

CONTROL CIRCUIT LEGEND. MBR SYSTEM - SEE NOTE A, B, C, D, E

MBR AND MBT GENERAL EQUIPMENT INFORMATION

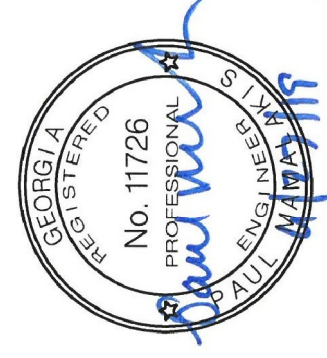
Equipment Number	Location	Equipment Name	Quantity	Equipment Type	IO Signal count	Control Circuit
	Anaerobic Basin	Mixers	2	Submersible Mixer	10 DI, 2 DO	③ EACH
	Anaerobic Basin	Level Switch	2	Float	2 DI	① EACH
	Pre Anoxic Anoxic Basin	Mixers	2	Submersible	10 DI, 2 DO	③ EACH
	Pre Anoxic Anoxic Basin	Level Switch	2	Float	2 DI	① EACH
	Pre Anoxic Anoxic Basin	Level Transmitter	1	Hydrostatic	AI	②
	Pre Anoxic Anoxic Basin	Feed Forward Pumps	3 duty, 1 standby	Submersible	20DI,4DO, 4AI, 4AO	④⑥ EACH
	Pre Anoxic Anoxic Basin	RAS Modulating Control Valves	3	Plug Valve/Electric Actuator	6DI, 3AI, 3AO	①④ EACH
	Pre Anoxic Anoxic Basin	Flow Meter	3	Electromagnetic	3 AI	② EACH
	Pre-Aeration Basins	DO/Temp System	2	DO Probe w/Controller	4 AI	④ EACH
	Pre-Aeration Basins	Level Switch	2	Float	2 DI	① EACH
	Feed Channel	Mixers	2	Submersible Mixer	10 DI, 2 DO	⑥ EACH
	Feed Channel	Level Switch	2	Float	2 DI	① EACH
	MBR Basin 1 through 4	Level Switch	8	Float	8 DI	① EACH
	MBR Basin 1 through 4	Degas Upper Header Ball Valve	4	Ball Valve w/Electric Actuator	8 DI, 4 DO	⑤ EACH
	MBR Basin 1 through 4	Degas Lower Header Ball Valve	4	Ball Valve w/Electric Actuator	9 DI, 4 DO	⑤ EACH
	MBR Permeate Collection System	Permeate Pump	4 duty	Self Priming Centrifugal	16 DI,4, DO, 4 AI, 4 AO	③④ EACH
	MBR Permeate Collection System	Permeate Pressure Transmitter	4	Pressure Transmitter	4 AI	② EACH
	MBR Permeate Collection System	Permeate Magnetic Flowmeter	4	Flow Transmitter	4 AI	② EACH
	MBR Permeate Collection System	Permeate Control Valve	4	Butterfly Valve/Electric Actuator	4 DI, 4AI, 4 AO	①④ EACH
	MBR Permeate Collection System	Permeate Turbidimeter	4	Turbidimeter w/controller	4 AI	② EACH
	MBR Blowers	Blower	4 duty	Positive Displacement Blower	20 DI,4 DO, 4 AI, 4 AO	④⑥ EACH
	Pre Aeration Blowers	Pre-Aeration Blower	2 duty, 1 common standby	Positive Displacement Blower	15 DI, 3 DO, 3 AI, 3 AO	④⑥ EACH
	Blowers	MBR Air Pressure Transmitter	4	Air pressure transmitter	4 AI	② EACH
	Blowers	MBR Air Flow Meter	4	Flow Transmitter	4 AI	② EACH
	Membrane CIP Injection Skid	Chemical Feed Control Valve	1	Butterfly Valve/Electric Actuator	3 DI, 1 DO	③
	Membrane CIP Injection Skid	Flow Meter	2	Flow Transmitter	2 AI	② EACH
	WAS Pump System	WAS Pumps	1 duty, 1 standby	Self Priming Centrifugal	8 DI, 2 DO	③ EACH
	WAS Pump System	WAS Flow Meter	1	Flow Transmitter	1 AI	②
	WAS Pump System	WAS Flow Control Valve	2	Plug Valve/Electric Actuator	6 DI, 3 DO	③ EACH
	Alum Storage Tank	Level Switch	1	Float	1 DI	①
	Alum Storage Tank	Level Transmitter	1	Hydrostatic	AI	②
	Digester Basin #1	Level Switch	1	Float	1 DI	①
	Digester Basin #2	Level Switch	2	Float	2 DI	① EACH
	Digester Basin #2	Level Switch	2	Float	2 DI	① EACH
	Digester Basin #2	Level Transmitter	1	Hydrostatic	1 AI	②
	Membrane Thickener Basin	Diffuser Cleaning Control Valve	1	Plug Valve/Electric Actuator	2DI, 1 DO	⑤
	Membrane Thickener Basin	Degas Header Ball Valve	1	Ball Valve w/Electric Actuator	2 DI, 1 DO	⑤
	Membrane Thickener Basin	Level Switch	2	Float	2 DI	① EACH
	MBT Permeate Pump System	Permeate Pump	1 duty, 1 standby	Progressive Cavity	8 DI,4 DO,2 AI, 2 AO	④⑥ EACH
	MBT Permeate Pump System	Permeate Pressure Transmitter	1	Pressure Transmitter	1 AI	②
	MBT Permeate Pump System	Permeate Magnetic Flowmeter	1	Flow Transmitter	1 AI	②
	Digester #1 Blower	Blower	1 duty	Positive Displacement Blower	5 DI,1 DO, 1 AI, 1 AO	④⑥ EACH
	Digester #2 Blower	Blower	1 duty, 1 standby	Positive Displacement Blower	10 DI,2 DO, 2 AI, 2 AO	④⑥ EACH
	MBT Basin Blower	Blower	1	Positive Displacement Blower	5 DI,1 DO, 1 AI, 1 AO	④⑥ EACH
	MBT Basin Blower	MBT Air Flow Meter	1	Flow Transmitter	1 AI	②

