti & Tumon #1.</p>	

DESIGN PW 09-03	ID/IQ for Professional Civil/Structural Services Task 1 – Tai Road/S-13 and Toto-Canada Road/Blas Street Waterline Replacement	Start Date: January 20, 2020
60% Complete	Activities/Notes: Design consultant submitted the 60% design work for GWA review and comment on May 1, 2020.	Completion Date: December 30, 2020
Project Description:	<p>The project is intended to replace existing water main approximately 4,500 LF along Toto-Canada Road; 3,200 LF along Tai Road; 800 LF along S-13 Road; and 900 LF along Blas Street.</p>	

CONSTRUCTION PW 09-03	Line Replacement Phase IV (Giant Construction)	Start Date: February 14, 2016
98% Complete	Activities/Notes: Connection of new pipes to the existing waterline at Hahasu and Famha has been completed. Contractor applied for building permit for Assumption Drive.	Completion Date: October 28, 2020
	Construction Services	

Project Description:	The project is intended to replace existing water lines that have been found by operations to be leaking and/or are causing service delivery to less than what GWA is required to provide. The project will replace water mains at ten known locations throughout the island and a component within the bid where line replacement work for unknown locations is accounted for.
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DESIGN PW 05-15	Asan Spring Rehabilitation Design (HDR)	Start Date: August 24, 2016
82% Complete	Activities/Notes: A CO no.2 has been routed to Finance for signature and pending GM's approval. The purpose for CO no.2 is to address the potential endangered species that may be located on the project site.	Completion Date: June 2022
	Engineering design services	
Project Description:	<ul style="list-style-type: none"> - Perform site visits and condition assessment for site conditions to determine demolition and rehabilitation requirement, process equipment condition, structural condition, and electrical system. Site condition assessment shall include all disciplines to execute the project. - Review and validate the current property boundary information to confirm the available space for the project development. - Perform an environmental impact study and prepare all required permits as needed. - Perform an archeological and historical resources study to identify potential impact to the project, prepare all required permits as needed. - Coordinate with Guam Historic Resources Division State Historic Preservation Office (SHPO) on historical resources study. Prepare all necessary reports and documents as required by SHPO. - Coordinate with Guam Department of Agriculture, Division of Aquatic and Wildlife Resources (DAWR) on vegetation clearance. Prepare all necessary reports and documents required by DAWR. - Identify the existing and projected service area, period of design. - Identify and recommend conceptual water treatment system. - Perform a Class 4 engineering cost estimate according to the American Association of Cost Engineers (AACE) International Cost Estimate Classification System for construction fee. Cost must include all disciplines, permit, construction and administration that are necessary to execute the project. All costs will be in current dollars and escalated to the estimated midpoint of construction. 	

CONSTRUCTION PW 09-11, PW 12-05	Yigo/Astumbo Tank Construction (Pernix)	Start Date: December 1, 2016
99% Complete	Activities/Notes: Astumbo #1 (New Concrete): Contractor remaining work items include testing of instrumentation and electrical upgrade work. Electrical work is pending DPW permit. Follow up has been made by the Contractor to Pernix via email. Inspection was conducted 06/04/2020 for Astumbo site. Contractor still has pending items to address.	Completion Date: October 31, 2018 (LD are being totaled)
	Construction Services	
Project Description:	This project will involve construction of two (2) 2MG concrete tanks and Booster Pump Station at the Yigo site and a one (1) 2MG concrete tank at the Astumbo site. Work will involve new pipe line, valves, electrical controls, pumps and motors, site drainage, paving, generator for the BPS, SCADA, etc.	

CONSTRUCTION MANAGEMENT PW 09-11, PW 12-05	Yigo/Astumbo Tank Construction Management (GHD)	Start Date: December 2016
99% complete	Activities/Notes: Working to complete project close out requirements but due to additional time required by contractor the CM services required as well. GWA executed Change Order after CCU approval.	Completion Date: August 2019
N/A	Construction Management services	
Project Description:	The work performed under this project procurement shall consist of Construction Management and Inspection Services for the demolition of existing steel elevate and ground tanks as well as the construction of the 2MG concrete tanks at the Yigo tank location and Astumbo tank location. The overall goal of the Construction Manager (CM) is to manage the entire construction process so that the project can be delivered efficiently and professionally.	

CONSTRUCTION MANAGEMENT PW 12-04, PW 12-06 AND PW 09-11	Central Tank Phase I (Chaot #2, Tumon #2, Hyundai) Construction Management (TG Engineers, PC)	Start Date: December 2017
80% complete	Activities/Notes: <u>Tumon No. 1</u> Contractor working on water line at Marine Drive, control building, and site vaults. Marine Drive HEP expired 05/03/2020. DPW has stopped AIC from working on the road. GWA operations is investigating how to secure 24 in. line for the contractor to connect new lines. But	Completion Date: None.

	<p>as 06/15/2020, AIC received confirmation from DPW that HEP permit is approved for 3 months extension.</p> <p><u>Hyundai</u> Contractor working on booster pump station, vaults, tank. DN Tanks was able to get shotcrete and prestressing team on island this week. Work stopped on 05/21/2020 on North Sabana Road. DPW inspector instructed AIC to stop work pending release of permit renewal. But as of 06/15/2020, AIC received confirmation from DPW that HEP permit is approved for 3 months extension.</p> <p><u>Chaot No. 2</u> Contractor working on site vaults, PRV and well work. Tank inspection scheduled for 06/05/2020. Dero Road PRV in service. Stage area HEP expired 05/31/2020. Dero Road HEP expired 05/18/2020. Well HEP will expire 12/17/2020.</p> <p>DPW visited Dero Road jobsite on 05/25/20. Stop work order was issued by DPW, effective 05/31/2020. After the migration to the new PRV (05/28/20), AIC contacted DPW inspector to inform him of the unstable roadway due to the excavation for the new waterline. DPW inspector allowed AIC to proceed with only road restoration; however, no further excavation was allowed. Road restoration was completed on 06/11/20.</p> <p>As of 06/15/2020, AIC received confirmation from DPW that HEP permit is approved for 3 months extension. We can now proceed with the connection from the tank distribution line to the Leo Palace line at Dero Road.</p>	
N/A	Construction Management services	
Project Description:	<p>The work performed under this project procurement shall consist of Construction Management and Inspection Services for the construction of three water reservoirs; 0.5MG Chaot #2, 1MG Tumon #2 (Nissan) and 1MG Hyundai. The overall goal of the Construction Manager (CM) is to manage the entire construction process so that the project can be delivered efficiently and professionally.</p>	

CONSTRUCTION PW 12-04, PW 12-06 AND PW 09-11	Central Tank Phase I (Chaot #2, Tumon #2, Hyundai) Construction (AIC)	Start Date: February 8, 2018
80% Complete	<p>Activities/Notes:</p> <p><u>Tumon No. 1</u> Contractor working on water line at Marine Drive, control building, and site vaults. Marine Drive HEP expired 05/03/2020. DPW has stopped AIC from working on the road. GWA operations is investigating how to secure 24 in. line for the contractor to connect new lines. But as 06/15/2020, AIC received confirmation from DPW that HEP permit is approved for 3 months extension.</p> <p><u>Hyundai</u> Contractor working on booster pump station, vaults, tank. DN Tanks was able to get shotcrete and prestressing team on island this week. Work stopped on 05/21/2020 on North Sabana Road. DPW inspector instructed AIC to stop work pending release of permit renewal. But as of 06/15/2020, AIC received confirmation from DPW that HEP permit is approved for 3 months extension.</p> <p><u>Chaot No. 2</u> Contractor working on site vaults, PRV and well work. Tank inspection scheduled for 06/05/2020. Dero Road PRV in service. Stage area HEP expired 05/31/2020. Dero Road HEP expired 05/18/2020. Well HEP will expire 12/17/2020.</p> <p>DPW visited Dero Road jobsite on 05/25/20. Stop work order was issued by DPW, effective 05/31/2020. After the migration to the new PRV (05/28/20), AIC contacted DPW inspector to inform him of the unstable roadway due to the excavation for the new waterline. DPW inspector allowed AIC to proceed with only road restoration; however, no further excavation was allowed. Road restoration was completed on 06/11/20.</p> <p>As of 06/15/2020, AIC received confirmation from DPW that HEP permit is approved for 3 months extension. We can now proceed with the connection from the tank distribution line to the Leo Palace line at Dero Road.</p>	<p>Completion Date: TBD (Completion date has passed. Pending time extension for permit delays.)</p>
	Construction Services	
Project Description:	The work performed under this project procurement shall consist of Construction of three water reservoirs; 0.5MG Chaot #2, 1MG Tumon #2 (Nissan) and 1MG Hyundai. Some piping work off site from the reservoir is also required to ensure the reservoirs function optimally.	

<u>CONSTRUCTION MANAGEMENT</u> PW 09-11	Northern and Southern Tank Phase I (Santa Rosa, Sinifa, Santa Rita) Construction Management (GHD)	Start Date: April 2018
0% Complete	Activities/Notes: NTP issued October 3, 2019. Pending permits with SHPO, GEPA and DPW. GWA is waiting on designer - TGE to provide archaeological port for Sinifa site. The remaining sites are still under review by SHPO. SHPO has responded on two sites. TGE/Search must address SHPO's comments. Stop order was issued for the CM until contract extension and fee negotiation. GWA has provided comments on 06/03/2020 to GHD regarding change order proposal. GWA coordinating RFI reviews with EOR.	Completion Date: TBD (currently February 21, 2021)
N/A	Construction Management services	
Project Description:	The work performed under this project procurement shall consist of Construction Management and Inspection Services for the construction of three water reservoirs: 1MG Santa Rosa, 1MG Sinifa and 1MG Santa Rita. The overall goal of the Construction Manager (CM) is to manage the entire construction process so that the project can be delivered efficiently and professionally.	

<u>CONSTRUCTION</u> PW 09-11	Northern and Southern Tank Phase I (Santa Rosa, Sinifa, Santa Rita) Construction (AIC)	Start Date: October 2019
0% Complete	Activities/Notes: NTP issued October 3, 2019. Pending permits with SHPO, GEPA, and DPW.	Completion Date: TBD
	Construction Services	
Project Description:	The work performed under this project procurement shall consist of Construction Services of three water reservoirs: 1MG Santa Rosa, 1MG Sinifa and 1MG Santa Rita. Some piping work off site from the reservoir is also required to ensure the reservoirs function optimally.	

<u>DESIGN</u> PW 05-12	Pressure Zone Realignment and Tank Repair-Replacement (GHD)	Start Date: August 2018
Design will be done in Phases. Phase 1 - 100% (Design) Phase 2 - 30% (Design)	Activities/Notes: Designer is working on Phase II sites. Phase II sites approximately 30% complete. Ops has provided field investigation data for Phase II sites.	Completion Date:
N/A	Engineering design services	

Project Description:	The design project is intended to assess current and recommended pressure zones, and design and install control valves (PRVs, PRSVs) to properly control and measure system flow between zones. Scope also includes setting up pilot DMAs; and design for new or repaired water tanks needed to complete the court order tank requirements.
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<u>CONSTRUCTION</u>	Pressure Zone Realignment and Tank Repair-Replacement – Phase I (Sumitomo)	Start Date: December 17, 2019 (Notification of Award)
0% Complete	Activities/Notes: Construction contract effective April 21, 2020. NTP issued May 1, 2020 with modified language for work starting onsite. Pre-construction meeting tentatively scheduled for Monday, May 11, 2020, at 9:00am. GWA reviewing submittals submitted by SMCC on week of May 4, 2020.	Completion Date: April 21, 2021
N/A	Construction Services	
Project Description:	The work performed under this project procurement shall consist of Construction Services for the installation of control valves (PRVs, PRSVs), piping, and related electrical upgrades to properly control and measure system flow between zones.	

<u>DESIGN, CONSTRUCTION, CONSTRUCTION MANAGEMENT</u> PW 09-11	Tank Repair and Bypass (DCA, AIC, GWA)	Start Date: May 1, 2020
0% Complete	Activities/Notes: Construction contract effective April 21, 2020. NTP issued May 1, 2020 with modified language for work starting onsite. Pre-Construction Meeting conducted. AIC has submitted permit to DPW. AIC, GWA, and DCA have been progressing with submittals and RFIs.	Completion Date:
Project Description:	The work to be performed under this project consist of installing by-pass piping, valves, etc. ahead of certain tank inspection work. The operation of the by-pass will allow the tank inspector to determine appropriate repairs after which the contractor will proceed to repair the tank.	

<u>DESIGN</u> PW 09-02	New Well Site Development - Y-08, AG-10, AG-12 (GHD)	Start Date: September 2018 (Extension)
99% Complete	Activities/Notes: Design plans and specs are expected to be submitted by GHD on the week of May 18, 2020.	Completion Date: TBD

N/A	Engineering Design Services	
Project Description:	The design project is intended to design 3 new wells to increase production capacity. The design services will consist of preparation of plans, specifications, and estimates (PS&E), which includes Basis of Design, design calculations, construction schedule, construction documents, design drawings in Auto CAD, relevant permit, construction bid support service, and response to request for interpretation/information during construction.	

CONSTRUCTION PW 14-01	Fire Hydrant Replacement Phase I (Mega United Corporation, Ltd.)	Start Date: October 19, 2019
0% Complete	Activities/Notes: DPR already signed the permit first week of March but still needs permit approval with other agencies and Mayor's Offices. The customer service for clearances of highway encroachment permit was temporarily suspended due to Covid-19. We can resume the permit processing once the operation is back to normal. Some of the materials ordered off island already arrived.	Completion Date: October 25, 2020
Project Description:	The work performed under this project consist of replacing the dry barrel fire hydrants with wet barrel type fire hydrants. The replacement will involve removal of defective fire hydrant laterals, gate valves, hydrant stem and barrel and other appurtenances necessary to complete the project.	

CONSTRUCTION PW 05-07	Groundwater Well Production Meter Replacement Project (Giant Construction)	Start Date: April 29, 2020
2% Complete	Activities/Notes: - Received/reviewed 109 submittal items, 101 items approved, 8 items to be resubmitted for approval. - Contractor submitted shop drawing for each well sites incorporating actual field measurement of discharge piping length to be replaced. Review in progress. - Contractor's permit still with GEPA, the remaining agency to sign.	Completion Date: June 28, 2021
	Construction services	
Project Description:	Work to be performed under this project shall consist of replacing the production well meters and associated well head piping. Construction management is performed in-house.	

