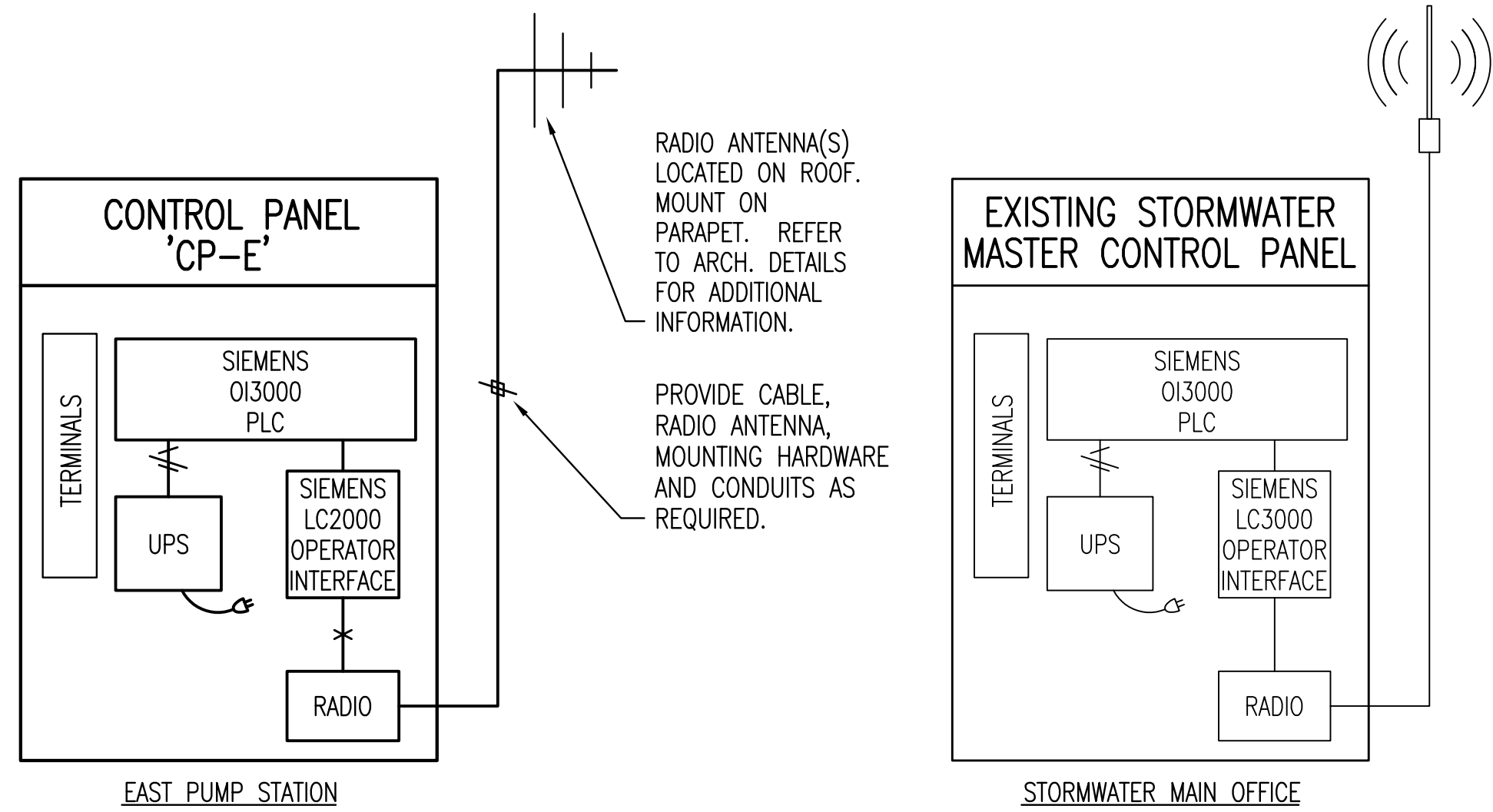


R.E. PEDROTTI CO., INC., THE SYSTEMS INTEGRATOR SHALL UPDATE EXISTING CONTROLS AS INDICATED IN THIS SET OF CONTRACT DOCUMENTS AND PROVIDE ALL ADDITIONAL PROGRAMMING AT THE STORM WATER SEWER MAIN OFFICE ON McCLEAN. PROGRAMMING SHALL INCLUDE ALL INPUT INFORMATION SHOWN IN THIS DIAGRAM, ADDITIONAL MONITORING SCREEN DESIGN, AND CONTROL CAPABILITY AS IS CURRENTLY IN USE AT THE OFFICE. COORDINATE ALL SPECIFIC REQUIREMENTS WITH THE CITY OF WICHITA. THE SYSTEM SHALL DISPLAY G.P.M. PUMPED (APPROX.) BASED ON RUN TIME AND PUMP CAPACITY FOR EACH PUMP. SYSTEM MUST ALSO BE ABLE TO ACCESS DATA (TIME PERIODS) AND DISPLAY RUN TIMES AND G.P.M.'S PUMPED FOR A PARTICULAR EVENT.



1 CONTROLS SCHEMATIC
NO SCALE

GENERAL TELEMETRY NOTES:

- THE TELEMETRY SYSTEM SHALL USE VHF RADIOS FOR COMMUNICATION BETWEEN EACH LOCATION SHOWN. THE SYSTEMS INTEGRATOR SHALL PERFORM A PATHWAY STUDY OF ALL LOCATIONS TO DETERMINE THE REQUIRED ANTENNA HEIGHTS FOR EACH LOCATION. THE SYSTEMS INTEGRATOR SHALL SUBMIT THE PATHWAY STUDY AND ANTENNA HEIGHTS FOR ALL LOCATIONS FOR APPROVAL PRIOR TO CONSTRUCTION. THE SYSTEMS INTEGRATOR SHALL PROVIDE