APPENDIX 2A:

WATER SYSTEMS CONDITION ASSESSMENT
(CD Format)

Appendix 2A GWA Wells - Equipment

				Condition and Functionality Rating										Motor								Pump												CHLORINATION SYSTEM				
				Physical Condition Rating					Functionality Rating					Vibration		Temperature		High Efficiency		Power Factor Correction		Vibration		Cavitation		Temperature		Pump Performing		Seals Functional		Seal Water System Functional		CL2 Pump	CL2 Pump Base	Chlorinator	CL2 Scale	
Well	Equipment Name	Asset Class	Asset Number	0	1	2	3	4	0	1	2	3	4	Excessive	Normal	Excessive	Normal	Yes	No	Yes	No	Excessive	Normal	Excessive	Normal	Excessive	Normal	Yes	No	Yes	No	Yes	No	0-4	0-3	0-4	0-4	
A1	Out of service - secured - pullout									x																												
A2	Submersible Pump					x					x				x		x		x		x		x		x		x	x		x		x		2	1	2	3	
A3	Out of service - secured - pullout									x																												
A4	Pump						x					x			x		x		x		x		x		x		x	x		x		x		2	1	3	0	
A5	Submersible Pump					x					x				x		x		x		x		x		x		x	x		x		x		3	1	3	1	
A6	Submersible Pump					x				x					x		x		x		x		x		x		x	x		x		x		3	0	2	2	
A7	Hard broke									x																												
A8	Submersible Pump					x					x				x		x		x		x	x		x			x	x		x		x		2	0	1	0	
A9	Submersible Pump					x					x				x		x		x		x		x		x		x	x		x		x		2	1	2	3	
A10	Submersible Pump						x					x			x		x		x		x		x		x		x	x		x		x		2	2	3	0	
A12	Submersible Pump				x						x				x		x		x		x		x		x		x	x		x		x		2	0	2	3	
A13	Submersible Pump					x					x				x		x		x		x		x		x		x	x		x		x		2	1	2	3	
A14	Submersible Pump				x						x				x		x		x		x	x		x			x	x		x		x		1	1	2	0	
A15	Submersible Pump				x					x					na		na		na		na		na		na		na		x		na		na	2	0	2	0	
A17	Submersible Pump				x						x				x		x		x		x	x		x			x	x		x		x						
A18	Submersible Pump					x					x				x		x		x		x		x		x		x	x		x		x		2	1	2	3	
A19	Pump					x						x			x		x		x		x		x		x		x	x		x		x		2	2	2	0	
A21	Submersible Pump				x						x				x		x		x		x	x		x			x	x		x		x		1	2	2	3	
A23																																						
A25	Submersible Pump				x						x				x		x		x		x		x		x		x	x		x		x		2	2	2	3	
A26	Hard broke									x																												
A28	Submersible Pump				x					x					x		x		x		x		x		x		x	x		x		x		3	1	2	0	wood CL2 pump
A29	?																																					
A30	Pump					x						x			x		x		x		x		x	x		x		x		x		x						
A31	Submersible Pump				x						x				x		x		x		x		x		x		x	x		x		x		3	2	3	3	
A32	Hard broke									x					na		na		na		na		na		na		na		x		na		na	na	2	2	0	
Y-1	Submersible Pump				x						x				x		x		x		x		x		x		x	x		x		x		2	0	2	0	
Y-2 - offline - failed - motor bad	Submersible Pump				x					x																								no cl2 injection, same line as Y-1				
Y-3	Submersible Pump				x						x				x		x		x		x	x		x			x	x		x		x		3	0	1,1	nd	chlorinators high
Y-4	Hard broke since mid-80s									x																												
Y-5	Submersible Pump				x						x				x		x		x		x		x		x		x	x		x		x		2	0	3	1	
Y-6	Submersible Pump				x					x				x		x			x		x	x			x	x		x		x		x		3	0	3	1	frequent repair r
Y-7	Secured - Hardbroke									x																												
Y-9	Submersible Pump					x					x																							3	nd	3	0	
Y-10	Pump					x					x				x		x		x				x	x			x	x		x		x		3	2	3	1	
Y-12	Submersible Pump					x					x				x		x		x		x		x		x		x	x		x		x		2	0	3	1	
Y-14	Hard broke since mid-80s									x																												
Y-15	Submersible Pump						x					x			x		x		x		x		x		x		x	x		x		x		3	nd	2	2	
Y-16	Inline pump						x					x			x		x		x		x		x		x		x	x		x		x		3	2	3	0	
Y-17	Submersible Pump					x					x				x		x		x		x		x		x		x	x		x		x		3	3	2	1	
Y-21A	Inline pump						x					x			x		x		x		x		x		x		x	x		x		x		3	2	3	0	
Y-23 - offline	Submersible Pump				x					x																								1	nd	1	1	
D-1	Submersible Pump					x					x				x		x		x		x		x		x		x	x		x		x		2	2	2	0	
D-2	Submersible Pump				x						x				x		x		x		x		x		x		x	x		x		x		na	na	na	na	no CL2
D-3	Hard broke									x																												
D-4 - Secured	Submersible Pump									x																												
D-5	Submersible Pump						x					x			x		x		x		x		x		x		x	x		x		x		3	2	3	0	
D-6	Submersible Pump				x						x				x		x		x		x		x		x		x	x		x		x		1	1	2	0	
D-7	Submersible Pump						x					x			x		x		x		x		x		x		x	x		x		x		0	0	0	0	