D. CIP Wastewater Section

<u>DESIGN</u> WW 09-06	Bayside SPS Improvements Design (EMPSCO)	Start Date: July 29, 2016
100% Design 0% Construction Services	Activities/Notes: NTP issued on June 11, 2020. Building permit application on-going.	Completion Date: TBD
CO #3	Engineering design services	
Project Description:	The intent of this project for an engineering firm to prepare design drawings and specification to upgrade the Bayside Sewer Pump Station given the facility is in major disrepair and the adjacent river is eroding away the access road to the facility which is causing maintenance challenges and install underground power cable due to GPA's concern that existing power pole, located on the bank is at risk of being lost due to storm surges.	

<u>CONSTRUCTION</u> WW 11-04	Umatac-Merizo WWTP Design Build Improvements Project (CoreTech)	Start Date: June 2017
100% Design 100% Construction	Activities/Notes: - Final SCADA adjustment completed and verified July 2, 2020. Contractor preparing final invoice.	Completion Date: January 6, 2020
	Construction services	
Project Description:	The project is intended to improve the aeration basin, construct a new sewer pump station, regrade the overland field, construct a new effluent storage tank and disinfection facility. The overland percolation terraces are being regraded to ensure appropriate distribution of effluent through the entire terrace.	

<u>CONSTRUCTION MANAGEMENT</u> WW 11-04	Umatac-Merizo WWTP Design Build Improvements Project (SSFM Inc)	Start Date: September 7, 2017
100% Complete	Activities/Notes: CM checked As-Built drawings and made comments. Final payment submitted to GWA.	Completion Date: January 2020
	Construction Management services	
Project Description:	The work performed under this project procurement shall consist of Construction Management and Inspection Services for the improvements works at the aeration basin, new sewer pump station, overland field improvements, effluent storage tank. The overall goal of the On-Site Representative is to ensure materials are installed and installation conforms to the contract plans and specifications and that all required testing is performed and passes.	

E. CIP Engineering Support

<u>DESIGN</u> EE 09-08	SCADA System for Water and Wastewater Facilities Phase A-1 (AECOM)	Start Date: June 11, 2015
100% Complete (Design) 82% Services during construction	Activities/Notes: On standby to address any questions for DOR.	Completion Date: November 2017 - Design December 31, 2019 - (Bid and Construction Support)
N/A	Engineering design services	
Project Description:	The A/E firm will design an integrated, robust and secure Supervisory Control and Data Acquisition (SCADA) system for GWA's water and wastewater systems, and to provide support services during bid and construction. The 22 sites will consist of a combination of water facilities such as production wells, reservoirs, booster pump station and wastewater sites include sewer treatment plants and sewer pump stations. Executed by approved change orders, number of sites in original design scope has changed from 22 sites to 19 sites and design of High Water Alarm for 20 critical sewer pump stations has been added. Scope also includes bid and construction support of the design-build project of GPWA SCADA EMS project.	

<u>CONSTRUCTION</u> EE 09-08, EE 09-09	SCADA Phase A1 Construction (G4S Security)	Start Date: July 13, 2018
80% Construction	Activities/Notes: Based on legal counsel negotiation; July 7 is now the last day for contractor to complete any remaining work. Further negotiation and settlement process to follow. Payment No. 5 is submitted, pending review and processing.	Completion Date: December 31, 2019
	Construction services	
Project Description:	The work performed under this project procurement shall consist of Construction of SCADA ready instrumentation at several water and wastewater facilities throughout the island.	

<u>CONSTRUCTION MANAGEMENT</u> EE 09-08, EE 09-09	SCADA Phase A1 Construction Management (GHD)	Start Date: July 13, 2018
92% Complete (due to increased contract amount and unbilled balance)	Activities/Notes: Continuing to provide inspections , claims, and closeout support. A no-cost change order to be processed to extend completion date.	Completion Date: May 31, 2020
	Construction Management services	

Project Description:	The work performed under this project procurement shall consist of Construction Management and Inspection Services for the installation SCADA ready instrumentation at several water and wastewater facilities throughout the island. The overall goal of the Construction Manager (CM) is to manage the entire construction process so that the project can be delivered efficiently and professionally.
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F. GIS Section

<u>MAPPING</u> MC 05-02	Island Wide Survey- (Duenas, Camacho & Ass.)	Start Date: December 2007
99% complete	Activities/Notes: Map regarding Airport Tank easement boundary is pending easement agreement with GIAA and final parceling map.	Completion Date: October 2019
	Survey services	
Project Description:	The contracted land surveyor is required to conduct title research, property valuation and mapping of property boundaries where GWA facilities are located, including the lots which are not registered under GWA's name.	

<u>MAPPING</u> MC 05-02	Island Wide Survey PH II - (Duenas, Camacho & Ass.)	Start Date: August 30, 2017
80% complete	Activities/Notes: First set of land registration maps (5): DCA performing field survey. First 2 land registration maps in GWA review process.	Completion Date: December 2019 - Request for extension sent to GM 10/29/2019 – due to myriad of reasons, extended periods of inclement weather, delays in DLM Survey review and approval of property maps and changes of additional scope of survey work.
	Survey services	
Project Description:	The work performed under this project procurement shall consist of a professional land surveyor conducting field work to mark corners of existing government properties as a means of severing out portions of the larger property to be deeded to GWA. Surveyor shall also prepare all necessary maps and documents for recording at DLM.	

G. Permits SectionPERMITS
MONTHLY REPORT 2020

Description	2020												TOTAL
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Building Permit	23	22	23	1	1	8							78
Occupancy Permit	6	31	25	1	1	21							85
New Installation	4	17	15	0	0	9							45
Sewer Application	0	1	4	0	0	1							6
Sewer Inspection	0	0	1	0	0	3							4
Private Utility Acceptance	0	0	0	0	0	0							0
Relocation of Water Meter	0	2	0	0	0	0							2
Tapping-Water	1	5	3	0	0	0							9
Tapping-Sewer	1	5	3	0	0	0							9
Clearance-Water	14	10	20	12	12	18							86
Clearance-Sewer	14	10	20	12	12	18							86
Highway Encroachment	36	5	20	0	0	31							92
Verification of Utilities	6	6	1	1	1	1							16
Fire Flow Test	0	3	0	0	0	0							3
Schedule Water Outage	0	0	0	0	0	0							0

NOTE: Completed work orders for each calendar month are reported.


H. USEPA SRF Project Status Report

United States Environmental Protection Agency State Revolving Funds (USEPA SRF)

- Projects listed below that are noted to be in the procurement phase will follow the "Percentage Key" below.

Percentage Key:

100%	Approved by GM
99%	Signature required from either Accounting/Legal/GM
98%	Processing engineering service or construction contract (with legal)
95%	Request for CCU approval (GM/engineering)
90%	A/E fee negotiation or contractor bid evaluation (engineering)
80%	Selected A/E or Conducted bid opening (engineering)
70%	Advertised RFP/IFB (engineering)
60%	RFP/IFB Package under legal review
50%	RFP/IFB Package completed (engineering)
Less than 50%	Project Scope of work development in progress

- Red text anywhere indicates a change from the last report.
- Cells highlighted in green  indicate contract amount certified and project active.

NOTE: Table below only reflects SRF projects that are still active. All other projects previously shown are on prior reports

GWA Work Session - July 22, 2020 - DIVISION REPORTS

Project	Project Description	Project Manager	Phase		Start Date (NTP Issued)	Anticipated Completion Date	Contract Amount (+) change orders	Contractor	Status as of 06/18/2020
3	Asan-Adelup-Hagatna RT1 Sewer Line Rehabilitation and Replacement	Brown & Caldwell	Design	2	12/11/2015	3/30/2017 for Design requirements	\$ 1,780,210.00	HDR	HDR assisting as needed. Working with CM to review CCTV, submittals as requested, and any variance requests. Also, Archaeological monitoring through HDR contract. HDR CO for archaeological monitoring and additional construction services approved by GWA. This CO will include design services for Phase 2 (Adelup to Hagatna).
			Construction	2	11/9/2018	3/8/2020	\$6,275,782.88	InfraTech	InfraTech (via Allied Trenchless) completed Cleaning/CCTV for areas they were able to access. Contractor working on point repairs. Replacement of three manholes completed. Installed new 16-inch main replacing 12-inch main. Working on point repair near bridge. Contractor working on revising TCP for section crossing over to pump station to satisfy DPW to prevent closing down to one lane in both directions. Ongoing while other work is being done. CO3 for additional cleaning, abatement of 14" AC pipe, additional time and cost for traffic control signed approved by GWA. Contractor working on segment between MH20Aasan and MH20asan. Encountered large pipe encasement that is complicating installation. Solution determined – removing encasement and installing new pipe.
			Construction (Phase 2)				\$4,000,000.00		Pre-solicitation notice drafted and submitted to GWA. Draft of revised contract package completed by HDR, reviewed by GWA and BC and comments given to HDR. Contract package delivered to GWA for advertisement.
			CM	2	8/3/2017	3/8/2020	\$ 870,610.41	DCA	Working with Contractor on schedule, submittals, responding to RFIs, and assisting in the negotiations of PCO costs.
			Design	3	11/17/2015	3/30/2017 for Design requirements	\$ 316,681.00	SSFm	Providing designer support during construction. Final invoice submitted to GWA on 05/01/2020. Project is completed.
4	RT2 Agat War in the Pacific Sewer Line Rehabilitation and Replacement	Brown & Caldwell	Construction	3	8/31/2017	10/1/2018 (Contractor in LD period)	\$4,688,042.38	ProPacific	FOIA request. Currently gathering correspondence records and contract documents. PPBC needs to submit final CCTV and paperwork for review and acceptance of pipe between SMH 2 through 10. All work now completed. Instructed PPBC to submit a request for CO to resolve excess excavated materials, time extension, LD time, and other costs to BC. GWA issued certification of substantial completion to PPBC. Date is October 6, 2019.
			Construction (Phase 2)						B&C working with HDR to prepare bid documents for RT1 Asan-Adelup-Agana PH2.
			CM	3	9/19/2017	10/1/2018	\$ 749,950.00	TG Engineers	Assembling close-out documentation.
			Design	4	3/24/2015	2/28/2019	\$ 2,640,220.00	B&C	Project underway.
			Construction				The project does not involve construction.		
5	Brown & Caldwell Project Management	T. Cruz	CM						

GWA Work Session - July 22, 2020 - DIVISION REPORTS

Project	Project Description	Project Manager	Phase		Start Date (NTP Issued)	Anticipated Completion Date	Contract Amount (+) change orders	Contractor	Status as of 06/18/2020
7	Groundwater Wells Rehabilitation (F-3, A-2, A-7, A-12, D-5)	Brown & Caldwell	Design	6	5/27/2016	2/28/2018 (for design only)	\$ 1,758,247.00	AECOM	Design services during construction on hold until construction IFB is issued
			Construction	4	8/15/2019	8/30/2020			Designer submitted revised bid package to GWA on 05/25/2020. Bid diverted mid-June.
			CM	4	8/15/2019	8/30/2020			RFP advertised on July 30th, closing date August 16th. Pending notice of award. Negotiations have been attempted between GWA and the most qualified consultant, SSFM, for an acceptable and agreed fee proposal. Third Revised Fee Proposal (No.3) is expected by Friday, 03/13/2020.
8	Tumon Sewer Hot Spots	Brown & Caldwell	Design	7	6/24/2016	10/30/2017 for design only	\$ 572,089.00	TG Engineers	TGE to provide engineering services during bid process.
			Construction	See Project 15	12/1/2018	12/31/2019	See Project 15	See Project 15	See Project 15
			CM	See Project 15	5/31/2019	5/31/2020	See Project 15	Am Orient	Procurement 100%: Contract fully executed. CM services to be on hold until bidding restarted.
12	RT4 Relief Sewer Line Rehabilitation and Replacement	Brown & Caldwell	Design	9	3/1/2016	4/22/2017	\$ 794,000.00	AECOM	AECOM assisting as needed.
			Construction	5	9/3/2018	6/30/2020	\$ 3,998,688.00	Insituform	Insituform/Mocon completed all CIPP and post-CCTV. GWA will not install "top hats" on the 4 reinstated service connections under this contract. This work will be added to Rt.1 phase 2 construction. CCU approved Change Order #5 to increase contingency authorization. Leaks from end of pipes in several manholes repaired by Mocon.
				6	9/25/2018	6/30/2020	\$ 3,407,848.00	ProPacific	PPBC working on manhole rehab. Infiltration between pipe and liner entering the manholes has been fixed by Insituform. Installation of new main up- and down-stream from O'Brien intersection completed. Contractor repairing curbs and will repave in July. Contractor intends to submit a request for change order for additional work resulting from existing utilities encountered. Manhole rehab moving along nicely. Installation of new manhole at Rt.4/Rt.1 intersection started.
			CM	6	11/15/2018	12/31/2019	\$ 702,678.13	EMPSCO	Working with contractors on schedules, submittals, permitting, and contractor's request for additional time and costs. Also working with contractors in the field.

