

PANEL: PSL		BRANCH PANELBOARD - NORMAL POWER										
LOCATION: MCC 103		VOLTAGE: 120/208V		A.I.C.: 10,000		LOAD TYPE:						
FED FROM: XFMR TS-PS		PHASE: 3		MAINS: 225 A		L = LIGHTING, R = RECEPTACLE, M = MOTORS,						
MOUNTING: SURFACE		WIRES: 4		M.C.B.: 225 A		Ho = HOSPITAL, K = KITCHEN, H = HEAT, M = MISC						
ENCLOSURE: TYPE 1												
CKT	LOAD DESCRIPTION	TRIP	POLE	TYPE	A	B	C	TYPE	POLE	TRIP	LOAD DESCRIPTION	CKT
1	RCPTS 101-103	20 A	1	R	540	360		R	1	20 A	RCPTS EXTERIOR	2
3	INTERIOR LIGHTS	20 A	1	L; Mi		999	236		L	1	20 A	EXTERIOR LIGHTS
5	OSG PLC	20 A	1	Mi			100	1000	M	1	20 A	OVERHEAD DOOR
7	DSS-1A/1B	25 A	2	M	1602	100			M	1	20 A	LOUVERS L-1 & L-2
9						1602	1752		M	1	20 A	EW-1
11	PLC SCADA	20 A	1	Mi			500	100	Mi	1	20 A	H2N MONITOR
13	PLC SCADA	20 A	1	Mi	500	577						
15	EW-2	90 A	2	H		6999	577		M	3	15 A	INJECTION PUMP SPR-P010
17								6999	577			
19	SPR-OSG-001	125 A	2	Mi	5408	577			M	3	15 A	INJECTION PUMP SPR-P011
21								5408	577			
23	SPR-OSG-002	125 A	2	Mi	5408	54			M	1	20 A	BRINE PUMP
25									M	1	20 A	Spare
27						0	0		--	1	20 A	Spare
29	FUTURE SPR-OSG-003	125 A	2	--					--	1	20 A	Spare
31	Spare	0 A	1	--	0	0			--	1	0 A	Spare
33	Spare	0 A	1	--		0	0		--	1	0 A	Spare
35	Spare	0 A	1	--				0	--	1	0 A	Spare
37	Spare	0 A	1	--	0	0			--	1	0 A	Spare
39	Spare	0 A	1	--				0	--	1	0 A	Spare
41	Spare	0 A	1	--				0	--	1	0 A	Spare
TOTAL LOAD / PHASE (VA)					15126 VA	18150 VA	15262 VA					
TOTAL AMPS / PHASE					126.1 A	151.4 A	127.4 A					

LOAD SUMMARY									
LOAD TYPES	CONNECTED LOAD	DEMAND FACTOR	DEMAND	PANEL TOTALS					
LIGHTS	875 VA	1.25 CONTINUOUS	1094 VA						
RECEPTACLES	900 VA	Per NEC Table 220.13	900 VA	TOTAL CONN. LOAD (VA) 48538					
MOTORS	9573 VA	Per NEC 220.14	10322 VA	TOTAL DEMAND LOAD (VA) 49506					
HOSPITAL		Per NEC Table 220.11		TOTAL CONN. CURRENT 134.7					
KITCHEN		Per NEC Table 220.20		TOTAL DEMAND CURRENT 137.4					
HEAT	13998 VA	Per NEC 220.15	13998 VA						
MISC	23192 VA	1.00	23192 VA						