D-8	Secured											x			x		x		x		x		x		x		x	x		x		x						
D-9	Submersible Pump				x						x				x		x		x		x		x		x		x	x		x		x		0	0	0	0	
D-10	Pump						x					x			x		x		x		x		x		x		x	x		x		x						
D-11	Submersible Pump				x						x				x		x		x		x		x		x		x	x		x		x		1	1	1	0	
D-12	Pump						x					x			x		x		x		x		x		x		x	x		x		x						
D-13	Submersible Pump					x					x				x		x		x		x		x	x			x	x		x		x		3	0	3	0	
D-14	Pump						x					x			x		x		x		x		x		x		x	x		x		x						
D-15	Submersible Pump						x					x			x		x		x		x		x		x		x	x		x		x		3	3	3	0	
D-16 - Secured	Submersible Pump									x																												
D-17 - Hard broke										x																												
D-18 - Hard broke										x																												
D-19	Submersible Pump				x						x				x		x		x		x		x	x			x	x		x		x		3	2	2	0	
D-20	Submersible Pump				x						x				x		x		x		x		x		x		x	x		x		x		3	1	3	0	
D-21	Submersible Pump					x					x				x		x		x		x		x		x		x	x		x		x		3	0	2	0	
D-22	Submersible Pump					x						x			x		x		x		x		x		x		x	x		x		x		0	0	0	0	
D-24	Hard broke-secured									x																												
F-1	Secured for pullout									x																												
F-2	Submersible pump				x						x				x		x		x		x	x		x			x	x		x		x		2	1	2	0	
F-3	Submersible pump				x						x				x		x		x		x		x		x		x	x		x		x		2	2	2	0	
F-4	Submersible pump				x						x				x		x		x		x		x		x		x	x		x		x		2	1	2	0	
F-5	Pump				x					x					x		x		x		x		x	x			x	x		x		x		1	0	2	0	
F-6	Pump				x					x					x		x		x		x	x			x		x	x		x		x		1	1	2	3	
F-7	Submersible pump				x					x					na		na		na		na		na		na		na		x		na		na	0	0	0	0	
F-8	Secured									x																												
F-9	Submersible pump					x						x			x		x		x		x		x		x		x	x		x		x		2	2	3	4	
F-10	Submersible pump					x					x				x		x		x		x		x		x		x	x		x		x		2	1	3	0	
F-11	Submersible pump				x						x				x		x		x		x	x			x		x	x		x		x		2	2	2	0	
F-12	Submersible pump					x						x			x		x		x		x		x		x		x	x		x		x		3	2	3	0	
F-13	Submersible pump					x					x				x		x		x		x		x		x		x	x		x		x		2	0	3	3	
F-15	Submersible pump					x						x			x		x		x		x		x		x		x	x		x		x		0	0	0	0	
F-16	Submersible pump					x					x				x		x		x		x		x		x		x	x		x		x		2	1	3	0	
F-17	Submersible pump					x					x				x		x		x		x		x		x		x	x		x		x		3	2	2	0	
F-18	Submersible pump					x					x				x		x		x		x		x		x		x	x		x		x		2	2	3	0	
G-501	Pump				x						x				x	x			x		x		x	x			x	x		x		x		2	1	1	0	
Ag-1A	Inline						x					x			x		x		x		x		x		x		x	x		x		x		2	0	2	0	
Ag-2A	Inline						x					x			x		x		x		x		x		x		x	x		x		x		2	1	2	0	
H-1	Pump				x						x				x	x			x		x		x		x		x	x		x		x						
HGC-2	Inline					x						x			x		x		x		x		x		x		x	x		x		x		1	0	2	3	
M-1	?								x																													
M-2	Pump				x						x				x		x		x		x		x	x			x	x		x		x						
M-3	Submersible pump				x						x				x		x		x		x	x		x			x	x		x		x		0	0	0	0	
M-4	Pump				x						x				x		x		x		x		x		x		x	x		x		x						
M-5	Submersible pump				x						x				x		x		x		x		x		x		x	x		x		x		1	1	2	0	
M-6	Submersible pump				x						x				x		x		x		x		x		x		x	x		x		x		2	2	3	3	
M-7	Secured for pullout									x																												
M-8	Pump				x						x				x		x		x		x		x		x		x	x		x		x						
M-9	Submersible pump				x						x				x		x		x		x		x		x		x	x		x		x		1	1	2	0	
M-12	Pump				x					x					x	x			x		x		x	x			x	x		x		x						
M-14	Secured									x																												
M-15	Submersible pump					x					x				x		x		x		x		x		x		x	x		x		x		2	1	2	0	
M-17A	Hard broke									x																												
M-17B	Submersible pump					x					x				x		x		x		x		x		x		x	x		x		x		1	1	2	0	
M-18	Submersible pump					x					x				x		x		x		x		x		x		x	x		x		x		2	3	3	0	
M-20A	Submersible pump					x					x				x		x		x		x		x		x		x	x		x		x		2	1	2	0	
M-21	Submersible pump					x						x			x		x		x		x		x		x		x	x		x		x		2	3	3	0	
M-23	Submersible pump					x						x			x		x		x		x		x		x		x	x		x		x		1	1	2	0	
MJ-1	Secured									x																												
MJ-5	Secured									x																												
EX-5	Submersible Pump					x					x				x		x		x		x		x		x		x	x		x		x		1	0	2	0	plants growing out of chlorine pump
EX-11	Pump				x						x				x		x		x		x		x		x		x	x		x		x						
NAS-1	Secured									x																												