GWA Work Session - July 22, 2020 - DIVISION REPORTS

Project	Project Description	Project Manager	Phase		Start Date (NTP Issued)	Anticipated Completion Date	Contract Amount (+) change orders	Contractor	Status as of 06/18/2020
14	Southern SSES Sewer Rehabilitation (Baza Gardens- Talofofo)	Brown & Caldwell	Design				The design was previously completed under bond funding.		
			Construction	8	8/2/2016	Due to issue related to Santa Rita sewer project completion under analysis.	\$ 1,189,815.00	ProPacific	<p><u>Santa Rita</u></p> <ul style="list-style-type: none"> 401C application: wetland verification with GEPA and DoAG conducted on 5/18/2020. 401C public comment underway; advertisement published 6/13 and 6/14. Federal Consistency approved 11/25/2019. SHPO – BC sent contract to SEARCH for review and approval. Not yet received from SEARCH. 404: New USACE PM (Albert Williams); now pursuing an NWP3; willing to issue a provisional permit. Provided all requested documents. Will follow up. GWA prepared legal easement document. Resistance from Guam AG's office. GWA and owner to execute a right of entry to proceed with project. GWA currently drafting document. Design <ul style="list-style-type: none"> Conditionally approved design documents; BC writing controls specifications. PPBC started DPW building permit. <p><u>Baza Gardens/Talofofo</u></p> <ul style="list-style-type: none"> PPBC completed work for Change Order 4 on 11/04/2019. Processed invoice (\$2,845.36). EMPSCO beginning closeout.
			CM	8	7/29/2016	5/28/2017	\$ 425,756.09	EMPSCO	<p>Will start close out process once invoice is processed. Pending PPBC submittal of construction photos.</p> <p>Negotiated Change Order for additional CM services covering project closeout amounts to \$6,067.66. Change Order executed by GWA on 03/28/2019 and transmitted to CM on 03/29/2019.</p> <p>A deductive change order will be issued to PPBC for the final amount of this change order after all CM services are complete.</p>
15	Tamuning Sewer Hot Spots	G. Gattoc	Design	10	9/9/2016	10/31/2017 (for design only)	\$ 663,629.00	TG Engineers	TGE to provide engineering services during bid process.
			Construction	9	1/30/2020	12/31/2020	\$ 1,093,955.87	Ian Corporation	Contractor submitted documents/plans package to GEPA regarding building permit hold letter on 06/01/2020. Contractor continues to revise/re-submit material submittals in conjunction with CM review. EOR reviewed and responded to RFI-#2; under review by GWA pending Contractor shop drawings.
			CM	9	3/31/2019	3/31/2020	\$ 531,000.75	Am Orient	CM acknowledged Notice to Proceed (NTP).

GWA Work Session - July 22, 2020 - DIVISION REPORTS

Project	Project Description	Project Manager	Phase		Start Date (NTP Issued)	Anticipated Completion Date	Contract Amount (+) change orders	Contractor	Status as of 06/18/2020
16	Talofofo Sewer Pump Stations (4 stations)	J. Miller	Design (for Talofofo and Chalan Pago PS)	11	8/17/2016	11/30/2017	\$ 493,818.86	EMPSCO	Design of Talofofo Lift Stations • Final Design completed June 2018. Design of Chalan Pago Wastewater Pump Station • Final design documents submitted June 8, 2020. • GWA currently reviewing. Thus far, the Basis of Design needed to be updated to reflect the updated mechanical calculations. Invoice also received June 8, 2020.
			Construction	10	12/27/2018	4/27/2020	\$ 2,411,418.00	Giant Const.	Ladera 1: Electrical and fence work ongoing. Wet Well leak test passed. Wet well cover and CMU wall slab formwork complete. Ground filling and grading complete. Basin fence repair started. Tenorio: Electrical and fence work ongoing. Formwork for slab of CMU wall started. Ground filling and grading complete. Basin fence repair started. Taitague: Restoration of nearby ponding basin, electrical work, and fence work ongoing. Formwork for slab of CMU wall started. Ground filling and grading ongoing. Road pavement restoration started. Ladera 2: Electrical and fence work ongoing. Formwork for slab of CMU wall started. Ground filling and grading complete. Ayuyu: Electrical and fence work ongoing. Formwork for slab of CMU wall started. Ground filling and grading complete. Restoration of nearby ponding basin and fence ongoing. Pumps and electrical/control panels arrived on island 03/04/2020. Waiting on pump flush valve delivery. Giant disagreed with GWA's decision to award 27 calendar days, and issued additional claims. GWA currently working on a response. New correction required notice CRN-02, regarding force main not reaching the ARV at highest point in as-built submitted by Giant. Giant to verify actual condition or correct immediately. New CRN-03, pertaining to an offset joint discovered in the lamp test of the gravity line connecting the new terminal MH to the existing MH; Ayuyu station. Giant to correct and test prior to startup. No new invoice to date. Still pushing Giant to submit invoices. Giant said they will submit an invoice tomorrow, June 18, 2020.
			CM		12/1/2018	12/31/2019			GWA Engineering will manage construction management tasks.
18	Water Hydraulic Model (SCADA ready instruments to update Model)	Barbara Cruz J. Mendiola/G. Yeoh	Design	12	8/3/2016	3/15/2017	\$ 523,268.00	GHD	Design complete.
			Construction (Phase 1)	12	8/3/2016	6/30/2020	\$ 4,532,000.00	Sumitomo	Project went out to bid October 2019. Contract with SMCC was approved by the CCU on 01/28/2020. PUC Notification sent out on 03/05/2020. Contract effective 04/21/2020. NTP made effective 5/6/2020. Kickoff/pre-construction meeting held 5/14/20. Permitting being run through DPW and will be routed to Parks and Recs. Authorization letter provided to SMCC for permitting on 6/10/20. Permit process ongoing.
			CM		6/15/2019	6/30/2020			

GWA Work Session - July 22, 2020 - DIVISION REPORTS

Project	Project Description	Project Manager	Phase		Start Date (NTP Issued)	Anticipated Completion Date	Contract Amount (+) change orders	Contractor	Status as of 06/18/2020
23	Project Advertisement	Engineering/ Procurement	MISC	1			\$ 25,172.50	PDN/Post	On-going
24	Dungca Beach Sewer Improvements	GWA CIP Engr	Design						RFP advertised on June 9th. Proposals due July 7th.
25	Hagatna Sewer Pump Station Force Main	GWA CIP Engr	Design						Draft RFP with Mo for review and edits.
26	Fujita Sewer Pump Station Force Main	GWA CIP Engr	Design						Draft RFP with Mo for review and edits.
27	Well Rehab A-28, M-14, D-15 & F-7	GWA CIP Engr	Design						Draft scope of work with Chief Engineer for review.
							\$ 65,741,613.02		



Financial Statement Overview

June 2020

Executive Order 2020-22 signed by Governor Leon Guerrero on June 29, 2020, extended the public health emergency through July 30, 2020. With the rise in COVID-19 cases in mid to late June, the Governor delayed opening flights to Guam and relaxing quarantine requirements. Quarantine policies were updated to ensure that travelers, particularly those coming from "COVID-19 High Risk Areas", are isolated from the community for an appropriate time.

The Guam Department of Labor (GDOL) began issuing Unemployment Compensation and paid \$71.4M between June 12-30, 2020. GDOL expects to make payments weekly, announcing on July 14, 2020, the release of their 5th and largest batch totaling \$54 million. Meanwhile, GWA customers who are facing financial hardships and are delinquent have been encouraged to sign up for payment plans before the end of June.

On April 28th, CCU Resolution 24-FY2020 granted a lifting of credit card limits on payments for non-residential accounts. For the months of April thru June, credit card payments averaged 42% of total payments, up from an average of 35% from October thru March. Below is a summary of payments made and related fees exceeding the limit.

Month	Customer Count	Amount Paid	Fees	% of Fees to Payments
May 2020	18	\$22,011	\$543	2.46%
June 2020	21	\$34,919	\$702	2.01%

On June 1st, GWA launched its new pay site and has joined the *Going Online Together* campaign with several other organizations. On-line payments and pay-by-phone, automated pay by phone (IVR), and payment on the mobile app as a percentage of total payments have increased by 10% to 36% from 26%. Collection rates have continued to improve for the month of June and were at 103% of revenues.

Year to Date consumption is slightly lower than last year (water consumption -1%, wastewater consumption +1%) and June 2020 consumption dipped below June 2019 (water consumption -5%, wastewater consumption -1%). Increases in residential demand continue to be offset by reductions in commercial demand. We continue to monitor bills as they drop in July to determine the impact of the reopening of the economy while quarantine measures for visitors stay in place and hotels remain empty except for military related stays, government quarantine sites and homeless shelters. See Schedule K for Water Demand for FY2015 to FY2020.

As revenues are monitored, a cost containment plan has been put into effect. While sufficient cash reserves are in place, management will continue to assess the situation and make any course corrections required to ensure continuity of services to our customers while keeping the safety of our staff the highest priority.



As previously reported, GWA issued the Water and Wastewater System Revenue Bonds Series 2020A at a par value of \$134M on May 28, 2020, with a settlement date of June 4, 2020. GWA received a record \$2.9B in orders from nearly 70 investors and secured a 4.0% yield to the 10-year call date. The all-in TIC (Total Issuance Cost) was 4.59%, the second lowest TIC for new money GWA financing. A total of \$123,590,268.65 was deposited into the construction fund as a result of this transaction.

GWA intends to refinance its Series 2013 Bonds given favorable market conditions in early August.

Balance Sheet

- Total Assets & Deferred Outflows of Resources of \$915.7M in September 2019 grew by \$172.5M or 19% to \$1.1B in June 2020 largely due to funds from the sale of bonds which settled on June 4th. Current Assets decreased by \$7.25M, Property, Plant and Equipment increased by \$44.9M, and Other Noncurrent Assets increased by \$135.4M. Schedule F contains a schedule of restricted and unrestricted cash and investments.
- Liabilities & Deferred Inflow of Resources of \$714.2M in September 2019 similarly increased by \$135.3M or 19% to \$849.5M in June 2020 primarily due to the June bond sale, increasing Long Term Debt by 135.3M (\$134M par and \$8.3M in premium less cost of issuance).
- Accounts Receivable days were 48 in June 2020 as compared to 50 in September 2019 and Accounts Payable days were 35 in June 2020 as compared to 38 in September 2019.

Statement of Operations and Retained Earnings

- Total Operating Revenues for June 2020 of \$8.5M were 6% or \$551K less than budget and 8% or \$741.4K less than June 2019 due to the impact of the COVID-19 public health emergency.
- Year to Date Operating Revenues as of June 2020 of \$80.6M were \$750.5K less or 1% less than budget and were \$2.5M or 3% less than last year. Note that the budget, was adjusted in April to reflect the effects of the public health emergency.
- Total Operating Expenses for June 2020 of \$6.8M were \$248.1K or 4% below budget, with most expenses coming in below budget except for Depreciation and Retiree Expenses. Total Operating Expenses for June 2020 were 2% or \$146.3K less than June 2019 with decreases in most expense categories except Water Purchases and Salaries and Wages.
- Year to Date Operating Expenses at June 2020 of \$66.4M were \$3.1M more than budget of \$63.3M with Power, Claims, Training, Regulatory Expenses, Depreciation and Retiree Costs coming in higher than budget. Year to Date Operating Expenses at June 2020 were \$3.6M or 6% more than last year's \$62.8M with most categories showing increases except for contractual expenses which came in 12% less than the prior year.
- Earnings from Operations for June 2020 of \$1.7M were 15% or \$303K less than budget and 26% or \$595.9K less than June 2019. Change in Net Assets for June 2020 of \$6.8M



were \$4.1M more than the \$2.7M budget mainly due \$4.9K more in Grants and \$4.4M more than June 2019 due to \$7.7M more in Grants offsetting the \$2.6M decrease in Non-operating Revenues and Expenses.

- Year to Date Earnings from Operations as of June 2020 of \$14.2M were 21% or \$3.8M less than budget and 30% or \$6M less than YTD Earnings as of June 2019. Year to Date Change in Net Assets as of June 2020 of \$37.2M were \$12.9M or 53% more than budget mainly due to \$11.9M more in Grants from US Government than projected. Year to Date Change in Net Assets as of June 2020 were \$10.2M or 38% more than YTD as of June 2019 mainly due to \$30M more in US Government Grants and \$10.4M less in AFUDC and \$2.5M less in interest income.

Key Financial Indicators

Indicator	Target	May 2020	June 2020
DSC YTD			
• Per Section 6.12 of Indenture	1.25	1.28	1.27
• Per PUC / CCU	1.40	1.28	1.27
YTD Month to Month Change in Net Assets		10%	22%
Days – Cash on Hand	120 days	298 days	292 days
Collection Ratio			
• Month to Date	98%	100%	103%
• Year to Date	98%	97%	98%
Days Billed	30	30	31
Account Receivable Days	45	50	48
Account Payable Days	45	36	35
Employee Count	400 FTE	384 FTE	384 FTE
Water Demand			
• Month to Date	467,615	465,477	469,531
• Year to Date	3,740,923	3,837,672	4,306,513
Wastewater Demand			
• Month to Date	382,224	335,721	337,574
• Year to Date	2,775,095	2,718,351	3,055,924
Water Customers	42,724	42,889	42,838
Wastewater Customers	29,604	29,673	29,518

**GUAM WATERWORKS AUTHORITY
JUNE 30, 2020
FINANCIAL AND RELATED REPORTS
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GUAM WATERWORKS AUTHORITY
Balance Sheet
June 30, 2020

