

TRIPLEX PUMP STATION
ELECTRICAL DRAWING INDEX

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GENERAL NOTES:

- 1.) SITE SPECIFIC CONDITIONS DETERMINE THE CLASSIFICATION OF PUMP STATION IN ACCORDANCE WITH FDEP STANDARDS AND MUST BE DETERMINED BY THE DESIGN ENGINEER FOR EACH SPECIFIC PROJECT.
- 2.) A PUMP STATION THAT RECEIVES FLOW FROM MORE THAN 1 LOCATION WILL BE CLASSIFIED AS EITHER A REPUMP STATION OR A MASTER PUMP STATION. THE DETERMINATION OF PUMP STATION CLASSIFICATION IS VERY SITE SPECIFIC. ENGINEER, DEVELOPER AND/OR CONTRACTOR MUST COORDINATE WITH LEE COUNTY UTILITIES TO CORRECTLY CATEGORIZE THE STATION. PUMP STATION CLASSIFICATION DETERMINES WHICH STANDARD TO REFERENCE. REPUMP STATIONS CAN BE UP TO 77HP, 2 OR 3 PUMPS AND WILL BE EQUIPPED WITH ACROSS THE LINE STARTERS CONTROLLED BY SCADA-PAK. REFERENCE LCU STANDARD DUPLEX 3-PHASE PUMP STATION WITH GENERATOR OR LCU STANDARD TRIPLEX 3-PHASE PUMP STATION WITH GENERATOR FOR GENERAL CONSTRUCTION STANDARDS. SIZE ELECTRICAL SERVICE AND EQUIPMENT SITE SPECIFIC TO REPUMP STATION HORSEPOWER. MASTER PUMP STATIONS WILL BE 35HP AND GREATER, MOST LIKELY 3 PUMPS. THEY WILL BE EQUIPPED WITH VFDS WHICH ARE LEVEL CONTROLLED THROUGH A PLC. REFERENCE LCU MASTER PUMP STATION STANDARD DRAWINGS. SIZE ELECTRICAL SERVICE AND EQUIPMENT SITE SPECIFIC TO MASTER PUMP STATION HORSEPOWER.

STAND-BY GENERATOR REQUIREMENT:

FDEP REQUIRES AN IN PLACE EMERGENCY GENERATOR TO PROVIDE UNINTERRUPTED PUMPING CAPABILITY FOR PUMP STATIONS RECEIVING FLOW FROM ONE OR MORE PUMP STATIONS THROUGH A FORCE MAIN OR PUMP STATIONS DISCHARGING THROUGH PIPES 12 INCHES OR LARGER. REFERENCE FDEP FORM 62-604.300(8)(a) EMERGENCY OPERATION OF PUMP STATIONS PARAGRAPH 71. IN ADDITION TO FDEP REQUIREMENTS, GENERATORS ARE REQUIRED BY LCU AT PUMP STATIONS BASED ON SITE SPECIFIC FLOWS. COORDINATE WITH LCU TO DETERMINE IF SITE SPECIFIC FLOWS AT PUMP STATION REQUIRE AN IN PLACE EMERGENCY GENERATOR.

SUBMITTAL REQUIREMENT:

LEE COUNTY UTILITIES REQUIRES PUMP STATION SUBMITTALS BE PROVIDED FOR THEIR REVIEW TO ENSURE COMPLIANCE WITH THE LCU PUMP STATION STANDARDS.

ELECTRICAL DRAWING
INDEX

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NOTE:
THIS DRAWING IS A LEE COUNTY STANDARD DETAIL AND THEREFORE DOES NOT NEED TO BE SIGNED AND SEALED

 LEE COUNTY SOUTHWEST FLORIDA 1500 MONROE STREET LEE COUNTY UTILITIES ENGINEERING FORT MYERS, FLORIDA 33901		
SHEET TITLE: DUPLEX PUMP STATION DRAWING INDEX		
TITLE: STANDARD 480V DUPLEX PUMP STATION w-GEN		
PROJECT: WASTE WATER DUPLEX, TRIPLEX PUMP STA. MASTER PUMP STATION DESIGN STANDARD		
PROJECT NO: 480V DPS w-GEN	FILE NAME: Triplex 480V w-GEN	SHEET NUMBER: 1 OF 12

CONTROL/ELEMENTARY SYMBOLS	
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	LIMIT SWITCH, NORMALLY OPEN
	LIMIT SWITCH, NORMALLY CLOSED
	PRESSURE SWITCH, NORMALLY OPEN
	PRESSURE SWITCH, NORMALLY CLOSED
	FLOAT SWITCH, NORMALLY OPEN
	FLOAT SWITCH, NORMALLY CLOSED
	FLOW SWITCH, NORMALLY OPEN
	FLOW SWITCH, NORMALLY CLOSED
	TEMPERATURE SWITCH, NORMALLY OPEN
	TEMPERATURE SWITCH, NORMALLY CLOSED
	NORMALLY OPEN, TIMED TO CLOSE CONTACT
	NORMALLY CLOSED, TIMED TO OPEN CONTACT
	NORMALLY CLOSED, TIMED TO CLOSE CONTACT
	NORMALLY OPEN, TIMED TO OPEN CONTACT
	ANALYZER INDICATOR TRANSMITTER
	ALARM RELAY
	ALARM TIMER
	CONTROL RELAY
	FLOW INDICATOR TRANSMITTER (TOTALIZER)
	FLOW SWITCH HIGH/LOW
	LIQUID LEVEL SWITCH
	LEVEL INDICATOR TRANSMITTER
	LIMIT SWITCH OR LEVEL SWITCH
	MOTOR SWITCH MANUAL
	MOTOR STARTER
	PRESSURE GAUGE
	PROCESS FLOW TIMER
	PRESSURE SWITCH
	TEMPERATURE SWITCH
	TIMING RELAY
	SURGE SUPPRESSION DEVICE
	SOLENOID VALVE
	VIBRATION SWITCH
	TORQUE SWITCH
	ZERO SPEED SWITCH
	ALARM INDICATING LIGHT
	RUN INDICATING LIGHT
	MOMENTARY CONTACT PUSHBUTTON
	MOMENTARY BREAK PUSHBUTTON OR RESET
	KEYED SWITCH
	MAINTAINED CONTACT ON-OFF SWITCH
	START/STOP (S/S) CONTROL SWITCH
	MAINTAINED CONTACT
	FUSE
	MOLDED CASE CIRCUIT BREAKER
	CONTROL POWER TRANSFORMER
	REMOTE TERMINAL BLOCK POINT
	COPPERWELD GRD. ROD
	HAND OFF REMOTE CONTROL STATION
	HAND OFF AUTO CONTROL STATION
	MOTOR STRIP HEATER

ELECTRICAL PLAN SYMBOLS	
	WALL OUTLET BOX AND 20 AMP SINGLE POLE SWITCH ('a' INDICATES SWITCHES) 48" TO CETERLINE
	WALL OUTLET BOX AND 20 AMP 3-WAY SWITCH ('a' INDICATES SWITCHES) 48" TO CTR LINE.
	MANUAL MOTOR STARTING SWITCH WITH OVERLOADS AND PILOT LIGHT. NEMA 4X TYPICAL
	WALL OUTLET BOX AND 20 AMP SWITCH WITH WEATHERPROOF COVER OR ENCLOSURE.
	WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE 18" TO CENTERLINE
	WALL OUTLET BOX AND 20 AMP DUPLEX RECEPT MOUNTED 48"AFF OR AS NOTED.
	WALL OUTLET BOX AND 20 AMP GFCI DUPLEX RECEPTACLE AT 18" TO CENTERLINE. WP INDICATES WEATHERPROOF COVER PLATE.
	WALL OUTLET BOX AND 20 AMP GFCI RECEPTACLE MOUNTED 48"AFF OR AS NOTED.
	WALL OUTLET BOX AND DOUBLE 20 AMP DUPLEX RECEPTACLES 18" TO CENTERLINE
	FLUSH MOUNTED JUNCTION BOX (SURFACE IN MECH/ELEC SPACES OR ABOVE CEILINGS).
	BRANCH CIRCUIT CONDUIT AND WIRE GENERALLY SURFACE MOUNTED, CONCEALED ABOVE CEILINGS. SLASH MARKS INDICATE NUMBER OF CONDUCTORS; (MARKS SHOWN TO AID CONTRACTOR IN BIDDING, THE CONTRACTOR SHALL PROVIDE THE REQUIRED CONDUCTORS UNDER THE CONTRACT SUM WHETHER OR NOT SHOWN). SHORT SLASHES INDICATE PHASE CONDUCTOR OR SWITCH LEG, LONG INDICATE NEUTRAL CONDUCTOR. GREEN GROUND CONDUCTOR NOT SHOWN; ALL CONDUITS REQUIRE COPPER GROUND CONDUCTOR. TWO CONDUCTORS PLUS GROUND REQUIRED, MINIMUM.
	CONDUIT AND WIRE CONCEALED IN FLOOR SLAB OR UNDERGROUND.
	BRANCH CIRCUIT PANELBOARD AS NOTED; SEE PANEL SCHEDULES
	DISCONNECT SWITCH SIZE PER EQUIPMENT NAME PLATE OR AS NOTED; FOR DISCONNECTS. SERVING MOTOR LOADS OF 10HP OR GREATER AND FOR ALL MOTOR LOADS SERVED THROUGH VARIABLE FREQUENCY DRIVES; PROVIDE SURGE SUPPRESSION DEVICE EQUAL TO SQ.-D. SP3650 OR EQUAL AT DISCONNECT.
	MOTOR CONNECTION
	MANUAL TRANSFER SWITCH OR REVERSING SWITCH