Appendix 2A GWA Wells - Buildings

| | | Condition and Functionality Rating | | | | | | | | | | Superstructure Building | | | | | | | | | |

Appendix 2A GWA Wells - Generators

							Condition and Functionality Rating										Emergency Generator									
	Back-up Power		Emergency Generator				General Condition Rating					General Functionality Rating					Size		Fuel Tank		Spill Containment		Transfer Switch		Outdoor Panel	
Well	None	Redundant Power	On-site	Portable	Automatic Start	Manual Start	0	1	2	3	4	0	1	2	3	4	Y	N	Y	N	Y	N	Y	N	Y	N
A1	Out of service - secured - pullout						x																			
A2		GPA																								
A3	Out of service - secured - pullout						x																			
A4		GPA																								
A5		GPA																								
A6		GPA																								
A7	Hardbroke						x																			
A8		GPA																								
A9		GPA																								
A10		GPA																								
A12		GPA																								
A13		GPA																								
A14		GPA																								
A15		GPA																								
A17		GPA																								
A18		GPA																								
A19		GPA																								
A21		GPA																								
A23		GPA																								
A25		GPA																								
A26	Hardbroke						x																			
A28		GPA																								
A29	?	GPA																								
A30		x	x		x				x					x			x		x		x					
A31		GPA																								
A32	Hardbroke						x																			
Y-1		GPA																								
Y-2 - offline - failed - motor bad		GPA																								
Y-3		GPA																								
Y-4	Hard broke since mid-80s						x					x														
Y-5		GPA																								
Y-6		GPA																								
Y-7	Secured						x					x														
Y-9		GPA																								
Y-10		x	x			x				x					x		x		x		x					
Y-12		x	x			x				x					x		x		x		x					
Y-14	Hard broke since mid-80s						x					x														
Y-15		x	x		x						x					x	x		x		x					
Y-16		x	x			x				x					x		x		x		x					
Y-17		x	x			x			x					x			x		x		x					
Y-21A		x	x			x				x					x		x		x		x					
Y-23 - offline		x	x			x					x	x					x		x		x					
D-1	x																									
D-2		GPA																								
D-3	hardbroke, disconnected						x						x													
D-4 - Secured	Secured						x						x													
D-5		GPA																								
D-6		GPA																								
D-7		GPA																								
D-8	Secured						x						x													
D-9		GPA																								
D-10		GPA																								
D-11		GPA																								
D-12		GPA																								
D-13		GPA																								
D-14		GPA																								
D-15		GPA																								
D-16 - Secured							x						x													
D-17 - Hard broke							x						x													
D-18 - Hard broke							x						x													
D-19		GPA																								
D-20		GPA																								
D-21		GPA																								
D-22		GPA																								
D-24	Hardbroke, secured						x						x													
F-1	secured						x																			
F-2		GPA																								
F-3		GPA																								
F-4		GPA																								
F-5		GPA																								
F-6		GPA																								
F-7		GPA																								
F-8	secured						x																			
F-9		GPA																								
F-10		GPA																								
F-11		GPA																								
F-12		GPA																								
F-13		x	x			x				x					x		x		x		x					
F-15		GPA																								
F-16		?																								
F-17		?																								
F-18		?																								
G-501		GPA																								
Ag-1A		GPA																								
Ag-2A		GPA																								
H-1		GPA																								
HGC-2	x																									
M-1		GPA																								
M-2		GPA																								
M-3		GPA																								
M-4		GPA																								
M-5		GPA - shared with M15																								
M-6		GPA																								
M-7	secured for pullout						x																			
M-8		GPA																								
M-9		GPA																								
M-12		GPA																								
M-14	Secured						x																			
M-15		GPA - shared with M5																								
M-17A	hardbroke						x																			
M-17B		GPA																								
M-18		x	x			x				x					x		x		x		x					
M-20A		x	x			x			x					x			x		x		x					
M-21		GIAA - Airport																								
M-23		x	x			x				x					x		x		x		x					
MJ-1	Secured						x																			
MJ-5	Secured						x																			
EX-5		GPA																								
EX-11		GPA																								
NAS-1	Secured						x																			