SCHEDULE A

ASSETS AND DEFERRED OUTFLOWS of RESOURCES	Unaudited June 30, 2020	Audited September 30, 2019	Increase (Decrease)
<u>Current Assets</u>			
Cash			
Unrestricted (Schedule F)	41,326,383	36,140,182	5,186,201
Restricted Funds (Schedule F)	29,914,496	37,890,369	(7,975,873)
Accounts Receivable Trade, Net of Allowance for Doubtful Receivables of \$7,539,104 at Jun 30, 2020 and \$7,789,943 at Sep 30, 2019	13,729,199	14,346,247	(617,048)
Federal Receivable	313,454	3,711,435	(3,397,981)
Other Receivable	1,220,629	1,794,082	(573,452)
Materials & Supplies Inventory, Net of Allowance for Obsolescence of \$64,131 at Jun 30, 2020 and \$64,131 at Sep 30, 2019	4,085,773	3,897,352	188,421
Total Current Assets	90,589,935	97,779,668	(7,189,732)
<u>Property, Plant and Equipment</u>			
Utility plant in service			
Water system	383,040,264	381,484,623	1,555,641
Wastewater system	470,536,738	429,896,579	40,640,159
Non-utility property	24,269,962	23,200,625	1,069,337
Total property	877,846,964	834,581,827	43,265,137
Less: Accumulated Depreciation	(339,774,324)	(321,561,403)	(18,212,921)
Land	3,914,815	3,914,815	-
Construction Work in Progress	120,055,374	100,162,613	19,892,761
Property, Plant and Equipment, net	662,042,828	617,097,852	44,944,976
<u>Other noncurrent assets and deferred charges</u>			
Restricted cash (Schedule F)	223,460,862	109,937,511	113,523,351
Investments (Schedule F)	81,335,085	61,231,877	20,103,208
Other Prepaid Expenses	2,974,998	1,667,816	1,307,182
Regulatory Assets	427,230	-	427,230
Total other noncurrent assets and deferred charges	308,198,176	172,837,204	135,360,972
Total Assets	1,060,830,939	887,714,724	173,116,216
Deferred outflows of resources			
Debt defeasance due to bond refunding	11,355,600	11,976,380	(620,780)
Deferred outflows from pension	9,057,499	9,057,499	-
Deferred outflows from OPEB	6,982,196	6,982,196	-
Total Assets and Deferred Outflows of Resources	1,088,226,234	915,730,799	172,495,436
<u>LIABILITIES, DEFERRED INFLOWS of RESOURCES AND NET ASSETS</u>			
<u>Current Liabilities</u>			
Current maturities of long-term debt			
Series 2010 Revenue Bond	1,895,000	1,895,000	-
Series 2013 Revenue Bond	2,695,000	2,695,000	-
Series 2014 Refunding Bond	3,760,000	3,760,000	-
Series 2016 Revenue Bond	420,000	420,000	-
Notes Payable	-	2,319,108	(2,319,108)
Accounts Payable -Trade	3,021,269	4,121,364	(1,100,095)
Accrued and Other Liabilities	1,571,467	1,374,650	196,816
Interest Payable	13,205,094	6,359,303	6,845,791
Accrued Payroll and Employee Benefits	1,010,930	1,685,235	(674,305)
Accrued Annual Leave	1,054,545	1,054,545	-
Current portion of employee annual leave	584,204	584,204	-
Contractors' Payable	12,254,328	22,094,820	(9,840,491)
Customer and Other Deposits	2,210,342	2,349,490	(139,148)
Total Current Liabilities	43,682,179	50,712,718	(7,030,539)
<u>Long Term Debt, less current maturities</u>			
Series 2013 Revenue Bond	169,935,000	169,935,000	-
Series 2014 Refunding Bond	65,140,000	65,140,000	-
Series 2016 Revenue Bond	142,890,000	142,890,000	-
Series 2017 Refunding Bond	107,365,000	107,365,000	-
Series 2020A Revenue Bond	134,000,000	-	134,000,000
Unamortized Bond Premium/Discount	40,188,244	31,863,590	8,324,654
Net pension liability	49,593,171	49,593,171	-
Net OPEB obligation	62,656,405	62,656,405	-
Employee Annual Leave, Less Current Portion	838,545	838,545	-
Total Liabilities	816,288,544	680,994,429	135,294,115
Deferred inflows of resources:			
Deferred inflows from pension	1,444,744	1,444,744	-
Deferred inflows from OPEB	31,758,062	31,758,062	-
Total Liabilities and Deferred Inflows of Resources	849,491,350	714,197,235	135,294,115
Net Assets	238,734,884	201,533,564	37,201,320
Total Liabilities, Deferred Inflows of Resources and Net Assets	1,088,226,234	915,730,799	172,495,435

GWA Work Session - July 22, 2020 - DIVISION REPORTS

GUAM WATERWORKS AUTHORITY
Statement of Operations and Retained Earnings
Comparative Budget vs. Actual for the period ending June 30, 2020

SCHEDULE B

	Month to Date	Variance
	Budget*	Favorable /
	June-20	Actual (Unaudited)
	June-20	(Unfavorable)
OPERATING REVENUES		
Water Revenues	5,482,041	5,376,765
Wastewater Revenues	3,173,105	2,669,324
Legislative Surcharge	268,785	245,940
Other Revenues	35,994	41,787
System Development Charge	76,247	151,335
Total Operating Revenues	9,036,173	8,485,150
OPERATING AND MAINTENANCE EXPENSES		
Water Purchases	625,000	578,822
Power Purchases	1,084,725	998,251
Total Utility Costs	1,709,725	1,577,073
Salaries and Wages	1,807,507	1,596,390
Pension and Benefits	546,381	545,768
Total Salaries and Benefits	2,353,889	2,142,159
Capitalized Labor and Benefits	(391,667)	(368,952)
Net Salaries and Benefits	1,962,222	1,773,206
Administrative and General Expenses		
Sludge removal	136,822	136,441
Chemicals	156,850	145,066
Materials & Supplies	147,478	134,924
Transportation	33,253	23,434
Communications	20,324	20,233
Claims	6,339	-
Insurance	80,405	79,910
Training & Travel	4,062	-
Advertising	5,392	5,157
Miscellaneous	92,591	92,267
Regulatory Expense	20,596	15,139
Bad Debts Provision	177,174	166,207
Total Administrative and General Expense	881,285	818,778
Depreciation Expense	1,830,222	2,037,338
Contractual Expense		
Audit & Computer Maintenance	81,148	70,204
Building rental	37,800	37,588
Equipment rental	71,130	41,714
Legal	3,616	-
Laboratory	48,948	48,535
Other	167,283	120,719
Total Contractual Expense	409,925	318,760
Retiree Supp. Annuities and health care costs	190,069	210,238
Contribution to Government of Guam	50,334	50,333
Total Retiree Benefits	240,402	260,571
Total Operating Expenses	7,033,782	6,785,726
Earnings (Loss) from Operations	2,002,392	1,699,424
Interest Income - 2010/13/14/16/17/20 Series Bond	112,563	952
Interest Income - Other Funds	18,048	818
Interest Income - SDC	2,131	6,868
Interest Expense - 2010/13/14/16/17/20 Series Bond	(2,675,432)	(2,619,599)
Interest Expense - ST BOG	(5,612)	-
Loss on Asset Disposal	-	-
AFUDC	-	-
Amortization of Discount, Premium and Issuance Costs	(33,637)	(425,083)
Defeasance due to bond refunding	(28,676)	(68,976)
Prior Year Adjustment	-	-
Total non-operating revenues (expenses)	(2,610,616)	(3,105,020)
Net Income (Loss) before capital contributions	(608,224)	(1,405,596)
Capital Contributions		
Grants from US Government	3,311,071	8,241,649
Grants from GovGuam & Others	-	-
Total Capital Contributions	3,311,071	8,241,649
Change in Net Assets	2,702,847	6,836,053
Debt Service Calculation		
Earnings From Operations	2,002,392	1,699,424
System Development Charge	(76,247)	(151,335)
Retiree COLA	50,334	50,333
Interest/Investment Income	18,048	818
Depreciation	1,830,222	2,037,338
Balance Available for Debt Service per Section 6.12	3,824,749	3,636,577
Working Capital Reserve Available for Debt Service	-	-
Transfer to Working Capital - Debt Service Reserve	-	-
Transfer to Working Capital - O&M Reserve	-	-
Balance Available for Debt Service inclusive of reserves	3,824,749	3,636,577
Debt Service		
Principal	730,833	730,833
Interest	2,117,099	2,117,099
Total	2,847,932	2,847,932
Debt Service Coverage (1.25X) - per Section 6.12 (Indenture)	1.34	1.28
Debt Service Coverage (1.40X) inclusive of reserves (PUC)	1.34	1.28

*Cost containment budget

GWA Work Session - July 22, 2020 - DIVISION REPORTS

GUAM WATERWORKS AUTHORITY
Statement of Operations and Retained Earnings
Comparative for the period ending June 30, 2020 and 2019

SCHEDULE C

	Month to Date		Variance Increase / (Decrease)	
	Actual (Unaudited) June-20	Actual (Audited) June-19		
OPERATING REVENUES				
Water Revenues	5,376,765	5,646,006	(269,241)	
Wastewater Revenues	2,669,324	3,046,430	(377,106)	
Legislative Surcharge	245,940	282,666	(36,727)	
Other Revenues	41,787	146,631	(104,844)	
System Development Charge	151,335	104,797	46,538	
Total Operating Revenues	8,485,150	9,226,531	(741,381)	
OPERATING AND MAINTENANCE EXPENSES				
Water Purchases	578,822	485,164	93,658	
Power Purchases	998,251	1,342,115	(343,864)	
Total Utility Costs	1,577,073	1,827,280	(250,206)	
Salaries and Wages	1,596,390	1,469,941	126,449	
Pension and Benefits	545,768	458,463	87,306	
Total Salaries and Benefits	2,142,159	1,928,404	213,755	
Capitalized Labor and Benefits	(368,952)	(308,333)	(60,619)	
Net Salaries and Benefits	1,773,206	1,620,071	153,136	
Administrative and General Expenses				
Sludge removal	136,441	97,242	39,199	
Chemicals	145,066	270,352	(125,286)	
Materials & Supplies	134,924	194,509	(59,585)	
Transportation	23,434	56,992	(33,559)	
Communications	20,233	18,347	1,886	
Claims	-	3,006	(3,006)	
Insurance	79,910	77,860	2,050	
Training & Travel	-	27,519	(27,519)	
Advertising	5,157	25,059	(19,902)	
Miscellaneous	92,267	67,935	24,332	
Regulatory Expense	15,139	22,988	(7,849)	
Bad Debts Provision	166,207	179,479	(13,272)	
Total Administrative and General Expense	818,778	1,041,288	(222,510)	
Depreciation Expense	2,037,338	1,759,065	278,273	
Contractual Expense				
Audit & Computer Maintenance	70,204	72,800	(2,596)	
Building rental	37,588	35,211	2,377	
Equipment rental	41,714	88,007	(46,293)	
Legal	-	4,438	(4,438)	
Laboratory	48,535	18,489	30,046	
Other	120,719	175,535	(54,816)	
Total Contractual Expense	318,760	394,479	(75,719)	
Retiree Supp. Annuities and health care costs	210,238	239,798	(29,560)	
Contribution to Government of Guam	50,333	50,000	333	
Total Retiree Benefits	260,571	289,798	(29,227)	
Total Operating Expenses	6,785,726	6,931,981	(146,255)	
Earnings (Loss) from Operations	1,699,424	2,295,280	(595,856)	
Interest Income - 2010/13/14/16/17/20 Series Bond	952	355,724	(354,772)	
Interest Income - Other Funds	818	77,212	(76,394)	
Interest Income - SDC	6,868	11,657	(4,789)	
Interest Expense - 2010/13/14/16/17/20 Series Bond	(2,619,599)	(2,137,785)	(481,814)	
Interest Expense - ST BOG	-	(15,194)	15,194	
Loss on Asset Disposal	-	-	-	
AFUDC	-	1,157,306	(1,157,306)	
Amortization of Discount, Premium and Issuance Costs	(425,083)	119,709	(544,792)	
Defeasance due to bond refunding	(68,976)	(69,534)	558	
Prior Year Adjustment	-	5,316	(5,316)	
Total non-operating revenues (expenses)	(3,105,020)	(495,588)	(2,609,432)	
Net Income (Loss) before capital contributions	(1,405,596)	1,799,692	(3,205,288)	
Capital Contributions				
Grants from US Government	8,241,649	584,537	7,657,113	
Grants from GovGuam & Others	-	17,468	(17,468)	
Total Capital Contributions	8,241,649	602,004	7,639,645	
Change in Net Assets	6,836,053	2,401,696	4,434,357	
Debt Service Calculation				
Earnings From Operations	1,699,424	2,295,280		
System Development Charge	(151,335)	(104,797)		
Retiree COLA	50,333	50,000		
Interest/Investment Income	818	77,212		
Depreciation	2,037,338	1,759,065		
Balance Available for Debt Service per Section 6.12	3,636,577	4,076,759		
Working Capital Reserve Available for Debt Service	-	958,951		
Transfer to Working Capital - Debt Service Reserve	-	-		
Transfer to Working Capital - O&M Reserve	-	-		
Balance Available for Debt Service inclusive of reserves	3,636,577	5,035,710		
Debt Service				
Principal	730,833	476,250		
Interest	2,117,099	2,137,785		
Total	2,847,932	2,614,035		
Debt Service Coverage (1.25X) - per Section 6.12 (Indenture)	1.28	1.56		
Debt Service Coverage (1.40X) (PUC)	1.28			
Debt Service Coverage (1.75X) inclusive of reserves (PUC)		1.93		

GWA Work Session - July 22, 2020 - DIVISION REPORTS

GUAM WATERWORKS AUTHORITY
Statement of Operations and Retained Earnings
Comparative Budget vs. Actual for the period ending June 30, 2020