LIGHTING FIXTURES SYMBOLS	
	LED FIXTURE POLE MOUNTED SEE DETAIL

SYSTEM SYMBOL LEGEND	
	SYSTEMS CABINET AS NOTED OR MARKED.
	LIGHTNING PROTECTION AIR TERMINAL STREAMER RETARDING TYPE.
	STREAMER RETARDING AIR TERMINAL MOUNTED TO LIGHT POLE.
SINGLE LINE DIAGRAM SYMBOLS	
	VOLTMETER
	POWER FACTOR METER
	KILOWATT METER
	AMMETER
	THREE PHASE VOLT SWITCH
	THREE PHASE AMP SWITCH
	CURRENT TRANSMITTER
	KILOWATT TRANSMITTER
	POWER FACTOR TRANSMITTER
	LOCAL CONTROL PANEL
	GROUND FAULT INTERRUPTER
	WATT HOUR METER
	FUSE
	CAPACITOR
	DRAW-OUT CIRCUIT BREAKER
	MOULDED CASE CIRCUIT BREAKER
	TYPICAL STARTER CONTROL. SEE SWITCHGEAR CONTROL DIAGRAMS FOR EXACT TYPE.
	ELECTRIC A.C. MOTOR, NO. INDICATES HORSEPOWER.
	ELECTRIC D.C. MOTOR, NO. INDICATES HORSEPOWER.
	SERVICE OR EQUIPMENT GROUND.
	NON-FUSIBLE DISCONNECT SWITCH, 30A,3P UNLESS OTHERWISE INDICATED.
	NON-FUSIBLE DISCONNECT SWITCH, 30A,3P UNLESS OTHERWISE INDICATED, WITH REMOTE CONTROL STATION AS REQUIRED BY ELEMENTARY DIAGRAMS OR SPECS.
	LIGHTING PANELBOARD
	POWER PANELBOARD
	KIRK KEY INTERLOCK
	CURRENT TRANSFORMERS
	POTENTIAL TRANSFORMERS
	MANUAL OR AUTOMATIC TRANSFER SWITCH

ABBREVIATIONS LIST	
A AMP ALUM AT ATS AVAIL AWG CAB CAT CONV CRCC CU D DIA DRGS ENET EXT FOCC FPL GND OR GRD. H HZ I&C I/O INST INT KVA LCU LT MA MCB MIN NA NEC NEMA NTS P PH P&ID PLC PW MPZ SCH SE SPD SS TEMP TSP TYP U.G. UPS V VA VAC VDC VFD W PCP W/ XFMR " ' # E# ES-# FDEP	AMPS AMP FRAME AMPS INTERRUPTING CURRENT ALUMINUM AMP TRIP AUTOMATIC TRANSFER SWITCH AVAILABLE AMERICAN WIRE GAUGE CONDUIT CABINET CATEGORY CONVERSION CELLULAR ROUTER COMMUNICATION CABINET COPPER DEPTH DIAMETER DRAWINGS ETHERNET EXTERNAL FIBER OPTIC CONVERSION CABINET FLORIDA POWER AND LIGHT GROUND HEIGHT HERTZ INSTRUMENTATION AND CONTROLS INPUT/OUTPUT INSTRUMENT INTERNAL KILOVOLT--AMPERES (1VA*10^3) LEE COUNTY UTILITIES LIGHT MILLIAMPS (1A*10^-3) MAGNETIC CIRCUIT BREAKER MINIMUM NOT APPLICABLE NATIONAL ELECTRIC CODE NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION NOT TO SCALE POLE PHASE PROPORTIONAL INTEGRAL DERIVATIVE PROGRAMMABLE LOGIC CONTROLLER PRODUCTION WELL MINI POWER ZONE SCHEDULE SERVICE ENTRANCE SURGE PROTECTION DEVICE STAINLESS STEEL TEMPERATURE OR TEMPORARY TWISTED SHIEL

ELECTRICAL SYMBOLS LEGEND & ABBREVIATIONS

NOTE:

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COUNTY STANDARD DETAIL
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	LEE COUNTY SOUTHWEST FLORIDA		LEE COUNTY UTILITIES ENGINEERING	
	1500 MONROE STREET		FORT MYERS, FLORIDA 33901	
SHEET TITLE:				
DUPLEX PUMP STATION NOTES & ABBREVIATIONS				
TITLE:				
STANDARD 480V DUPLEX PUMP STATION w-GEN				
PROJECT:				
WASTE WATER DUPLEX, TRIPLEX PUMP STA. MASTER PUMP STATION DESIGN STANDARD				
PROJECT NO.:		FILE NAME:		SHEET NUMBER:
480V DPS W-GEN		Triplex 480V w-GEN		2 OF 12

EQUIPMENT	SIZE	H(IN)	W(IN)	D(IN)
UTILITY MAIN BREAKER (20HP~30HP)	200A	33	10	8
PUMP STATION CONTROL PANEL (15HP~30HP)	250A 200AT	48	60	16
AUTOMATIC TRANSFER SWITCH (20HP~30HP)	225A	46	32	16
MINI POWERZONE PANEL (20HP~30HP)	15KVA	49	28	14



- 1.) ALL EQUIPMENT SHALL BE HUNG ON EQUIPMENT RACK. OPEN WINDOW CUTTING OF ENCLOSURE BOTTOMS IS NOT PERMITTED.
- 2.) ALL EQUIPMENT ENCLOSURES ARE REQUIRED TO BE NEMA 4X STAINLESS STEEL POWDER COATED WHITE WITH 3-POINT LATCH.
- 3.) PROVIDE NEOPRENE PADS BETWEEN CONCRETE EQUIPMENT PADS AND ALL FREE STANDING EQUIPMENT AND GENERATOR FUEL TANK SUPPORTS.
- 4.) REFERENCE SINGLE LINE DRAWING FOR CONDUIT AND WIRE SIZE.