Appendix 2A GWA Water Booster Stations - Equipment

ADDED: Santa Ana Upper, Lower, Malojloj Elevated, Line Booster

				Condition and Functionality Rating										Motor - Motor - Motor - Motor - Motor - Motor - Motor - Motor - Motor - Motor																Driven Equipment - Driven Equipment - Driven Equipment - Driven Equipment - Driven Equipment - Driven Equipment																			
				Physical Condition Rating					Functionality Rating					Runtime	Bases				Mean Time Between Failure			Vibration		Temperature		High Efficiency		Power Factor Correction		Runtime	Bases				Mean Time Between Failure			Vibration		Cavitation		Temperature		Pump Performing		Seals Functional		Seal Water System Functional		
Booster Station	Equipment Name	Asset Class	Asset Number	0	1	2	3	4	0	1	2	3	4	Hours	0	1	2	3	1	2	3	Excessive	Normal	Excessive	Normal	Yes	No	Yes	No	Hours	0	1	2	3	1	2	3	Excessive	Normal	Excessive	Normal	Excessive	Normal	Yes	No	Yes	No	Yes	No	
Agana Heights (Ulloa Untalan)	under litigation (private property, could not evaluate)																																																			
	centrifugal pump above ground, 50 gal surge tank, pressure switch																																																			
Agat/Umatac (Umatac #1)																																																				
	Pump						x					x		na			x			x			x		x			x		na			x				x			x		x		x	x		x		x		manual on/off, based on level in tank
Santa Ana Upper	Pump 1																											x		na			x			x			x		x		x	x		x		x		
	Pump 2					x						x		na				x		x			x		x			x		na			x			x			na		na		na		x		x		na	
				x						x				na				x		x			na		na																									room for 3rd pump, never installed
Santa Ana Lower																																																				
	Pump					x						x		na	x		x			x			x		x			x		na			x			x			x		x		x	x		x		x		new seals
Asan Spring	SECURED due to fecal count in spring																																																			
	Pump 1						x					x		na			x				x		x		x			x		na			x			x			x		x		x	x		x		x		spot for 3rd pump
	Pump 2						x					x		na			x				x		x		x			x		na			x			x			x		x		x	x		x		x		
	CL2 system					x					x			na			x				x		na		na			na		na			na			na			na		na		na	x		na		na		
Barrigada																																																				
	Pump 1							x					x	na			x			x			x		x			x		na			x				x			x		x		x	x		x		x		
	Pump 2						x					x		na			x			x			x		x			x		na			x				x			x		x		x	x		x		x		newly rebuilt
Chalan Palauan																																																				No Cl2 facilities; no genset; safety issues
	Pump 1							x					x	na			x			x			x		x			x		na			x				x			x		x		x	x		x		x		new pump/motor
	Pump 2							x					x	na			x			x			x		x			x		na			x				x			x		x		x	x		x		x		new pump/motor
	Pump 3							x					x	na			x			x			x		x			x		na			x				x			x		x		x	x		x		x		new pump/motor
	Pump 4							x					x	na			x			x			x		x			x		na			x				x			x		x		x	x		x		x		new pump/motor
Mangenon Access Road																																																				
	Pump 1					x						x		na			x			x			x		x			x		na			x			x			x		x		x	x			x	x		
	Pump 2					x				x				na			x			x			na		na			x		na			x			x			na		na		na		x	x		x		
	Pump 3					x						x		na			x			x			x		x	x			x	na				x			x			x		x		x	x		x		x		
Pago Bay																																																				
	Pump 1					x					x			na			x			x			x	x			x		x	na			x			x			x		x	x		x			x	x		seals need replacing, no guard coupling
	Pump 2						x					x		na			x			x			x		x			x		na			x				x	x		x		x		x	x		x		x		rebuilt recently
	Pump 3					x					x			na			x			x			x		x			x		na			x			x			x		x		x	x		x		x		bearing problem, no coupling guard
Ugum																																																				
	Pump					x					x			na			x			x			x		x			x		na			x			x			x	x				x	x		x		x		
Northern	at WWTP - did not assess																																																			
Wusstig	abandoned																																																			
Malojloj (Malojloj Elevated)																																																				
	Pump 1						x					x						x			x		x		x			x		na				x		x			x		x		x	x		x		x		
	Pump 2						x					x						x			x		x		x			x		na				x		x			x		x		x	x		x		x		
	Pump 3								x									x			na		na		na			na		na				x		na			na		na		na		x	na		na		
Malojloj Line Booster																																																				
	Pump 1							x					x	na				x			x		x		x	x			x	na			x			x			na		na		na		x		na		na		all new seals, all motors rewound, all new impellers
	Pump 2							x					x	na				x			x		x		x	x			x	na				x			x		x		x		x	x		x		x		
	Pump 3							x					x	na				x			x		x		x	x			x	na				x			x		x		x		x	x		x		x		
Latte Heights																																																				
	Pump 1						x					x		na				x			x		x		x			x		na				x			x		x		x		x	x		x		x		all pumps rebuilt recently
	Pump 2						x					x		na				x			x		x		x			x		na				x			x		x		x		x	x		x		x		
	Pump 3						x					x		na				x			x		x		x			x		na				x			x		x		x		x	x		x		x		
Lower Pigua (Gayos)																																																				
	Pump				x						x			na		x					x		x		x	x			x	na			x				x			x		x		x	x		x		x		seals new, motor rewound, poor coatings, space for 3 pumps but only 1