SCHEDULE D

	Year to Date	Variance
	Budget*	Actual (Unaudited)
	June-20	June-20
		Favorable /
		(Unfavorable)
OPERATING REVENUES		
Water Revenues	49,338,373	49,888,396
Wastewater Revenues	28,557,948	27,152,533
Legislative Surcharge	2,419,064	2,441,458
Other Revenues	323,949	533,550
System Development Charge	686,223	559,143
Total Operating Revenues	81,325,558	80,575,080
OPERATING AND MAINTENANCE EXPENSES		
Water Purchases	5,625,000	5,501,551
Power Purchases	9,762,521	11,124,966
Total Utility Costs	15,387,521	16,626,517
Salaries and Wages	16,267,567	15,332,666
Pension and Benefits	4,917,430	4,762,376
Total Salaries and Benefits	21,184,997	20,095,042
Capitalized Labor and Benefits	(3,525,000)	(2,701,012)
Net Salaries and Benefits	17,659,997	17,394,031
Administrative and General Expenses		
Sludge removal	1,143,396	1,143,124
Chemicals	1,597,647	1,596,897
Materials & Supplies	1,451,298	1,450,683
Transportation	410,078	409,583
Communications	121,112	114,999
Claims	57,047	105,354
Insurance	702,648	702,161
Training & Travel	95,061	142,539
Advertising	48,528	29,339
Miscellaneous	813,818	812,944
Regulatory Expense	185,366	259,655
Bad Debts Provision	1,594,568	1,590,167
Total Administrative and General Expense	8,220,566	8,357,445
Depreciation Expense	16,472,002	18,288,400
Contractual Expense		
Audit & Computer Maintenance	516,829	507,810
Building rental	331,700	329,534
Equipment rental	685,666	674,140
Legal	32,547	28,477
Laboratory	190,534	159,089
Other	1,643,051	1,640,937
Total Contractual Expense	3,400,326	3,339,986
Retiree Supp. Annuities and health care costs	1,710,617	1,909,224
Contribution to Government of Guam	453,004	453,001
Total Retiree Benefits	2,163,621	2,362,225
Total Operating Expenses	63,304,034	66,368,605
Earnings (Loss) from Operations	18,021,524	14,206,476
Interest Income - 2010/13/14/16/17/20 Series Bond	1,013,069	963,286
Interest Income - Other Funds	162,430	271,192
Interest Income - SDC	19,175	84,485
Interest Expense - 2010/13/14/16/17/20 Series Bond	(24,078,891)	(19,556,391)
Interest Expense - ST BOG	(50,509)	(38,188)
Loss on Asset Disposal	-	(254,364)
AFUDC	-	-
Amortization of Discount, Premium and Issuance Costs	(302,730)	534,675
Defeasance due to bond refunding	(258,086)	(620,780)
Prior Year Adjustment	-	(69,901)
Total non-operating revenues (expenses)	(23,495,541)	(18,685,984)
Net Income (Loss) before capital contributions	(5,474,018)	994,509
Capital Contributions		
Grants from US Government	29,799,643	41,666,579
Grants from GovGuam & Others	-	14,250
Total Capital Contributions	29,799,643	41,680,829
Change in Net Assets	24,325,625	12,875,695
Debt Service Calculation		
Earnings From Operations	18,021,524	14,206,476
System Development Charge	(686,223)	(559,143)
Retiree COLA	453,004	453,001
Interest/Investment Income	162,430	271,192
Depreciation	16,472,002	18,288,400
Balance Available for Debt Service per Section 6.12	34,422,737	32,659,926
Working Capital Reserve Available for Debt Service	-	-
Transfer to Working Capital - Debt Service Reserve	-	-
Transfer to Working Capital - O&M Reserve	-	-
Balance Available for Debt Service inclusive of reserves	34,422,737	32,659,926
Debt Service		
Principal	6,577,500	6,577,500
Interest	19,053,891	19,053,891
Total	25,631,391	25,631,391
Debt Service Coverage (1.25X) - per Section 6.12 (Indenture)	1.34	1.27
Debt Service Coverage (1.40X) inclusive of reserves (PUC)	1.34	1.27

*Cost containment budget

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GWA Work Session - July 22, 2020 - DIVISION REPORTS

GUAM WATERWORKS AUTHORITY
Statement of Operations and Retained Earnings
Comparative for the period ending June 30, 2020 and 2019

SCHEDULE E

	Year to Date		
	Actual (Unaudited)	Actual (Audited)	Variance
	June-20	June-19	Increase /
			(Decrease)
OPERATING REVENUES			
Water Revenues	49,888,396	50,284,853	(396,457)
Wastewater Revenues	27,152,533	28,967,919	(1,815,386)
Legislative Surcharge	2,441,458	2,626,732	(185,273)
Other Revenues	533,550	521,218	12,332
System Development Charge	559,143	655,509	(96,366)
Total Operating Revenues	80,575,080	83,056,231	(2,481,151)
OPERATING AND MAINTENANCE EXPENSES			
Water Purchases	5,501,551	4,609,083	892,468
Power Purchases	11,124,966	11,165,974	(41,007)
Total Utility Costs	16,626,517	15,775,057	851,460
Salaries and Wages	15,332,666	14,873,095	459,571
Pension and Benefits	4,762,376	4,721,746	40,630
Total Salaries and Benefits	20,095,042	19,594,841	500,201
Capitalized Labor and Benefits	(2,701,012)	(2,775,000)	73,988
Net Salaries and Benefits	17,394,031	16,819,841	574,190
Administrative and General Expenses			
Sludge removal	1,143,124	1,104,701	38,423
Chemicals	1,596,897	1,543,410	53,487
Materials & Supplies	1,450,683	1,260,793	189,891
Transportation	409,583	455,774	(46,191)
Communications	114,999	111,859	3,140
Claims	105,354	44,432	60,921
Insurance	702,161	681,845	20,316
Training & Travel	142,539	179,021	(36,481)
Advertising	29,339	100,804	(71,465)
Miscellaneous	812,944	757,343	55,601
Regulatory Expense	259,655	137,850	121,805
Bad Debts Provision	1,590,167	1,632,509	(42,342)
Total Administrative and General Expense	8,357,445	8,010,342	347,103
Depreciation Expense	18,288,400	15,831,585	2,456,815
Contractual Expense			
Audit & Computer Maintenance	507,810	510,109	(2,299)
Building rental	329,534	316,897	12,637
Equipment rental	674,140	873,980	(199,840)
Legal	28,477	10,754	17,723
Laboratory	159,089	197,412	(38,324)
Other	1,640,937	1,871,210	(230,273)
Total Contractual Expense	3,339,986	3,780,362	(440,375)
Retiree Supp. Annuities and health care costs	1,909,224	2,137,223	(227,999)
Contribution to Government of Guam	453,001	450,000	3,001
Total Retiree Benefits	2,362,225	2,587,223	(224,998)
Total Operating Expenses	66,368,605	62,804,409	3,564,196
Earnings (Loss) from Operations	14,206,476	20,251,822	(6,045,346)
Interest Income - 2010/13/14/16/17/20 Series Bond	963,286	3,091,290	(2,128,004)
Interest Income - Other Funds	271,192	628,576	(357,384)
Interest Income - SDC	84,485	130,946	(46,460)
Interest Expense - 2010/13/14/16/17/20 Series Bond	(19,556,391)	(19,240,061)	(316,330)
Interest Expense - ST BOG	(38,188)	(159,415)	121,227
Loss on Asset Disposal	(254,364)	-	(254,364)
AFUDC	-	10,415,750	(10,415,750)
Amortization of Discount, Premium and Issuance Costs	534,675	1,077,380	(542,705)
Defeasance due to bond refunding	(620,780)	(625,805)	5,026
Prior Year Adjustment	(69,901)	(279,392)	209,492
Total non-operating revenues (expenses)	(18,685,984)	(4,960,733)	(13,725,251)
Net Income (Loss) before capital contributions	(4,479,509)	15,291,089	(19,770,598)
Capital Contributions			
Grants from US Government	41,666,579	11,605,172	30,061,407
Grants from GovGuam & Others	14,250	78,779	(64,529)
Total Capital Contributions	41,680,829	11,683,951	29,996,878
Change in Net Assets	37,201,320	26,975,040	10,226,281
Debt Service Calculation			
Earnings From Operations	14,206,476	20,251,822	
System Development Charge	(559,143)	(655,509)	
Retiree COLA	453,001	450,000	
Interest/Investment Income	271,192	628,576	
Depreciation	18,288,400	15,831,585	
Balance Available for Debt Service per Section 6.12	32,659,926	36,506,474	
Working Capital Reserve Available for Debt Service	-	8,630,559	
Transfer to Working Capital - Debt Service Reserve	-	-	
Transfer to Working Capital - O&M Reserve	-	-	
Balance Available for Debt Service inclusive of reserves	32,659,926	45,137,033	
Debt Service			
Principal	6,577,500	4,286,250	
Interest	19,053,891	19,240,061	
Total	25,631,391	23,526,311	
Debt Service Coverage (1.25X) - per Section 6.12 (Indenture)	1.27	1.55	
Debt Service Coverage (1.40X) (PUC)	1.27		
Debt Service Coverage (1.75X) inclusive of reserves (PUC)		1.92	

GUAM WATERWORKS AUTHORITY
Restricted and Unrestricted Cash Summary
FY2020

SCHEDULE F

Description	Unaudited June 30, 2020	Audited September 30, 2019	Increase (Decrease)
UNRESTRICTED			
Change Fund	2,000	2,000	-
Petty Cash	4,450	4,450	-
BOG Deposit Accounts	3,914,122	4,955,587	(1,041,465)
BOG O & M Reserve	25,688,456	13,933,323	11,755,133
BOG CapEx Fund	11,717,356	17,244,823	(5,527,467)
Sub-total Unrestricted	41,326,383	36,140,182	5,186,201
RESTRICTED			
ANZ Bank	44	19	26
Bank Pacific	19,710	12,321	7,389
Bank of Hawaii	231,202	220,158	11,044
Community First FCU	3,861	2,530	1,331
First Hawaiian Bank	32,153	11,761	20,392
Bank Pacific Surcharge	1,123,470	302,837	820,633
Bank Pacific Escrow Deposit	842,129	836,528	5,602
BOG Customer Refunds	2,025,187	1,871,553	153,634
BOG Emergency Reserve Fund	6,242	6,237	5
BOG Sewer Hookup Revolving Fund	67,561	67,094	467
BOG Subordinate Security Fund	-	859,233	(859,233)
BOG Operation and Maintenance Fund	3,083,482	3,083,482	-
BOG Revenue Trust	728,719	1,164,224	(435,504)
BOG Revenue Trust Fund	6,787,497	7,613,000	(825,503)
BOG Capital Improvement Revenue Fund	5,715,173	1,001,292	4,713,881
BOG Debt Service Reserve	189	11,563,736	(11,563,548)
	20,666,620	28,616,004	(7,949,384)
BOG - SDC Deposit	3,747,876	2,024,365	1,723,511
BOG - SDC CDs	5,500,000	7,250,000	(1,750,000)
Total SDC	9,247,876	9,274,365	(26,489)
Total Restricted	29,914,496	37,890,369	(7,975,873)
Reserve Funds			
BOG Series 2013 Construction Fund	9,675,096	14,170,759	(4,495,663)
BOG Series 2014 Refunding Construction Fund	219,093	217,448	1,644
BOG Series 2016 Construction Fund	71,336,736	89,235,554	(17,898,818)
BOG Series 2017 Refunding Construction Fund	6,242,455	6,313,750	(71,295)
BOG Series 2020A Construction Fund	123,590,269	-	123,590,269
BOG Series 2020A Capitalized Interest Fund	12,283,333	-	12,283,333
BOG Series 2020A Cost of Issuance Fund	113,880	-	113,880
Total Restricted - Held by Trustee	223,460,862	109,937,511	(22,464,131)
BOG OMRRRF Fund	17,423,213	17,423,213	-
USB Series 2013 Debt Service Fund	7,461,082	3,082,212	4,378,870
USB Series 2013 Debt Service Reserve Fund	12,031,688	12,031,688	-
USB Series 2014 Refunding Debt Service Fund	5,584,092	1,885,637	3,698,455
USB Series 2014 Refunding Debt Service Reserve Fund	7,738,731	7,798,212	(59,481)
USB Series 2016 Debt Service Fund	4,067,455	1,946,774	2,120,680
USB Series 2016 Debt Service Reserve Fund	7,591,999	7,591,999	-
USB Series 2010 Debt Service Fund	1,973,921	523,353	1,450,568
USB Series 2017 Refunding Debt Service Reserve Fund	7,566,460	7,566,460	-
USB Series 2017 Debt Service Fund	2,734,245	1,382,329	1,351,916
USB Series 2020A Debt Service Reserve Fund	7,162,200	-	7,162,200
Total Investments	81,335,085	61,231,877	20,103,208
Total Restricted and Unrestricted Cash	376,036,827	245,199,940	(5,150,596)

GWA Work Session - July 22, 2020 - DIVISION REPORTS

Guam Waterworks Authority
Accounts Receivable - Government (Active)
June 30, 2020

SCHEDULE G

A G I N G								
Customer Name	No. of Accounts	Current	31 - 60 days	61 - 90 days	91 - 120 days	Over 120 days	Total	
Autonomous Agencies (Active)								
Guam Int'l Airport Authority	8	\$ 42,073	\$ 32,574	\$ 11,098	\$ 9,145	\$ 251,850	\$	346,741
Guam Power Authority	25	178,910	-	-	-	-		178,910
Guam Housing & Urban Renewal Authority	9	9,566	273	233	-	-		10,072
Guam Visitors Bureau	1	2,512	-	-	-	-		2,512
Port Authority of Guam	5	2,254	-	-	-	-		2,254
Guam Housing Corporation	1	36	-	-	-	-		36
Total Autonomous Agencies	49	\$ 235,350	\$ 32,847	\$ 11,331	\$ 9,145	\$ 251,850	\$	540,523
		43.54%	6.08%	2.10%	1.69%	46.59%		100.00%
Department of Education	53	\$ 311,109	\$ 199,306	\$ 214,119	\$ 7,737	\$ -	\$	732,272
Department of Corrections	8	97,798	84,373	-	-	-		182,170
Mayors Council of Guam	60	39,477	18,725	1,762	1,672	42,447		104,082
Department of Parks & Recreation	18	46,844	775	600	6,385	8,977		63,581
Department of Public Works	11	30,274	19,069	772	1,868	7,719		59,703
Guam Police Department	8	11,280	4,750	1,051	-	-		17,080
Department of Chamorro Affairs	7	7,933	6,951	220	-	-		15,105
Department of Agriculture	6	6,225	2,021	1,435	-	-		9,681
Department of Public Health & Social Services	8	1,942	3,618	1,323	261	-		7,143
Guam Fire Department	11	2,668	2,108	-	-	-		4,776
Department of Military Affairs/GUARNG	1	4,380	-	-	-	-		4,380
Department of Youth Affairs	3	2,065	1,480	29	-	-		3,573
University of Guam	44	2,842	-	-	-	-		2,842
Guam Solid Waste Authority	2	2,585	21	-	-	-		2,605
Sanctuary Inc	1	1,994	-	-	-	-		1,994
Office of The Governor	2	1,897	-	-	-	-		1,897
Office of Technology	1	157	94	156	730	734		1,872
Guam Police Department	1	250	294	770	324	133		1,772
Guam Energy Office	1	1,295	113	-	-	-		1,408
Guam Public Library	6	1,007	282	29	-	-		1,319
Division of Senior Citizens, DPHSS	2	309	361	193	237	114		1,213
Guam Veterans Affairs Office	2	259	157	187	108	201		912
Department of Customs & Quarantine	1	408	361	28	-	-		797
Department of Administration	2	340	433	-	-	-		774
Department of Mental Health	2	341	-	-	-	-		341
Guam Environmental Protection Agency	2	248	-	-	-	-		248
Merizo Mayor	1	108	-	-	-	-		108
The Office of The Dededo Mayor	1	96	-	-	-	-		96
Department of Agriculture-Fisheries	1	80	-	-	-	-		80
Department of Mental Health And Substance	1	25	25	-	-	-		49
Total Line Agencies	267	\$ 576,236	\$ 345,316	\$ 222,674	\$ 19,323	\$ 60,325	\$	1,223,874
		47.08%	28.21%	18.19%	1.58%	4.93%		100.00%
Total as of June 30, 2020 (Active)	316	\$ 811,587	\$ 378,163	\$ 234,004	\$ 28,468	\$ 312,176	\$	1,764,397
		46.00%	21.43%	13.26%	1.61%	17.69%		100.00%
Total as of September 30, 2019	156	\$ 573,245	\$ 177,040	\$ 36,359	\$ 13,784	\$ 390,725	\$	1,191,308
	103%	42%	114%	544%	107%	-20%		48%