- 1.) UTILITY PADMOUNT TRANSFORMER OR AERIAL TRANSFORMER BANK. COORDINATE SERVICE CHARACTERISTICS, EXACT LOCATION AND PRIMARY FEEDER DETAILS WITH UTILITY. PROVIDE GROUNDING, TRANSFORMER PAD AND CONDUIT ENTRY PER UTILITY REQUIREMENTS.
- 2.) UNDERGROUND SERVICE LATERAL.
- 3.) ALUMINUM DIRECT READING UTILITY METER.
- 4.) NEMA 4XSS SE RATED ENCLOSED CIRCUIT BREAKER.
- 5.) NEMA 4XSS AUTOMATIC TRANSFER SWITCH.
- 6.) DEDICATED 2 WIRE UTP CABLE FOR REMOTE GEN-START COMMAND IN 1".
- 7.) NEMA 3R, SS 15KVA MINI POWERZONE. 480V 3PH DELTA PRIMARY 120/208V 3PH SECONDARY. NO INTERIOR WITH BOLT ON BREAKERS.
- 8.) DEP COMPANET PUMP CONTROL PANEL (PCP).
- 9.) (4) MINIMUM 2" CONDUITS INTO WETWELL. (3) FOR SUBMERSIBLE PUMP CABLES, (1) FOR FLOATS AND LIT CABLES. CORE DRILL NEW PENETRATIONS THROUGH WETWELL. PATCH ALL WITH HYDROCEMENT.
- 10.) STAND-BY POWER UNDERGROUND SERVICE LATERAL.
- 11.) GENSET WITH SUBBASE FUEL TANK.
- 12.) (2) PAIR #16 TSP INSTRUMENTATION CABLE IN 1". AND (9) CONDUCTOR #14 CONTROL CABLE IN 1.25".
- 13.) (2)#8 AND #10G IN 1". TO BATTERY CHARGER. FIELD COORDINATE EXACT LOCATION OF BATTERY.
- 14.) GENSET STRIP HEATER AND JACKET WATER HEATER. MINIMUM (3)"@10 IN 0.75". COORDINATE EXACT LOCATION OF HEATERS.
- 15.) GENERATOR FUEL FILL PANEL WITH FUEL LEVEL TRANSMITTER & TANK LEAK ALARM PANEL MOUNTED WITHIN NEMA4X SS POWDER COATED WHITE ENCLOSURE.
- 16.) GENERATOR CONTROL PANEL; (GCP). COORDINATE EXACT LOCATION PRIOR TO RUSH-IN. PROGRAM TO PROVIDE MONITORING CONTACTS FOR:
GENERATOR FAULT
GENERATOR RUNNING
- 17.) (2)1.25". (1) SPARE, (1) WITH (13) CONDUCTOR #14 CONTROL CABLE.

STANDARD 480V-3Ø (20HP-30HP) TRIPLEX PUMP STATION POWER, INSTRUMENTATION AND CONTROL PLAN

LEE COUNTY
SOUTHWEST
FLORIDA

1500 MONROE STREET

LEE COUNTY
UTILITIES
ENGINEERING

FORT MYERS, FLORIDA 33901

SHEET TITLE: DUPLEX PUMP STATION
POWER DISTRIBUTION & CONTROL PLAN

TITLE:	STANDARD 480V DUPLEX PUMP STATION w-GEN
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PROJECT: WASTE WATER DUPLEX, TRIPLEX PUMP STA.
MASTER PUMP STATION DESIGN STANDARD

PROJECT NO.:
480V DPS w-GEN

FILE NAME: Triplex 480V w-GEN

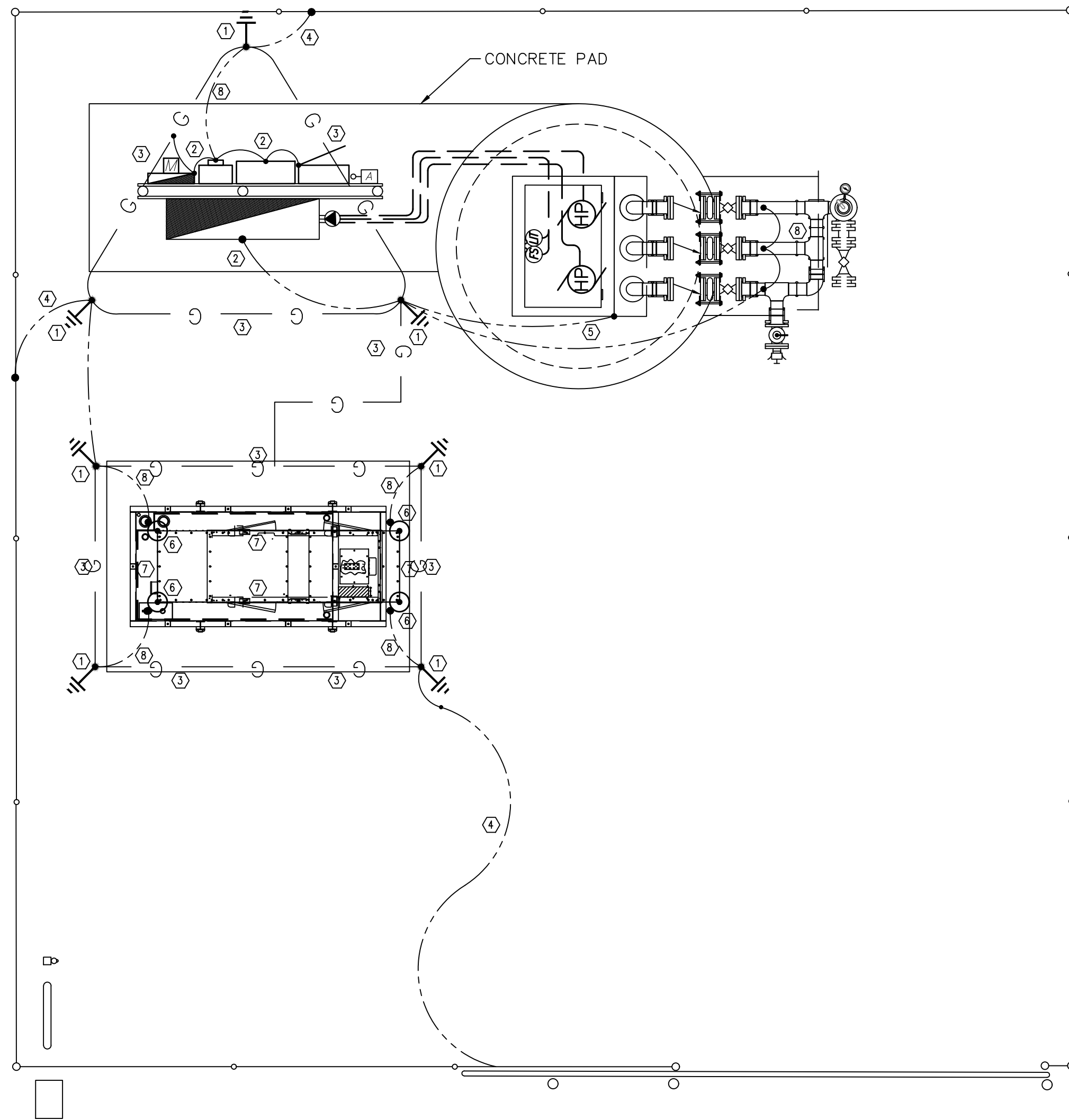
SHEET NUMBER:
3 OF 12

GENERAL NOTES

- 1.) ALL U.G. CONNECTIONS TO BE VIA EXOTHERMIC WELD (CADWELD) UNLESS INDICATED OTHERWISE.
- 2.) ALL REQUIRED BONDS MAY NOT BE SHOWN; PROVIDE ADDITIONAL BONDS TO ALL DEVICES, INSTRUMENTS, CABINETS, CONTROL VALVES, ETC. AS REQUIRED TO COMPLY WITH UL AND NEC.

KEYNOTES

- 1.) 20' DRIVEN GROUND ROD WITH INSPECTION TEST WELL (SEE DETAIL). TYPICAL.
- 2.) #2 TINNED SOLID COPPER BOND. TYPICAL.
- 3.) #2/0 TINNED STRANDED COPPER COUNTERPOISE LOOP GROUND. TYPICAL.
- 4.) #2/0 TINNED SOLID BARE BOND TO GROUND GRID.
- 5.) BOND TO HINGE CORNER OF HATCH FRAME. DRILL TAP AS REQUIRED.
- 6.) STREAMER RETARDING ROOF MOUNTED AIR TERMINAL. TYPICAL
- 7.) MAIN ROOF CONDUCTOR. TYPICAL.
- 8.) ROOF DOWN CONDUCTOR TO GROUND GRID.



STANDARD 480V-3Ø (20HP-30HP) TRIPLEX PUMP STATION LIGHTNING PROTECTION, BONDING & GROUNDING PLAN

LIGHTNING PROTECTION LEGEND:

- LP ——— MAIN ROOF/DOWN CONDUCTOR TYPICAL
- G ——— #2/0 TINNED BARE COPPER COUNTERPOISE LOOP GROUND.
- #2 TINNED SOLID COPPER BOND TO EQUIPMENT/CABINETS ETC.