Toguan (Umatac #3)																																																				
	Pump 1				x						x			na			x		x				x	x			x		x	na			x		x				x		x		x	x			x		x	leaking
	Pump 2				x						x			na			x		x				x		x			x		na			x		x					x		x		x	x		x		x		
Upper Pigua (Pigua)																																																				
	Pump 1						x					x						x			x		x		x			x		na			x				x			x		x		x	x		x		x		
	Pump 2						x					x						x			x		x		x			x		na			x				x			x		x		x	x		x		x		
Adawag																																																				
	Pump						x					x						x			x		x	x			x		x	na			x				x			x		x	x		x		x		x		above ground centrifugal pump, running hot, water line above ground level
Lower Nimitz Hill																																																				
	Pump 1							x					x			x					x		x	x		x		x		na				x			x			x		x		x	x		x		x		both pumps new, running hot, on timers (6 hr rotation)
	Pump 2							x					x			x					x		x	x		x		x		na				x			x			x		x		x	x		x		x		pipes unpainted
Upper Nimitz Hill																																																				
	SECURED																																																			
Santa Rita																																																				
	Pump 1						x						x	na			x				x		x		x			x		na			x				x			x		x		x	x		x		x		
	Pump 2						x						x	na			x				x		x		x			x		na			x				x			x		x		x	x		x		x		
	CL2 Scale					x				x				na																na																					
	CL2 ejector						x				x			na																na																					
	CL2 Pump					x					x			na		x														na		x																			
Sinifa	converted to prv - did not visit																																																			
Truman																																																				space for 3 pumps, but only 2
	Pump 1					x						x		na			x			x			x		x			x		na			x			x			x		x		x	x			x		x	motor rewound (cond 2), wires exposed
	Pump 2					x						x		na			x			x			x		x			x		na			x			x			x		x		x	x			x		x	motor rewound (cond 3)
Sinijana (Pale Kirin)																																																				
	Pump						x					x		na				x		x			x		x			x		na				x		x			x		x		x	x		x		x		above ground centrifugal pump, operates on pressure switch
	50 gal tank						x					x		na				x																x		x								x		na				
Umatac #1	See above Agat/Umatac																																																			
Umatac #2																																																				
	Pump 1			x					x					na						x			na		na		x		x	na			x			x			na		na		na	x		na			x	out
	Pump 2							x	x					0		x					x		na		na	x		x		0				x			x			na		na		na	x		na			x	needs to be anchored
	Temporary Pump						x					x		na		x				na			x		x		x		x	na			x			na			x		x		x		x	x		x		x	temporary pump until Pump 2 anchored and new pump installed
Umatac #3	See above Toguan																																																			
Gayinero																																																				
	Pump 1			x					x					na		x			x				na		na		x		x	na			x		x			na		na		na			x	na		x		
	Pump 2					x					x			na		x			x				x	x			x		x	na			x			x			x		x		x	x		x		x		
Mataguac																																																				
	Pump 1						x					x		na			x				x		x		x	x			x	na			x				x		x		x		x	x		x		x		
	Pump 2			x					x					na			x		x				na		na			na		x	na			x			x		na		na		na		x	na		x		
	Pump 3						x					x		na			x				x		x		x	x			x	na			x				x		x		x		x	x		x		x		new
	cl2 feed pump 1						x					x		na			na				x		x		na		na		x	na			na				x		na		na		na		x	x		x		both cl2 pumps new never used, cl2 tank present but not used (good residual already), chlorinators missing
	cl2 feed pump 2						x					x		na			na				x		x		na		na		x	na			na				x		na		na		na		x	x		x		
Santa Rosa																																																				
	Pump 1			x					x					na			x			x		na		ns			x		x	na			x			x			na		na		na		x	na		x		
	Pump 2						x					x		na			x				x		x		x			x		na			x				x		x		x		x	x		x		x		
Yigo Elevated Tank																																																				
	Pump 1							x					x	na				x			x		x		x	x			x	na			x				x		x		x		x	x		x		x		new, one pump normally in use, alternates
	Pump 2						x					x		na			x		x				x		x			x		na			x			x		x		x		x	x		x		x		new seals and impeller
Brigade																																																				
	Pump 1						x					x		na				x		x			x		x			x		na				x		x			x		x		x	x			x	x		seals poor, some leakage
	Pump 2						x					x		na				x			x		x		x			x		na				x			x		x		x		x	x		x		x		seals new
	Pump 3					x					x			na				x			x		x		x			x		na				x			x		x		x		x	x		x		x		seals new
Camacho's																																																				
	Pump					x						x		na			x				x		x		x			x		na			x				x			x		x		x	x		x			x	impeller good, seals good, centrifugal pump
Windward Hills																																																				
	Pump 1						x					x		na			x			x			x		x			x		na			x				x			x		x		x	x		x		x		pump new, motor rewound
	Pump 2						x		x					na			x			x			x		x			x		na			x			x			x		x		x	x		x		x		removed new motor
	Pump 3					x					x			na			x			x			x		x			x		na			x			x			x		x		x	x		x		x		motor rewound
Yona	SECURED																																																			

