DISCRETE INPUTS

I/O ADDRESS	TAG NO.	DESCRIPTION	DEVICE RANGE	UNITS	COMMENTS
	P-1	PUMP NO. 1 RUNNING			
	P-1	PUMP NO. 1 REMOTE			
	P-1	PUMP NO. 1 FAIL			
	P-1	PUMP NO. 1 HIGH TEMP. DETECTION			
	P-2	PUMP NO. 2 RUNNING			
	P-2	PUMP NO. 2 REMOTE			
	P-2	PUMP NO. 2 FAIL			
	P-2	PUMP NO. 2 HIGH TEMP. DETECTION			
	P-3	PUMP NO. 3 RUNNING			
	P-3	PUMP NO. 3 REMOTE			
	P-3	PUMP NO. 3 FAIL			
	P-3	PUMP NO. 3 HIGH TEMP. DETECTION			
	P-4	PUMP NO. 4 VFD RUNNING			
	P-4	PUMP NO. 4 VFD REMOTE			
	P-4	PUMP NO. 4 VFD FAIL			
	P-4	PUMP NO. 4 VFD HIGH TEMP. DETECTION			
	P-5	PUMP NO. 5 RUNNING			
	P-5	PUMP NO. 5 REMOTE			
	P-5	PUMP NO. 5 FAIL			
	P-5	PUMP NO. 5 HIGH TEMP. DETECTION			
	P-6	PUMP NO. 6 RUNNING			
	P-6	PUMP NO. 6 REMOTE			
	P-6	PUMP NO. 6 FAIL			
	P-6	PUMP NO. 6 HIGH TEMP. DETECTION			
	P-7	SUMP PUMP RUNNING			
	P-7	SUMP PUMP REMOTE			
	P-7	SUMP PUMP FAIL			
		HIGH WETWELL ALARM/PUMP 4 ON FLOAT			FLOAT SWITCH
		ALL PUMPS ON EXCEPT PUMP 4 FLOAT			FLOAT SWITCH
		PUMP 4 OFF FLOAT			FLOAT SWITCH
		PUMP 6 OFF FLOAT			FLOAT SWITCH
		PUMP 5 OFF FLOAT			FLOAT SWITCH
		PUMP 3 OFF FLOAT			FLOAT SWITCH
		PUMP 2 OFF FLOAT			FLOAT SWITCH
		PUMP 1 OFF FLOAT			FLOAT SWITCH
		LOW LEVEL CUTOFF FLOAT			FLOAT SWITCH
		SUMP PUMP OFF FLOAT			FLOAT SWITCH
		GENERATOR RUNNING			
		GENERATOR FAIL ALARM			
		GENERATOR LOW FUEL ALARM			
		POWER FAILURE			
		MAN DOWN ALARM			PUSHBUTTON
		MAN DOWN ALARM			PUSHBUTTON
		INTRUSION ALARM - MAN DOOR			MAGNETIC DOOR CONTACT
		INTRUSION ALARM - MAN DOOR			MAGNETIC DOOR CONTACT
		INTRUSION ALARM - FLOOR HATCH			MAGNETIC DOOR CONTACT
		INTRUSION ALARM - MOTION SENSOR			MOTION SENSOR
		SPARE			
		SPARE			
		SPARE			
		SPARE			
		SPARE			
		SPARE			
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DISCRETE OUTPUTS

TAG NO.	DESCRIPTION	DEVICE RANGE	UNITS	COMMENTS
P-1	PUMP 1 REQUIRED			
P-2	PUMP 2 REQUIRED			
P-3	PUMP 3 REQUIRED			
P-4	PUMP 4 REQUIRED			
P-5	PUMP 5 REQUIRED			
P-6	PUMP 6 REQUIRED			
P-7	SUMP PUMP REQUIRED			
	GENERATOR REQUIRED			
	SPARE			
	SPARE			
	SPARE			
	SPARE			
	SPARE			
	SPARE			
	SPARE			
	SPARE			