LIGHT FIXTURE SCHEDULE											
MARK	MFG.	CATALOG NUMBER	LAMPS		BALLAST		FIXT. VOLT.	MOUNTING	WATT	REMARKS	SPECIFIC NOTES
			NO	TYPE	NO	TYPE					
A	WILLIAMS	76-4-L53850-VBY-DRV-UNV	-	LED	1	DRIVER	120	SUSPENDED	48	4' LED STRIP LIGHT	
B1	COOPER	XTOR2A-PC1	-	LED	1	DRIVER	120	WALL	18	LED WALLPACK WITH PHOTOCCELL.	
B2	COOPER	XTOR9ARL-PC1	-	LED	1	DRIVER	120	WALL	82	LARGE LED WALLPACK WITH PHOTOCCELL.	
C1	WILLIAMS	96-4-L40835-DCL-WET2-SSCMB-SLATCH-DRV-UNV	-	LED	1	DRIVER	120	SUSPENDED	40	4' WET LOCATION LED STRIP LIGHT.	
C2	WILLIAMS	96-4-L40835-DCL-3WC6-WET2-SSCMB-SLATCH-DRV-UNV	-	LED	1	DRIVER	120	SUSPENDED	40	4' WET LOCATION LED STRIP LIGHT W/ STOW RECEPTACLE CORD.	
XA	WILLIAMS	EXITEMLED-SF-R-WHT	-	LED	1	DRIVER	120	WALL	4	COMBINATION EXIT AND EMERGENCY LIGHT.	
XB	WILLIAMS	EXITEMWET-R-WHT	2	7.2W INCAN	-	-	120	WALL	14	COMBINATION EXIT AND EMERGENCY LIGHT. WET LOCATION RATED.	
XC	WILLIAMS	EMERMR16/CPWET-GRAY	2	7W MR16	-	-	120	WALL	14	EMERGENCY LIGHT. WET LOCATION RATED.	

EQUIPMENT CONNECTION SCHEDULE																	
MARK	DESCRIPTION	UNIT VOLTAGE	PHASE	FULL LOAD AMPS	MOCAP	PANEL	CIRCUIT NUMBER	# OF POLES	DISCONNECT			STARTER			FEEDER	REMARKS	
									TYPE	ENCL. RATING (NEMA)	FUSE SIZE AMPS*	TYPE	ENCL. RATING (NEMA)	NEMA SIZE			WIRE AND CONDUIT
BBD	BULK BAG DISCHARGER	480	3	2.1	15	PSH	9	3	S-15A	4X	-	PWE	PWE	PWE	1	(3)-#12, (1)-#12 GND IN 0.75".	E/M CONTROLS
DSS-1A	DUCTLESS SPLIT SYSTEM-1A	208	1	1.0	25	PSL	7.9	2	T-20A	1	-	PWE	PWE	PWE	1	(3)-#12, (1)-#12 GND IN 0.75".	THERMOSTAT
DSS-1B	DUCTLESS SPLIT SYSTEM-1B	208	1	14.4	25	PSL	7.9	2	S-30A	4X	-	PWE	PWE	PWE	1	(2)-#10, (1)-#10 GND IN 0.75"	THERMOSTAT
EF-1	EXHAUST FAN-1	480	1	1.6	15	PSH	2	2	PWE	PWE	PWE	MS	4X	00	1	(2)-#12, (1)-#12 GND IN 0.75".	THERMOSTAT
EF-2	EXHAUST FAN-2	480	1	1.6	15	PSH	3	2	PWE	PWE	PWE	MS	4X	00	1	(2)-#12, (1)-#12 GND IN 0.75".	THERMOSTAT
EUH-1	ELECTRIC UNIT HEATER-1	480	3	9.0	15	PSH	4	3	PWE	PWE	PWE	-	-	-	1	(3)-#12, (1)-#12 GND IN 0.75".	THERMOSTAT
EUH-2	ELECTRIC UNIT HEATER-2	480	3	9.0	15	PSH	5	3	PWE	PWE	PWE	-	-	-	1	(3)-#12, (1)-#12 GND IN 0.75".	THERMOSTAT
EW-1	ELECTRIC WATER HEATER-1	120	1	14.6	20	PSL	10	1	S-30A	4X	-	-	-	-	1	(2)-#12, (1)-#12 GND IN 0.75".	E/M CONTROLS
EW-2	ELECTRIC WATER HEATER-2	208	1	67.3	90	PSL	15.17	2	S-100A	4X	-	-	-	-	1	(2)-#12, (1)-#8 GND IN 1".	PLC SCADA
SPR-OSG-001	ON-SITE GENERATOR	208	1	52.0	125	PSL	19.21	2	S-200A	4X	-	-	-	-	1	(2)-#10, (1)-#6 GND IN 1.25".	PLC SCADA
SPR-OSG-002	ON-SITE GENERATOR	208	1	52.0	125	PSL	23.25	2	S-200A	4X	-	-	-	-	1	(2)-#10, (1)-#6 GND IN 1.25".	PLC SCADA
SPR-P001	PUMP	480	3	124.0	300	PSH	6	3	S-400A	4X	-	SEE	VFD	SCHEDULE	1	(3)-#350KCMIL, (1)-#4 GND IN 2.5"	PLC SCADA
SPR-P002	PUMP	480	3	124.0	300	PSH	7	3	S-400A	4X	-	SEE	VFD	SCHEDULE	1	(3)-#350KCMIL, (1)-#4 GND IN 2.5"	PLC SCADA
SPR-P003	PUMP	480	3	124.0	300	PSH	8	3	S-400A	4X	-	SEE	VFD	SCHEDULE	1	(3)-#350KCMIL, (1)-#4 GND IN 2.5"	PLC SCADA

