

# SARASOTA COUNTY DEVELOPER PACKAGE - DUPLEX

JUNE 2021

## SUMMARY

The following package is designed to provide information suitable for developers to supply and install control panels into existing Sarasota County lift station network.

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# SARASOTA COUNTY UTILITIES DEPARTMENT

## SARASOTA, FLORIDA

# DEVELOPER LS PACKAGE

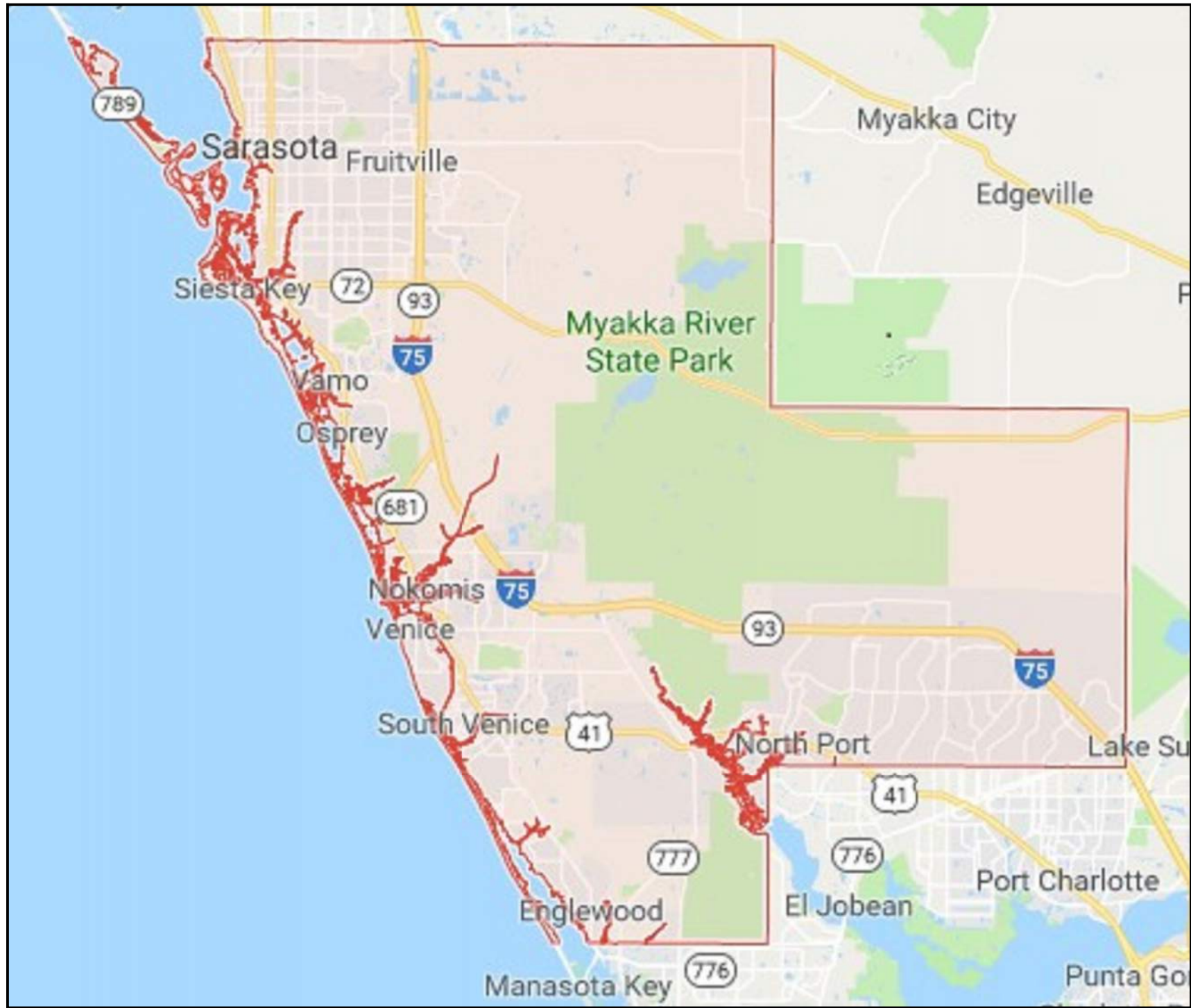
## - DUPLEX

BOARD OF COUNTY COMMISSIONERS

- DISTRICT 1 – MICHAEL A. MORAN
- DISTRICT 2 – CHRISTIAN ZIGLER
- DISTRICT 3 – NANCY DETERT
- DISTRICT 4 – ALAN MAIO
- DISTRICT 5 – CHARLES HINES

DATE: JUNE, 2021

FINAL



301 NORTH CATTLEMEN ROAD, SUITE 302  
SARASOTA, FL 34232  
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SHEET NUMBER	DRAWING NUMBER	
		GENERAL
1	18G01	COVER SHEET
		ELECTRICAL
2	18E01	DEVELOPER LS - LIFT STATION CONTROL PANEL RACK
3	18E02	DEVELOPER LS - LIFT STATION RISER DIAGRAM-1
4	18E03	DEVELOPER LS - LIFT STATION RISER DIAGRAM-2
		INSTRUMENTATION
5	18GN01	DEVELOPER LS - SYMBOLS AND ABBREVIATIONS - I
6	18GN02	DEVELOPER LS - SYMBOLS AND ABBREVIATIONS - II
7	18GN03	DEVELOPER LS - SYMBOLS AND ABBREVIATIONS - III
8	18GN04	DEVELOPER LS - SYMBOLS AND ABBREVIATIONS - IV
9	18GN05	DEVELOPER LS - SCHEMATIC SYMBOLS
10	18N01	DEVELOPER LS - DUPLEX PUMP CONTROL PANEL EXTERNAL ELEVATION
11	18N02	DEVELOPER LS - DUPLEX PUMP CONTROL PANEL FOR THREE PHASE AND 240V SYSTEMS INTERNAL ELEVATION
12	18N03	DEVELOPER LS - DUPLEX PUMP CONTROL PANEL SINGLE PHASE AND 480V SYSTEMS INTERNAL ELEVATION
13	18N04	DEVELOPER LS - CONTROL SCHEMATIC - 480V THREE PHASE DUPLEX
14	18N05	DEVELOPER LS - THREE PHASE PUMP STATION

JOB NO. 11572A.10
DRAWING NO. 18G01
REVISION 1

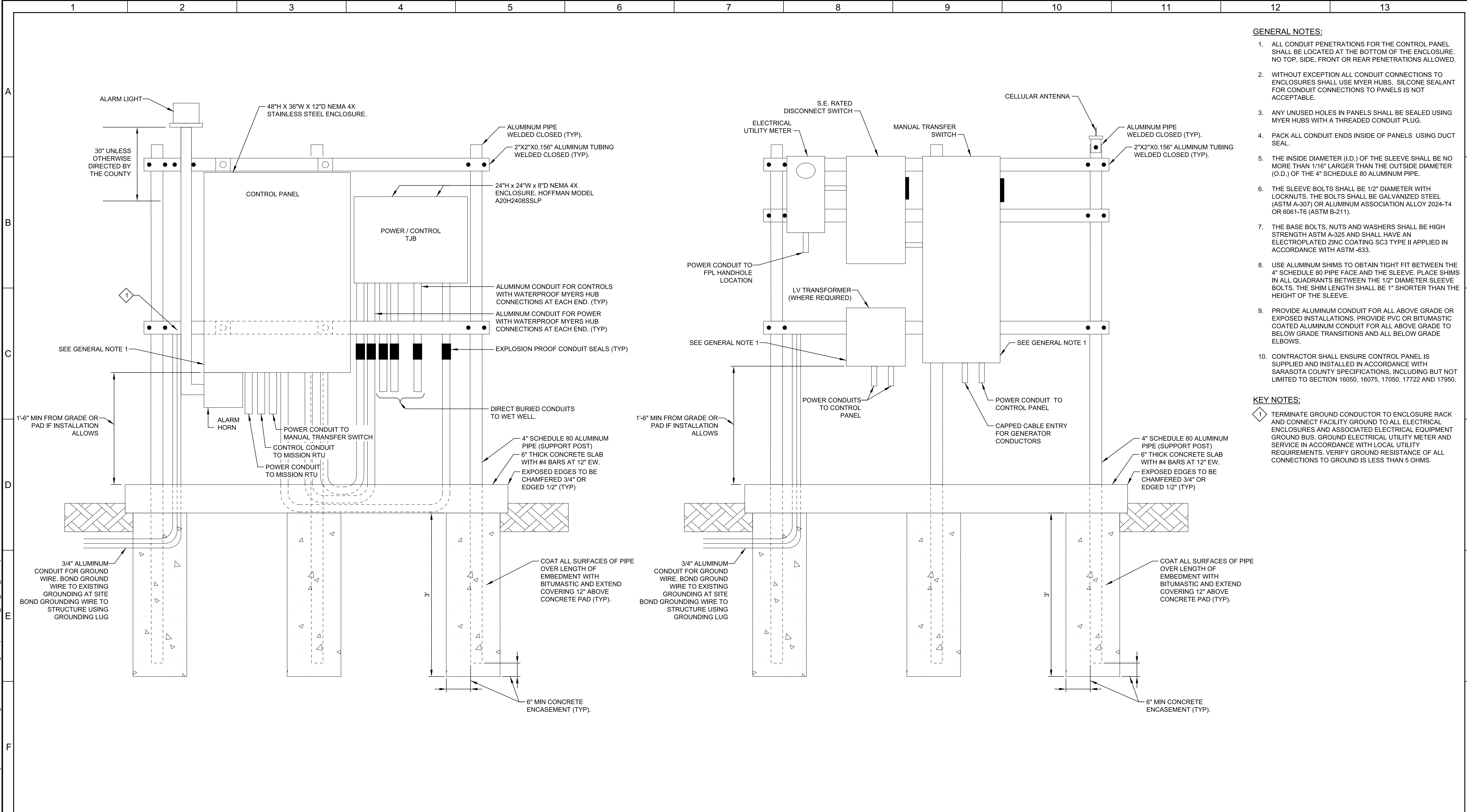


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GENERAL NOTES:

1. ALL CONDUIT PENETRATIONS FOR THE CONTROL PANEL SHALL BE LOCATED AT THE BOTTOM OF THE ENCLOSURE. NO TOP, SIDE, FRONT OR REAR PENETRATIONS ALLOWED.
2. WITHOUT EXCEPTION ALL CONDUIT CONNECTIONS TO ENCLOSURES SHALL USE MYER HUBS. SILCONE SEALANT FOR CONDUIT CONNECTIONS TO PANELS IS NOT ACCEPTABLE.
3. ANY UNUSED HOLES IN PANELS SHALL BE SEALED USING MYER HUBS WITH A THREADED CONDUIT PLUG.
4. PACK ALL CONDUIT ENDS INSIDE OF PANELS USING DUCT SEAL.
5. THE INSIDE DIAMETER (I.D.) OF THE SLEEVE SHALL BE NO MORE THAN 1/16" LARGER THAN THE OUTSIDE DIAMETER (O.D.) OF THE 4" SCHEDULE 80 ALUMINUM PIPE.
6. THE SLEEVE BOLTS SHALL BE 1/2" DIAMETER WITH LOCKNUTS. THE BOLTS SHALL BE GALVANIZED STEEL (ASTM A-307) OR ALUMINUM ASSOCIATION ALLOY 2024-T4 OR 6061-T6 (ASTM B-211).
7. THE BASE BOLTS, NUTS AND WASHERS SHALL BE HIGH STRENGTH ASTM A-325 AND SHALL HAVE AN ELECTROPLATED ZINC COATING SC3 TYPE II APPLIED IN ACCORDANCE WITH ASTM -633.
8. USE ALUMINUM SHIMS TO OBTAIN TIGHT FIT BETWEEN THE 4" SCHEDULE 80 PIPE FACE AND THE SLEEVE. PLACE SHIMS IN ALL QUADRANTS BETWEEN THE 1/2" DIAMETER SLEEVE BOLTS. THE SHIM LENGTH SHALL BE 1" SHORTER THAN THE HEIGHT OF THE SLEEVE.
9. PROVIDE ALUMINUM CONDUIT FOR ALL ABOVE GRADE OR EXPOSED INSTALLATIONS. PROVIDE PVC OR BITUMASTIC COATED ALUMINUM CONDUIT FOR ALL ABOVE GRADE TO BELOW GRADE TRANSITIONS AND ALL BELOW GRADE ELBOWS.
10. CONTRACTOR SHALL ENSURE CONTROL PANEL IS SUPPLIED AND INSTALLED IN ACCORDANCE WITH SARASOTA COUNTY SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO SECTION 16050, 16075, 17050, 17722 AND 17950.

KEY NOTES:

1. TERMINATE GROUND CONDUCTOR TO ENCLOSURE RACK AND CONNECT FACILITY GROUND TO ALL ELECTRICAL ENCLOSURES AND ASSOCIATED ELECTRICAL EQUIPMENT GROUND BUS. GROUND ELECTRICAL UTILITY METER AND SERVICE IN ACCORDANCE WITH LOCAL UTILITY REQUIREMENTS. VERIFY GROUND RESISTANCE OF ALL CONNECTIONS TO GROUND IS LESS THAN 5 OHMS.

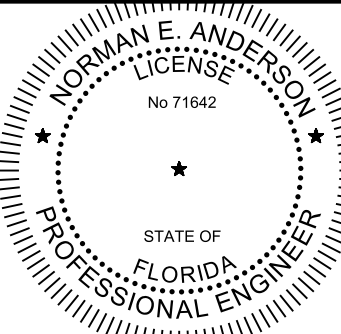
CONTROL PANEL RACK INSTALLATION LAYOUT - FRONT ELEVATION

CONTROL PANEL RACK INSTALLATION LAYOUT - BACK ELEVATION

ALL SARASOTA COUNTY UTILITY LIFT STATIONS SHALL HAVE 480VAC, 3PH POWER

REV	DATE	BY	DESCRIPTION

DESIGNED RD
DRAWN KMM
CHECKED RD
DATE JUNE 2021



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SARASOTA COUNTY  
SCADA STANDARDS  
ELECTRICAL  
DEVELOPER LS - LIFT STATION CONTROL  
PANEL RACK MOUNTING DETAIL

VERIFY SCALES	JOB NO. 11572A10
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. 18E01
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 2 OF 14

