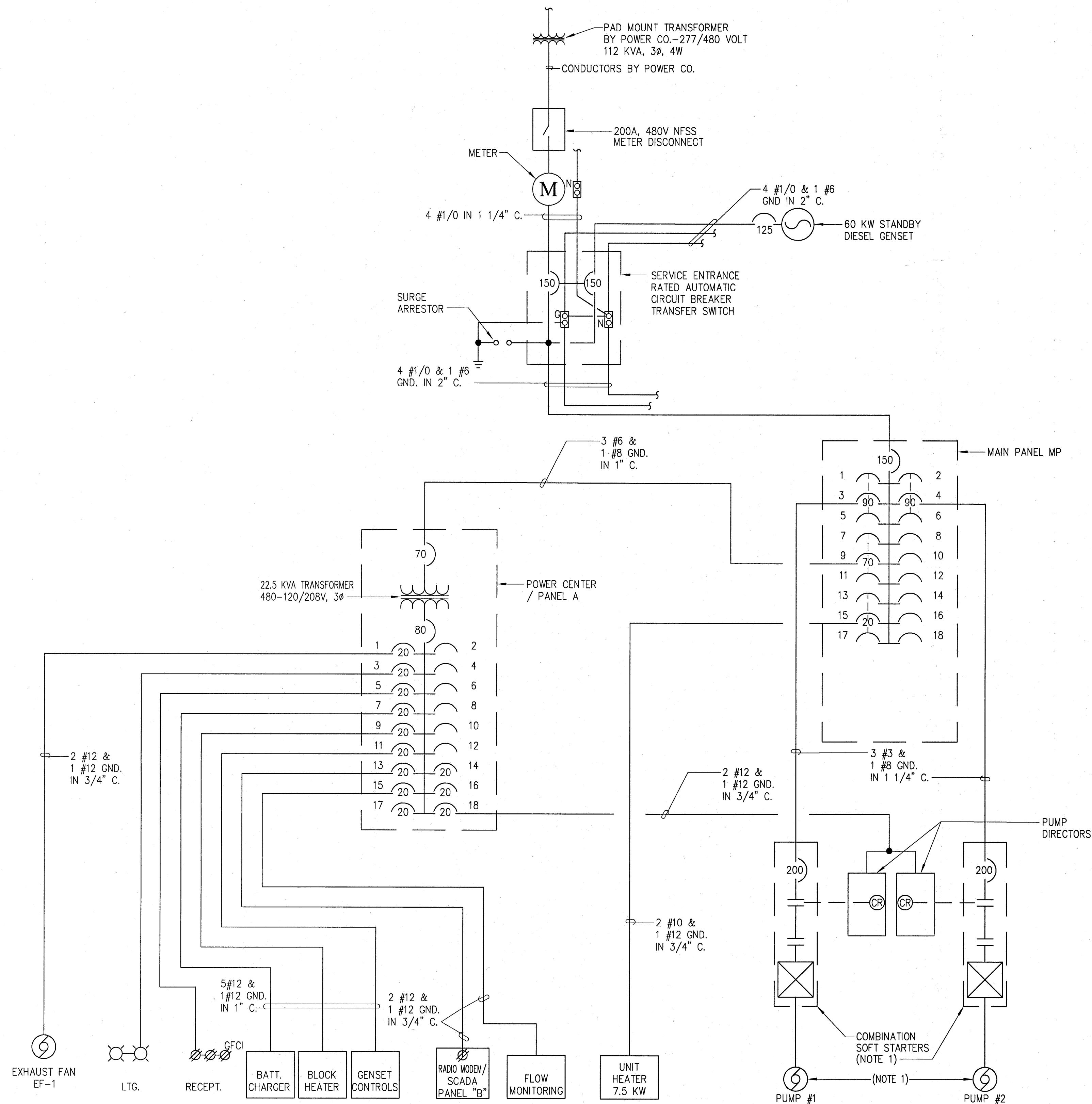




RISER DIAGRAM FOR PUMP STATIONS
NO SCALE

NOTE:

1. PROVIDE COMBINATION SOFT STARTERS WITH CIRCUIT BREAKERS. STARTERS SHALL BE ALTERNATED, STARTED AND STOPPED BY THE PUMP DIRECTORS (BY OTHERS). CONTROLS SHALL BE PROGRAMMED SO THAT ONLY ONE PUMP SHALL RUN AT ANY GIVEN TIME. IF PUMP, MOTOR, OR STARTER FAILS, THEN THE OTHER PUMP SHALL BE STARTED.