CABLE, LIGHTNING ARRESTORS, ANTENNA, MOUNTING EQUIPMENT, PROGRAMMING, ETC. AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM. THE SYSTEMS INTEGRATOR SHALL ALSO PAY FOR ALL LICENSES AND FEES ASSOCIATED WITH THE RADIO TELEMETRY SYSTEM. THE SYSTEMS INTEGRATOR SHALL FIELD VERIFY POWER SOURCE AND INSTRUMENTATION LOCATION AT EACH LOCATION.
- PROVIDE RTU'S CAPABLE OF TRANSMITTING AS A MINIMUM THE INDICATED NUMBER OF INPUTS/OUTPUTS PLUS AN ADDITIONAL 25% SPARE WITH A MINIMUM OF 1 SPARE OF EACH TYPE OF INPUT/OUTPUT.
- LOCATE ANTENNAS AS SHOWN ON THE PLANS. THE ANTENNAS SHALL BE MOUNTED AND CONSTRUCTED BY THE GENERAL CONTRACTOR WITH CONCRETE BASES AS RECOMMENDED BY THE ANTENNA MANUFACTURER. ADDITIONAL ANTENNA LOCATIONS MAY OR MAY NOT BE REQUIRED AS RADIO COMMUNICATION REPEATERS. GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR, AND SYSTEMS INTEGRATOR SHALL COORDINATE. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ADDITIONAL ANTENNA LOCATIONS.
- ALL RADIO ANTENNAS SHALL BE BONDED TO A 3/4" X 10' LONG GROUND DRIVEN AT THE ANTENNA BASE WITH #1/0 BARE COPPER WIRE. ALL CONNECTIONS SHALL BE EXOTHERMIC HYRAULIC OR COMPRESSION CONNECTIONS.