Plot Date: 16-JUN-2021 1:58:12 PM

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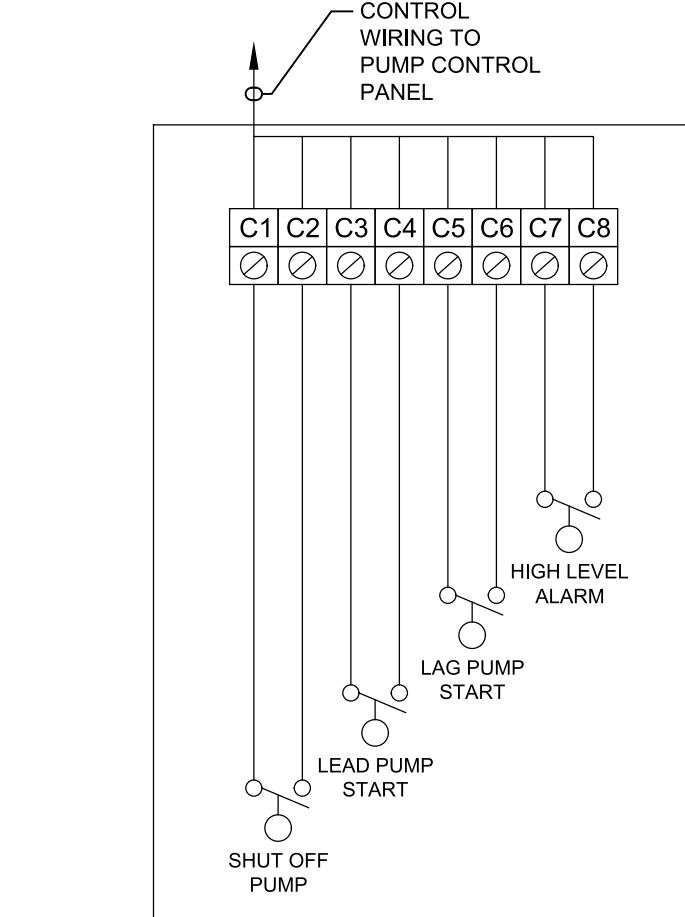
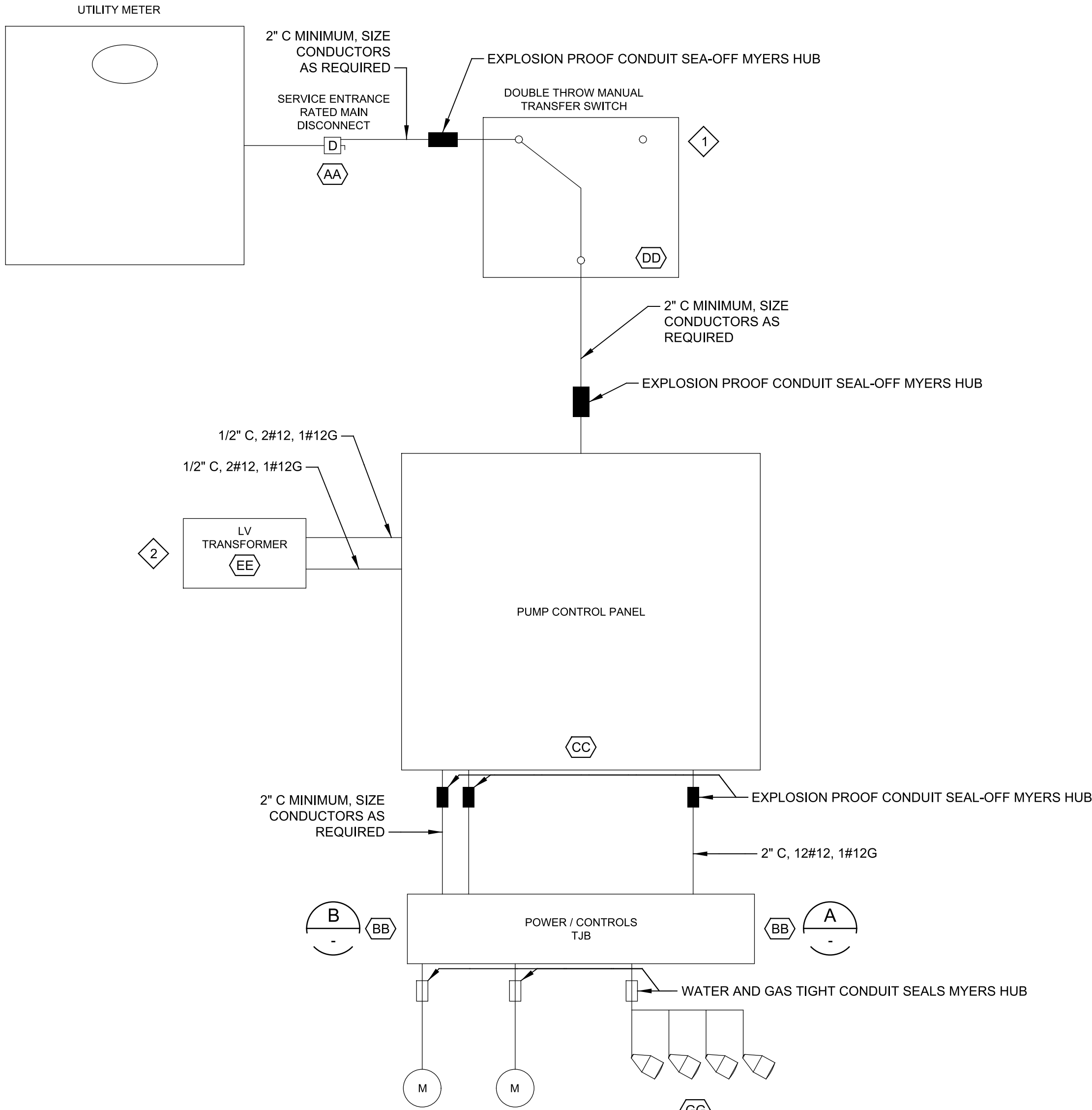
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Pen\_v0905

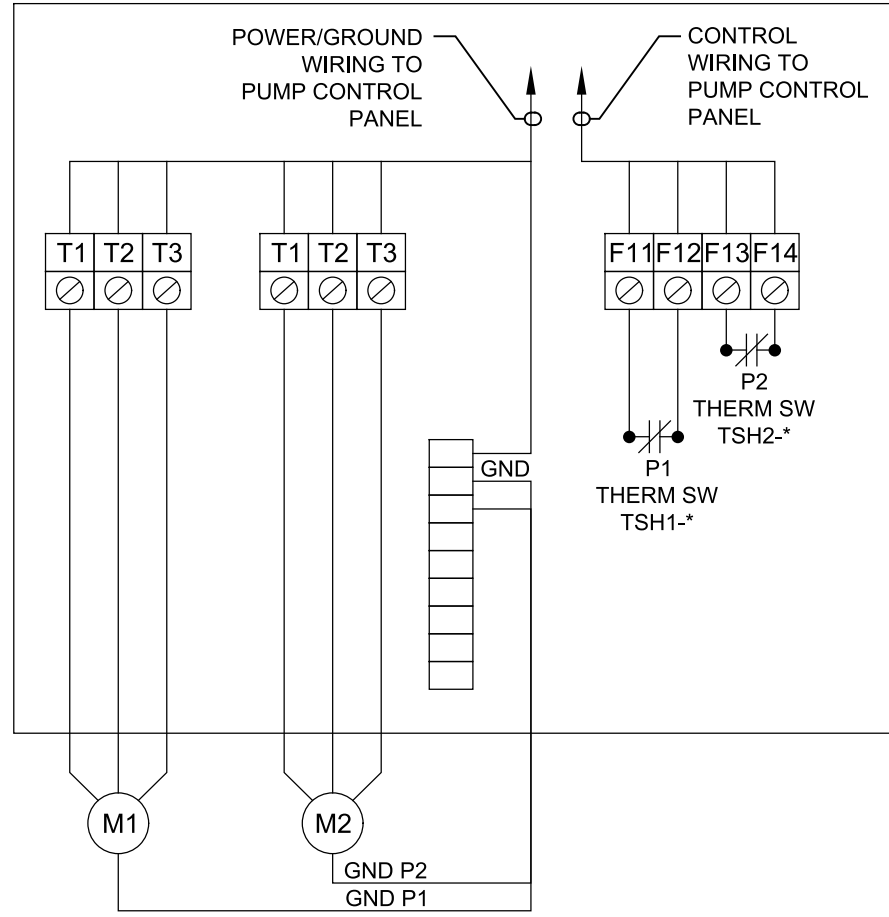
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A CONTROLS TERMINAL LAYOUT



B POWER TERMINAL LAYOUT

GENERAL NOTES:

1. SIZE ALL EQUIPMENT, WIRE, AND CONDUIT BASED ON ACTUAL LIFT STATION EQUIPMENT LOADS.
2. COORDINATE ELECTRIC UTILITY SERVICE WITH LOCAL ELECTRICAL SERVICE PROVIDER.
3. PROVIDE EXPLOSION PROOF CONDUIT SEALS BETWEEN JUNCTION BOXES AND THE CONTROL PANEL AND WATER AND GAS TIGHT SEALS BETWEEN THE JUNCTION BOXES AND THE WETWELL.

KEY NOTES:

1. PROVIDE ENTRY FOR PORTABLE GENERATOR CONDUCTORS AND CAP ENTRY WITH THREADED WATER TIGHT SCREW CAP MATCHING THE MATERIAL OF THE DOUBLE THROW SWITCH.
2. PROVIDE EXTERNALLY MOUNTED 480V/120V SINGLE PHASE TRANSFORMER FOR ALL 480VAC SYSTEMS. SIZE TRANSFORMER AS REQUIRED MINIMUM 750 VA. SIZE CONDUIT AND CONDUCTORS AS REQUIRED.

BILL OF MATERIALS

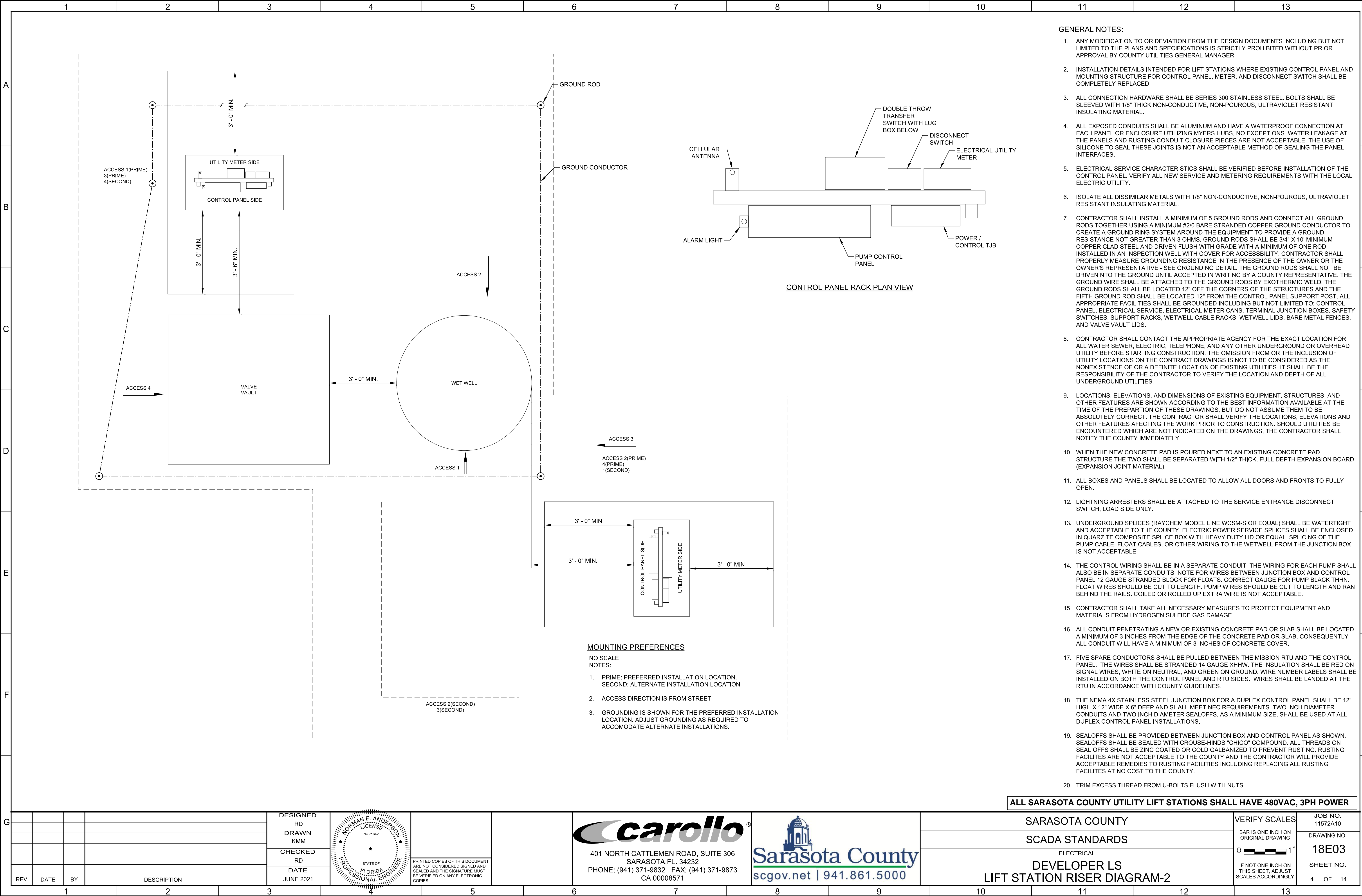
ITEM	QUANTITY	DESCRIPTION
AA	1	ELECTRICAL SERVICE - PROVIDE SERVICE METER WITH 100 AMPERE (MINIMUM) SLOW-BLOW FUSED MAIN DISCONNECT, PADLOCKABLE IN BOTH THE "ON" AND "OFF" POSITION. METER SHALL MEET LOCAL CODE AND POWER UTILITY REQUIREMENTS AND SHALL HAVE A MANUAL BY-PASS SWITCH. SURGE ARRESTORS APPROPRIATE TO THE SERVICE VOLTAGE AND PHASE CONFIGURATION SHALL ALSO BE PROVIDED ON THE MAIN DISCONNECT. MAIN DISCONNECT SWITCHES SHALL BE AS FOLLOWS WITHOUT EXCEPTION: 240 VOLTS, 3PH (100 AMPS OR LESS) SQUARE D MODEL H323NRB 240 VOLTS, 3PH (GREATER THAN 100 AMPS) SQUARE D MODEL H324NRB 208 VOLTS, 3PH (100 AMPS OR LESS) SQUARE D MODEL H323NRB 208 VOLTS, 3PH (GREATER THAN 100 AMPS) SQUARE D MODEL H324NRB
BB	2	STAINLESS STEEL JUNCTION BOX HINGED, PADLOCKABLE 24"H X 24"W X 8"D WITH BACK PLATE AND COMPRESSION TYPE TERMINAL STRIP FOR CONNECTION OF LEVEL CONTROLS AND INSTRUMENTS TO THE RTU PANEL AND PUMP POWER CORDS FROM THE MOTOR CONTROL PANEL. HOFFMAN MODEL A20H2408SSLP, WITH A-PLK/JIC PADLOCK KIT, OR EQUAL. JUNCTION BOX SHALL HAVE A GROUND BUS BAR WITH 9 TERMINALS AT MINIMUM. BOX SHALL BE PROVIDED WITH METALLIC, GROUNDED VOLTAGE BARRIER, A LAMINATED WIRING DIAGRAM OF JUNCTION BOX TERMINAL CONNECTIONS SHALL BE PROVIDED IN A PERMANENT SLEEVE ATTACHED TO COVER. SEE DETAIL A AND B THIS SHEET.
CC	1	PUMP CONTROL PANEL 36"WIDE, 48"HIGH, AND 12"DEEP (EXCLUDING DOOR DEPTH). FREE STANDING CABINET SHALL BE CONSTRUCTED EXCLUSIVELY OF WHITE POWER COATED 304 STAINLESS STEEL, 14 GAUGE (MINIMUM) WITH CONTINUOUS WELDS THROUGHOUT. REFER PUMP CONTROL PANEL DRAWINGS FOR DETAILS.
DD	1	DOUBLE THROW SWITCH, NON-FUSIBLE FOR MOTER CONTROL PANEL NEMA 3R, 3 POLE, UL LISTED, PADLOCKABLE. 240V, 100AMPS; SQUARE D NO. DTU323RB WITH NEUTRAL / GROUNDING KIT
EE	1 (AS REQD.)	LOW VOLTAGE TRANSFORMER, 480V PRIMARY AND 240/120V SECONDARY SINGLE PHASE, SEALED, GENERAL PURPOSE, DRY TYPE. PROVIDE NEMA 3R AND UL 1561 LISTED TRANSFORMER WITH SQUARE D, CLASS 7400
GG	4	BALL FLOAT SWITCHES - ANCHOR SCIENTIFIC ROTO-FLOAT. ENCAPSULATED BODY WITH A SWITCH TO DETERMINE POSITION OF FLOAT. PROVIDE SWITCHES WITH HERMETICALLY SEALED CONTACTS SUITABLE FOR CLASSIFIED LOCATIONS. INSTALL ON WETWELL CABLE RACK.