Appendix 2A GWA Water Booster Stations - Buildings

| Booster Station | Building Name | Booster Station Type: Concrete Wet Well/ Dry Well | Booster Station Type: Steel Dry Well/ Concrete Wet Well | Booster Station Type: Self-Priming Pumps/ Above Concrete Wet Well | In-line | Condition and Functionality Rating: General Condition Rating 0 | 1 | 2 | 3 | 4 | General Functionality Rating 0 | 1 | 2 | 3 | 4 | Superstructure Building: Exterior Wall Condition 0 | 1 | 2 | 3 | 4 | Interior Wall Condition 0 | 1 | 2 | 3 | 4 | Exterior Finish Condition 0 | 1 | 2 | 3 | 4 | Interior Finish Condition 0 | 1 | 2 | 3 | 4 | Equipment Finish Condition 0 | 1 | 2 | 3 | 4 | Roof Condition 0 | 1 | 2 | 3 | 4 | Window Condition 0 | 1 | 2 | 3 | 4 | Pipe Support Condition 0 | 1 | 2 | 3 | 4 | Equipment Access Layout OK: Yes | No | Wet Well: Top Slab Condition 0 | 1 | 2 | 3 | 4 | Interior Wall Condition 0 | 1 | 2 | 3 | 4 | Hatchway Condition 0 | 1 | 2 | 3 | 4 | Hatchway Accessible 0 | 1 | 2 | 3 | 4 | Wet Well Ventilation: Mechanical Ventilation Y | N | Separate from Dry Well Y | N | Dry Well Ventilation: Mechanical Ventilation Y | N | Gas Detection Equipment Y | N | Dehumidification Effective Y | N | Hoist Y | N | |
|---|---|---