PANELBOARD SCHEDULES															
PANEL MP		277/480 VOLTS 3 PHASE 4			A.MLO ,TOP 18 KAIC			SURF. MOUNTING 200 A.MCB							
CIR. NO.	TO FEED	LOAD - KVA			CKT.BRKR.	WIRE	CND.	CIR. NO.	TO FEED	LOAD - KVA			CKT.BRKR.	WIRE	CND.
		A.P.H.	B.P.H.	C.P.H.	AMP-POLES	QTY	SIZE			A.P.H.	B.P.H.	C.P.H.	AMP-POLES	QTY	SIZE
1	PUMP #1 MOTOR	18.00			90 A- 3 P	3c	#3 1 1/4"	2	PUMP #2 MOTOR	18.00			90 A- 3 P	3c	#3 1 1/4"
3	50 HP		18.00					4	50 HP		18.00				
5				18.00				6				18.00			
7	22.5 KVA	7.50			70 A- 3 P	3b	#6 1"	8	SPACE						
9	TRANSFORMER		7.50					10	SPACE						
11				7.50				12	SPACE						
13	UNIT HEATER	2.50			20 A- 3 P	3a	#10 3/4"	14	SPACE						
15	UH-1		2.50					16	SPACE						
17	7.5 KW			2.50				18	SPACE						
SUB-TOTAL KVA		28.0	28.0	28.0											
LOCATED IN SPACE : PUMP HOUSE															
NOTES : MAIN PANEL															
		'a' = PLUS #12 GROUND WIRE. 'b' = PLUS #10 GROUND WIRE.													
		'c' = PLUS #8 GROUND WIRE.													

PANEL A																	
		120/208 VOLTS 3 PHASE, 4 WIRE,						80 A.MLO		10 KAIC							
A		SURF. MOUNTING						A.MCB		BOTTOM							
CIR. NO.	TO FEED	LOAD - KVA			CKT.BRKR.	WIRE		CND.	CIR. NO.	TO FEED	LOAD - KVA			CKT.BRKR.	WIRE		CND.
		A.P.H.	B.P.H.	C.P.H.		AMP-POLES	QTY				SIZE	A.P.H.	B.P.H.		C.P.H.	AMP-POLES	
1	EXH FAN EF-1	0.5			20 A- 1 P	2d	#12 3/4		2	SPACE							
3	LIGHTING		0.3		20 A- 1 P	2d	#12 3/4		4	SPACE							
5	RECEPTACLES			1.1	20 A- 1 P	2d	#12 3/4		6	SPACE							
7	BATT. CHARGER	0.5			20 A- 1 P	2d	#12 3/4		8	SPACE							
9	BLOCK HEATER		0.5		20 A- 1 P	2d	#12 3/4		10	SPACE							
11	GENSET CONTROLS			0.5	20 A- 1 P	2d	#12 3/4		12	SPACE							
13	SCADA PANEL "B"	0.5			20 A- 1 P	2d	#12 3/4		14	SPACE							
15	MONITORING ETC.		0.5		20 A- 1 P	2d	#12 3/4		16	PUMP CONTROL	0.5		20 A- 1 P	2d	#12 3/4		
17					20 A- 1 P				18	PUMP DIRECTORS		0.5	20 A- 1 P	2d	#12 3/4		
SUB-TOTAL KVA		1.0	0.8	1.6													
LOCATED IN SPACE: PUMP HOUSE					SUB-TOTAL KVA			0.5			0.5						
NOTES: FEED FROM PANEL MP					TOTAL BY PHASE KVA			1.0			1.3			2.1			
SQUARE-D MINI POWER-ZONE 44.6Hx27.4Wx13.6D					TOTAL BY PHASE AMP			8.3			10.8			17.5			
"d" = PLUS #12 GROUND WIRE.					TOTAL PANEL KVA						4.4						

RECORD DRAWINGS

Lawrence Perry & Associates, Inc.
CONSULTING ENGINEERS
ROANOKE, VA
DATE: AUG. 2003

Issue Date: AUG. 2003
Drawn By: CAD
Designed By: GWW
Checked By: WDC
Date: AUG. 2003

Matten & Craig
CONSULTING ENGINEERS • SURVEYORS
701 FIRST STREET, S.W.
ROANOKE, VIRGINIA 24016
(540) 345-9342
FAX (540) 345-7691

MILL MOUNTAIN WATER PROJECT
PUMP STATION—ELECTRICAL
SCHEDULES & RISER
CITY OF ROANOKE, VIRGINIA

Vertical Scale:
AS SHOWN

Horizontal Scale:
AS SHOWN

Commission Number:
2120

Sheet No.:
17