ALL SARASOTA COUNTY UTILITY LIFT STATIONS SHALL HAVE 480VAC, 3PH POWER

DESIGNED RD	DRAWN KMM	CHECKED RD	DATE JUNE 2021	STATE OF FLORIDA PROFESSIONAL ENGINEER NORMAN E. ANDERSON LICENSE No 71642	PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.	401 NORTH CATTLEMEN ROAD, SUITE 306 SARASOTA, FL. 34232 PHONE: (941) 371-9832 FAX: (941) 371-9873 CA 00008571	Sarasota County scgov.net   941.861.5000	SARASOTA COUNTY SCADA STANDARDS ELECTRICAL DEVELOPER LS LIFT STATION RISER DIAGRAM-1	VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 11572A10 DRAWING NO. 18E02 SHEET NO. 3 OF 14
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1		2		3		4		5		6		7		8		9		10		11		12		13							
SYMBOL		DRAWING VISIBLE FIELDS		FIELD - 1		FIELD - 2		FIELD - 3		FIELD - 4		FIELD - 5		FIELD - 6		SYMBOL		DRAWING VISIBLE FIELDS		FIELD - 1		FIELD - 2		FIELD - 3		FIELD - 4		FIELD - 5		FIELD - 6	
HMI/SCADA SYSTEM OPERATOR INTERFACE TERMINAL		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE		REFER 1 2		REFER 3		ACTION ALARM NUM - NUMERIC SP - SET POINT TREND		DESCRIPTION 2 5		DESCRIPTION		E - EXISTING F - FUTURE		INSTRUMENT PRIMARY ELEMENT		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE		REFER 1		REFER 3		DESCRIPTION 5		DESCRIPTION 6		AREA NO. BUILDING NO. ROOM NO.		E - EXISTING F - FUTURE	
HARDWIRED I/O POINT		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE		REFER 1 2 4		REFER 3		AI - ANALOG INPUT AO - ANALOG OUTPUT DI - DISCRETE INPUT DO - DISCRETE OUTPUT HSC - HIGH SPEED COUNTER INPUT RTD - RTD INPUT		DESCRIPTION		PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE I/O VCP - VENDOR CONTROL PANEL NO.		E - EXISTING F - FUTURE		INSTRUMENT/CONTROL ELEMENT PRIMARY FUNCTION OPERATOR ACCESSIBLE		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE		REFER 1		REFER 3		DESCRIPTION 5		DESCRIPTION 6		DESCRIPTION		E - EXISTING F - FUTURE	
NETWORK / SOFT I/O		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE 7 - DIGITAL NETWORK TABLE		REFER 1 2		REFER 3		BUS ID CNET - CONTROLNET DNET - DEVICENET ENET - ETHERNET/IP FF - FOUNDATION FIELDBUS MB - MODBUS RTU MB+ - MODBUS PLUS MBTCP - MODBUS TCP DP - PROFIBUS DP PA - PROFIBUS PA PNET - PROFINET SERIAL - PROPRIETARY PROTOCOL		DESCRIPTION		PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE I/O VCP - VENDOR CONTROL PANEL NO.		E - EXISTING F - FUTURE		INSTRUMENT/CONTROL ELEMENT PRIMARY FUNCTION OPERATOR INACCESSIBLE		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE		REFER 1 3 XR - PROTECTION RELAY CR - CONTROL RELAY IR - INTERPOSING RELAY		REFER 3		DESCRIPTION		DESCRIPTION 6		LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.		E - EXISTING F - FUTURE	
LOCAL OPERATOR INTERFACE		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE		REFER 1 2		REFER 3		ACTION ALARM NUM - NUMERIC SP - SET POINT STATUS		DESCRIPTION 2 5		LOI - LOCAL OPERATOR INTERFACE NO. LCP - LOCAL CONTROL PANEL NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.		E - EXISTING F - FUTURE		INSTRUMENT/CONTROL ELEMENT AUXILIARY FUNCTION OPERATOR INACCESSIBLE		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE		REFER 1 3 XR - PROTECTION RELAY CR - CONTROL RELAY IR - INTERPOSING RELAY		REFER 3		DESCRIPTION		DESCRIPTION 6		LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.		E - EXISTING F - FUTURE	
PILOT DEVICE OPERATOR INTERFACE		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE		REFER 1 2		REFER 3		AM - AUTO/MANUAL BYPASS - BYPASS CL - CLOSE E-STOP - EMERGENCY STOP FRLR - FIXED RATE/LEVEL RATE HOA - HAND /OFF/AUTO JOHC - JOG OPEN/HOLD/CLOSE JOJC - JOG OPEN/JOG CLOSE LH - LOW/HIGH LOR - LOCAL/OFF/REMOTE LOS - LOCK OUT STOP LS - LEAD/STANDBY LSR - LOCAL/STOP/REMOTE NOOT - NO OFFLINE/OFFLINE TRANSITION OC - OPEN/CLOSE OLOL - ON LINE/OFF LINE OO - OFF/ON OP - OPEN OSC - OPEN/STOP/CLOSE RST - RESET SAAM - SEMI AUTO/AUTO/MANUAL SEL - SELECT SP - STOP SPD - SPEED SS - START/ISTOP ST - START		DESCRIPTION		LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. RVSS - REDUCED VOLTAGE SOLID STARTER NO. VCP - VENDOR CONTROL PANEL NO. VFD - VARIABLE FREQUENCY DRIVE NO.		E - EXISTING F - FUTURE		FIELD EQUIPMENT NON-POWERED		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION/SIZE 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE		REFER 3		REFER 3		DESCRIPTION		DESCRIPTION 6		AREA NO. BUILDING NO. ROOM NO.		E - EXISTING F - FUTURE	
POWER DEVICE PRIMARY FUNCTION OPERATOR ACCESSIBLE		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE-POLE 5 - LOCATION 6 - EXISTING/FUTURE		CB - CIRCUIT BREAKER DISC - DISCONNECT FU - FUSE		REFER 3		TM - THERMAL MAGNETIC CIRCUIT BREAKER		24VDC - 1P 120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 3P 240VAC - 2P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P		DP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. LP - LIGHTING PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.		E - EXISTING F - FUTURE		FIELD EQUIPMENT PRIMARY FUNCTION POWERED		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE		REFER 3		REFER 3		DESCRIPTION		DESCRIPTION 6		AREA NO. BUILDING NO. ROOM NO.		E - EXISTING F - FUTURE	
POWER DEVICE AUXILIARY FUNCTION FOR OPERATOR ACCESSIBLE DEVICES		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE		DISC - DISCONNECT		REFER 3		DESCRIPTION		DESCRIPTION		DESCRIPTION		E - EXISTING F - FUTURE		FIELD EQUIPMENT AUXILIARY FUNCTION POWERED		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE		MWH - MOTOR WINDING HEATER TSH - TEMPERATURE SWITCH XSH - TORQUE SWITCH		REFER 3		DESCRIPTION		DESCRIPTION 6		DESCRIPTION		E - EXISTING F - FUTURE	
POWER DEVICE PRIMARY FUNCTION OPERATOR INACCESSIBLE		1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE-POLE 5 - LOCATION 6 - EXISTING/FUTURE		CB - CIRCUIT BREAKER FU - FUSE		REFER 3		MCP - MOTOR CIRCUIT PROTECTOR SS - SOLID STATE CIRCUIT BREAKER TM - THERMAL MAGNETIC CIRCUIT BREAKER		24VDC - 1P 120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P		DP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. LP - LIGHTING PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.		E - EXISTING F - FUTURE		FIELD EQUIPMENT STARTER/DRIVE CUBICLE/CABINET		1 - TAG 2 - LOOP NUMBER 3 - TYPE 4 - VOLTAGE-POLE 5 - POWER SOURCE 6 - EXISTING/FUTURE		MS - MOTOR STARTER RVAT - REDUCED VOLTAGE AUTO TRANSFORMER STARTER RVSS - REDUCED VOLTAGE SOLID STATE STARTER VFD - VARIABLE FREQUENCY DRIVE		REFER 3		FVNR - FULL VOLTAGE NON-REVERSING STARTER FVR - FULL VOLTAGE REVERSING STARTER PWS - PART-WINDING STARTER RVAT - REDUCED VOLTAGE AUTO TRANSFORMER STARTER RVSS - REDUCED VOLTAGE SOLID STATE STARTER TS1W - TWO SPEED SINGLE WINDING TS2W - TWO SPEED TWO WINDINGS VFD - VARIABLE FREQUENCY DRIVE		120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P		LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.		E - EXISTING F - FUTURE	
INSTRUMENT BUBBLE LOCATIONS													NOTES																		
<p>PCS</p> <p>CONTROL PANEL</p> <p>OPERATOR INTERFACE CONTROL DEVICES</p> <p>POWER SOURCE</p> <p>FIELD</p>													<p>SINGLE INSTRUMENT WITH INTEGRAL TRANSMITTER</p> <p>SINGLE INSTRUMENT WITH REMOTE TRANSMITTER</p> <p>1 INSTRUMENT TAG IDENTIFICATION LETTERS TABLE</p> <p>2 OPERATOR PILOT DEVICE LEGEND</p> <p>3 EQUIPMENT TAGGING TABLE</p> <p>4 I/O TYPE DESIGNATIONS TABLE</p> <p>5 INSTRUMENT TYPE DESIGNATIONS TABLE</p> <p>6 FURNISHED BY: FBO FURNISHED BY OWNER FBV FURNISHED BY VENDOR</p>																		
ALL SARASOTA COUNTY UTILITY LIFT STATIONS SHALL HAVE 480VAC, 3PH POWER																															
DESIGNED RD DRAWN KMM CHECKED RD DATE JUNE 2021				NORMAN E. ANDERSON No 71642 STATE OF FLORIDA PROFESSIONAL ENGINEER		PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.		401 NORTH CATTLEMEN ROAD, SUITE 306 SARASOTA, FL. 34232 PHONE: (941) 371-9832 FAX: (941) 371-9873 CA 00008571		Sarasota County scgov.net   941.861.5000		SARASOTA COUNTY SCADA STANDARDS INSTRUMENTATION DEVELOPER LS SYMBOLS AND ABBREVIATIONS - I				VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY		JOB NO. 11572A10 DRAWING NO. 18GN01 SHEET NO. 5 OF 14													



## INSTRUMENT TAG IDENTIFICATION LETTERS

INSTRUMENT FUNCTION  MEASURED VARIABLE		ELEMENT	TRANSMITTER	INDICATING TRANSMITTER	CONVERTER TRANSDUCER, RELAY SPECIAL DEVICES	INDICATOR	RECORDER	CONTROLLER	INDICATING CONTROLLER	RECORDING CONTROLLER	SWITCH	SWITCH LOW LOW	SWITCH LOW	SWITCH HIGH	SWITCH HIGH HIGH	SWITCH COMBINATION HIGH LOW	ACTION	ALARM LOW LOW	ALARM LOW	ALARM HIGH	ALARM HIGH HIGH	TOTALIZE INDICATOR TRANSMITTER	VALVE	GAUGE	LIGHT	SPEED SETTING
A	ANALYSIS	AE	AT	AIT	AY	AI	AR	AC	AIC	ARC	AS	ASLL	ASL	ASH	ASHH	ASHL		AALL	AAL	AAH	AAHH				AL	
B	BURNER FLAME	BE	BT	BIT	BY	BI	BR	BC	BIC	BRC	BS	BSLL	BSL	BSH	BSHH			BALL	BAL	BAH	BAHH				BL	
C	CONDUCTIVITY	CE	CT	CIT	CY	CI	CR	CC	CIC	CRC	CS	CSLL	CSL	CSH	CSHH	CSHL		CALL	CAL	CAH	CAHH				CL	
D	DENSITY	DE	DT	DIT	DY	DI	DR	DC	DIC	DRC	DS	DSLL	DSL	DSH	DSHH	DSHL		DALL	DAL	DAH	DAHH				DL	
E																										
F	FLOW	FE	FT	FIT	FY	FI	FR	FC	FIC	FRC	FS	FSLL	FSL	FSH	FSHH	FSHL		FALL	FAL	FAH	FAHH	FQI	FCV	FG	FL	
FF	FLOW RATIO				FFY	FFI		FFC	FFIC		FFS														FFL	
G	GAUGING (DIMENSION)																									
H	HAND (MANUAL)*							HC			HS*						HA*						HV		HL	HSS
I	CURRENT		IT	IIT	IY	II	IR	IC	IIC	IRC	IS	ISLL	ISL	ISH	ISHH			IALL	IAL	IAH	IAHH				IL	
J	POWER																									
K	TIME				KY	KI	KR	KC	KIC	KRC	KS	KSLL	KSL	KSH	KSHH			KALL	KAL	KAH	KAHH		KV		KL	
L	LEVEL	LE	LT	LIT	LY	LI	LR	LC	LIC	LRC	LS	LSLL	LSL	LSH	LSHH	LSHL		LALL	LAL	LAH	LAHH		LCV	LG	LL	
M	MOISTURE OR HUMIDITY	ME	MT	MIT	MY	MI	MR	MC	MIC	MRC	MS	MSLL	MSL	MSH	MSHH			MALL	MAL	MAH	MAHH				ML	
N	EMERGENCY SHUTDOWN																									
O																										
P	PRESSURE OR VACUUM	PE	PT	PIT	PY	PI***	PR	PC	PIC	PRC	PS****	PSLL	PSL	PSH	PSHH	PSHL		PALL	PAL	PAH	PAHH		PCV		PL	
PD	DIFFERENTIAL PRESSURE		PDT	PDIT	PDY	PDI	PDR	PDC	PDIC	PDRC	PDS	PDSLL	PDSL	PDSH	PDSHH			PDALL	PDAL	PDAH	PDAHH		PDCV		PDL	
Q	QUANTITY	QE	QT	QIT	QY	QI	QR				QS	QSLL	QSL	QSH	QSHH			QALL	QAL	QAH	QAAH					
R	RADIOACTIVITY																									
S	SPEED	SE	ST	SIT	SY	SI	SR	SC	SIC	SRC	SS	SSLL	SSL	SSH	SSHH			SALL	SAL	SAH	SAHH					
T	TEMPERATURE	TE	TT	TIT	TY	TI	TR	TC	TIC	TRC	TS	TSLL	TSL	TSH	TSHH	TSHL		TALL	TAL	TAH	TAHH		TCV		TL	
TD	DIFFERENTIAL TEMPERATURE		TDT	TDIT	TDY	TDI	TDR	TDC	TDIC	TDRC	TDS	TDSLL	TDSL	TDSH	TDSHH			TDALL	TDAL	TDAH	TDAHH		TDCV		TDL	
U	MULTIVARIABLE					UI	UR	UC	UIC	URC	US														UL	
V	VISCOSITY	VE	VT	VIT	VY	VI	VR	VC	VIC	VRC	VS	VSLL	VSL	VSH	VSHH			VALL	VAL	VAH	VAHH				VL	
W	WEIGHT	WE	WT	WIT	WY	WI	WR				WS	WSLL	WSL	WSH	WSHH			WALL	WAL	WAH	WAHH					
X	UNCLASSIFIED	XE	XT	XIT	XY	XI	XR	XC	XIC	XRC	XS	XSLL	XSL	XSH	XSHH			XALL	XAL	XAH	XAHH		XCV	XG	XL	
XV	VIBRATION	XVE	XVT		XVY	XVI	XVR				XVS			XVSH	XVSHH					XVAH	XVAHH				XVL	
Y	STATUS***					YI***																			YL	
Z	POSITION	ZE	ZT	ZIT	ZY	ZI					ZS**											ZV		ZL**		