CONTROL PANEL NOTES:

- CONDUIT FOR ANALOG CABLES SHALL TERMINATE IN EQUIPMENT ENCLOSURE AS CLOSE AS POSSIBLE TO THE TERMINALS. ANALOG CABLES SHALL NOT PASS NEAR TO CABLES OR EQUIPMENT OPERATING OVER 24V.
- INTERNAL AND EXTERNAL I/O SHALL BE LANDED ON TERMINAL STRIPS.
- I/O IDENTIFIED ON CONTROL DIAGRAM SHEETS ARE FOR INPUTS AND OUTPUTS EXTERNAL TO THE EQUIPMENT CONTROL PANEL. I/O NECESSARY FOR THE COMPLETE FUNCTIONALITY OF THE EQUIPMENT (INTERNAL I/O) SHALL BE PROVIDED BY THE EQUIPMENT MANUFACTURER. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT AND WIRING AS REQUIRED FOR COMPLETE FUNCTIONALITY OF EQUIPMENT AS SPECIFIED AND AS IDENTIFIED BY THE MANUFACTURER. COORDINATE FIELD WIRING REQUIREMENTS WITH EQUIPMENT MANUFACTURER.
- THE SYSTEMS INTEGRATOR SHALL PROVIDE I/O CARDS FOR ALL FUTURE EQUIPMENT AND CONNECTIONS AS INDICATED WITHIN THE SCHEDULE IN ADDITION TO THE SPARE REQUIRED IN THE SPECIFICATIONS. NO WIRING WILL BE INSTALLED AS PART OF THIS PROJECT FOR THE FUTURE I/O. ALL FUTURE I/O SHALL BE LABELED AS SHOWN IN SCHEDULE AND SHALL BE WIRED INTERNAL TO THE CONTROL PANEL READY FOR FUTURE CONNECTION TO FIELD EQUIPMENT.