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LEE COUNTY
SOUTHWEST
FLORIDA
1500 MONROE STREET

LEE COUNTY
UTILITIES
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FORT MYERS, FLORIDA 33901

SHEET TITLE: DUPLEX PUMP STATION LIGHTNING PROTECTION PLAN

TITLE: STANDARD 480V DUPLEX PUMP STATION w-GEN

PROJECT: WASTE WATER DUPLEX, TRIPLEX PUMP STA. MASTER PUMP STATION DESIGN STANDARD

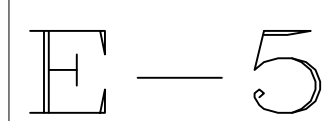
PROJECT NO.: 480V DPS w-GEN

FILE NAME: Triplex 480V w-GEN

SHEET NUMBER: 4 OF 12

- 1.) ALL CONDUIT PENETRATIONS INTO THE TOP OR SIDES OF THE ENCLOSURE ARE REQUIRED TO BE MADE USING MYERS HUBS.
- 2.) ALL CONDUIT PENETRATIONS INTO ELECTRICAL EQUIPMENT SHALL BE INSTALLED ALONG BOTTOM OF EACH ENCLOSURE.

PROVIDE SHOP DRAWINGS FROM A FLORIDA REGISTERED PROFESSIONAL ENGINEER CERTIFYING THAT THE ALUMINUM POST FOUNDATION AND RACK MEET CURRENT FLORIDA BUILDING CODE AND WIND LOAD REQUIREMENTS.



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LEE COUNTY
SOUTHWEST
FLORIDA

1500 MONROE STREET

LEE COUNTY
UTILITIES
ENGINEERING

FORT MYERS, FLORIDA 3390

SHEET TITLE: DUPLEX PUMP STATION
ELECTRICAL EQUIPMENT RACK ELEVATION

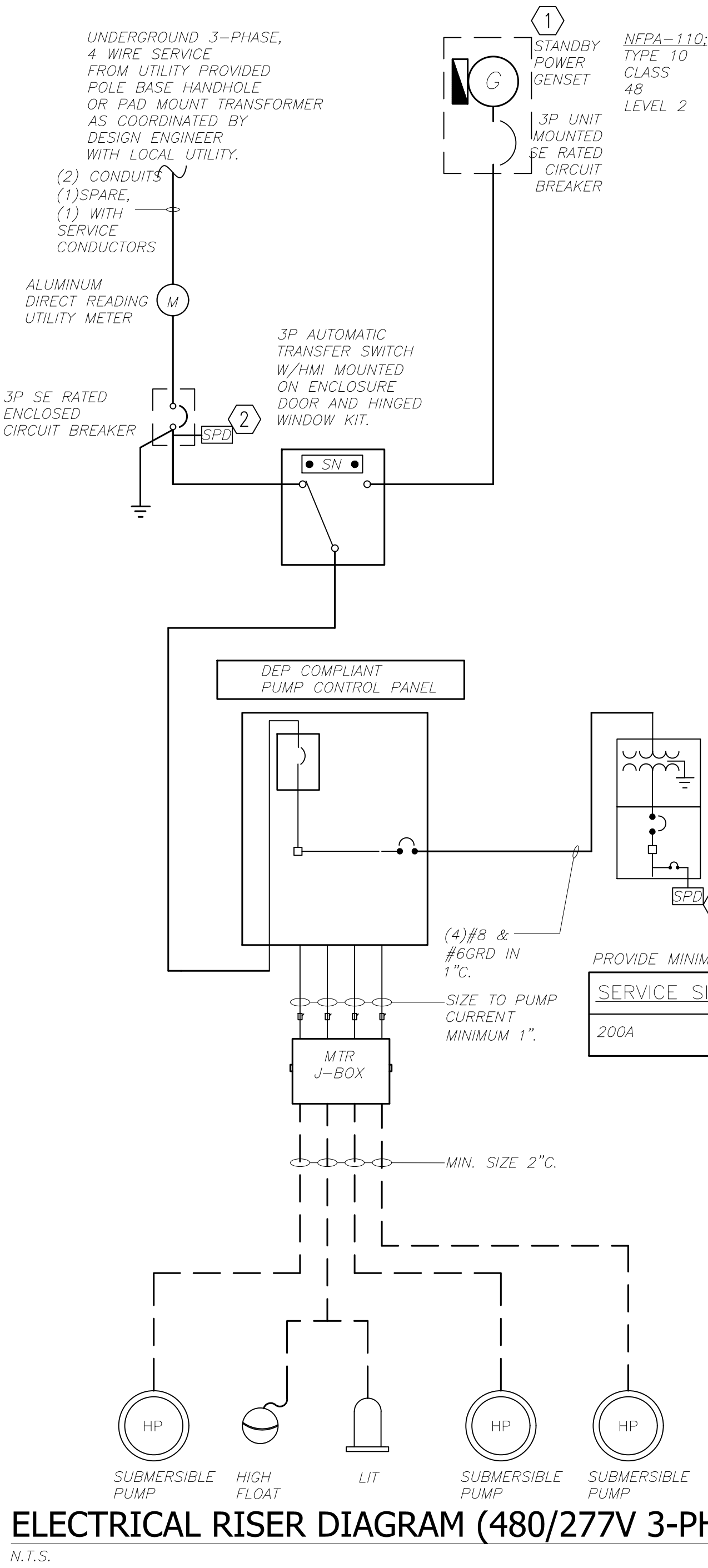
TITLE: STANDARD 480V DUPLEX
PUMP STATION w-GEN

PROJECT: WASTE WATER DUPLEX, TRIPLEX PUMP STATION
MASTER PUMP STATION DESIGN STANDARD

PROJECT NO.:
480V DPS w-GEN

FILE NAME:	Triplex 480V w-GEN
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SHEET NUMBER:
5 OF 12



- GENERAL NOTES:**
- 1.) MINIMUM EQUIPMENT AIC RATINGS:
480V SERVICE 65,000AIC
EQUIPMENT AIC RATINGS SHOWN TO ESTABLISH
MINIMUM ACCEPTABLE RATING. DESIGNER TO
COORDINATE REQUIRED AIC RATINGS WITH SITE
SPECIFIC ELECTRICAL SERVICE CHARACTERISTICS
AND IN NO CASE LOWER THEN ESTABLISHED
MINIMUMS.
 - 2.) THIS PLAN DOES NOT INDICATE ALL CONDUIT &
WIRE REQUIRED; SEE ADDITIONAL REQUIREMENTS ON
ELEMENTARY & PLAN DRAWINGS.
- KEYNOTES**
- 1.) DO NOT GROUND GENERATOR NEUTRAL AT
GENSET. PROVIDE NEUTRAL CONDUCTOR
FROM GENSET TO MAIN SERVICE ENTRANCE
DISCONNECT NEUTRAL BUS.
 - 2.) CUTLER HAMMER CVX100-480Y 100KA
SURGE SUPPRESSOR OR EQUAL. MOUNT
WITH INDICATOR LIGHTS VISIBLE TO
OPERATOR WHILE FACING BREAKER.
 - 3.) CUTLER HAMMER CVX100-208Y 100KA
SURGE SUPPRESSOR OR EQUAL. MOUNT
WITH INDICATOR LIGHTS VISIBLE TO
OPERATOR WHILE FACING BREAKER.

PROVIDE MINIMUM SERVICES UTILITY SIZES AS FOLLOWS:

SERVICE SIZE:	CONDUIT SIZE:	CONDUCTOR SIZE:	GROUND SIZE:
200A	(1)2.5"	(4)#3/0	(1)#3

GENERIC SINGLE LINE DRAWING- REVISE ACCORDINGLY
TO PROVIDE SITE SPECIFIC DETAILS INCLUDING UTILITY
COORDINATION, SERVICE SIZE AND GENERATOR SIZE.
SIZE SERVICE, GENERATOR, CONDUIT AND WIRE PER SITE
SPECIFIC WELL HORSEPOWER.

PANEL: MPZ 15KVA POWER ZONE, MCB:INCLUDED VOLTAGE: 480V/208/120V,3P,4W				
MOUNTING:	WALL	POLES: 18	25,000AIC MIN	
LOCATION:	EQUIPMENT RACK		NEMA 3R SS ENCLOSURE	
CIR. NO.	DESCRIPTION	TRIP	POLES	REMARKS
1	GENERATOR BATTERY CHARGER	20	1	
2	GENERATOR STRIP HEATER	20	1	
3	GENERATOR WATER HEATER	20	1	
4	DATA COLLECTOR HUB AMI	20	1	
5	SPARE	20	1	
6	SPARE	20	1	
7	SPARE	20	1	
8	SPARE	20	1	
9-17	SPACE	20	1	
10-12	SPACE	20	1	
14,16,18	SURGE SUPPRESSION	30	1	
PROVIDE PANEL WITH 35KAIC RATING. PROVIDE PANEL WITH EXTERNAL CUTLER HAMMER CVX100 SERIES SPD				

PANEL SCHEDULE

N.T.S.