\* REFER TO OPERATOR PILOT DEVICE LEGEND  
 \*\* LETTER INDICATES POSITION (O=OPEN, C=CLOSED, R=RAISE, L=LOWER, ETC)  
 \*\*\* PI# # = 1,2,3 ETC. AND REPRESENTS A UNIQUE IDENTIFIER AND IS APPLICABLE TO ALL ITEMS IN THE TABLE ABOVE

\*\*\*\*\* COULD ALSO BE PIS - FOR PRESSURE INDICATING SWITCH

## OPERATOR PILOT DEVICE LEGEND

DEVICE TYPE	PILOT DEVICE FUNCTION																											
	LOCAL-OFF-REMOTE (LOR) OR LOCAL-STOP-REMOTE (LSR)	STOP (SP)	START (ST)	HAND-OFF-AUTO (HOA)	OFF-ON (OO)	SELECT (SEL)	OPEN-STOP-CLOSE (OSC)	JOG OPEN-HOLD-CLOSE (JOHC)	SEMI-AUTO-AUTO-MANUAL (SAAM)	LEAD-LAG-STANDBY (LLGS)	JOG OPEN-JOG CLOSE (JOJC)	ONLINE-OFFLINE (OLOF)	AUTO-MANUAL (AM)	FIXED RATE-LEVEL RATE (FRLR)	OPEN-CLOSE (OC)	NO OFFLINE- OFFLINE TRANSITION (NOOT)	LOW-HIGH (LH)	RESET (RST)	SPEED (SPD)	START-STOP (STSP)	E-STOP (E-SP)	BYPASS (BYP)				SILENCE	POSITION (POS)	
PILOT DEVICE TAG (HAND SWITCHES)	HSA*	HSB	HSC	HSD*	HSE	HSF	HSG*	HSH*	HSI	HSJ*	HSK*	HSL*	HSM*	HSN	HSO*	HSP	HSQ*	HSR	HSS	HST*	HSU	HSV	HSW	HSX	HSY	HSZ		
SCADA/HMI TAG (HAND ACTION)	HAA	HAB	HAC	HAD	HAE	HAF	HAG	HAH	HAI	HAJ	HAK	HAL	HAM	HAN	HAO	HAP	HAQ	HAR	HAS	HAT	HAU	HAV	HAW	HAX	HAY	HAZ		

## I/O TYPE DESIGNATIONS

AUX1	RUNNING	MSL	MOTOR START LOW
AUX2	FAILED/FAULT	MSM	VALVE MODULATE
AUXF1	RUNNING FORWARD	MSP	MOTOR STOP
AUXH1	RUNNING HIGH	MSR	MOTOR START REVERSE
AUXL1	RUNNING LOW	MST	MOTOR START
AUXR1	RUNNING REVERSE	SS	SPEED SIGNAL
SVC	SOLENOID VALVE CLOSE	ZC	POSITION COMMAND
SVO	SOLENOID VALVE OPEN	ZCC	POSITION COMMAND CLOSE
MS	RUN	ZCO	POSITION COMMAND OPEN
MSF	MOTOR START FORWARD		
MSH	MOTOR START HIGH		

## INSTRUMENT TYPE DESIGNATIONS

AM	AMMONIA	O3	OZONE	SH	SODIUM HYPOCHLORITE
CAP	CAPACITANCE	ORP	OXIDATION REDUCTION POTENTIAL	TDR	TIME DOMAIN REFLECTOMETRY
CGD	COMBUSTIBLE GAS DETECTOR	P	PRESSURE	TH	THERMAL
CL	CHLORINE	P-SUB	PRESSURE SUBMERSIBLE	TSS	TOTAL SUSPENDED SOLIDS
COND	CONDUCTIVITY	PC	PARTICLE COUNTER	TURB	TURBIDITY
DO	DISSOLVED OXYGEN	PO	PHOSPHOROUS	US	ULTRASONIC
FMCW	FREQ. MODULATED CONT. WAVE	PTOF	PULSE TIME OF FLIGHT	UVI	UV INTENSITY
HSF	FLUORIDE	R/I	RESISTANCE TO CURRENT	UVT	UV TRANSMITTANCE
IS	INTRINSIC SAFETY BARRIER	ROT	ROTAMETER	VAC	VACUUM
LEL	LOWER EXPLOSIVE LIMIT	RTD	RESISTANCE TEMP DETECTOR		
MAG	MAGNETIC	SC	STREAMING CURRENT		

## SPECIFIC ABBREVIATIONS

APH	A PHASE	MWH	MOTOR WINDING HEATER
BPH	B PHASE	SSG	SECONDARY SWITCHGEAR
BRB	BEARING BOTTOM	SV*	SOLENOID VALVE
BRT	BEARING TOP	SPD	SURGE PROTECTIVE DEVICE
BTFLY	BUTTERFLY	UPS	UNINTERRUPTIBLE POWER SUPPLY
CPH	C PHASE	YA	STATUS AUTO
CC*	CALIBRATION COLUMN	YR	STATUS REMOTE
HTR	HEATER	Y1	STATUS RUNNING
HTU	HEAT TRACE UNIT	Y2	ALARM FAILED/FAULT

\* CC# AND SV# # = 1, 2, 3 ETC. AND REPRESENTS A UNIQUE IDENTIFIER

## INSTRUMENT LINE SYMBOLS

INSTRUMENT OR CONNECTION TO PROCESS	
PNEUMATIC SIGNAL	
ELECTRIC SIGNAL	
HYDRAULIC SIGNAL	
CAPILLARY TUBE	
ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)	
ELECTROMAGNETIC OR SONIC SIGNAL (NOT GUIDED)	
INTERNAL SYSTEM LINK (SOFTWARE OR DATA LINK)	
COPPER ETHERNET	
FIBER OPTIC ETHERNET	
WIRELESS ETHERNET	
PROFIBUS DP	
PROFIBUS PA	
DEVICENET	
FOUNDATION FIELDBUS	

## PROCESS LINE SYMBOLS

Figure 1 consists of four schematic diagrams labeled (a) through (d). Each diagram shows a horizontal line representing a flow path. (a) Primary process flow in pipe: a solid black line. (b) Secondary process flow in pipe: a solid black line. (c) Primary process flow in channel: a dashed black line. (d) Secondary process flow in channel: a dashed black line.

## DESIGNATIONS

The diagram illustrates the relationship between three components: EQUIPMENT ENCLOSURE, EXISTING, and FUTURE. EQUIPMENT ENCLOSURE is represented by a dashed line. EXISTING is represented by a solid line. FUTURE is represented by a dashed line with an arrow pointing to it from the label 'FUTURE'.

## MISCELLANEOUS P&ID SYMBOLS

The diagram illustrates various symbols used for continuation in technical drawings:

- CONTINUATION TAG:** A symbol consisting of a rounded rectangle with a hash symbol (#) and a rectangle with 'A' and 'B' below it. Arrows point from the text 'CONTINUATION TAG' to the hash symbol and from 'CONTINUATION FROM SHEET' to the 'A' box. Another arrow points from 'CONTINUATION TO SHEET' to the 'B' box.
- UNIQUE IDENTIFIER:** An arrow points from this text to the hash symbol (#) in the continuation tag.
- PIPE CALLOUT:** A symbol consisting of a rectangle with 'PIPE SIZE' inside, flanked by two horizontal lines.
- SIGNAL CONTINUATION:** A symbol consisting of a horizontal line with an arrow pointing right, followed by the text 'TO DRAWING'. Another symbol consists of a horizontal line with an arrow pointing left, followed by the text 'FROM DRAWING'.

PROJECT NO. 11572A10



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	1	2	3	4	5	6	7	8	9	10	11	12	13		
A	FLOW			FLUMES	GATES		LEVEL								
	BATCH CORIOLIS MAGNETIC ORIFICE PADDLE WHEEL PISTON ANNUBAR PITOT TUBE POSITIVE-DISPLACEMENT PROPELLER-TURBINE ROTAMETER THERMAL ULTRASONIC ULTRASONIC BIOGAS		V-CONE VENTURI TUBE OR FLOW NOZZLE VORTEX	LEOPOLD-LAGCO PALMER-BOWLUS PARSHALL REGULAR CUTTHROAT TRAPEZOIDAL	SIDE VIEW SLIDE SLUICE STOP	PLAN VIEW FLAP KNIFE SLIDE SLUICE STOP WEIR	BUBBLER CAPACITANCE DIFFERENTIAL PRESSURE ELECTRODE FLOAT INVERTED COLUMN PROBE RADAR PTOF RADAR (FREQUENCY MODULATED CONTINUOUS WAVE) RADAR TDR	SUSPENDED/SUBMERSIBLE TUNING FORK ULTRASONIC							
B															
C															
D															
E	PRESSURE/VACUUM			TEMPERATURE		WEIRS									
	PRESSURE GAUGE MANOMETER PRESSURE SWITCH PRESSURE TRANSMITTER	DIFFERENTIAL PRESSURE GAUGE DIFFERENTIAL INDICATOR DIFFERENTIAL PRESSURE SWITCH DIFFERENTIAL PRESSURE TRANSMITTER	PRESSURE SEALS SEAL ANNULAR SEAL DIAPHRAGM SEAL SANITARY  EXAMPLE PRESSURE SWITCH	TEMPERATURE w/THERMOWELL TEMPERATURE GAUGE THERMOMETER	SIDE VIEW RECTANGULAR w/o END CONTRACTIONS RECTANGULAR w/ END CONTRACTIONS V-NOTCH (TRIANGULAR) TRAPEZOIDAL (CIPOLLETTI)	PLAN VIEW RECTANGULAR w/o END CONTRACTIONS RECTANGULAR w/ END CONTRACTIONS V-NOTCH (TRIANGULAR) TRAPEZOIDAL (CIPOLLETTI)									
F															
G				DESIGNED RD DRAWN KMM CHECKED RD DATE JUNE 2021				 401 NORTH CATTLEMEN ROAD, SUITE 306 SARASOTA, FL. 34232 PHONE: (941) 371-9832 FAX: (941) 371-9873 CA 00008571		 scgov.net   941.861.5000		SARASOTA COUNTY SCADA STANDARDS INSTRUMENTATION DEVELOPER LS SYMBOLS AND ABBREVIATIONS - IV		VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING  IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 11572A10 DRAWING NO. 18GN04 SHEET NO. 8 OF 14
	REV	DATE	BY	DESCRIPTION			PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.								
	1	2	3	4	5	6	7	8	9	10	11	12	13		