GUAM WATERWORKS AUTHORITY

Accounts Receivable Aging Summary by Rate Class

SCHEDULE H

As of June 30, 2020

Rate Class	AGING								
	No. of Accounts	Current	31 - 60 days	61 - 90 days	91 - 120 days	Over 120 days	Total		
Government	440	\$ 2,622,831	\$ 324,912	\$ 283,653	\$ 25,124	\$ 417,568	\$ 3,674,088	17%	
Agriculture	388	45,461	10,375	4,798	3,045	56,420	120,098	1%	
Commercial I	2,663	1,292,496	151,260	39,513	31,357	352,732	1,867,358	9%	
Commercial II	25	168,252	14,342	624	1,966	246,738	431,922	2%	
Commercial III	301	683,727	33,737	35,713	30,431	313,921	1,097,528	5%	
Golf Course	16	5,219	225	273	200	-	5,917	0%	
Hotel	57	1,878,127	234,921	133,994	93,926	237,366	2,578,334	12%	
Irrigation	33	6,003	942	139	106	3,315	10,505	0%	
Residential	49,130	4,591,642	916,894	561,623	414,600	4,997,793	11,482,552	54%	
Total	53,053	\$11,293,758	\$ 1,687,608	\$ 1,060,329	\$ 600,755	\$ 6,625,852	\$ 21,268,302	100%	
		53%	8%	5%	3%	31%	100%		

Less Allowance for Doubtful Accounts: (7,539,104)

Net Accounts Receivable: 13,729,199

Days Receivables Outstanding

48

GUAM WATERWORKS AUTHORITY
Accounts Payable Aging
As of June 30, 2020

SCHEDULE I

AGING						
<u>Current</u>	<u>31 - 60 Days</u>	<u>61 - 90 Days</u>	<u>91 - 120 Days</u>	<u>> 120 Days</u>	<u>Total</u>	
\$ 1,918,387	\$ 293,013	\$ 401,262	\$ 45,249	\$ 363,358	\$ 3,021,269	
63%	10%	13%	1%	12%	100%	

Days Payable Outstanding

35

Guam Waterworks Authority
System Development Charges Project Status
As of June 30, 2020

SCHEDULE J

	Total
Funding Summary	
Total available project funds	\$ 12,979,509
Total project expenditures and encumbrances	10,217,522
Total unobligated project funds	\$ 2,761,987

Projects Funded

Project Description	Expenditures	Outstanding Encumbrances	Expenditures and Encumbrances
Agat-Santa Rita Wastewater Treatment Plant Replacement	1,166,075	35,931	1,202,006
Baza Gardens Wastewater Cross Island Pumping & Conveyance	1,150,881	3,090	1,153,971
Central Guam Reservoirs		280,040	280,040
Line Replacement Phase IV		256,937	256,937
Northern DWWTP	13,798	5,408,801	5,422,599
Northern DWWTP (Land Purchase)	1,000,000		1,000,000
Route 4 Relief Sewerline Rehab & Replacement		399,869	399,869
South Paulino Heights Waterline Upgrade	84,056	4,714	88,770
Talofofo Sewer Improvement		241,142	241,142
Umatac Merizo WWTP		42,783	42,783
Groundwater Well Production Meter Rep.		129,405	129,405
	\$ 3,414,811	\$ 6,802,711	\$ 10,217,522

Future planned projects	FY2020
Water Wells	540,000
Water Dist Sys Pipe Replacement & Upgrades	540,000
WWTP Priority 1 Upgrades	300,000
Umatac Merizo STP Replacement	300,000
Wastewater Sewer System Expansion	300,000
	\$ 1,980,000

**GUAM WATERWORKS AUTHORITY
WATER DEMAND BY RATE CLASS
FY2015 - FY2020**

SCHEDULE K

CLASS	AUDITED								UNAUDITED FY2020 (9 Mos Annualized)	
	FY2015 TOTAL CONSUMPTION (kGal)	FY2016 TOTAL CONSUMPTION (kGal)	% Inc / (Dec.)	FY2017 TOTAL CONSUMPTION (kGal)	% Inc / (Dec.)	FY2018 TOTAL CONSUMPTION (kGal)	% Inc / (Dec.)	FY2019 TOTAL CONSUMPTION (kGal)	% Inc / (Dec.)	TOTAL CONSUMPTION (kGal)
R Residential	3,415,662	3,429,689	0%	3,206,811	-6%	3,313,613	3%	3,359,905	1%	3,584,895
C Commercial	1,020,089	1,022,890	0%	964,639	-6%	910,905	-6%	906,192	-1%	842,474
F Federal	1,168	1,180	1%	2,508	113%	1,813	-28%	1,602	-12%	1,293
G Government	515,974	475,366	-8%	448,430	-6%	450,165	0%	405,980	-10%	389,058
H Hotel	999,116	1,008,087	1%	1,004,525	0%	989,723	-1%	1,079,919	9%	820,646
G Golf	6,850	6,770	-1%	5,252	-22%	2,741	-48%	2,793	2%	7,172
A Agriculture	67,376	78,628	17%	69,482	-12%	81,127	17%	90,803	12%	87,906
I Irrigation	10,385	11,351	9%	10,143	-11%	8,504	-16%	7,896	-7%	8,572
GRAND TOTAL	6,036,620	6,033,960	0%	5,711,790	-5%	5,758,590	1%	5,855,091	2%	5,742,018

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CCTV 2020

June

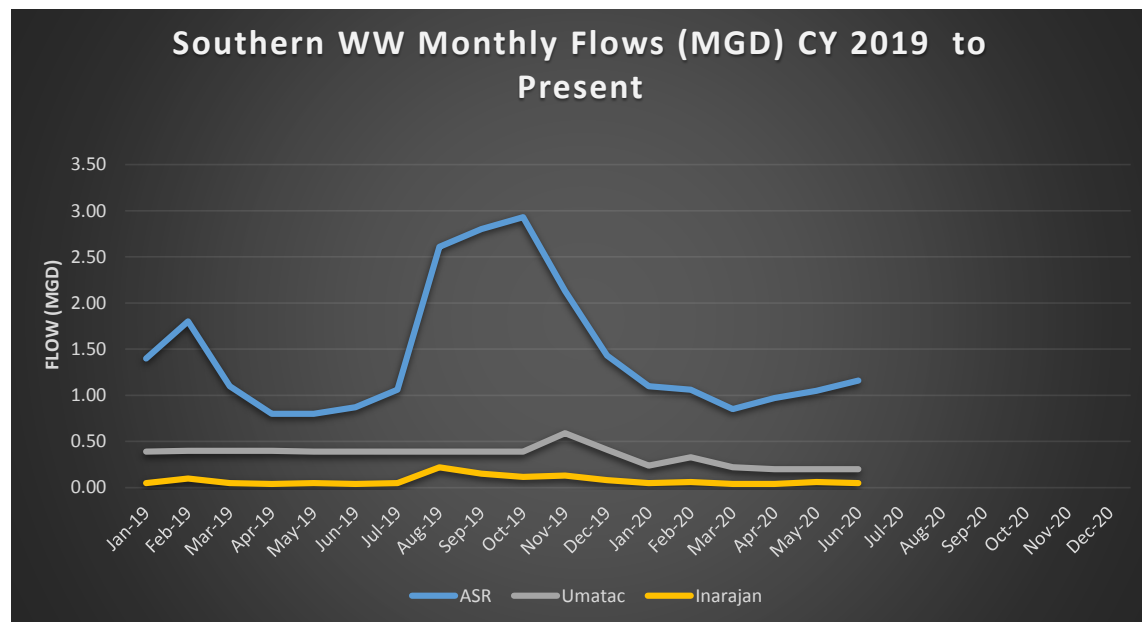
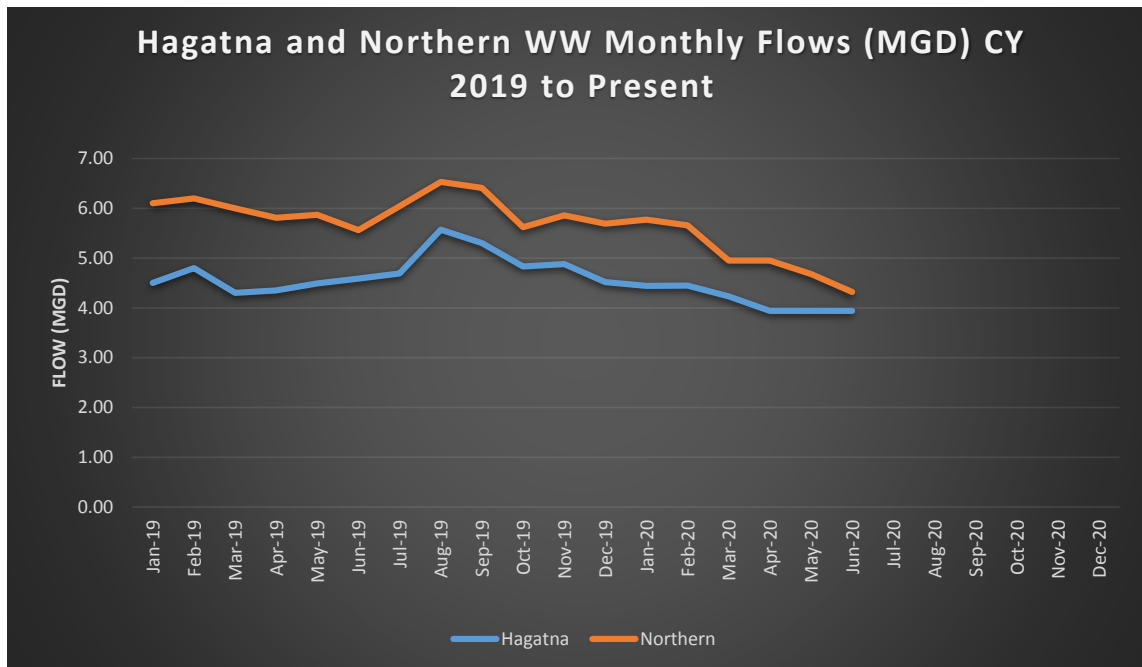
June. 01 - June. 07	Team #1	Team #2	Vendor	Total	REMARKS
Feet Scheduled	6,535	0		6,535	Assisting Rovers / Hot Spot Location Report /respond to trouble call outs
Feet Completed	0.00	0		0	
	0.00%	N/A	N/A	0%	
June. 08 – June. 14	Team #1	Team #2	Vendor	Total	REMARKS
Feet Scheduled	6,535			6,535	Iron Wood Manor / Iron wood Estates respond to trouble call outs
Feet Completed	9,775			9775	
	150%	N/A	N/A	150%	
June.15 – June. 21	Team #1	Team #2	Vendor	Total	REMARKS
Feet Scheduled	6,535			6,535	Perez Acres/ respond to trouble call outs
Feet Completed	7,985			7985	
	122%	N/A	N/A	122%	
June.22 – June. 28	Team #1	Team #2	Vendor	Total	REMARKS
Feet Scheduled	6,535			6,535	Lada Summer homes Estates / respond to trouble call outs
Feet Completed	5620			5620	
	86%	N/A	N/A	86%	
June. 29 – June. 30	Team #1	Team #2	Vendor	Total	REMARKS
Feet Scheduled	6,535			6,535	respond to trouble call outs /Hot Spot Cleaning Concentration
Feet Completed				0	
	0%	N/A	N/A	0%	

TOTAL FEET SCHEDULED	26,400
TOTAL FEET COMPLETED	23,380
TOTAL MILES FOR THE MONTH	4.4
TOTAL MILES SCHEDULED	5.0
PERCENTAGE COMPLETED	89%

Wastewater Treatment Plant Average Monthly Flows Million Gallons Per Day

2019	Hagatna	Northern	ASR	Umatac	Inarajan
Jan-19	4.50	6.10	1.40	0.39	0.05
Feb-19	4.80	6.20	1.80	0.40	0.10
Mar-19	4.30	6.00	1.10	0.40	0.05
Apr-19	4.35	5.81	0.80	0.40	0.04
May-19	4.49	5.87	0.80	0.39	0.05
Jun-19	4.59	5.56	0.87	0.39	0.04
Jul-19	4.69	6.04	1.06	0.39	0.05
Aug-19	5.57	6.53	2.61	0.39	0.22
Sep-19	5.30	6.41	2.80	0.39	0.15
Oct-19	4.83	5.62	2.93	0.39	0.12
Nov-19	4.88	5.86	2.13	0.59	0.13
Dec-19	4.52	5.69	1.43	0.41	0.08
2019 Average MGD	4.74	5.97	1.64	0.41	0.09
2019 Total MGY	1,728	2,181	600	150	33