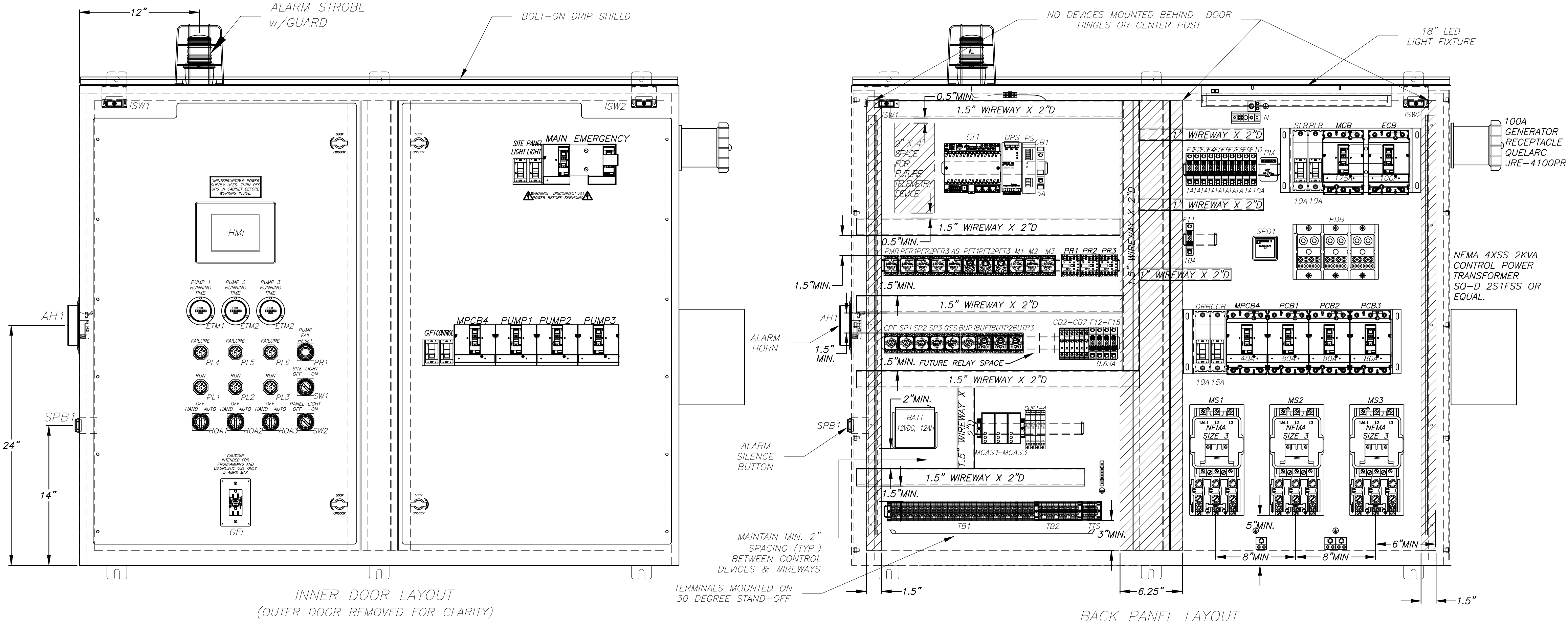
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NOTE:
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 LEE COUNTY SOUTHWEST FLORIDA 1500 MONROE STREET		LEE COUNTY UTILITIES ENGINEERING FORT MYERS, FLORIDA 33901	
SHEET TITLE: DUPLEX PUMP STATION ELECTRICAL RISER DIAGRAM & PANEL SCHEDULE			
TITLE: STANDARD 480V DUPLEX PUMP STATION w-GEN			
PROJECT: WASTE WATER DUPLEX, TRIPLEX PUMP STA. MASTER PUMP STATION DESIGN STANDARD			
PROJECT NO: 480V DPS w-GEN	FILE NAME: Triplex 480V w-GEN	SHEET NUMBER: 6 OF 12	

CONTROL WIRE COLOR CODE:

FUNCTION DESCRIPTION	WIRE COLOR	FUNCTION DESCRIPTION	WIRE COLOR	FUNCTION DESCRIPTION	WIRE COLOR	FUNCTION DESCRIPTION	WIRE COLOR	FUNCTION DESCRIPTION	WIRE COLOR
120VAC FEED	BLACK	H-O-A 1 SCADA	BROWN	PUMP 2 RUN SCADA	ORANGE/BLACK	PUMP 3 FAIL SCADA	BLUE/RED	START PUMP 3	BLACK/BLUE
120VAC LOAD	RED	H-O-A 1 COMMON SCADA	BROWN	PUMP 2 RUN COMMON SCADA	ORANGE/BLACK	PUMP 3 FAIL COMMON SCADA	BLUE/RED	START PUMP 3 COMMON	BLACK/BLUE
120VAC NEUTRAL	WHITE	H-O-A 2 SCADA	RED/BLACK	PUMP 3 RUN SCADA	YELLOW/BLACK	CONTROL POWER FAIL SCADA	YELLOW/RED	ALARM RESET	RED/BLUE
PHASE MONITOR FAIL	BLUE	H-O-A 2 COMMON SCADA	RED/BLACK	PUMP 3 RUN COMMON SCADA	YELLOW/BLACK	CONTROL POWER FAIL SCADA COMMON	YELLOW/RED	ALARM RESET COMMON	RED/BLUE
PHASE MONITOR COMMON	BLUE	H-O-A 3 SCADA	YELLOW	PUMP 1 FAIL SCADA	BROWN/BLACK	START PUMP 1	ORANGE/RED	ALARM LIGHT HORN	ORANGE/BLUE
24VDC POSITIVE (+)	BLUE	H-O-A 3 COMMON SCADA	YELLOW	PUMP 1 FAIL COMMON SCADA	BROWN/BLACK	START PUMP 1 COMMON	ORANGE/RED	ALARM LIGHT HORN COMMON	ORANGE/BLUE
24VDC NEGATIVE (-)	WHITE/BLUE	PUMP 1 RUN SCADA	BLUE/BLACK	PUMP 2 FAIL SCADA	BLACK/RED	START PUMP 2	BROWN/RED	SCADA HIGH LEVEL FLOAT	YELLOW/BLUE
GROUND	GREEN	PUMP 1 RUN COMMON SCADA	BLUE/BLACK	PUMP 2 FAIL COMMON SCADA	BLACK/RED	START PUMP 2 COMMON	BROWN/RED	SCADA HIGH LEVEL FLOAT COMMON	YELLOW/BLUE



ENCLOSURE:

MIN. SPN4DSS-486016 (48"H x 60"W x 16"D) NEMA 4X RATED, WITH BOLT-ON DRIP SHIELD AND REMOVABLE CENTER POST. FABRICATED FROM TYPE 304 STAINLESS STEEL, WITH POLISHED FINISH. OUTER DOORS HAVE 3-POINT PAD-LOCKABLE HANDLES, AND 90° STOPS.

BACK PANEL:

SPPD-6048 (45"H x 57"W) FABRICATED FROM 12ga. CARBON STEEL PAINTED WHITE.

INNER DOOR:

(2) HD-4830 FABRICATED FROM .125 BLACK ENGRAVED ALUMINUM.