CONTROL PANEL CP-E

LOCATION:
EAST PUMP STATION

CIRCUIT NO.	EQUIPMENT SERVED/MARK	CONNECT			DESCRIPTION/FUNCTION	CONDUCTORS IN CABLE	DISCRETE	ANALOG	DIGITAL	INPUT	OUTPUT	REMARKS
		DEVICE	CTL. PNL	STARTER								
1	P-1E	-	-	X	STARTER START/STOP R.C.	2	X	-	-	-	X	
2	P-1E	-	-	X	STARTER RUN INDICATION	2	X	-	-	-	X	
3	P-1E	-	-	X	STARTER OFF INDICATION	2	X	-	-	-	X	
4	P-1E	-	-	X	STARTER REMOTE INDICATION	2	X	-	-	-	X	
5	P-1E	-	-	X	STARTER HAND INDICATION	2	X	-	-	-	X	
6	P-1E	-	-	X	STARTER FAIL INDICATION	2	X	-	-	-	X	
7	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
8	P-2E	-	-	X	STARTER START/STOP R.C.	2	X	-	-	-	X	
9	P-2E	-	-	X	STARTER RUN INDICATION	2	X	-	-	-	X	
10	P-2E	-	-	X	STARTER OFF INDICATION	2	X	-	-	-	X	
11	P-2E	-	-	X	STARTER REMOTE INDICATION	2	X	-	-	-	X	
12	P-2E	-	-	X	STARTER HAND INDICATION	2	X	-	-	-	X	
13	P-2E	-	-	X	STARTER FAIL INDICATION	2	X	-	-	-	X	
14	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
15	P-3E	-	-	X	STARTER START/STOP R.C.	2	X	-	-	-	X	
16	P-3E	-	-	X	STARTER RUN INDICATION	2	X	-	-	-	X	
17	P-3E	-	-	X	STARTER OFF INDICATION	2	X	-	-	-	X	
18	P-3E	-	-	X	STARTER REMOTE INDICATION	2	X	-	-	-	X	
19	P-3E	-	-	X	STARTER HAND INDICATION	2	X	-	-	-	X	
20	P-3E	-	-	X	STARTER FAIL INDICATION	2	X	-	-	-	X	
21	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
22	LE-1E	X	-	-	FLOAT SWITCH	2	X	-	-	-	X	
23	LE-2E	X	-	-	PRESSURE TRANSDUCER	PAIR	-	X	-	-	X	
24	LE-3E	X	-	-	FLOAT SWITCH	2	X	-	-	-	X	
25	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
26	MD	X	-	-	MAN DOWN ALARM	2	X	-	-	-	X	
27	K	X	-	-	KEYPAD	2	X	-	-	-	X	
28	LIGHT	X	-	-	ALARM LIGHT	2	X	-	-	-	X	
29	ID	X	-	-	INTRUSION DETECTION	2	X	-	-	-	X	
30	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
31	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
32	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
33	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
34	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
35	P-1E	-	-	X	STARTER START/STOP R.C.	2	X	-	-	-	X	VIA TELEMETRY
36	P-1E	-	-	X	STARTER RUN INDICATION	2	X	-	-	-	X	VIA TELEMETRY
37	P-1E	-	-	X	STARTER OFF INDICATION	2	X	-	-	-	X	VIA TELEMETRY
38	P-1E	-	-	X	STARTER REMOTE INDICATION	2	X	-	-	-	X	VIA TELEMETRY
39	P-1E	-	-	X	STARTER HAND INDICATION	2	X	-	-	-	X	VIA TELEMETRY
40	P-1E	-	-	X	STARTER FAIL INDICATION	2	X	-	-	-	X	VIA TELEMETRY
41	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	VIA TELEMETRY
42	P-2E	-	-	X	STARTER START/STOP R.C.	2	X	-	-	-	X	VIA TELEMETRY
43	P-2E	-	-	X	STARTER RUN INDICATION	2	X	-	-	-	X	VIA TELEMETRY
44	P-2E	-	-	X	STARTER OFF INDICATION	2	X	-	-	-	X	VIA TELEMETRY
45	P-2E	-	-	X	STARTER REMOTE INDICATION	2	X	-	-	-	X	VIA TELEMETRY
46	P-2E	-	-	X	STARTER HAND INDICATION	2	X	-	-	-	X	VIA TELEMETRY
47	P-2E	-	-	X	STARTER FAIL INDICATION	2	X	-	-	-	X	VIA TELEMETRY
48	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	VIA TELEMETRY
49	P-3E	-	-	X	STARTER START/STOP R.C.	2	X	-	-	-	X	VIA TELEMETRY
50	P-3E	-	-	X	STARTER RUN INDICATION	2	X	-	-	-	X	VIA TELEMETRY
51	P-3E	-	-	X	STARTER OFF INDICATION	2	X	-	-	-	X	VIA TELEMETRY
52	P-3E	-	-	X	STARTER REMOTE INDICATION	2	X	-	-	-	X	VIA TELEMETRY
53	P-3E	-	-	X	STARTER HAND INDICATION	2	X	-	-	-	X	VIA TELEMETRY
54	P-3E	-	-	X	STARTER FAIL INDICATION	2	X	-	-	-	X	VIA TELEMETRY
55	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	VIA TELEMETRY
56	LE-1E	X	-	-	FLOAT SWITCH	2	X	-	-	-	X	VIA TELEMETRY
57	LE-2E	X	-	-	PRESSURE TRANSDUCER	PAIR	-	X	-	-	X	VIA TELEMETRY
58	LE-3E	X	-	-	FLOAT SWITCH	2	X	-	-	-	X	VIA TELEMETRY
59	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	VIA TELEMETRY
60	MD	X	-	-	MAN DOWN ALARM	2	X	-	-	-	X	VIA TELEMETRY
61	K	X	-	-	KEYPAD	2	X	-	-	-	X	VIA TELEMETRY
62	LIGHT	X	-	-	ALARM LIGHT	2	X	-	-	-	X	VIA TELEMETRY
63	ID	X	-	-	INTRUSION DETECTION	2	X	-	-	-	X	VIA TELEMETRY
64	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
65	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
66	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
67	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
68	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
69	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
70	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
71	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	
72	-	-	-	-	SPARE TERMINAL	-	-	-	-	-	-	

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 by: CAE

No.	Revision	By	Date
PHASE II - STORM WATER DRAIN #332 CONTROL DIAGRAMS EAST PUMP STATION JAMES L. ARMOUR, P.E. - CITY ENGINEER CITY OF WICHITA PROJECT NO. 468-84396 Professional Engineering Consultants, P.A. 303 S. TOPEKA • WICHITA, KANSAS 67202 316-262-2691 • FAX 316-262-3003			
Designed by	RDB	Job No.	35-04274-042
Drawn by	NSM	Date	SEPTEMBER 2009

Sht. 56 of 63