ANALOG INPUTS

TAG NO.	DESCRIPTION	DEVICE RANGE	UNITS	COMMENTS
	WETWELL LEVEL	0-XX	FEET	SUBMERSIBLE LEVEL TRANSDUCER
	PUMP NO. 4 SPEED INDICATION	0-100	%	
	FLOODWAY PRESSURE TRANSDUCER			
	FLOODWAY PRESSURE TRANSDUCER			
	SPARE			
	SPARE			
	SPARE			
	SPARE			

ANALOG OUTPUTS

TAG NO.	DESCRIPTION	DEVICE RANGE	UNITS	COMMENTS
	PUMP NO. 4 SPEED COMMAND	0-100	%	
	SPARE			
	SPARE			
	SPARE			
	SPARE			
	SPARE			
	SPARE			
	SPARE			

SEQUENCE OF OPERATION:

THE CONTROL SYSTEM SHALL BE BASED ON STANDARD 7-PUMP OPERATION. THE INPUTS SHALL BE MANIPULATED SO THAT ALL STORM WATER PUMPS CAN OPERATE AT THE SAME TIME (EXCLUDING THE SUMP PUMP.) NINE FLOATS SHALL BE PROVIDED TO CONTROL THE PUMPS. SOME OF THESE FLOATS WILL PROVIDE BACKUP OPERATION. (COORDINATE WITH MARC PEDROTTI AT (913) 677-3366, CELL (913) 645-6358)

AS WATER LEVEL RISES TO 1304 (ADJUSTABLE) THE SUMP PUMP SHALL BE COMMANDED ON.

AS WATER LEVEL RISES TO 1311 (ADJUSTABLE) PUMP 1 SHALL BE COMMANDED ON AND THE SUMP PUMP SHALL BE COMMANDED OFF.

AS WATER LEVEL RISES TO 1312 (ADJUSTABLE) PUMP 2 SHALL BE COMMANDED ON.

AS WATER LEVEL RISES TO 1313.6 (ADJUSTABLE) PUMP 3 SHALL BE COMMANDED ON.

AS WATER LEVEL RISES TO 1314.2 (ADJUSTABLE) PUMP 5 SHALL BE COMMANDED ON.

AS WATER LEVEL RISES TO 1314.7 (ADJUSTABLE) PUMP 6 SHALL BE COMMANDED ON.

AS WATER LEVEL RISES TO 1316.6 (ADJUSTABLE) PUMP 4 SHALL BE COMMANDED ON.

WHEN WATER LEVEL DROPS TO 1315.6 (ADJUSTABLE) PUMP 4 SHALL BE COMMANDED OFF.

WHEN WATER LEVEL DROPS TO 1314.6 (ADJUSTABLE) PUMP 6 SHALL BE COMMANDED OFF.

WHEN WATER LEVEL DROPS TO 1313.6 (ADJUSTABLE) PUMP 5 SHALL BE COMMANDED OFF.

WHEN WATER LEVEL DROPS TO 1313.1 (ADJUSTABLE) PUMP 3 SHALL BE COMMANDED OFF.

WHEN WATER LEVEL DROPS TO 1311 (ADJUSTABLE) PUMP 2 SHALL BE COMMANDED OFF.

WHEN WATER LEVEL DROPS TO 1310 (ADJUSTABLE) PUMP 1 SHALL BE COMMANDED OFF AND SUMP PUMP SHALL BE COMMANDED ON.

SUMP PUMP SHALL BE COMMANDED OFF VIA BASIN FLOAT SWITCH.

IF WATER REACHES THE HIGH WATER ALARM, AN ALARM SHALL BE GENERATED AT THE CONTROLLER AND PUMP SHALL OPERATE BASED ON INTERMEDIATE FLOAT SWITCHES AND NOT THE PRESSURE TRANSDUCER.

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CITY OF WICHITA, KANSAS

PUMP STATION NO. 11

MECHANICAL

CONTROLS

CFS
Cook, Flatt & Strobel
ENGINEERS, P.A.

DESIGNED AKK	SCALE As Shown
DETAILED CAD	DATE 3/11/10
CHECKED AKK	SHEET ME3 OF 3

... ME3.dwg 96 03/10/10 EA