Appendix 2A GWA Water Booster Stations - Generators

							Condition and Functionality Rating										Emergency Generator										
	Back-up Power		Emergency Generator				General Condition Rating					General Functionality Rating					Size		Fuel Tank		Spill Containment		Transfer Switch		Outdoor Panel		
Booster Station	None	Redundant Power	On-site	Portable	Automatic Start	Manual Start	0	1	2	3	4	0	1	2	3	4	Y	N	Y	N	Y	N	Y	N	Y	N	
Agana Heights (Ulloa Unta	x, litigation																										
Agat/Umatac		GPA																									
Santa Ana Upper	x																										
Santa Ana Lower	x																										
Asan Spring (SECURED)		x	x			x			x					x					ext		x						
Barrigada		GPA																									
Chalan Palauan	x																										
Mangenon Access Road		x	x			x				x					x		x		x		x	x	x				indoor tank with containment, standby barrel w/out containment
Pago Bay		GPA																									
Ugum		x	x			x		x				x					x		x								
Northern	t WWTP - did not assess																										
Wusstig	abandoned																										
Malojloj (Malojloj Elevated)		x	x			x		x				x															
		x		x		x			x						x												
Malojloj Line Booster		GPA																									
Latte Heights		GPA																									
Lower Pigua (Gayos)		GPA																									
Toguan		GPA																									
Upper Pigua (Pigua)	x																										
Adawag	x																										
Lower Nimitz Hill	x																										
Upper Nimitz Hill	SECURED																										
Santa Rita		GPA																									
Sinifa	prv	GPA																									
Truman		GPA																									
Sinijana (Pale Kirin)	x																										
Umatac #1	Agat/Umatac																										
Umatac #2		GPA																									
Umatac #3	Toguan																										
Gayinero	x																										
Mataguac		x	x			x				x					x		x - indoor day tank and external outdoor tank, no on indoor tank										
Santa Rosa		GPA																									
Yigo Elevated Tank		x	x			x		x				x															
Brigade		GPA																									
Camacho's	x																										
Windward Hills		GPA																									
Yona	SECURED																										