CONTROL CIRCUIT LEGEND

MARK	CONDUIT NOTE A	CONDUCTORS NOTES B, C, D, E
①	3/4"	2 NO 16, 1 NO 16(G)
②	3/4"	2 C TSP NO 16
③	3/4"	12 NO 16, 1 NO 16(G)
④	3/4"	2-2C TSP NO 16
⑤	3/4"	8 NO 16, 1 NO 16(G)
⑥	1"	16 NO 16, 1 NO 16(G)

NOTES :

- A. REFER TO ELECTRICAL SPEC DIVISION 26 FOR CONDUIT TYPES ALLOWED.
- B. COORDINATE ALL WORK WITH MBR VENDOR AND ELECTRICAL EQUIPMENT PROVIDED. ALL POINTS EXTEND FROM DEVICES SHOWN AND EXTEND TO MBR PANEL LOCATED IN CONTROL ROOM ON SECOND FLOOR.
- C. FOR CONTROLS SHOWN FOR MOTORS, EXTEND CONTROL WIRING FROM STARTER OR VFD. SEE MCC SCHEDULES.
- D. ALL WIRING SHALL BE LABELLED TO MATCH CONTROL EQUIPMENT ID NUMBERS AND TERMINAL STRIPS.
- E. NO SPLICES ALLOWED IN FIELD. DIVIDE TERMINATIONS USING TERMINAL STRIPS ONLY.



NO	REVISIONS	BY	DATE

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SAVANNAH
 savannahga.gov
 TRAVIS FIELD WATER RECLAMATION FACILITY
 MBR CONTROL CIRCUITS

JOB NO: J-26963.0000
 DATE: JANUARY 15, 2019
 DRAWN: LC
 DESIGNED: AL
 REVIEWED: PM
 APPROVED: PM
 SCALE: 1/8" = 1'-0"

E16.0

CADD POINT
 27 JUN 2019
 10:03
 LEADLEY