NOTES:

1. TERMINAL ON CONTROL CIRCUIT TERMINAL STRIP
2. TERMINAL ON POWER DISTRIBUTION BLOCK
3. NEUTRAL AND GROUND LUGS
4. FIELD WIRING (EXTERNAL TO CONTROL PANEL)
5. PANEL WIRING
6. SEAL ALL CONDUITS ENTERING CONTROL PANEL
7. CONTROL PANEL IS UL508A LABELED
8. INSTALL IN ACCORDANCE WITH ARTICLE 504 OF THE N.E.C.
9. MINIMUM #14 AWG WIRE AT 600V
10. MAINTAIN MIN. 2" SPACE BETWEEN CONTROL DEVICES & WIREWAYS
11. MAINTAIN MAX. 6" EXTRA LENGTH ON CONTROL WIRES
12. ALL BREAKERS MUST BE ACCESSIBLE FROM DEAD-FRONT

STANDARD 480V-3Ø (20HP-30HP) TRIPLEX PUMP STATION CONTROL PANEL ELEVATION

NOTE:

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SOUTHWEST
FLORIDA

1500 MONROE STREET

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FORT MYERS, FLORIDA 33901

SHEET TITLE: DUPLEX PUMP STATION
CONTROL PANEL ELEVATION

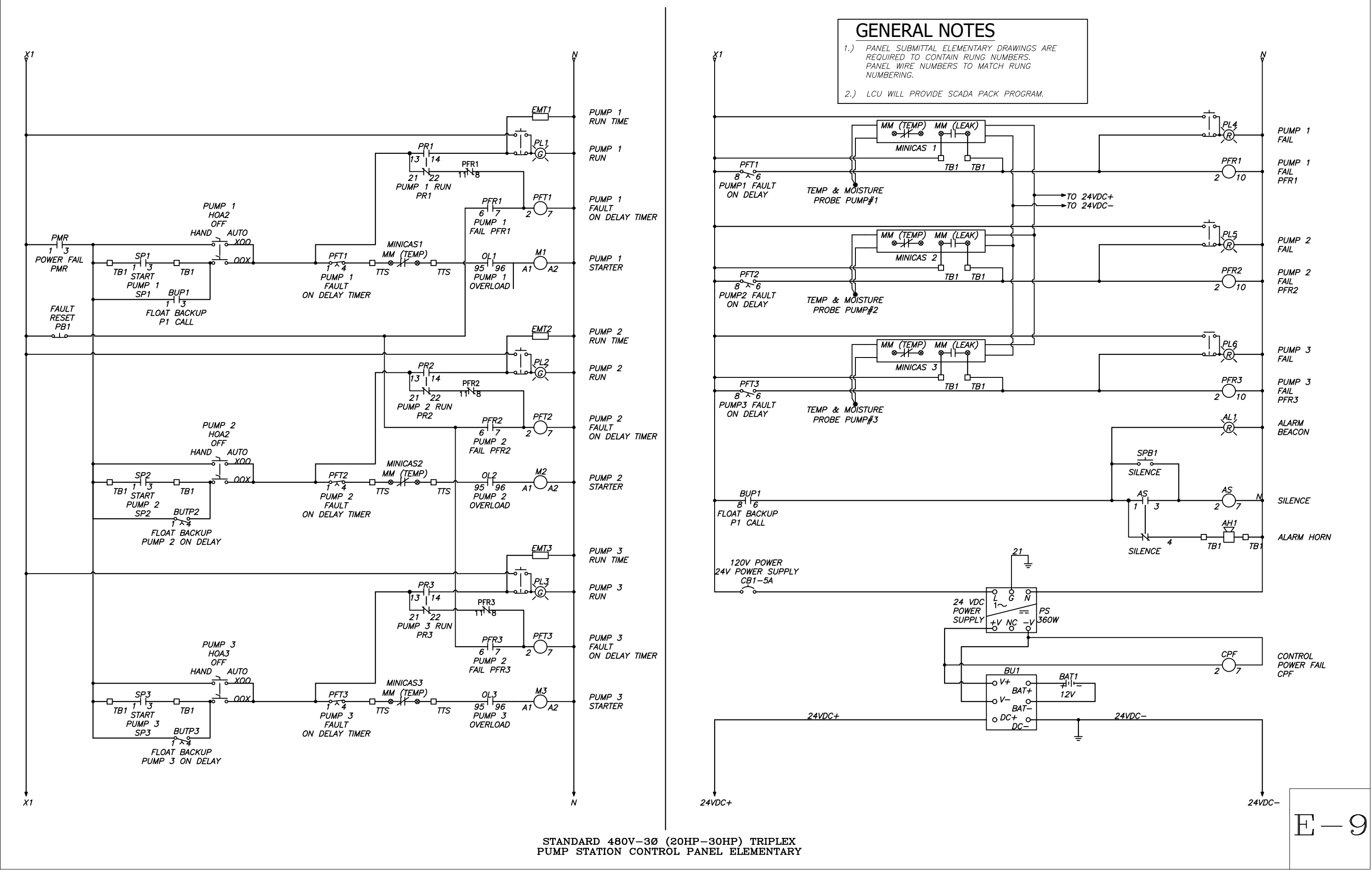
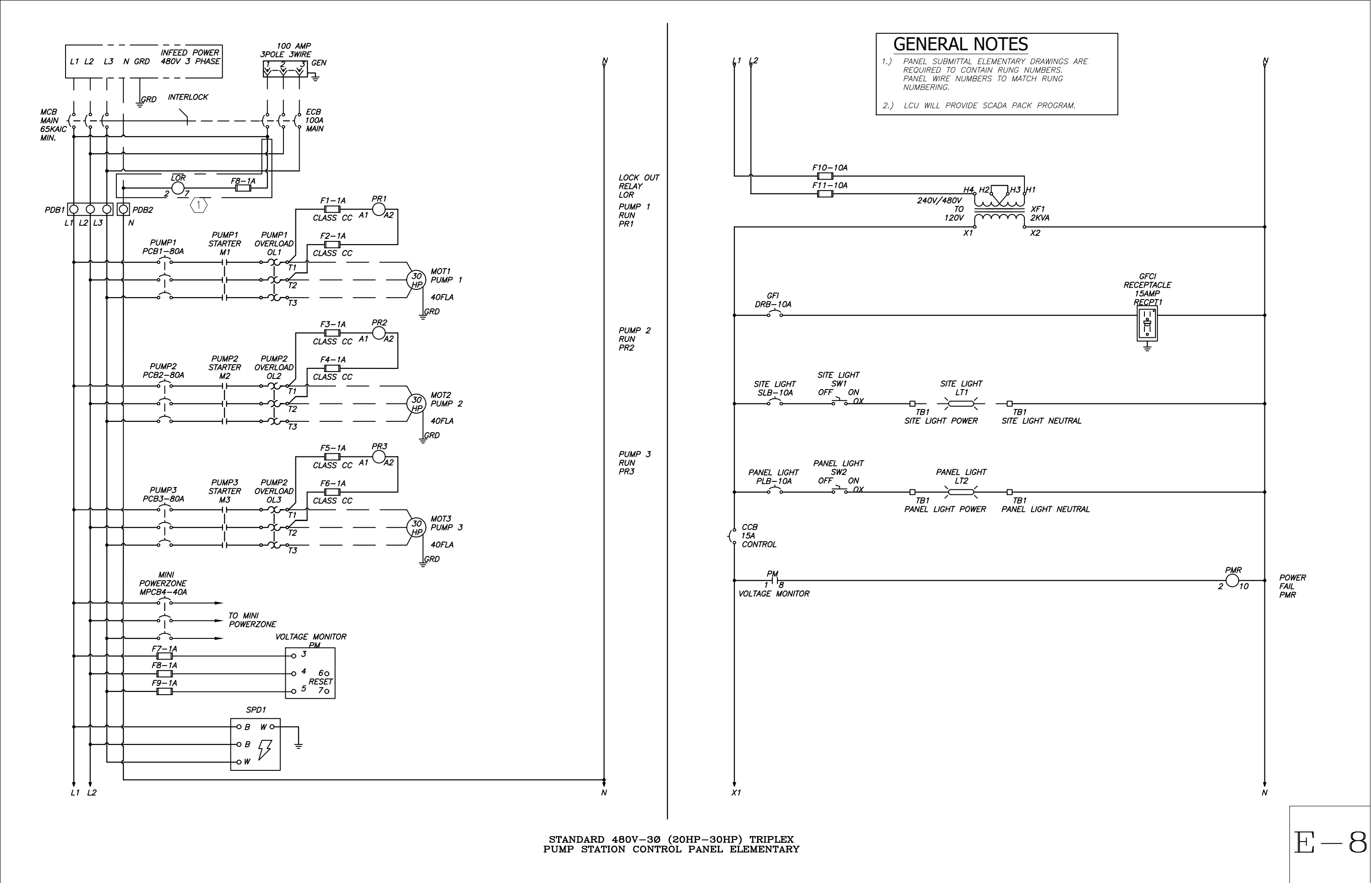
TITLE: STANDARD 480V DUPLEX
PUMP STATION w-GEN