TABLE ABBREVIATIONS:

GENERAL
 ENCL - ENCLOSURE
 PWE - PROVIDED WITH EQUIPMENT. WIRING CONNECTIONS BY ELECTRICAL CONTRACTOR.

STARTERS
 MS - MAGNETIC OR SOLID STATE
 V - VARIABLE FREQUENCY DRIVE
 M (OR T) - MANUAL - SEE DISCONNECT FOR T.

DISCONNECTS
 S - SAFETY SWITCH
 T - TOGGLE TYPE
 CONTROLLERS
 I - INTERLOCK
 EM - EQUIPMENT MANUFACTURER CONTROL.

REMARKS:
 1. PROVIDE CONTACTS IN DISCONNECT SWITCH FOR RUN INDICATION TO PLC SCADA.
 2. INDOOR DUCTLESS SPLIT SYSTEM UNIT IS POWERED FROM OUTDOOR DUCTLESS SPLIT SYSTEM UNIT. PROVIDE CABLING PER MANUFACTURER'S INSTRUCTIONS.
 3. PROVIDE CONTACTS IN MOTOR STARTERS FOR INTERLOCK WITH LOUVERS AND CONTROLS.

PSH					
CIRCUIT BREAKER DISTRIBUTION PANEL SCHEDULE					
BRANCH DISTRIBUTION		TYPE: SQUARE D I-LINE HCP		MOUNTING: SURFACE	
MAIN SIZE: 600A		VOLTAGE: 480V		A.I.C. RATING: 35,000	
MAIN BREAKER: 600A		PHASE: 3		LOCATION: MCC 103	
MOUNTING SPACE: 72"		WIRE: 3		SERVED BY: UTILITY	
CKT	LOAD DESCRIPTION	FRAME (AMPS/POLE)	TRIP (AMPS)	CIRCUIT BREAKER TYPE	MOUNTING HEIGHT
1	PANEL PSL VIA XFMR TS-PSL	150/3	125	HG	4.1
2	EXHAUST FAN 'EF-1'	150/2	15	HG	4.1
3	EXHAUST FAN 'EF-2'	150/2	15	HG	4.1
4	ELECTRIC UNIT HEATER 'EUH-1'	150/3	15	HG	4.1
5	ELECTRIC UNIT HEATER 'EUH-2'	150/3	15	HG	4.1
6	PUMP 'SPR-001'	600/3	300	LG	5.5
7	PUMP 'SPR-002'	600/3	300	LG	5.5
8	PUMP 'SPR-003'	600/3	300	LG	5.5
9	BULK BAG DISCHARGER 'BBD'	150/3	15	HG	4.1
	SPACE	--	--	--	30.9
TOTALS					72

LOAD SUMMARY			
LOAD TYPES	CONNECTED LOAD	DEMAND FACTOR	DEMAND
RECEPTACLES	900	Per NEC Table 220.13	900
MOTORS	320594	Per NEC 220.14	346367
LIGHTS	875	1.25 CONTINUOUS	1094
KITCHEN		Per NEC Table 220.20	
MISC	23192	1.00	23192
HEAT	30499	Per NEC 220.15	30499

PANEL TOTALS	
TOTAL CONN. LOAD (VA)	376060
TOTAL DEMAND LOAD (VA)	402052
TOTAL CONN. CURRENT	452.3
TOTAL DEMAND CURRENT	483.6