PROJECT NO. 11572A10 FILE NAME: 11572A1018GN05.dgn





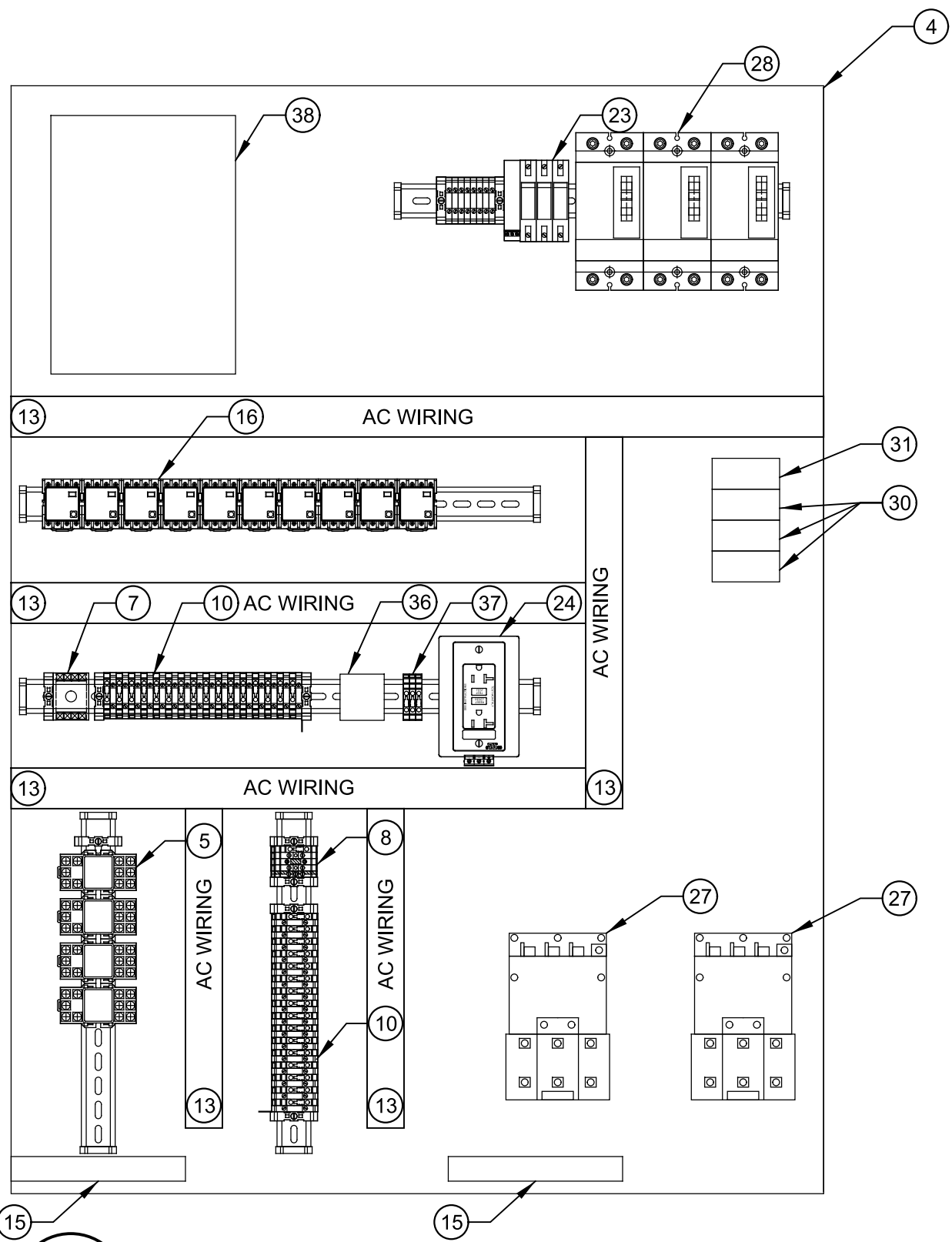


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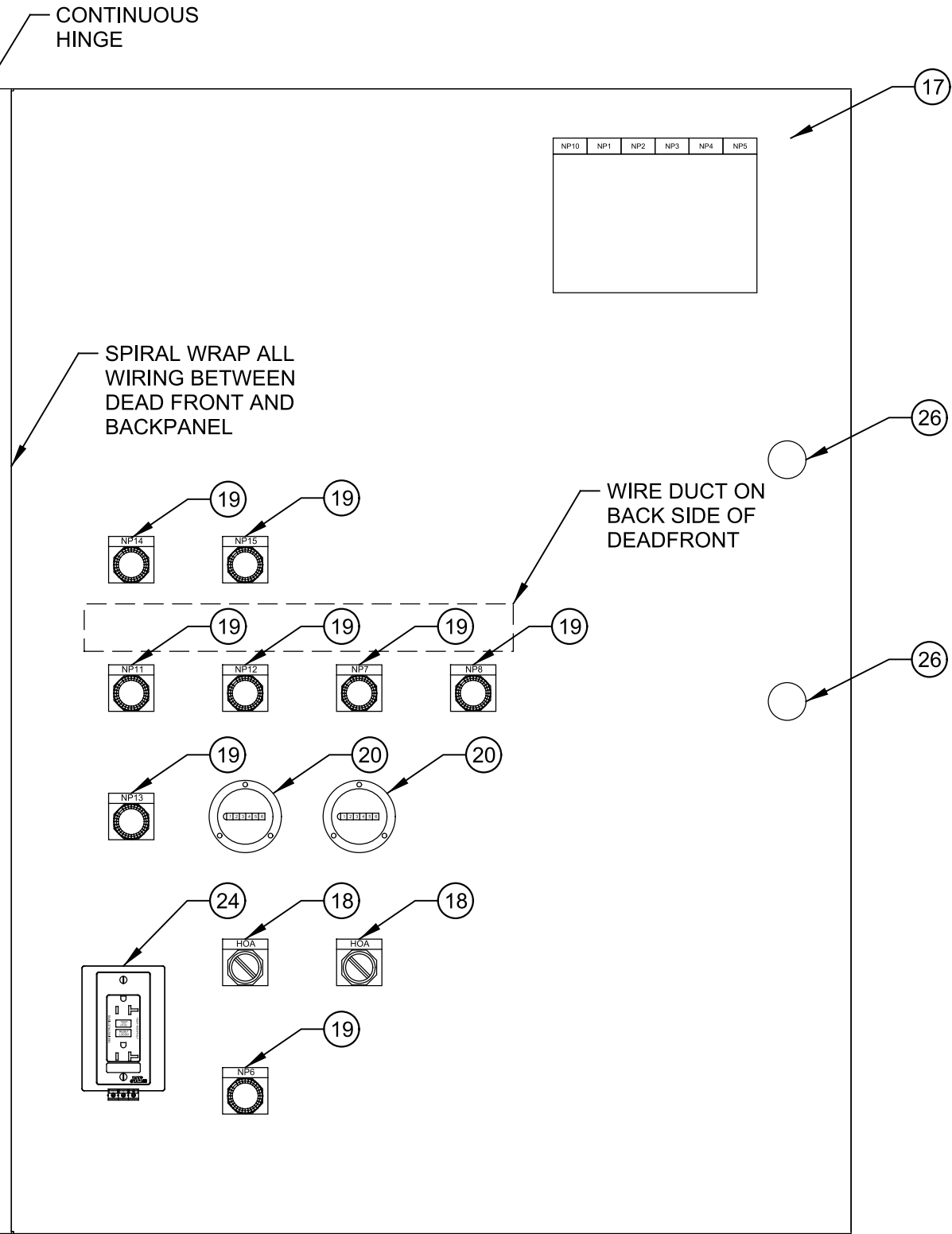
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Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen\_v0905.pen PlotScale: 1:1

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**B INTERNAL ELEVATION**  
SCALE: NO SCALE  
FILE: 11572A1002N603.2dm



**C DEAD FRONT ELEVATION**  
SCALE: NO SCALE  
FILE: 11572A1002N603.2dm

NAMEPLATE SCHEDULE	
PCP	PCP-XXX
NP 1	CCB
NP 2	GFI
NP 3	PUMP NO.1
NP 4	PUMP NO.2
NP 5	MAIN
NP 6	ALARM TEST
NP 7	PUMP NO.1 RUN
NP 8	PUMP NO.2 RUN
NP 9	ALARM SILENCE
NP 10	MISSION RTU
NP 11	ONE PUMP REQUIRED
NP 12	TWO PUMPS REQUIRED
NP 13	HIGH LEVEL
NP 14	STARTER FAIL - PUMP 1
NP 15	STARTER FAIL - PUMP 2

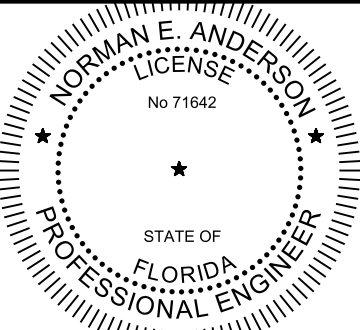
MAJOR EQUIPMENT SCHEDULE		
ITEM	QTY	DESCRIPTION
1	1	NEMA 4X 304 WHITE PAINTED STAINLESS STEEL ENCLOSURE 48"H x 36"W  NVENT HOFFMAN MODEL A48H3612SSLP3PTW, CONTROL CABINET - 48" HIGH, 36" WIDE , AND 12" DEEP (EXCLUDING DOOR DEPTH), CABINET SHALL BE CONSTRUCTED EXCLUSIVELY OF 304 STAINLESS STEEL, 14 GAUGE (MINIMUM) WITH CONTINUOUS WELDS THROUGHOUT. WEEP HOLES OR OTHER OPENINGS IN ENCLOSURE WHICH ARE NOT SPECIFIED IN THESE DRAWINGS SHALL NOT BE ACCEPTABLE. PANEL SHALL HAVE AN OUTER DOOR GASKET SEAL WHICH SHALL BE CLOSE-CELL NEOPRENE OR OTHER MATERIAL AS APPROVED BY COUNTY. DOOR GASKET SHALL PROVIDE A CONTINUOUS SEAL AGAINST EXTERIOR DOOR SEALING FACE WHICH SHALL BE A CONTINUOUS ROLLED LIP. A DRIP SHIELD SHALL BE PROVIDED AND TACK WELDED IN PLACE AT NOT LESS THAN 5 LOCATIONS. A THREE POINT 90 DEGREE TURN LATCHING MECHANISM CONSTRUCTED OF 304 STAINLESS STEEL SHALL BE PROVIDED. LATCHING MECHANISM SHALL BE OPERATED BY A SINGLE EXTERIOR STAINLESS STEEL HANDLE WITH ROLLERS AND SHALL BE PAD-LOCKABLE TO PREVENT UNAUTHORIZED OPERATION. DOOR SHALL BE FULL HEIGHT WITH 304 STAINLESS STEEL CONTINUOUS PIANO HINGE, DOOR LOCK OPEN STAINLESS STEEL ROD, AND SHALL MINIMALLY HAVE 120 SWING. PANEL SHALL HAVE PROVISIONS FOR MOUNTING BACKPANEL AND DEADFRONT INSIDE AS A SINGLE UNITIZED ASSEMBLY. A LAMINATED WIRING DIAGRAM OF ALL WIRING CONNECTIONS SHALL BE PROVIDED IN A PERMANENT SLEEVE ATTACHED TO PANEL DOOR. PANEL SHALL BE INSTALLED PERPENDICULAR TO WETWELL AND VALVE VAULT AND DOOR HINGED TO OPEN AWAY FROM THE WETWELL AND VALVE VAULT.
2	1	DATA POCKET
3	1	NAMEPLATE  BLACK LETTERING ON WHITE NAMEPLATE
4	1	BACK PANEL 33" X 45"  NVENT HOFFMAN MODEL A36P48SS6, BACK PLATE - 33" WIDE BY 45" HIGH, 10 GAUGE (MINIMUM), PRIMED AND FINISH PAINTED STEEL BACK PLATE WITH 3/4" ROLLED OR BROKEN EDGES FOR SUPPORT. FINISH PAINT COATS SHALL HAVE A DRY FILM THICKNESS OF AT LEAST 4 MILS. HOFFMAN OR APPROVED EQUAL. ALL EQUIPMENT MOUNTED TO BACK PLATE SHALL BE ATTACHED WITH MACHINE SCREWS THROUGH DRILLED AND TAPPED HOLES.
5	4	INTRINSICALLY SAFE RELAYS  DIVERSIFIED ELECTRICAL MODEL ISO-120-AFA , SINGLE CHANNEL, 120 VAC POWER SUPPLY, 16 VOLT DC SENSING VOLTAGE, 200 MICROAMP SENSING AMPERAGE, 8-PIN PLUG-IN CONNECTION.
6	1	DEAD FRONT  32-1/2" WIDE BY 43" HIGH, 10 GAUGE (MINIMUM), BRUSHED ALUMINUM DEAD-FRONT PANEL WITH 304 STAINLESS STEEL OR ALUMINUM CONTINUOUS PIANO HINGE AND TWO QUARTER-TURN L-KNOB HANDLES FOR HOLDING THE PANEL CLOSED TO THE BACK OF THE PLATE AND INTERNAL FRAME OF THE CONTROL PANEL. ISOLATE CONTACT BETWEEN DISSIMILAR METALS W/ 1/8" NON-CONDUCTIVE INSULATING MATERIAL. PANEL SHALL BE PROVIDED WITH DOOR HOLD (OPEN) WITH STAINLESS STEEL ROD. DOOR SWING SHALL MINIMALLY BE 90-DEGREE OPEN. PANEL SHALL INCLUDE MOUNTED DEVICES AND CUT-OUTS AS INDICATED ON THE DRAWINGS. PANEL EDGES SHALL BE DEBURRED AND ROUNDED.
7	1	ALTERNATOR  DUPLEX PANEL: MPE MODEL 008-120-12 OR DIVERSIFIED ELECTRIC MODEL ARA-120-ADA, 11-PIN PLUG-IN CONNECTION, DOUBLE POLE- DOUBLE THROW, 120 VAC CONTROL VOLTAGE, TRIPLEX PANEL: DIVERSIFIED MODEL ARA-120-AME, PANEL MOUNT, SINGLE POLE-SINGLE THROW, 120VAC CONTROL VOLTAGE
8	AS REQ'D	ANALOG TERMINAL BLOCKS  SQUARE D TYPE GME 6, PROVIDE SQUARE D TYPE GH10 END CLAMPS AT EACH END OF THE TERMINAL STRIP. PROVIDE END BARRIER AT BOTTOM OF EACH TERMINAL STRIP, SQUARE D TYPE GME6B WITHOUT EXCEPTION.
9	AS REQ'D	24 VDC FUSED TERMINAL BLOCKS  SQUARE D TYPE GME 6, PROVIDE SQUARE D TYPE GH10 END CLAMPS AT EACH END OF THE TERMINAL STRIP. PROVIDE END BARRIER AT BOTTOM OF EACH TERMINAL STRIP, SQUARE D TYPE GME6B WITHOUT EXCEPTION.
10	AS REQ'D	DISCRETE TERMINAL BLOCKS  SQUARE D TYPE GME 6, 120 CONTROL TERMINAL BLOCKS FOR UP TO #10 AWG, 30 AMP, 600V. PROVIDE SQUARE D TYPE GH10 END CLAMPS AT EACH END OF THE TERMINAL STRIP. PROVIDE END BARRIER AT BOTTOM OF EACH TERMINAL STRIP, SQUARE D TYPE GME6B WITHOUT EXCEPTION.
11	AS REQ'D	DIN RAIL  SQUARE D 9080MH339
12	1	STROBE/BEACON  FEDERAL SIGNAL CORP., LP3P-120R. 120 VAC ALARM LIGHT INCLUDING RED LENS COVERING STROBE LAMP HOLDER WITH FLASHER. GASKET SHALL BE PROVIDED BETWEEN LENS AND ENCLOSURE FOR WEATHERTIGHT SEAL. ALARM LIGHT MOUNTING SHALL BE STAINLESS STEEL RIGID PIPE PREWIRED WITH LIGHT ATTACHED , AND PACKAGED SEPARATELY FOR TRANSPORT READY FOR FIELD ASSEMBLY. 1/4" DISCONNECTS SHALL BE PROVIDED INSIDE ENCLOSURE TO FACILITATE FIELD ASSEMBLY.
13	AS REQ'D	GREY WIRE DUCT  PANDUIT GREY WIRING DUCT, 1" WIDE BY 3" HIGH, SHALL BE ATTACHED TO BACKPLATE WITH SCREWS.
14	1	GROUND BAR  SQUARE D PK12GTA, GROUND COMPRESSION TYPE TERMINAL BLOCK MOUNTED DIRECTLY TO PANEL. GROUND BAR SHALL CONSIST OF MIN. 12 GROUND TERMINALS FOR UP TO #4 AWG WIRE.
15	1	ISOLATED GROUND BAR  SQUARE D PK12GTA W/ PKGTAB
16	10	CONTROL RELAYS W/ OCTAL BASE AND PILOT LIGHT OPTION  SQUARE D CLASS 8501 KPR12P14V20
17	AS REQ'D	BREAKER CUTOUT  SQUARE D CLASS 9001, MODEL KS43BH2, 30MM INDUSTRIAL, MAINTAINED, LEVER OPERATOR, OIL-TIGHT, SELECTOR SWITCH WITH CONTACTS AS INDICATED ON THE DRAWINGS AND AN "MANUAL-OFF-AUTO" LEGEND PLATE.
18	2	SELECTOR SWITCH - THREE POSITION  SQUARE D CLASS 9001 TYPE SKP-38 LIGHT, TYPE G31 LENS AND TYPE KN-224 LEGEND PLATE. 120 VAC, RESISTOR TYPE, OIL-TIGHT, WATERTIGHT, PILOT LIGHT WITH COLORED GREEN, AMBER, OR RED PLASTIC LENS AS SHOWN ON DRAWINGS.
19	5	PILOT LIGHTS
20	2	ELAPSED TIME METERS  REDINGTON MODEL 710-0002, 120 VAC, 6-1/2 DIGIT, NONRESETABLE, PANEL- MOUNTED.