PROJECT: WASTE WATER DUPLEX, TRIPLEX PUMP STA.
MASTER PUMP STATION DESIGN STANDARD

PROJECT NO.:
480V DPS w-GEN

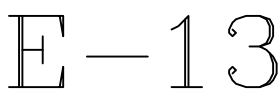
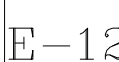
FILE NAME:
Triplex 480V w-GEN

SHEET NUMBER:
7 OF 12



NOTE:
THIS DRAWING IS A LEE COUNTY STANDARD DETAIL AND THEREFORE DOES NOT NEED TO BE SIGNED AND SEALED

 LEE COUNTY SOUTHWEST FLORIDA LEE COUNTY UTILITIES ENGINEERING 1500 MONROE STREET FORT MYERS, FLORIDA 33901		
SHEET TITLE: DUPLEX PUMP STATION ELECTRICAL DIAGRAMS		
TITLE: STANDARD 480V DUPLEX PUMP STATION w-GEN		
PROJECT: WASTE WATER DUPLEX, TRIPLEX PUMP STA. MASTER PUMP STATION DESIGN STANDARD		
PROJECT NO.: 480V DPS w-GEN	FILE NAME: Triplex 480V w-GEN	SHEET NUMBER: 8 OF 12



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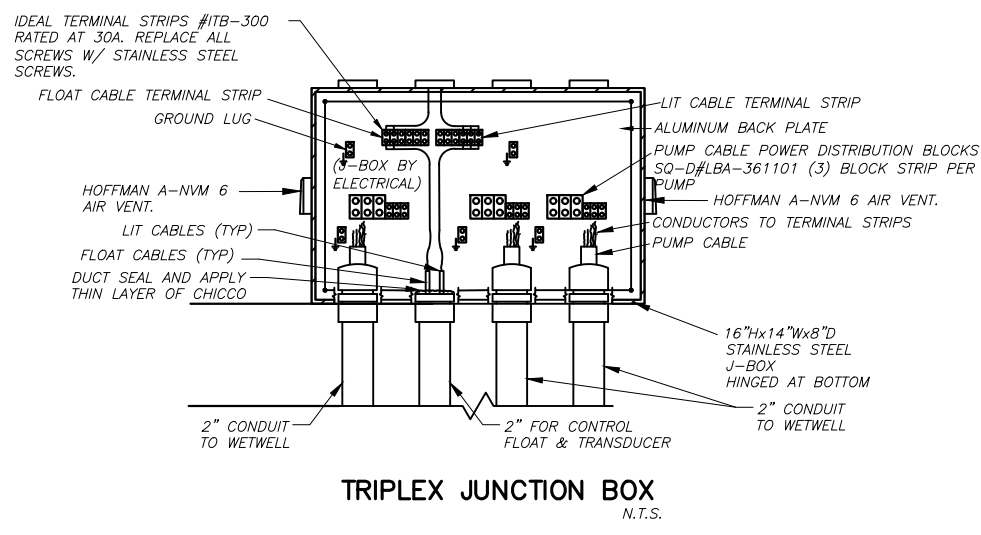
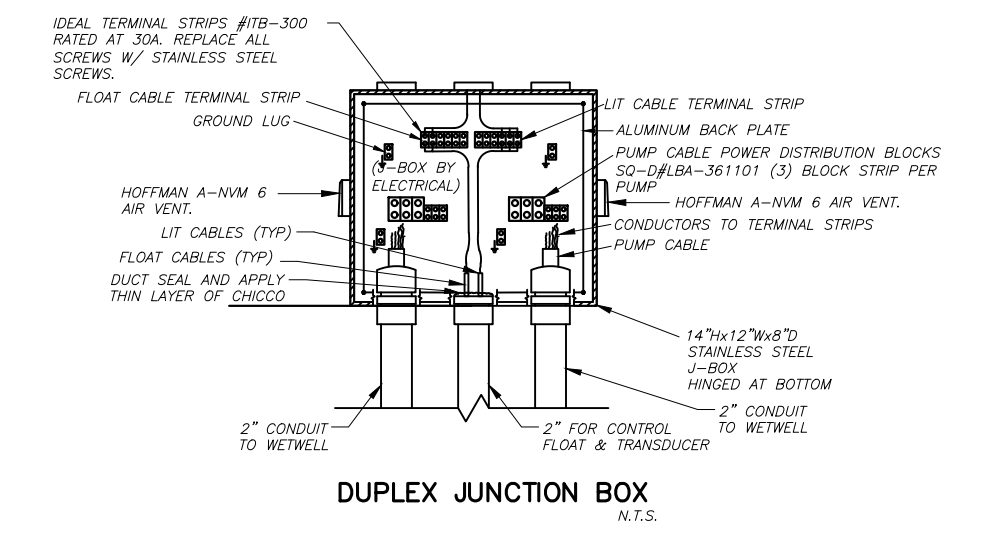
FORT MYERS, FLORIDA 33901

SHEET TITLE: **DUPLEX PUMP STATION
GENERATOR LAYOUT & DETAILS**

TITLE:	STANDARD 480V DUPLEX PUMP STATION w-GEN
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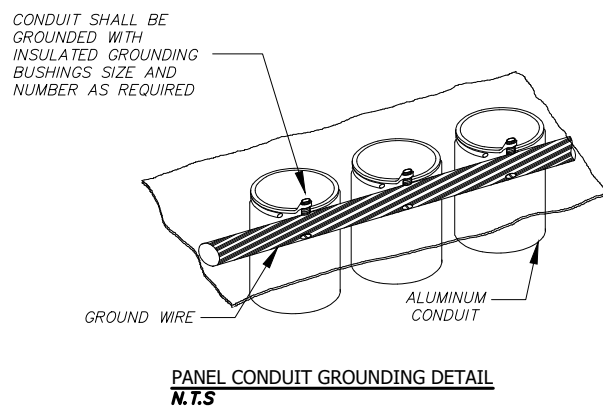
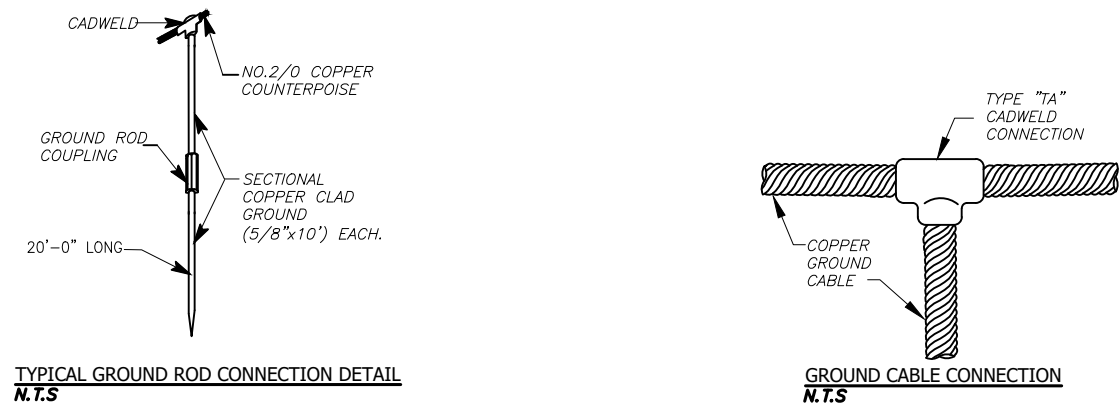
PROJECT: WASTE WATER DUPLEX, TRIPLEX PUMP STA.
MASTER PUMP STATION DESIGN STANDARD