Ugum Water Treatment Plant

				Condition and Functionality Rating										Motor - Motor - Motor - Motor - Motor - Motor - Motor - Motor - Motor														Driven Equipment - Driven Equipment - Driven Equipment - Driven Equipment - Driven Equipment - Driven Equipment																			
				Physical Condition Rating					Functionality Rating					Runtime	Bases				Mean Time Between Failure			Vibration		Temperature		High Efficiency		Power Factor Correction		Runtime	Bases				Mean Time Between Failure			Vibration		Cavitation		Temperature		Pump Performing		Seals Functional		Seal Water System Functional		
	Equipment Name	Asset Class	Asset Number	0	1	2	3	4	0	1	2	3	4	Hours	0	1	2	3	1	2	3	Excessive	Normal	Excessive	Normal	Yes	No	Yes	No	Hours	0	1	2	3	1	2	3	Excessive	Normal	Excessive	Normal	Excessive	Normal	Yes	No	Yes	No	Yes	No	
Process																																																		
Intake	Pipe					x					x																																							could not see pipe
																																																		leaking seal water
	Raw Water Pump 1					x					x			28161			x			x			x		x			x		28161			x			x			x		x		x		x		x		x		all motor coatings poor, all pipes very rusty
	Raw Water Pump 2						x		x					39100			x				x		x		x	x		x		39100			x				x			x		x		x		x		x		motor gone, to be installed, pump refurbished
	Raw Water Pump 3					x				x				48953			x			x			x		x			x		48953			x		x					x		x		x		x		x		runtime hours may not be accurate
	Screening					x					x																																							problem with ducks on top of screen
	Tank					x					x																																							
Flocculation	Tank 1					x					x																																							
	Tank 2					x					x																																							
	Tank 3					x					x																																							
	Tank 4					x					x																																							
	Mixer, Rapid					x					x			na			x			x			x		x			x		na			x			x			x		na		x	x		na		na		8 mixers, all work
	Motor, Rapid - see Mixer above					x						x					x																																	
Sedimentation																																																		tube settlers poor
	Settling Tank 1					x					x			na		x				x			x		x			x		na		x				x			x		na		x	x		na		na		motor bases condition 1
	Settling Tank 2					x			x					na		x				x			na	na			x		x	na		x				x			na		na		na		x	na		na		tube settlers poor, rake out of service (motor ok)
	Settling Tank 3					x					x			na		x				x		x			x		x		x	na		x				x		x			na		x	x		na		na		sludge rake excess vibration (temp normal)
																																																		scum system valves poor (1), telescoping valve out
	Settling Tank 4					x					x			na		x				x			x		x			x		na		x				x			x		na		x	x		na		na		of service, skimmers, rakes, tubes all poor condition
Filtration	Backwash Pump 1				x						x			na			x			x		x			x			x		na			x			x		x			x		x		x		x		x	
	Backwash Pump 2				x						x			na			x			x		x			x			x		na			x			x		x			x		x	x		x		x	
	Backwash Tank					x						x																																						exterior coatings 1
	Filter Blower					x						x		na			x				x		x		x			x		na			x				x		x		na		x	x		x		na		
																																																		Filters: ext/int coatings poor, valves inop, however
	Filter Tank 1				x							x																																						works well especially considering poor floc/set
	Filter Tank 2				x							x																																						3 media, 72 hr vs. turbidity breakthrough
	Filter Tank 3				x							x																																						flow control all manual
	Filter Tank 4				x							x																																					
Disinfection	Ejector 1						x					x		na			x				x		na		na		na		na	na			x			x			na		na		na	x		na		na		injector rotameter
	Ejector 2			x					x																																									not there
	Ejector 3																																																	set up for 2 ejectors
	Scale				x				x					na			na			na			na		na		na		na	na			x			x			na		na		na		x	na		na		they do not use any scale
	cl2 detector				x				x					na	x				x				na		na		na		na	0	x				x				na		na		na		x	na		na		cl alarm does not work
Clearwell	Clearwell Discharge Pump 1						x					x		na			x				x		x	x			x		x	na			x				x		x		x		x	x		x		x	
	Clearwell Discharge Pump 2					x					x			na			x		x			x		x			x		x	na			x		x				x		x		x	x		x		x	
Reservoir	Reservoir Tank - see WWTP Buildings																																																
Chemical	Chemical Feeder A					x					x						x																																Hoppers
	Chemical Feeder B				x						x						x																																
	Chemical Feeder C				x						x						x																																
	Chem Feed Pump Alum					x					x			na			x			x			x		x			x		na			x			x			x		x		x	x		x		na		Feed pumps
	Chem Feed Pump Soda Ash				x				x					na			x			x			na		na		x		x	na			x			na			na		na		na		x		x	na	
	Chem Feed Pump Carbon				x				x					na			x			x			na		na		x		x	na			x			na			na		na		na		x		x	na	
	Polymer Feeder																																																	? Does not exist?
	vent system			x					x																																									
	equipment lift				x						x																																							
Solids Handling	Centrifuge				x				x					0		x			na				na		na		x		x	0		x				na			na		na		na		x		x	na	
	Centrifuge Feed Pump 1				x				x					na		x				x			na		na		x		x	na			x			na			na		na		na		x		x		x	not working
	Centrifuge Feed Pump 2																																																	not there/only 1 pump
	Polymer Feed Pump 1				x				x					0				x			na		na		na		x		x	0				x			na		na		na		na		x		x		x	not working, never used
	Polymer Feed Pump 2				x				x					0				x			na		na		na		x		x	0				x			na		na		na		na		x		x		x	
	Polymer Holding Tank																																																	? Does not exist?
	Thickening Feed Pump 1			x					x																																									does not exist
	Thickening Feed Pump 2			x					x																																									does not exist
																																																		sludge storage tank - surface water siphoned off into
	Thickening Tank					x					x																																							bushes, see pics
	Sludge Transfer Pump				x				x					na		x			x				na		na		x		x	na		x			x				na		na		na		x	na		na		