MAJOR EQUIPMENT SCHEDULE		
ITEM	QTY	DESCRIPTION
21	1	INTRUSION SWITCH  INTRUSION SWITCH: THE SWITCH CONTACT SHALL BE NORMALLY CLOSED (OPEN WHEN THE PANEL DOOR IS CLOSED). INTRUSION SWITCH SHALL BE SQUARE-D 9007MS01IS03000 WITHOUT EXCEPTION.
22	1	HORN  FEDERAL SIGNAL, 350 SERIES WITH WEATHERPROOF BOX. 120VAC WEATHERPROOF.
23	3	120 VAC CIRCUIT BREAKERS  SQUARE D TYPE QOU, CIRCUIT BREAKERS (CONTROL, GFI, RTU) - SINGLE POLE, 10 & 15 AMPERE, 120/240VAC, THERMAL MAGNETIC WITH MOUNTING FEET FOR BASE MOUNTING.
24	1	GFCI OUTLET  120 VAC, 20 AMPERE, DUPLEX, INDUSTRIAL-GRADE, IVORY. LEVITON MODEL 6598-I, OR EQUAL MOUNTED IN STANDARD OUTLET BOX.
25	1	LIGHT  NVENT HOFFMAN LED24V15, LED PANEL LIGHT WITH INTEGRAL SWITCH
26	2	LATCHES  QUARTER TURN L-KNOB
27	2	FVNR MAGNETIC STARTERS  SQUARE D CLASS 8536 WITHOUT EXCEPTION MAGNETIC STARTERS - 3 POLE, 600 VAC MAXIMUM, OPEN CONSTRUCTION, CLOSE COUPLED, WITH OVERLOAD RELAY ASSEMBLIES. STARTER SHALL HAVE 120 VAC, 60 HZ MAGNETIC COIL AND SHALL MINIMALLY HAVE ONE AUXILIARY COIL STATUS CONTACT. STARTERS SHALL BE SIZED ACCORDING TO THE MOTOR HORSEPOWER AS FOLLOWS: NEMA SIZE 1: 230 VOLTS - 7-1/2 HP AND LESS 480 VOLTS - 10 HP AND LESS NEMA SIZE 2: 230 VOLTS - GREATER THAN 7-1/2 HP, LESS THAN OR EQUAL TO 15 HP 480 VOLTS - GREATER THAN 10 HP, LESS THAN OR EQUAL TO 25 HP NEMA SIZE 3: 230 VOLTS - GREATER THAN 15 HP 480 VOLTS - GREATER THAN 25 HP OVERLOAD ELEMENTS SHALL BE PROVIDED AND SHALL BE AS RECOMMENDED BY THE PUMP SUPPLIER. ELECTRONIC/ADJUSTABLE OVERLOADS ARE NOT ACCEPTABLE. PROVIDE WITH EXTERNAL RESET COVER OPERATOR ACCESSIBLE THROUGH THE DEAD FRONT.
28	1	MAIN CIRCUIT BREAKER  CIRCUIT BREAKER (MAIN) - 3 POLE, 240 OR 480VAC, THERMAL MAGNETIC, "MAIN", WITH MOUNTING FEET FOR BASE MOUNTING. AMPERE RATING SHALL BE BASED ON THE SIZE OF THE PUMP STATION, BUT SHALL NOT BE RATED LESS THAN 100 AMPERES. SQUARE D TYPE QOU (230 VOLTS, 125 AMPS OR LESS), TYPE Q2L (230 VOLTS, 150 TO 225 AMPS), TYPE FAL (480 VOLTS, 100 AMPS OR LESS), OR POWERPACT J FRAME (480 VOLTS, 150 TO 250 AMPS), WITHOUT EXCEPTION.
29	2	PUMP MOTOR CIRCUIT BREAKER  CIRCUIT BREAKERS (PUMP MOTORS) - 3 POLE, THERMAL MAGNETIC, SUITABLE BASE MOUNTING. AMPERE RATING SHALL BE BASED ON THE STARTING CURRENT OF THE MOTOR PER NEC AND SHALL BE RATED NOT LESS THAN 125% NOR GREATER THAN 250% OF MOTOR FLA. SQUARE D TYPE QOU (230 VOLTS, 125 AMPS OR LESS), TYPE Q2L (230 VOLTS, 150 TO 225 AMPS), TYPE FAL (480 VOLTS, 100 AMPS OR LESS), OR POWERPACT J FRAME (480 VOLTS, 110 TO 250 AMPS), WITHOUT EXCEPTION.
30	1	POWER DISTRIBUTION BLOCK  SQUARE D TYPE LBA363206 FOR PANELS 3 POLE 600 VAC, WITH LINE LUGS FOR TWO #14 TO 2/0 AWG CABLE PER PHASE. SQUARE D TYPE LBA365208 FOR PANELS REQUIRING #2 AWG BRANCH CIRCUITS. PROVIDE WITH PLEXIGLASS COVERS.
31	1	NEUTRAL DISTRIBUTION BLOCK  SQUARE D TYPE LBA163206, SINGLE POLE, 600VAC, WITH LINE LUGS FOR TWO (2) #14 TO 2/0 AWG CABLES AND LOAD LUGS FOR SIX (6) #14 TO #4 AWG CABLES PER PHASE. PROVIDE WITH PLEXIGLASS COVERS.
32	2	ELAPSED TIME METERS  REDINGTON MODEL 710-0002
33		NOT USED
34	2	PUSH BUTTON PILOT DEVICE - SILENCE  SQUARE D CLASS 9001 KR1R, , FLUSH, MOMENTARY (SPRING-RETURN), OIL-TIGHT, NEMA 4 PUSH-BUTTON WITH I-N-O CONTACT WITH RED LEGEND PLATE ENGRAVED "ALARM SILENCE" AND "TEST ALARM" RESPECTIVELY.
35	2	VFD  HITACHI WJ200 SERIES
36	1	PHASE MONITOR/RELAY  208-230 VAC THREE PHASE DIVERSIFIED MODEL SLA-230-ALA OR MPE MODEL 001-230-1211, 230 VAC SINGLE PHASE DIVERSIFIED MODEL UOA-240-AKA, AND 480 VAC SYSTEMS 12 PIN SOCKET MPE MOEDEL 001-500-121 W / SD12 SOCKET. AUTOMATIC RESET, FUSED, SURFACE-MOUNT, OCTAL SOCKET PLUG-IN CONNECTION, ADJUSTABLE RANGE VOLTAGE FOR 3 PHASE POWER SYSTEMS WITHOUT EXCEPTION. PROVIDE MATCHING SOCKET TO MAINTAIN UL LISTING
37	1	FUSE BLOCK  SQUARE D MODEL FB2211 (250 VOLT SYSTEMS) OR MODEL 2611 (600 VOLT SYSTEMS)
38	1	CELLULAR DIALER  MISSION MYDRO 150, FLATPAK, W/ P/N OP653 (8DI MODULE)

ALL SARASOTA COUNTY UTILITY LIFT STATIONS SHALL HAVE 480VAC, 3PH POWER

REV	DATE	BY	DESCRIPTION
1			
2			
3			
4			

DESIGNED RD
DRAWN KMM
CHECKED RD
DATE JUNE 2021



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CA 00008571

**Sarasota County**  
scgov.net | 941.861.5000

SARASOTA COUNTY	VERIFY SCALES	JOB NO. 11572A10
SCADA STANDARDS	BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. 18N02
INSTRUMENTATION	0 1"	SHEET NO. 11 OF 14
DEVELOPER LS - DUPLEX PUMP CONTROL PANEL FOR THREE PHASE 240V SYSTEMS INTERNAL ELE	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	

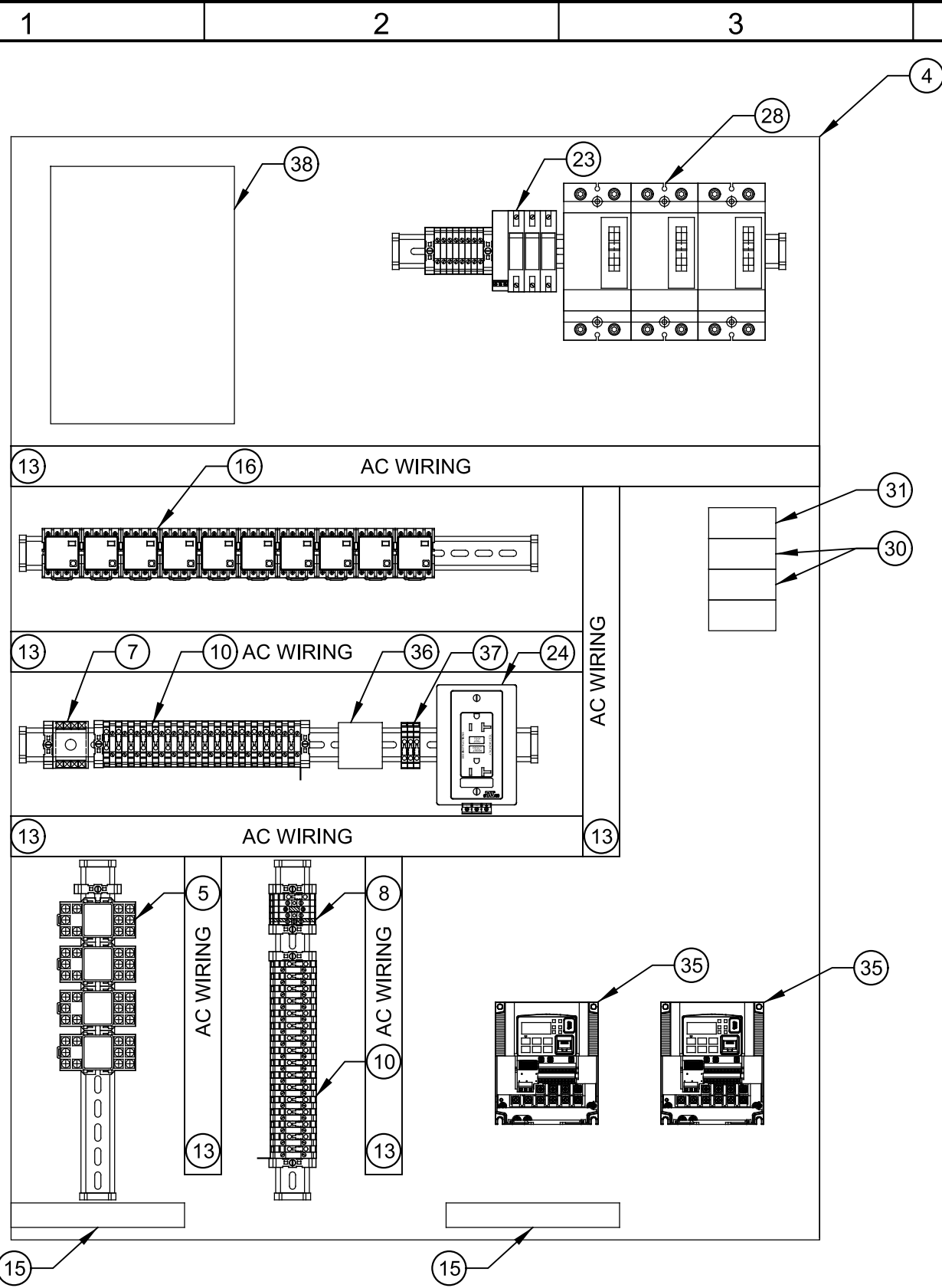


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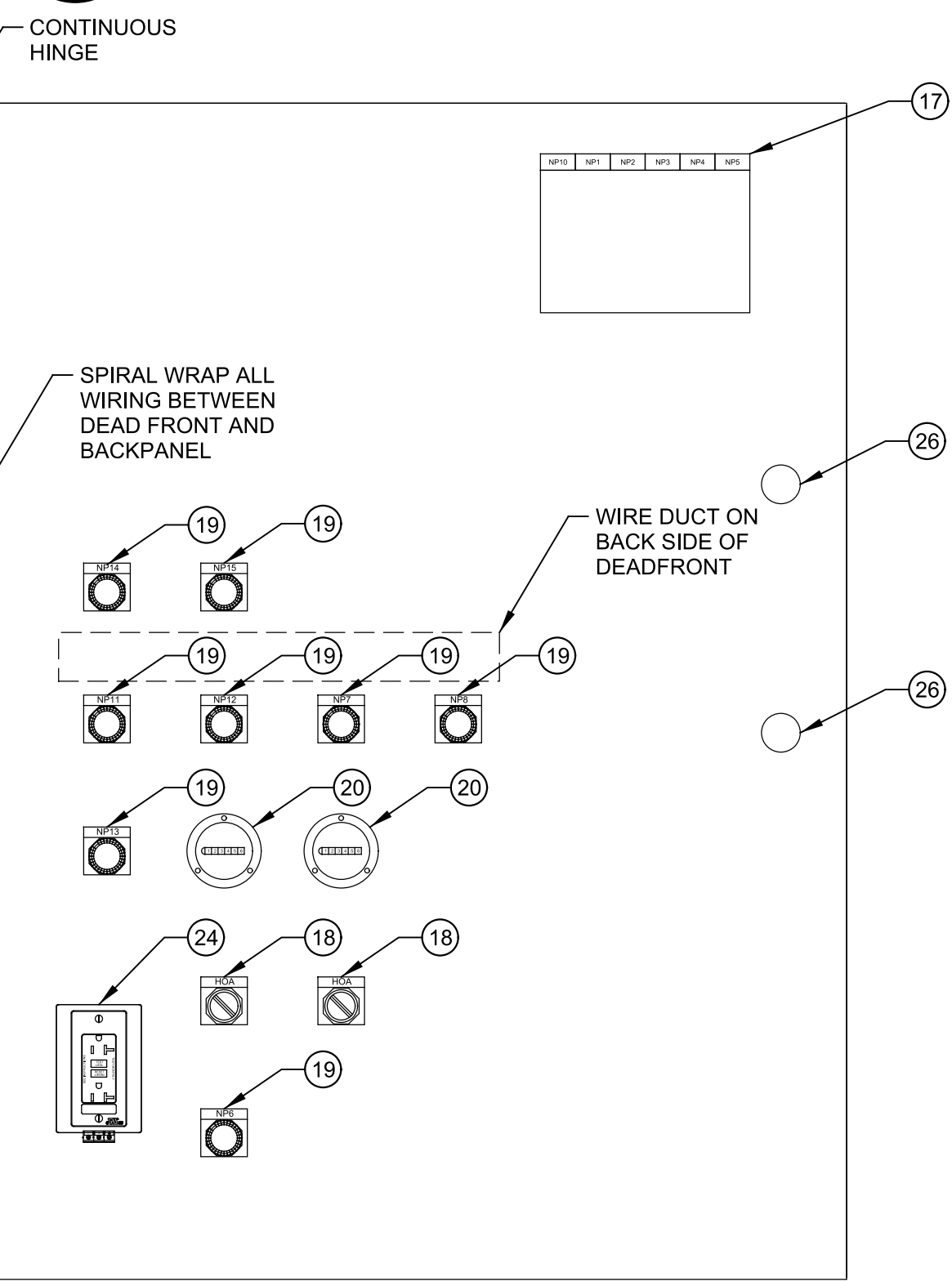
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LAST SAVED BY: kmiller



**B INTERNAL ELEVATION**  
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FILE: 11572A1002N603.2dm



**C DEAD FRONT ELEVATION**  
SCALE: NO SCALE  
FILE: 11572A1002N603.2dm

NAMEPLATE SCHEDULE	
PCP	PCP-XXX
NP 1	CCB
NP 2	GFI
NP 3	PUMP NO.1
NP 4	PUMP NO.2
NP 5	MAIN
NP 6	ALARM TEST
NP 7	PUMP NO.1 RUN
NP 8	PUMP NO.2 RUN
NP 9	ALARM SILENCE
NP 10	MISSION RTU
NP 11	ONE PUMP REQUIRED
NP 12	TWO PUMPS REQUIRED
NP 13	HIGH LEVEL
NP 14	STARTER FAIL - PUMP 1
NP 15	STARTER FAIL - PUMP 2