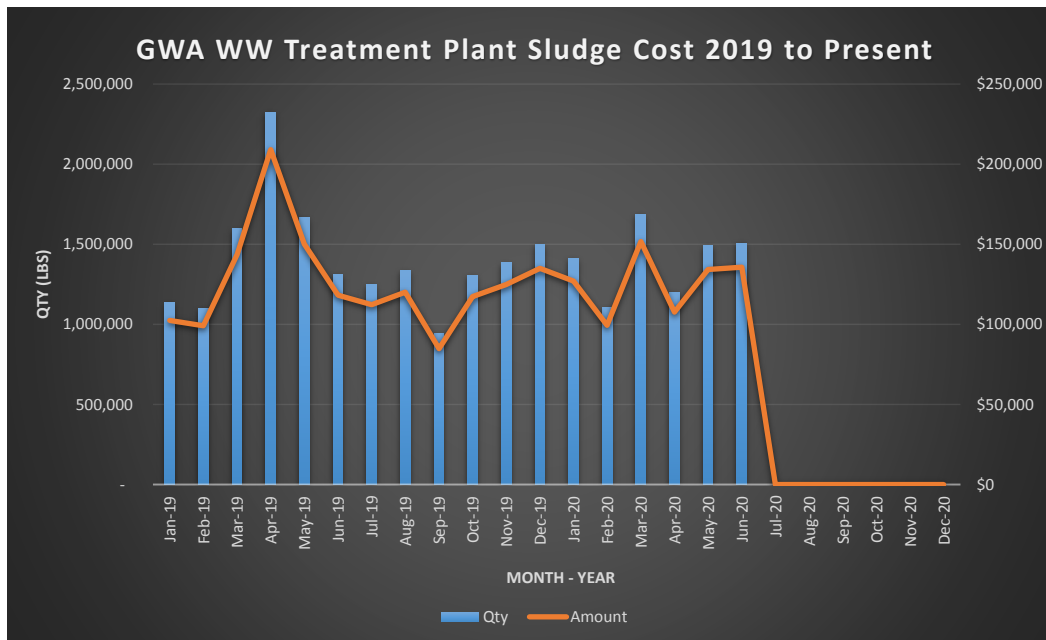
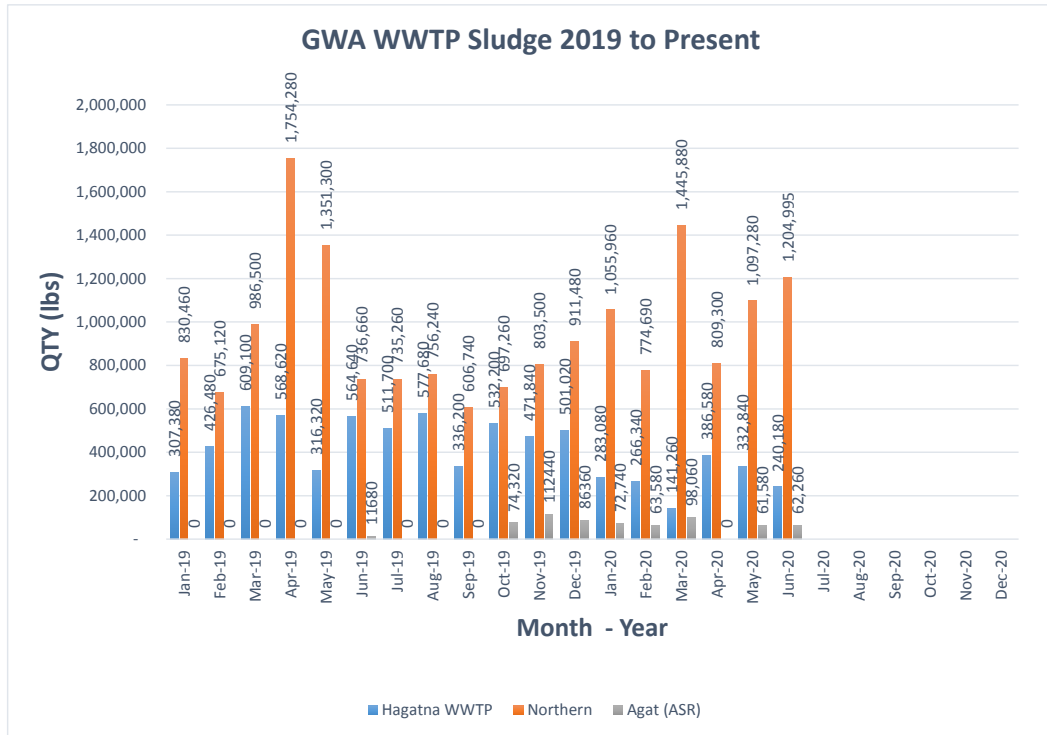
2020	Hagatna	Northern	ASR	Umatac	Inarajan
Jan-20	4.44	5.77	1.10	0.24	0.05
Feb-20	4.45	5.66	1.06	0.33	0.06
Mar-20	4.23	4.95	0.85	0.22	0.04
Apr-20	3.94	4.95	0.97	0.20	0.04
May-20	3.94	4.68	1.05	0.20	0.06
Jun-20	3.94	4.32	1.16	0.20	0.05
Jul-20					
Aug-20					
Sep-20					
Oct-20					
Nov-20					
Dec-20					
2020 Average MGD	4.16	5.06	1.03	0.23	0.05
2020 Total MGY	1,517	1,845	377	85	18




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	Hagatna WWTP		Northern		Agat (ASR)		Hagatna + Northern + Agat	
2019	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
Month- Yr	lbs	\$	lbs	\$	lbs	\$	lbs	\$
Jan-19	307,380	\$27,664	830,460	\$74,741	0	\$0	1,137,840	\$102,406
Feb-19	426,480	\$38,383	675,120	\$60,761	0	\$0	1,101,600	\$99,144
Mar-19	609,100	\$54,819	986,500	\$88,785	0	\$0	1,595,600	\$143,604
Apr-19	568,620	\$51,176	1,754,280	\$157,885	0	\$0	2,322,900	\$209,061
May-19	316,320	\$28,469	1,351,300	\$121,617	0	\$0	1,667,620	\$150,086
Jun-19	564,640	\$50,818	736,660	\$66,299	11680	\$1,051	1,312,980	\$118,168
Jul-19	511,700	\$46,053	735,260	\$66,173	0	\$0	1,246,960	\$112,226
Aug-19	577,680	\$51,991	756,240	\$68,062	0	\$0	1,333,920	\$120,053
Sep-19	336,200	\$30,258	606,740	\$54,607	0	\$0	942,940	\$84,865
Oct-19	532,200	\$47,898	697,260	\$62,753	74,320	\$6,689	1,303,780	\$117,340
Nov-19	471,840	\$42,466	803,500	\$72,315	112440	\$10,120	1,387,780	\$124,900
Dec-19	501,020	\$45,092	911,480	\$82,033	86360	\$7,772	1,498,860	\$134,897
Grand Total	5,723,180	\$515,086	10,844,800	\$976,032	284,800	\$25,632	16,852,780	\$1,516,750

	Hagatna WWTP		Northern		Agat (ASR)		Hagatna + Northern + Agat	
2020	Qty	Amount	Qty	Amount	Qty	Amount	Qty	Amount
Month- Yr	lbs	\$	lbs	\$	lbs	\$	lbs	\$
Jan-20	283,080	\$25,477	1,055,960	\$95,036	72,740	\$6,547	1,411,780	\$127,060
Feb-20	266,340	\$23,971	774,690	\$69,722	63,580	\$5,722	1,104,610	\$99,415
Mar-20	141,260	\$12,713	1,445,880	\$130,129	98,060	\$8,825	1,685,200	\$151,668
Apr-20	386,580	\$34,792	809,300	\$72,837	0	\$0	1,195,880	\$107,629
May-20	332,840	\$29,956	1,097,280	\$98,755	61,580	\$5,542	1,491,700	\$134,253
Jun-20	240,180	\$21,616	1,204,995	\$108,450	62,260	\$5,603	1,507,435	\$135,669
Jul-20		\$0		\$0		\$0	-	\$0
Aug-20		\$0		\$0		\$0	-	\$0
Sep-20		\$0		\$0		\$0	-	\$0
Oct-20		\$0		\$0		\$0	-	\$0
Nov-20		\$0		\$0		\$0	-	\$0
Dec-20		\$0		\$0		\$0	-	\$0
Grand Total	1,650,280	\$148,525	6,388,105	\$574,929	358,220	\$32,240	8,396,605	\$755,694



GWA Work Session - July 22, 2020 - DIVISION REPORTS

Guam Waterworks Authority				Date: 7/14/2020 Time:		 WASTEWATER FACILITIES REPORT							
REVIEWS													
TOTAL PUMPS INSTALLED		172		OVERALL AVERAGE		93%							
TOTAL PUMPS OPERATIONAL		156		% OF OPERATING PUMPS		91%							
TOTAL PUMP STATIONS		78											

Northern District													
NO.	FACILITY	PRIORITY LISTED	NO OF INSTALLED PUMPS	NO OF OPERATIONAL PUMPS	PUMP AVAILABILITY %	GENERATOR OPERATIONAL FAULT	ATS MANUAL/AUTO	PUMP UNIT REMARKS	WORK ORDER NO.	VALVES, ELECTRICAL, STRUCTURAL REMARKS	WORK ORDER NO.	ESTIMATED REPAIR DATE	UPDATES
	1	SOUTHERN LINK	1	4	2	50%	GPA	A	P#3: Needs Impeller @ Station; P#4: Needs Sensor @ Guam Motor		VEDM: Awaiting Repairs		
	2	FUJITA	1	4	3	75%	GPA	A					
	3	YPAO	1	2	2	100%	GPA	A	P#2 is for repairs @ JMS; utilizing Machine pump and valve on line 2.				
	4	PASEO DE ORO	1	2	2	100%	GPA	A					
	5	HARMON	2	2	2	100%	GPA	A					
	6	ROUTE 18	1	4	2	50%	GPA	M	P#4 secured, P#3 secured due to flapper in check valve house.				
	7	LATTE DOUBLE TROUBLE	1	2	2	100%	GPA	A	P#2 Awaiting Repairs @ Shop, P#2 installed 04-22-2020 pump came from station 11				
	8	LATTE SUNRISE	2	2	2	100%	GPA	A					
	9	LATTE SUBMARINE	2	2	2	100%	GPA	A					
	10	LATTE PLANTATION	2	2	2	100%	GPA	A					
	11	PGD	2	2	2	100%	GPA	A					
	12	MACHECHE	2	2	2	100%	GPA	A					
	13	HUFA ADRI	2	2	2	100%	GPA	A					
	14	YPAO PAD	1	3	3	100%	GPA	N/A					
	15	PACIFIC LATTE	2	2	2	100%	GPA	A	P#1 awaiting rewinding, new pump installed on 20-10-2019				
	16	YSD	1	3	3	100%	GPA	A	Electrician secured P#3 due to light on on unit CAB (Temperature)				
	17	ZERO DOWN	2	2	2	100%	GPA	A					
	18	SANTA ANA	2	2	1	50%	GPA	A	P#2 burnt, in for rewinding				
	19	MACANANAGAO	1	2	2	100%	GPA	N/A	P#1 and valve being utilized at Ypa pump station, new pump installed				
	20	FEMA 96	2	2	2	100%	GPA	A	Pumps 1&2 removed awaiting rewinding. Utilizing pumps from Hufo Adri and OM Station 13 pump (B&B BL30)				
	21	ASTUMBO 1	2	2	2	100%	GPA	A	P#1 removed awaiting repairs, new pump installed 01-04-2020 on line 2				
	22	ASTUMBO 2	2	2	2	100%	GPA	A	New pump installed 01-16-2020				
	Total	22	52	46	88%								

GWA Work Session - July 22, 2020 - DIVISION REPORTS

General District													
NO.	FACILITY	PRIORITY LISTED	NO OF INSTALLED PUMPS	NO OF OPERATIONAL PUMPS	PUMP AVAILABILITY %	GENERATOR OPERATIONAL STATUS	A/E'S WARNING AUTO	PUMP UNIT REMARKS	WORK ORDER NO.	VALVES, ELECTRICAL, STRUCTURAL REMARKS	WORK ORDER NO.	ESTIMATED REPAIR DATE	UPDATES
1	CABRAS ISLAND	1	2	2	100%	Portable	M						
2	COMMERCIAL PORT	1	3	3	100%	OP	A	P# 3 pump works, Standby					
3	PTI	1	2	2	100%	GPA	A						
4	ASAN	1	2	2	100%	GPA	A						
5	SINAJANA	2	2	2	100%	GPA	A						
7	NEW CHAOT	1	3	3	100%	OP	A						
8	ORDOT	2	2	2	100%	OP	A						
29	DERO	1	2	2	100%	OP	A						
9	CHILAN PAGO #5	2	2	2	100%	OP	A						
10	CHILAN PAGO #3	2	2	2	100%	OP	A						
11	FLORA GARDENS	2	2	2	100%	INOP	A						
12	DOUBLE SHAFT	1	3	2	67%	OP	A	Pump 2 removed due to impeller broke					
13	NAMU	2	1	1	100%	OP	A						
14	TAI MANGELAO	1	3	2	67%	GPA	A	P3 secured due to moisture sensor.					
15	MANGELAO	1	2	2	100%	GPA	A			Stump pump burnt and the breaker is damaged			
30	FIDIAN	2	2	1	50%	GPA	A	C/NO/DT Pump 1 removed due to grounded					
16	LEYANG	2	2	2	100%	OP	A						
27	SAGAN BONITA 1	2	2	1	50%	OP	A	P1 removed by maintenance team					
28	SAGAN BONITA 2	2	2	1	50%	OP	A	P1 removed by maintenance team					
17	DAIRY	1	2	1	50%	INOP	A	pump 1 secured due to check valve needed repairing by maint					
18	BARRIGADA	1	2	2	100%	GPA	A	P3 secured due to CV not closing					
19	TOTO GARDENS	2	2	1	50%	INOP	A	Pump 2 removed awaiting repairs		Pump 2 breaker still secured tagged out.			
20	MONGMONG	2	2	2	100%	OP	A						
21	CASMERU	2	2	1	50%	Portable	A	P#1 awaiting overvoltage at BCO		GPA RELOCATED GENERATOR			
22	MAITE	2	2	2	100%	GPA	A						
23	BAYSIDE	2	1	1	100%	INOP	A						
24	ALUPANG	1	2	2	100%	OP	A						
25	MALAJUNGO	1	3	3	100%	OP	A						
26	Agua Main	1	4	3	75%	OP	A	P4 is on Line # 2 awaiting line 4 crew to be cleared					
Total		29	83	54	65%								