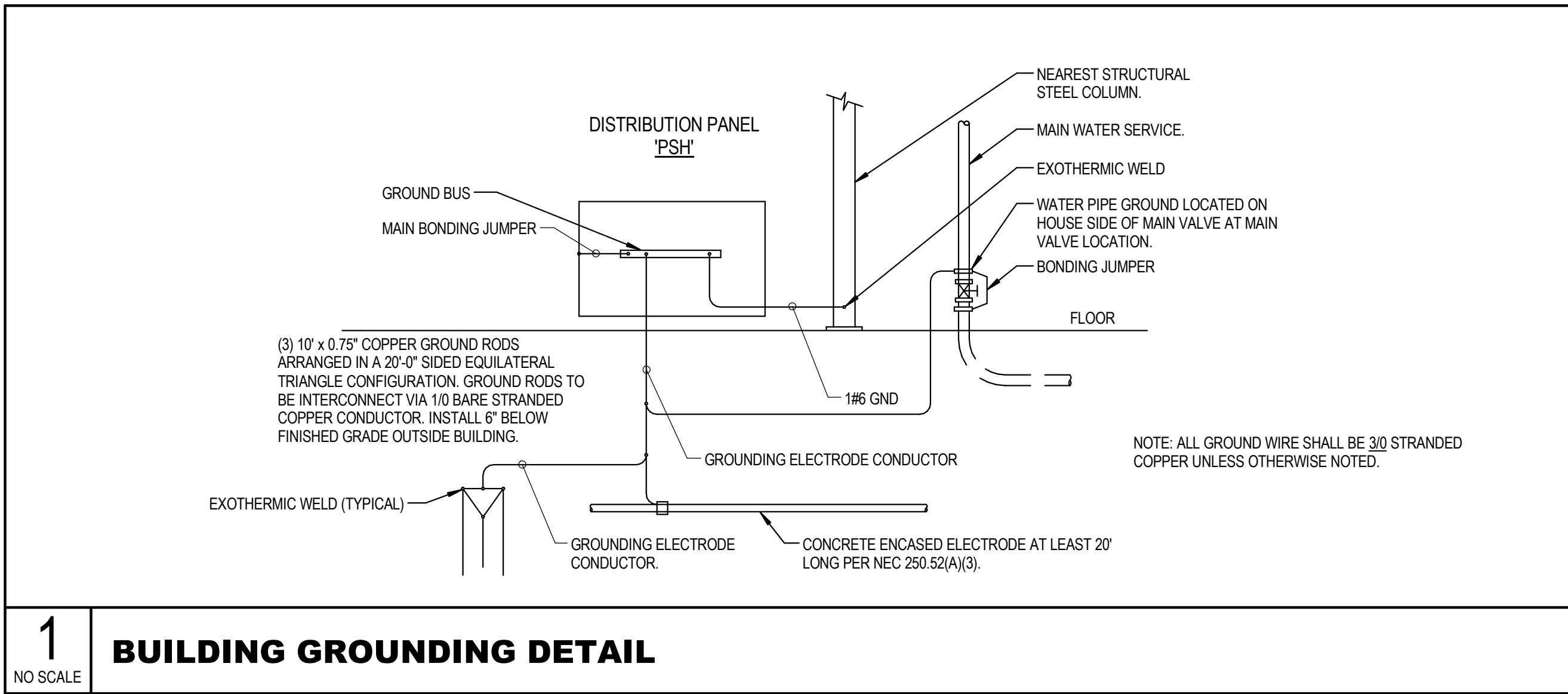
NOTES:
 1. PROVIDE PANEL WITH HINGED COVER.
 2. PROVIDE SE RATED PANELBOARD.

TRANSFORMER SCHEDULE								
MARK	EQUIPMENT SERVED	KVA RATING	PHASE	PRIMARY		SECONDARY		NOTES
				VOLTAGE	CONNECTION	VOLTAGE	CONNECTION	
TS-PS	PANEL PSL	75 KVA	3	480V	DELTA	120/208V	WYE	1.2