ITEM		QTY	DESCRIPTION
1	1	NEMA 4X 304 WHITE PAINTED STAINLESS STEEL ENCLOSURE 48"H x 36"W	NVENT HOFFMAN MODEL A48H3612SSLP3PTW, CONTROL CABINET - 48" HIGH, 36" WIDE , AND 12" DEEP (EXCLUDING DOOR DEPTH). CABINET SHALL BE CONSTRUCTED EXCLUSIVELY OF 304 STAINLESS STEEL, 14 GAUGE (MINIMUM) WITH CONTINUOUS WELDS THROUGHOUT. WEEP HOLES OR OTHER OPENINGS IN ENCLOSURE WHICH ARE NOT SPECIFIED IN THESE DRAWINGS SHALL NOT BE ACCEPTABLE. PANEL SHALL HAVE AN OUTER DOOR GASKET SEAL WHICH SHALL BE CLOSE-CELL NEOPRENE OR OTHER MATERIAL AS APPROVED BY COUNTY. DOOR GASKET SHALL PROVIDE A CONTINUOUS SEAL AGAINST EXTERIOR DOOR SEALING FACE WHICH SHALL BE A CONTINUOUS ROLLED LIP. A DRIP SHIELD SHALL BE PROVIDED AND TACK WELDED IN PLACE AT NOT LESS THAN 5 LOCATIONS. A THREE POINT 90 DEGREE TURN LATCHING MECHANISM CONSTRUCTED OF 304 STAINLESS STEEL SHALL BE PROVIDED. LATCHING MECHANISM SHALL BE OPERATED BY A SINGLE EXTERIOR STAINLESS STEEL HANDLE WITH ROLLERS AND SHALL BE PAD-LOCKABLE TO PREVENT UNAUTHORIZED OPERATION. DOOR SHALL BE FULL HEIGHT WITH 304 STAINLESS STEEL CONTINUOUS PIANO HINGE. DOOR LOCK OPEN STAINLESS STEEL ROD, AND SHALL MINIMALLY HAVE 120 SWING. PANEL SHALL HAVE PROVISIONS FOR MOUNTING BACKPANEL AND DEADFRONT INSIDE AS A SINGLE UNITIZED ASSEMBLY. A LAMINATED WIRING DIAGRAM OF ALL WIRING CONNECTIONS SHALL BE PROVIDED IN A PERMANENT SLEEVE ATTACHED TO PANEL DOOR. PANEL SHALL BE INSTALLED PERPENDICULAR TO WETWELL AND VALVE VAULT AND DOOR HINGED TO OPEN AWAY FROM THE WETWELL AND VALVE VAULT.
2	1	DATA POCKET	
3	1	NAMEPLATE	BLACK LETTERING ON WHITE NAMEPLATE
4	1	BACK PANEL 33" X 45"	NVENT HOFFMAN MODEL A36P48SS6, BACK PLATE - 33" WIDE BY 45" HIGH, 10 GAUGE (MINIMUM), PRIMED AND FINISH PAINTED STEEL BACK PLATE WITH 3/4" ROLLED OR BROKEN EDGES FOR SUPPORT. FINISH PAINT COATS SHALL HAVE A DRY FILM THICKNESS OF AT LEAST 4 MILS. HOFFMAN OR APPROVED EQUAL. ALL EQUIPMENT MOUNTED TO BACK PLATE SHALL BE ATTACHED WITH MACHINE SCREWS THROUGH DRILLED AND TAPPED HOLES.
5	4	INTRINSICALLY SAFE RELAYS	DIVERSIFIED ELECTRICAL MODEL ISO-120-AFA , SINGLE CHANNEL, 120 VAC POWER SUPPLY, 16 VOLT DC SENSING VOLTAGE, 200 MICROAMP SENSING AMPERAGE, 8-PIN PLUG-IN CONNECTION.
6	1	DEAD FRONT	32-1/2" WIDE BY 43" HIGH, 10 GAUGE (MINIMUM), BRUSHED ALUMINUM DEAD-FRONT PANEL WITH 304 STAINLESS STEEL OR ALUMINUM CONTINUOUS PIANO HINGE AND TWO QUARTER-TURN L- KNOB HANDLES FOR HOLDING THE PANEL CLOSED TO THE BACK OF THE PLATE AND INTERNAL FRAME OF THE CONTROL PANEL. ISOLATE CONTACT BETWEEN DISSIMILAR METALS W/ 1/8" NON-CONDUCTIVE INSULATING MATERIAL. PANEL SHALL BE PROVIDED WITH DOOR HOLD (OPEN) WITH STAINLESS STEEL ROD. DOOR SWING SHALL MINIMALLY BE 90-DEGREE OPEN. PANEL SHALL INCLUDE MOUNTED DEVICES AND CUT-OUTS AS INDICATED ON THE DRAWINGS. PANEL EDGES SHALL BE DEBURRED AND ROUNDED.
7	1	ALTERNATOR	DUPLEX PANEL: MPE MODEL 008-120-12 OR DIVERSIFIED ELECTRIC MODEL ARA-120-ADA, 11-PIN PLUG-IN CONNECTION, DOUBLE POLE- DOUBLE THROW, 120 VAC CONTROL VOLTAGE, TRIPLEX PANEL: DIVERSIFIED MODEL ARA-120-AME, PANEL MOUNT, SINGLE POLE-SINGLE THROW, 120VAC CONTROL VOLTAGE
8	AS REQ'D	ANALOG TERMINAL BLOCKS	SQUARE D TYPE GME 6, PROVIDE SQUARE D TYPE GH10 END CLAMPS AT EACH END OF THE TERMINAL STRIP. PROVIDE END BARRIER AT BOTTOM OF EACH TERMINAL STRIP, SQUARE D TYPE GME6B WITHOUT EXCEPTION.
9	AS REQ'D	24 VDC FUSED TERMINAL BLOCKS	SQUARE D TYPE GME 6, PROVIDE SQUARE D TYPE GH10 END CLAMPS AT EACH END OF THE TERMINAL STRIP. PROVIDE END BARRIER AT BOTTOM OF EACH TERMINAL STRIP, SQUARE D TYPE GME6B WITHOUT EXCEPTION.
10	AS REQ'D	DISCRETE TERMINAL BLOCKS	SQUARE D TYPE GME 6, 120 CONTROL TERMINAL BLOCKS FOR UP TO #10 AWG, 30 AMP, 600V. PROVIDE SQUARE D TYPE GH10 END CLAMPS AT EACH END OF THE TERMINAL STRIP. PROVIDE END BARRIER AT BOTTOM OF EACH TERMINAL STRIP, SQUARE D TYPE GME6B WITHOUT EXCEPTION.
11	AS REQ'D	DIN RAIL	SQUARE D 9080MH339
12	1	STROBE/BEACON	FEDERAL SIGNAL CORP. , LP3P-120R, 120 VAC ALARM LIGHT INCLUDING RED LENS COVERING STROBE LAMP HOLDER WITH FLASHER. GASKET SHALL BE PROVIDED BETWEEN LENS AND ENCLOSURE FOR WEATHERTIGHT SEAL. ALARM LIGHT MOUNTING SHALL BE STAINLESS STEEL RIGID PIPE PREWIRED WITH LIGHT ATTACHED , AND PACKAGED SEPARATELY FOR TRANSPORT READY FOR FIELD ASSEMBLY. 1/4" DISCONNECTS SHALL BE PROVIDED INSIDE ENCLOSURE TO FACILITATE FIELD ASSEMBLY.
13	AS REQ'D	GREY WIRE DUCT	PANDUIT GREY WIRING DUCT, 1" WIDE BY 3" HIGH, SHALL BE ATTACHED TO BACKPLATE WITH SCREWS.
14	1	GROUND BAR	SQUARE D PK12GTA, GROUND COMPRESSION TYPE TERMINAL BLOCK MOUNTED DIRECTLY TO PANEL. GROUND BAR SHALL CONSIST OF MIN. 12 GROUND TERMINALS FOR UP TO #4 AWG WIRE.
15	1	ISOLATED GROUND BAR	SQUARE D PK12GTA W/ PKGTAB
16	10	CONTROL RELAYS W/ OCTAL BASE AND PILOT LIGHT OPTION	SQUARE D CLASS 8501 KPR12P14V20
17	AS REQ'D	BREAKER CUTOUT	
18	2	SELECTOR SWITCH - THREE POSITION	SQUARE D CLASS 9001, MODEL KS43BH2, 30MM INDUSTRIAL, MAINTAINED, LEVER OPERATOR, OIL-TIGHT, SELECTOR SWITCH WITH CONTACTS AS INDICATED ON THE DRAWINGS AND AN "MANUAL-OFF-AUTO" LEGEND PLATE.
19	5	PILOT LIGHTS	SQUARE D CLASS 9001 TYPE SKP-38 LIGHT, TYPE G31 LENS AND TYPE KN-224 LEGEND PLATE. 120 VAC, RESISTOR TYPE, OIL-TIGHT, WATERTIGHT, PILOT LIGHT WITH COLORED GREEN, AMBER, OR RED PLASTIC LENS AS SHOWN ON DRAWINGS.
20	2	ELAPSED TIME METERS	REDINGTON MODEL 710-0002, 120 VAC, 6-1/2 DIGIT, NONRESETABLE, PANEL- MOUNTED.

ITEM		QTY	DESCRIPTION
21	1	INTRUSION SWITCH	INTRUSION SWITCH: THE SWITCH CONTACT SHALL BE NORMALLY CLOSED (OPEN WHEN THE PANEL DOOR IS CLOSED). INTRUSION SWITCH SHALL BE SQUARE-D 9007MS01IS0300 WITHOUT EXCEPTION.
22	1	HORN	FEDERAL SIGNAL, 350 SERIES WITH WEATHERPROOF BOX. 120VAC WEATHERPROOF.
23	3	120 VAC CIRCUIT BREAKERS	SQUARE D TYPE QOU, CIRCUIT BREAKERS (CONTROL, GFI, RTU) - SINGLE POLE, 10 & 15 AMPERE, 120/240VAC, THERMAL MAGNETIC WITH MOUNTING FEET FOR BASE MOUNTING.
24	1	GFCI OUTLET	120 VAC, 20 AMPERE, DUPLEX, INDUSTRIAL-GRADE, IVORY. LEVITON MODEL 6598-I, OR EQUAL MOUNTED IN STANDARD OUTLET BOX.
25	1	LIGHT	NVENT HOFFMAN LED24V15, LED PANEL LIGHT WITH INTEGRAL SWITCH
26	2	LATCHES	QUARTER TURN L-KNOB
27	2	FVNR MAGNETIC STARTERS	SQUARE D CLASS 8536 WITHOUT EXCEPTION MAGNETIC STARTERS - 3 POLE, 600 VAC MAXIMUM, OPEN CONSTRUCTION, CLOSE COUPLED, WITH OVERLOAD RELAY ASSEMBLIES. STARTER SHALL HAVE 120 VAC, 60 HZ MAGNETIC COIL AND SHALL MINIMALLY HAVE ONE AUXILIARY COIL STATUS CONTACT. STARTERS SHALL BE SIZED ACCORDING TO THE MOTOR HORSEPOWER AS FOLLOWS: NEMA SIZE 1: 230 VOLTS - 7-1/2 HP AND LESS 460 VOLTS - 10 HP AND LESS NEMA SIZE 2: 230 VOLTS - GREATER THAN 7-1/2 HP, LESS THAN OR EQUAL TO 15 HP 460 VOLTS - GREATER THAN 10 HP, LESS THAN OR EQUAL TO 25 HP NEMA SIZE 3: 230 VOLTS - GREATER THAN 15 HP 460 VOLTS - GREATER THAN 25 HP OVERLOAD ELEMENTS SHALL BE PROVIDED AND SHALL BE AS RECOMMENDED BY THE PUMP SUPPLIER. ELECTRONIC/ADJUSTABLE OVERLOADS ARE NOT ACCEPTABLE. PROVIDE WITH EXTERNAL RESET COVER OPERATOR ACCESSIBLE THROUGH THE DEAD FRONT.
28	1	MAIN CIRCUIT BREAKER	CIRCUIT BREAKER (MAIN) - 3 POLE, 240 OR 480VAC, THERMAL MAGNETIC, "MAIN", WITH MOUNTING FEET FOR BASE MOUNTING. AMPERE RATING SHALL BE BASED ON THE SIZE OF THE PUMP STATION, BUT SHALL NOT BE RATED LESS THAN 100 AMPERES. SQUARE D TYPE QOU (230 VOLTS, 125 AMPS OR LESS), TYPE Q2L (230 VOLTS, 150 TO 225 AMPS), TYPE FAL (480 VOLTS, 100 AMPS OR LESS), OR POWERPACT J FRAME (480 VOLTS, 150 TO 250 AMPS), WITHOUT EXCEPTION.
29	2	PUMP MOTOR CIRCUIT BREAKER	CIRCUIT BREAKERS (PUMP MOTORS) - 3 POLE, THERMAL MAGNETIC, SUITABLE BASE MOUNTING. AMPERE RATING SHALL BE BASED ON THE STARTING CURRENT OF THE MOTOR PER NEC AND SHALL BE RATED NOT LESS THAN 125% NOR GREATER THAN 250% OF MOTOR FLA. SQUARE D TYPE QOU (230 VOLTS, 125 AMPS OR LESS), TYPE Q2L (230 VOLTS, 150 TO 225 AMPS), TYPE FAL (480 VOLTS, 100 AMPS OR LESS), OR POWERPACT J FRAME (480 VOLTS, 110 TO 250 AMPS), WITHOUT EXCEPTION.
30	1	POWER DISTRIBUTION BLOCK	SQUARE D TYPE LBA363206 FOR PANELS 3 POLE 600 VAC. WITH LINE LUGS FOR TWO #14 TO 2/0 AWG CABLE PER PHASE. SQUARE D TYPE LBA365208 FOR PANELS REQUIRING #2 AWG BRANCH CIRCUITS. PROVIDE WITH PLEXIGLASS COVERS.
31	1	NEUTRAL DISTRIBUTION BLOCK	SQUARE D TYPE LBA163206, SINGLE POLE, 600VAC, WITH LINE LUGS FOR TWO (2) #14 TO 2/0 AWG CABLES AND LOAD LUGS FOR SIX (6) #14 TO #4 AWG CABLES PER PHASE. PROVIDE WITH PLEXIGLASS COVERS.
32	2	ELAPSED TIME METERS	REDINGTON MODEL 710-0002
33		NOT USED	
34	2	PUSH BUTTON PILOT DEVICE - SILENCE	SQUARE D CLASS 9001 KR1R, , FLUSH, MOMENTARY (SPRING-RETURN), OIL-TIGHT, NEMA 4 PUSH-BUTTON WITH 1-N.O. CONTACT WITH RED LEGEND PLATE ENGRAVED "ALARM SILENCE" AND "TEST ALARM" RESPECTIVELY.
35	2	VFD	HITACHI WJ200 SERIES
36	1	PHASE MONITOR/RELAY	208-230 VAC THREE PHASE DIVERSIFIED MODEL SLA-230-ALA OR MPE MODEL 001-230-1211, 230 VAC SINGLE PHASE DIVERSIFIED MODEL UGA-240-AKA, AND 480 VAC SYSTEMS 12 PIN SOCKET MPE MODEL 001-500-121 W / SD12 SOCKET. AUTOMATIC RESET, FUSED, SURFACE-MOUNT, OCTAL SOCKET PLUG-IN CONNECTION. ADJUSTABLE RANGE VOLTAGE FOR 3 PHASE POWER SYSTEMS WITHOUT EXCEPTION. PROVIDE MATCHING SOCKET TO MAINTAIN UL LISTING
37	1	FUSE BLOCK	SQUARE D MODEL FB2211 (250 VOLT SYSTEMS) OR MODEL 2611 (600 VOLT SYSTEMS)
38	1	CELLULAR DIALER	MISSION MYDRO 150, FLATPAK, W/ P/N OP653 (8DI MODULE)

ALL SARASOTA COUNTY UTILITY LIFT STATIONS SHALL HAVE 480VAC, 3PH POWER

REV	DATE	BY	DESCRIPTION
1			
2			
3			

DESIGNED RD  
DRAWN KMM  
CHECKED RD  
DATE JUNE 2021

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SARASOTA COUNTY  
SCADA STANDARDS  
INSTRUMENTATION

DEVELOPER LS - DUPLEX PUMP CONTROL PANEL FOR SINGLE PHASE AND 480V SYSTEMS INTERNAL ELEV

VERIFY SCALES  
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DRAWING NO. 18N03  
SHEET NO. 12 OF 14