GWA Work Session - July 22, 2020 - DIVISION REPORTS

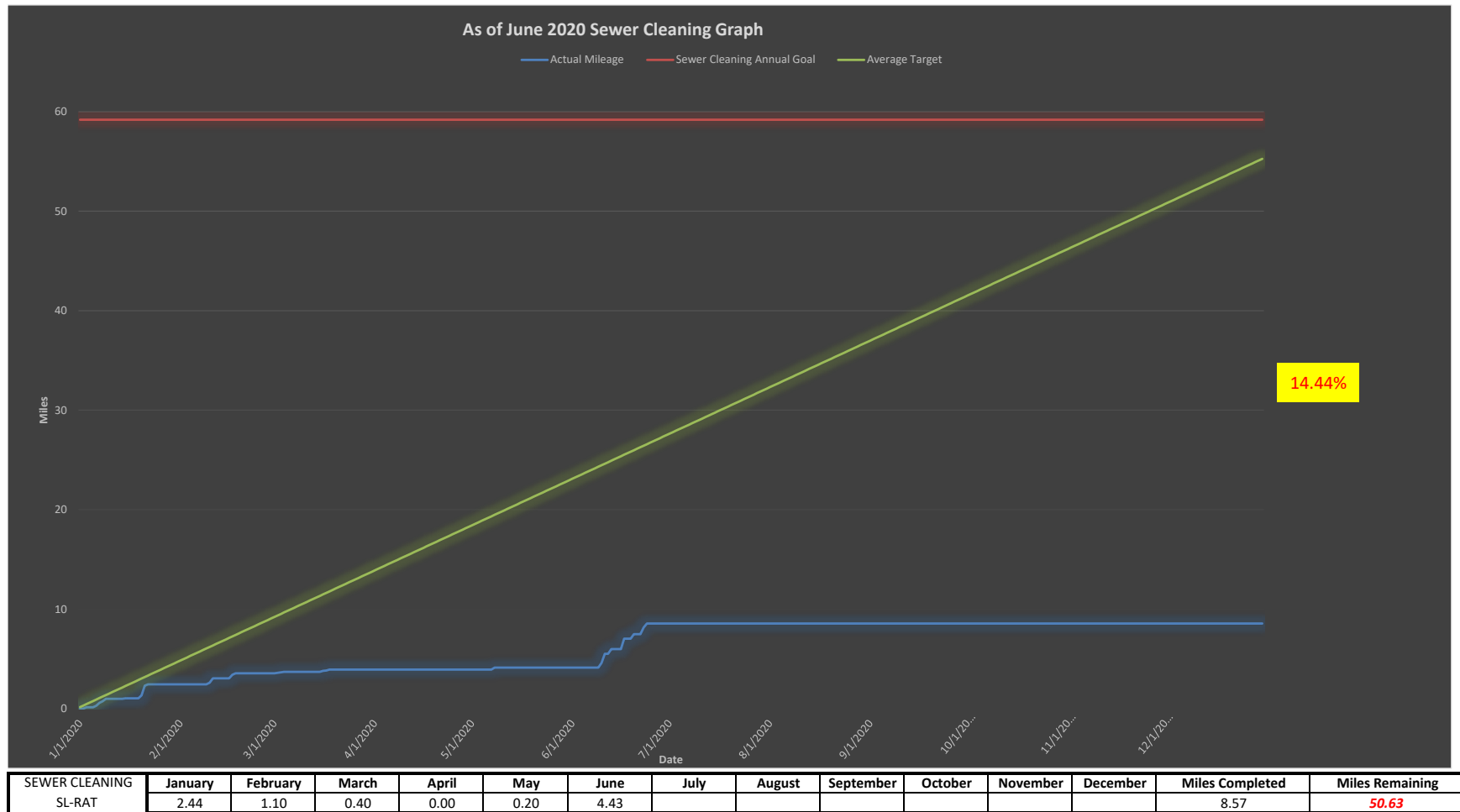
Southern District													
NO.	FACILITY	PRIORITY LISTED	NO OF INSTALLED PUMPS	NO OF OPERATIONAL PUMPS	PUMP AVAILABILITY %	GENERATOR OPERATIONAL FAULT	ATS MANUAL/AUTO	PUMP UNIT REMARKS	WORK ORDER NO.	VALVES, ELECTRICAL,STRUCTURAL REMARKS	WORK ORDER NO.	ESTIMATED REPAIR DATE	UPDATES
1	GANN #1	1	4	4	100%	OP	MAN						
2	PUMP STATION #11	2	2	2	100%	INOP	AUTO						
3	PUMP STATION #12	1	2	2	100%	OP	AUTO						
4	PUMP STATION #14	2	2	2	100%	OP	AUTO			Pumps are alternated weekly			
5	PUMP STATION #15	1	2	2	100%	INOP	AUTO	Requested for electricians to replace P-1 defective hourly meter.	20-05-1208	Generator Secured By GPA #1#20 due to Oil Leak.			Generator Radiator Leaking Coolant ,GPA Was Informed.
6	PUMP STATION #16	2	2	2	100%	OP	AUTO						
7	PUMP STATION #17	2	2	2	100%	OP	AUTO						
8	PUMP STATION #18	2	2	2	100%	OP	AUTO						
9	INARAJAN MAIN	1	2	2	100%	OP	AUTO						
10	INARAJAN LIFT	1	2	2	100%	OP	AUTO						
11	TALAFORO	1	2	2	100%	OP	AUTO	5-17-20 Electricians determined that the sump pump is grounded and was recommended to be replaced. Sifted work order into facility requesting maintenance to replace.	20MP Pump# 0723 20-01-	6-6-20 Exhaust blower for wet well is defective and needs replacement. Requested for electricians to relocate the existing blower unit at the old Agat treatment plant wet well and install it at Talaforo.		11-5-19 \$10,140.00 New M.W. ventilation repair quotation was sent to Mary. All ventilation ducts needs to be fabricated and installed.	
12	PAGACHAO	2	2	2	100%	NONE	NA						
13	CHALIGAN	2	2	2	100%	OP	MAN/INOP			Requesting for electricians to make assessments to ventilation system to make it operational.]	(Week 19-12-2020)	12-23-20 Fred is working on getting a lift to be able to go to the roof top to make assessments on the motor.	
14	EJECTOR #2	2	2	2	100%	PORTABLE INOP	NA						
15	EJECTOR #3	2	2	2	100%	PORTABLE INOP	NA						
16	EJECTOR #4	2	2	2	100%	PORTABLE INOP	NA						
17	EJECTOR #5	2	2	2	100%	PORTABLE INOP	NA						
18	EJECTOR #6	2	2	2	100%	PORTABLE INOP	NA						
19	EJECTOR #7	2	2	2	100%	PORTABLE INOP	NA						
20	NORTH REYES	2	2	2	100%	PORTABLE INOP	NA						
21	LEYON #3 (Dardar)	2	2	2	100%	OP	MAN						
22	LEYON #4	2	2	2	100%	OP	AUTO						
23	MTL PUMP STATION	2	1	1	100%	PORTABLE INOP	NA						
24	Baca P/S	1	3	3	100%	OP	AUTO			Sumomo 7-14-2020 working on valve leaks and bladder valve replacement for pump #1			
25	Woodward HBA	1	3	2	67%	OP	AUTO	6-9-20 P-1 pulled out for cooling jacket repair.	20-06-0130				
26	Aplacho	1	3	3	100%	OP	AUTO						
26			56	55	98%								
Pump availability rate of operational percentage of pumps 100%													
1	Asan Bypass	1	1	1	100%			Pump from Oroquieta					
Total	1		1	1	100%								



Guam Waterworks Authority
VEHICLE FLEET STATUS
7/15/2020

EQUIPMENT STATUS				
Description	Number of Equipment	Number of Equipment Available	Number of Equipment Not Available	Percentage
Backhoe (Leased)	3	3	0	100%
Dump Truck (Leased)	3	3	0	100%
Trailer (Leased)	3	3	0	100%
Backhoe	3	2	1	67%
Boom Truck	2	0	2	0%
Crane	1	1	0	100%
Dump Truck	1	1	0	100%
Forklift	6	6	0	100%
Fuel Tanker	1	1	0	100%
Heavy Duty	8	7	1	88%
Hoist Rig	1	0	1	0%
Jetter	1	1	0	100%
Light	154	129	25	84%
Mini Backhoe	2	1	1	50%
Pumper Truck	1	0	1	0%
Skidster	1	0	1	0%
Sludge Truck	5	3	2	60%
Tractor	2	2	0	100%
Tractor Mower	1	1	0	100%
Trailer	15	13	2	87%
Trencher	1	0	1	0%
Vacuum Truck	5	2	3	40%
Water Buffalo	2	2	0	100%
Water Tanker	5	5	0	100%
Compressor	1	1	0	100%
Total	252	176	41	

SUMMARY						
Operational	Operational w/Rprs Pending	Not in Operation-Accident (Docs Pending)	Not in Operation-Assessment Pending	Not in Operation-Repairs Pending	Not in Operation-Vendor Repairs	Recommend Survey
3	0	0	0	0	0	0
2	1	0	0	0	0	0
3	0	0	0	0	0	0
2	0	0	0	0	1	0
0	0	0	0	0	1	1
0	1	0	0	0	0	0
1	0	0	0	0	0	0
6	0	0	0	0	0	0
1	0	0	0	0	0	0
7	0	0	0	0	0	1
0	0	0	0	0	1	0
1	0	0	0	0	0	0
122	7	1	0	3	5	16
1	0	0	0	1	0	0
0	0	0	0	1	0	0
0	0	0	0	1	0	0
3	0	0	0	1	1	0
2	0	0	0	0	0	0
1	0	0	0	0	0	0
13	0	0	0	2	0	0
0	0	0	0	1	0	0
2	0	0	0	0	3	0
2	0	0	0	0	0	0
5	0	0	0	0	0	0
1	0	0	0	0	0	0
176	8	1	0	10	12	18



5 miles a month required, 59.2 miles a year to complete for 2019 (296 miles to complete in 5 years)

59.2 miles x 5 years = 296 miles

296 miles / 5yrs = 59.2 miles a year required to be completed

59.2 miles /12 months = 4.93 miles a month required to be completed

4.92 miles x 5,280 = 25,977.6ft. / 4 weeks = 6,494.4ft. Per week required to be completed

6,494.4ft / 5 days = 1,298.8ft required to be completed daily

Guam Waterworks Authority		Date: 6/30/2020	 GUAM WATERWORKS AUTHORITY WATER DISTRIBUTION FACILITIES REPORT
		Time:	
REVIEWS			
TOTAL PUMPS INSTALLED	56	OVERALL AVERAGE	99%
TOTAL PUMPS OPERATIONAL	55	% OF OPERATING PUMPS	98%
TOTAL BOOSTER PUMP STATIONS	27		

Northern District

NO:	FACILITY	PUMP HP	NO OF INSTALLED PUMPS	NO OF OPERATIONAL PUMPS	PUMP AVAILABILITY %	GENERATOR OPERATIONAL FAULT	ATS MANUAL/AUTO	PUMP UNIT REMARKS	WORK ORDER NO:	VALVES, ELECTRICAL, STRUCTURAL REMARKS	WORK ORDER NO:	ESTIMATED REPAIR DATE	PUMP AND MOTOR INVENTORY
1	Yigo	30	3	3	100%	OP	A						
2	Gaymoro	20	2	2	100%	OP	A						
3	Mataguec	25	2	2	100%	OP	A						
4	Santa Rosa	15	2	2	100%	OP	A						
5	Hyundai	40	2	1	50%	OP	A	Pump # 1 requires pump and motor. Station undergoing renovation with new pumps installed				Work ongoing. New pumps will be installed.	
6	Chin, Palauan	5	2	2	100%	N/A							
7	Access	60	2	2	100%	OP	A						
8	Agana Heights	30	3	3	100%		A						
9	Nimitz Hill	7.5	2	2	100%	N/A							
10	Adawag	1.5	1	1	100%	N/A							
11	Pale Kiren	1	1	1	100%	N/A							
12	Ulisoa/Unifalan	1	2	2	100%	OP	A						
13	Latte Heights	15	2	2	100%	OP	A						
TOTAL = 13			26	25	96%								
pump availability = no of operational pumps/no of pumps*100%													

Central District

NO:	FACILITY	PUMP HP	NO OF INSTALLED PUMPS	NO OF OPERATIONAL PUMPS	PUMP AVAILABILITY %	GENERATOR OPERATIONAL FAULT	ATS MANUAL/AUTO	PUMP UNIT REMARKS	WORK ORDER NO:	VALVES, ELECTRICAL, STRUCTURAL REMARKS	WORK ORDER NO:	ESTIMATED REPAIR DATE	UPDATES
1	Pago	150 / 100	3	3	100%	OP	A						
2	Brocade	60	3	3	100%	OP	A						
3	Windward Hills	200 / 75	3	3	100%	OP	A						
4	Santa Rita Spring	40	2	2	100%	OP	A						
5	Santa Ana (Lower)	25	2	2	100%	N/A		Station to undergo renovations for tanks inspections.					
6	Camacho	1	1	1	100%	N/A							
7	Tenorio	1.5	1	1	100%	N/A							
Total=7			15	15	100%								
pump availability = no of operational pumps/no of pumps*100%													

Southern District

NO:	FACILITY	PUMP HP	NO OF INSTALLED PUMPS	NO OF OPERATIONAL PUMPS	PUMP AVAILABILITY %	GENERATOR OPERATIONAL FAULT	ATS MANUAL/AUTO	PUMP UNIT REMARKS	WORK ORDER NO:	VALVES, ELECTRICAL, STRUCTURAL REMARKS	WORK ORDER NO:	ESTIMATED REPAIR DATE	UPDATES
1	Malojloj Line	125 / 50	3	3	100%	OP	A						
2	Geus	25	2	2	100%	OP	A						
3	Pigua	7.5	2	2	100%	N/A							
4	Loquan	25	2	2	100%	OP	A						
5	WBP-2	25	2	2	100%	OP	A						
6	WBP-1	5	2	2	100%	OP	A						
7	Malojloj Elevated	15	2	2	100%	OP	A						
Total=7			15	15	100%								
pump availability = no of operational pumps/no of pumps*100%													