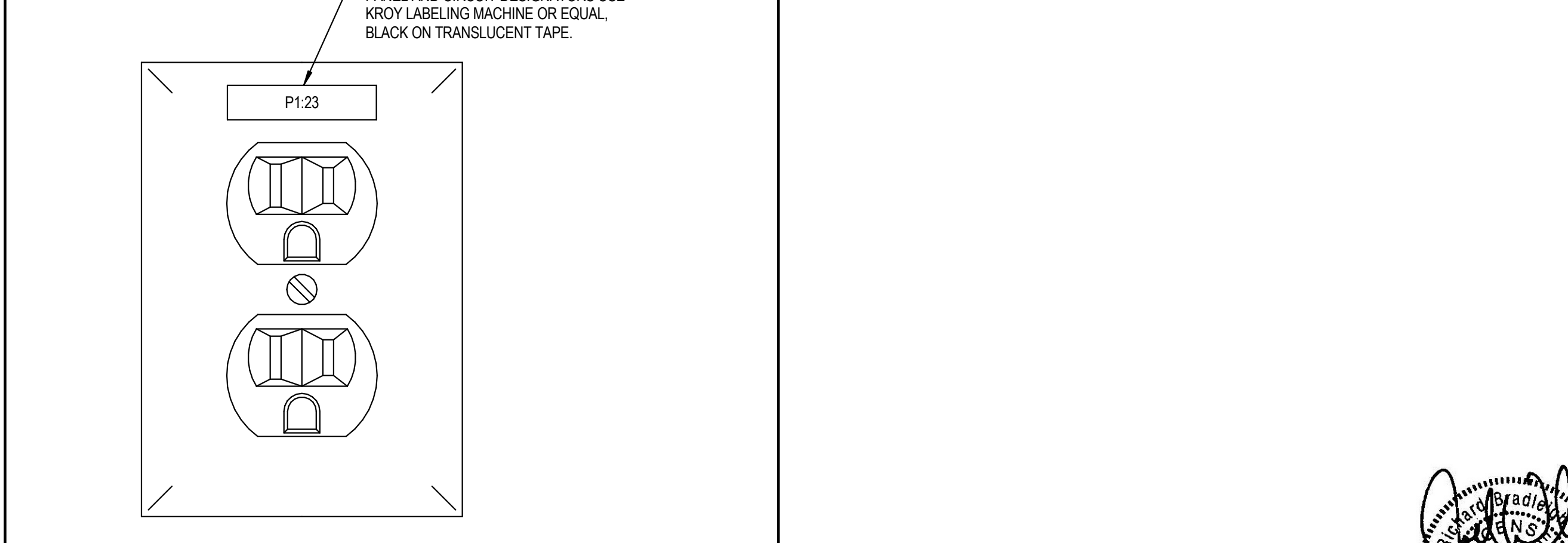
NOTES:
 1. REFER TO SPECIFICATIONS FOR TRANSFORMER WINDING TYPE.
 2. INSTALL FLOOR MOUNTED TRANSFORMERS ON 3.5" HOUSEKEEPING PAD. REFER TO DRAWINGS FOR LOCATIONS.

VARIABLE FREQUENCY DRIVE SCHEDULE								
MARK	MANUFACTURER	MODEL NUMBER	EQUIPMENT SERVED	VOLTAGE	PHASE	HP	NEMA ENCLOSURE	NOTES
VFD-1	ABB	ACH550-BCR-125A-4-F267	SPR-001	480	3	100	1	1-7
VFD-2	ABB	ACH550-BCR-125A-4-F267	SPR-002	480	3	100	1	1-7
VFD-3	ABB	ACH550-BCR-125A-4-F267	SPR-003	480	3	100	1	1-7

NOTES:
 1. DRIVE SHALL BE PROVIDED WITH AN INTEGRAL BYPASS WITH CIRCUIT BREAKER.
 2. THE VFD SHALL BE RATED FOR 100% SPEED OUTPUT WHILE LOCATED IN 105F AMBIENT CONDITIONS.
 3. VFD SHALL BE SUPPLIED AND INSTALLED BY THE E.C.
 4. PROVIDE WITH DIGITAL CUSTOMER INTERFACE THAT ALLOWS HAND-OFF-AUTO FUNCTIONS AND MANUAL SPEED CONTROL.
 5. PROVIDE WITH INDICATOR LIGHTS FOR "RUN", "READY", AND "FAULT" STATUSES.
 6. PROVIDE WITH ETHERNET CONNECTION, DEVICENET, AND OUTPUTS FOR HARDWIRING TO PUMPS.
 7. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



1 BUILDING GROUNDING DETAIL
 NO SCALE



2 DEVICE IDENTIFICATION DETAIL
 NO SCALE



CITY OF WICHITA, KANSAS
RE-USE WATER PUMP STATION
 TO SERVE SPIRT AEROSYSTEMS

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ELECTRICAL SCHEDULES	
PROJECT NO.	468-85112
DATE	04/18/16
SCALE	AS NOTED
DESIGNED	DRAWN
JRBW	JA
CHECKED	JRBW
ISSUED FOR CONSTRUCTION	04/18/16
NO. REVISION	DATE
SHEET NO.	E4.2