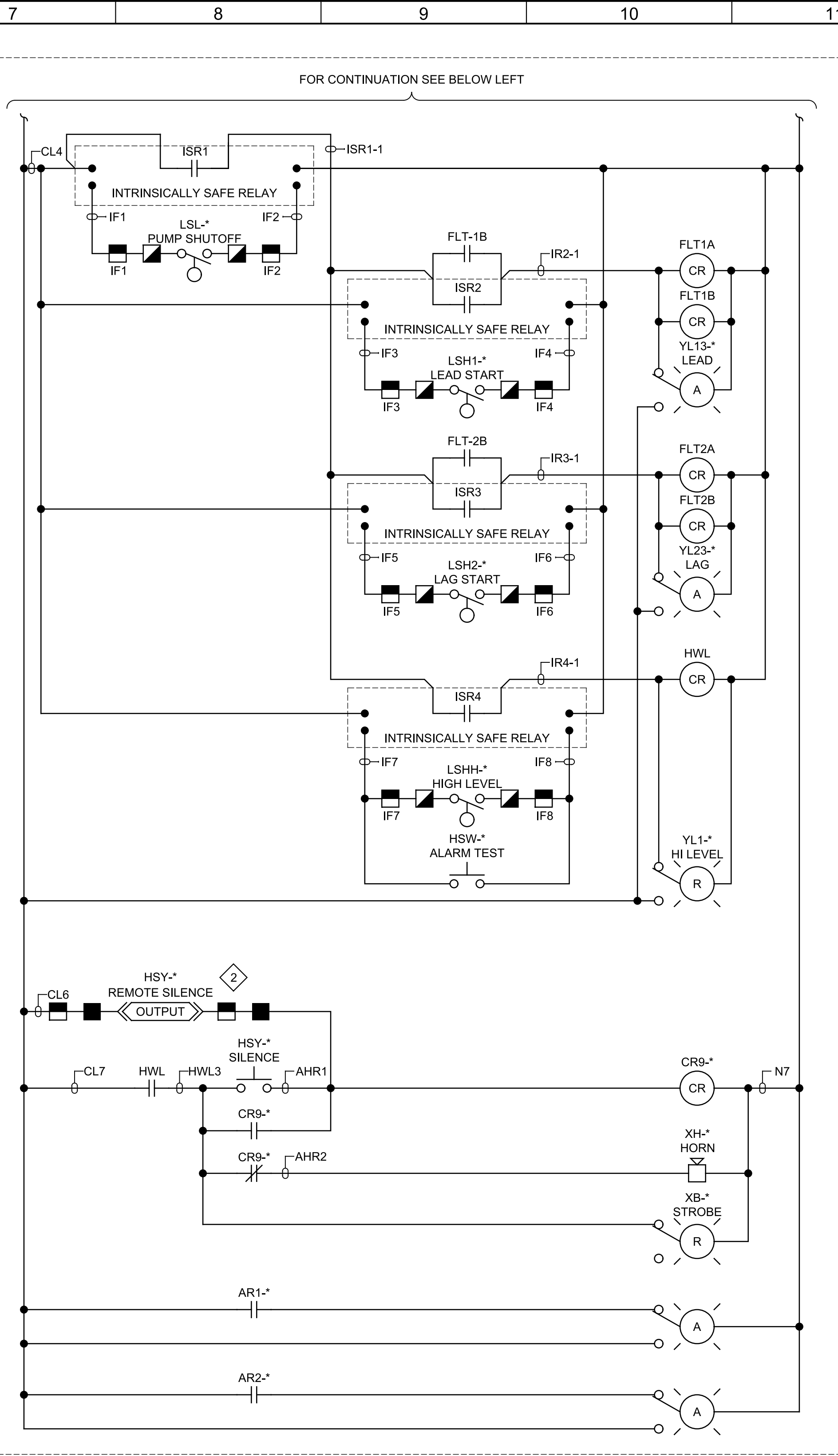
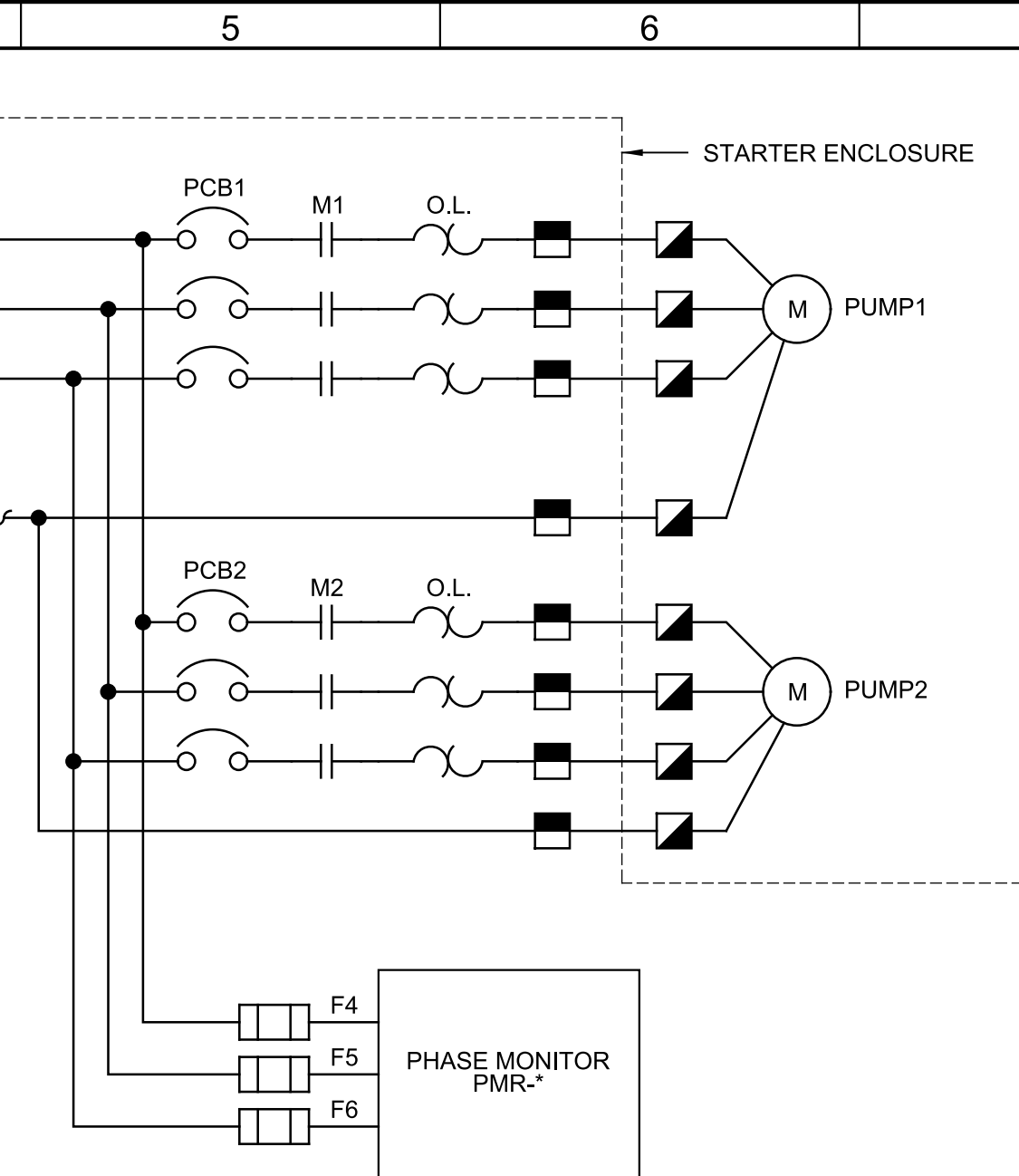
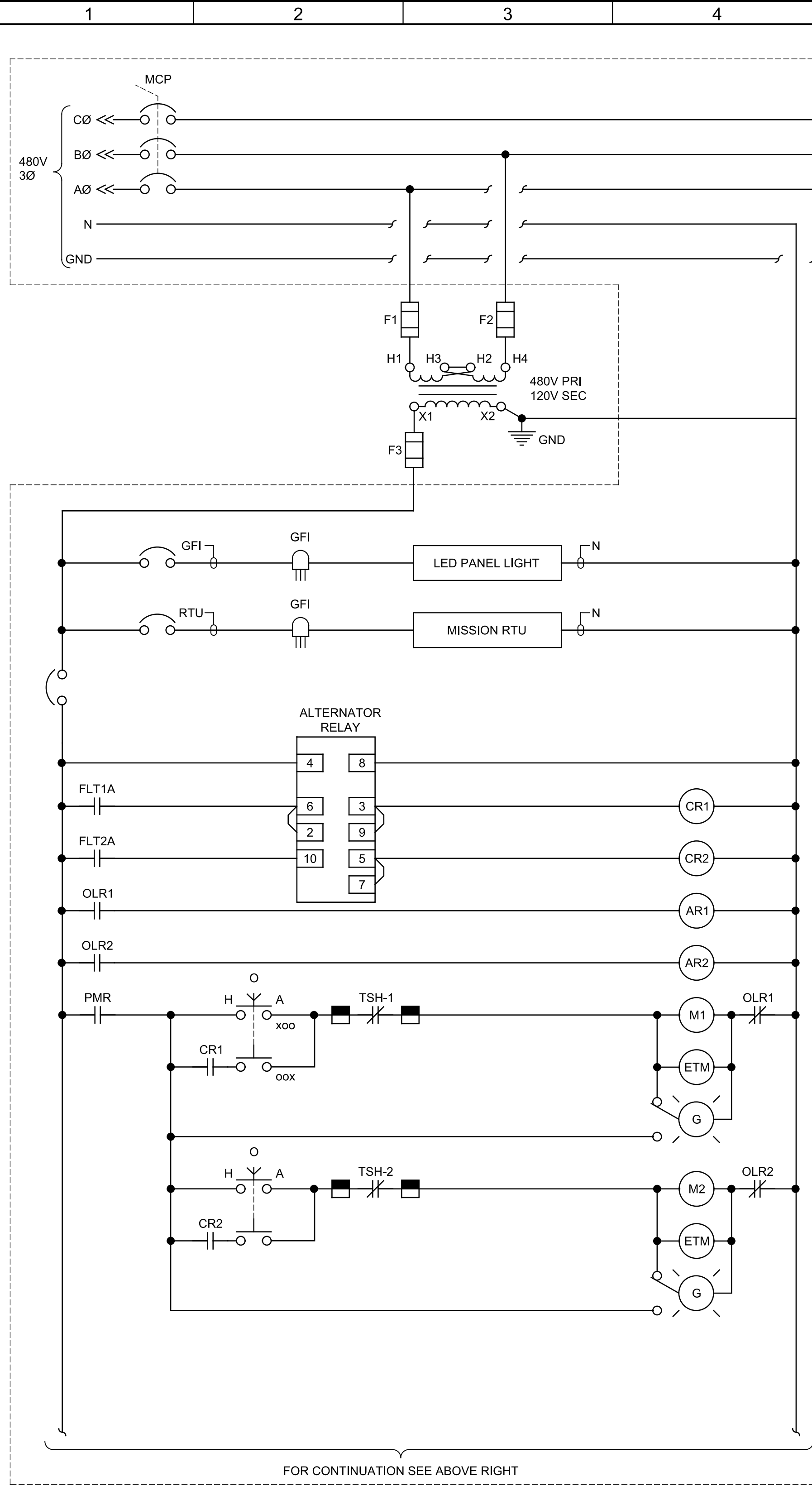


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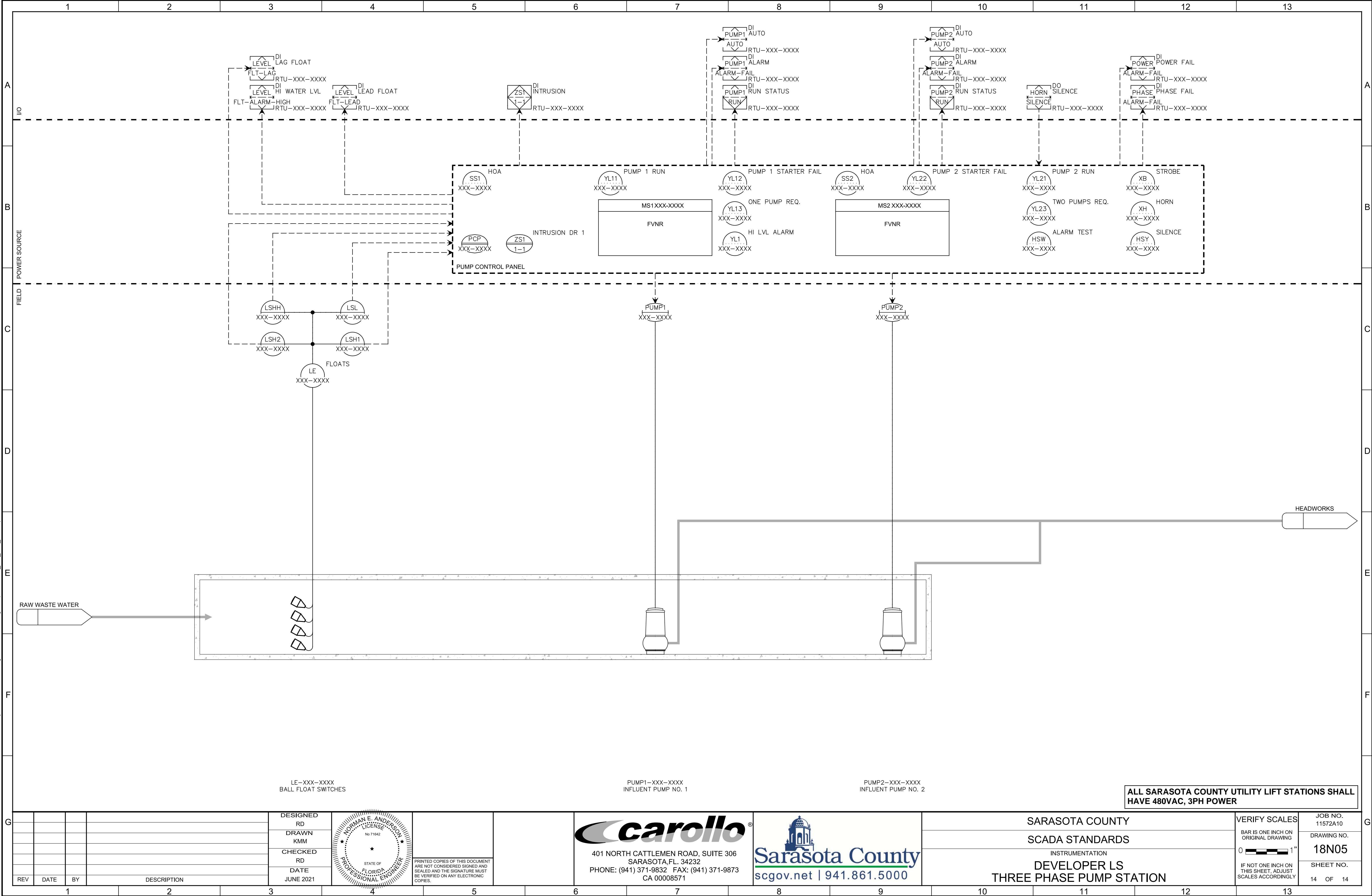


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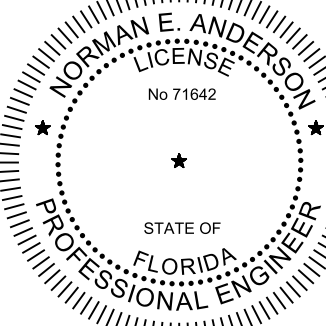
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SARASOTA COUNTY  
SCADA STANDARDS  
INSTRUMENTATION  
DEVELOPER LS  
THREE PHASE PUMP STATION

VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
0 1"  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.  
11572A10  
DRAWING NO.  
18N05  
SHEET NO.  
14 OF 14

ALL SARASOTA COUNTY UTILITY LIFT STATIONS SHALL HAVE 480VAC, 3PH POWER