PROJECT NO.: 480V DPS w-GEN	FILE NAME: Triplex 480V w-GEN	SHEET NUMBER: 10 OF 12
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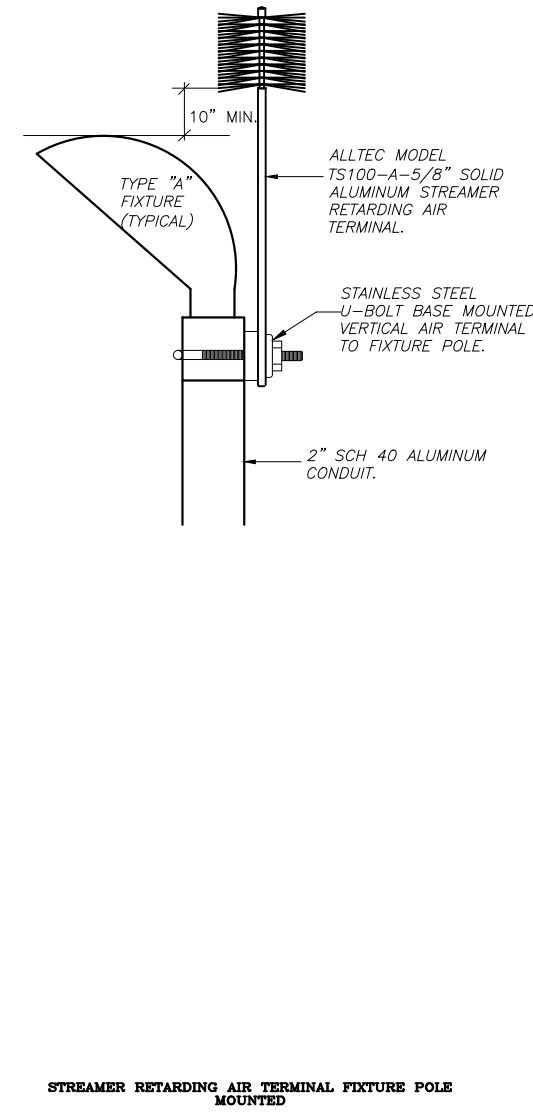
JUNCTION BOX & TERMINAL STRIP INSTALLATION AT CONTROL PANEL LOCATION

ES-1

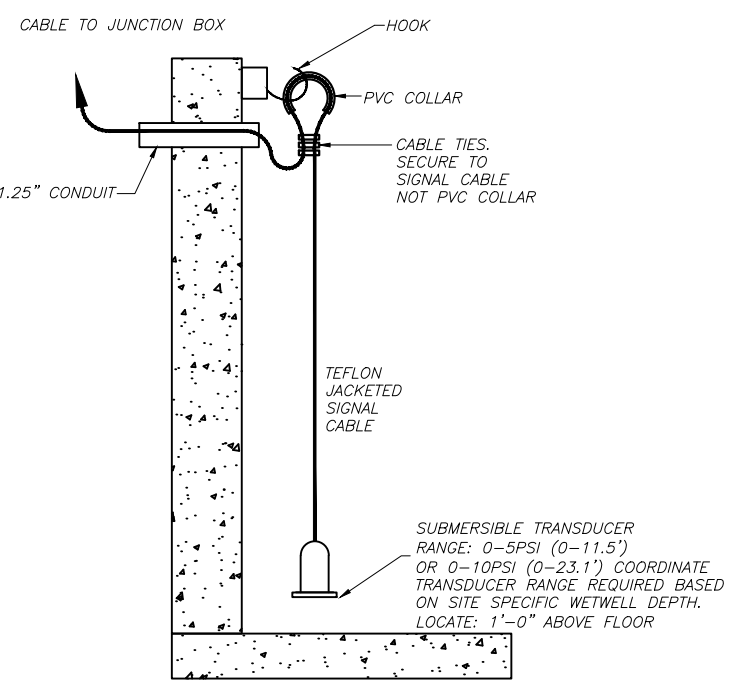


GROUNDING DETAILS

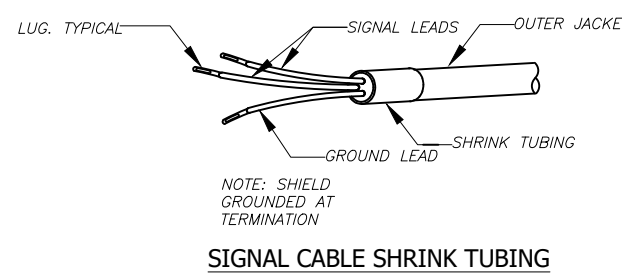
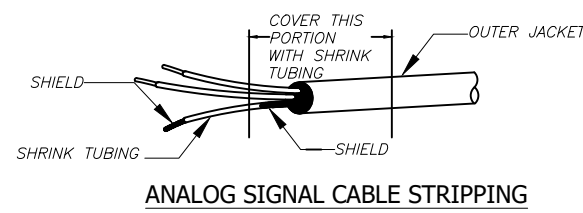
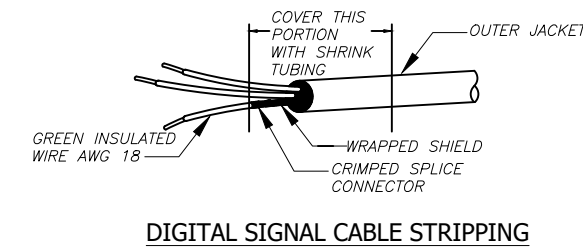
ES-2



ES-3

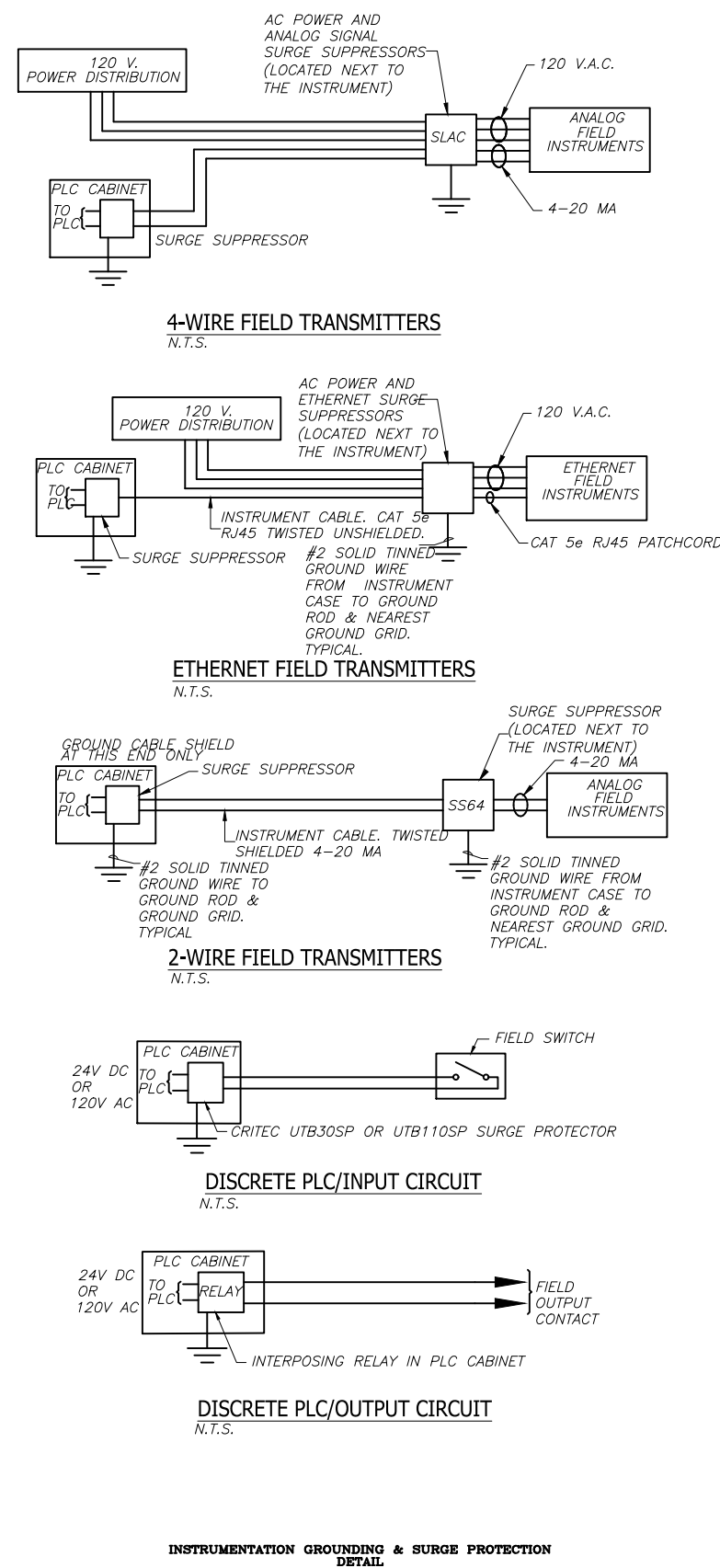


ES-4



TERMINATION OF SHIELDED INSTRUMENT CONTROL CABLE DETAIL

ES-5



ES-6

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SHEET TITLE: DUPLEX PUMP STATION
TYPICAL DETAILS

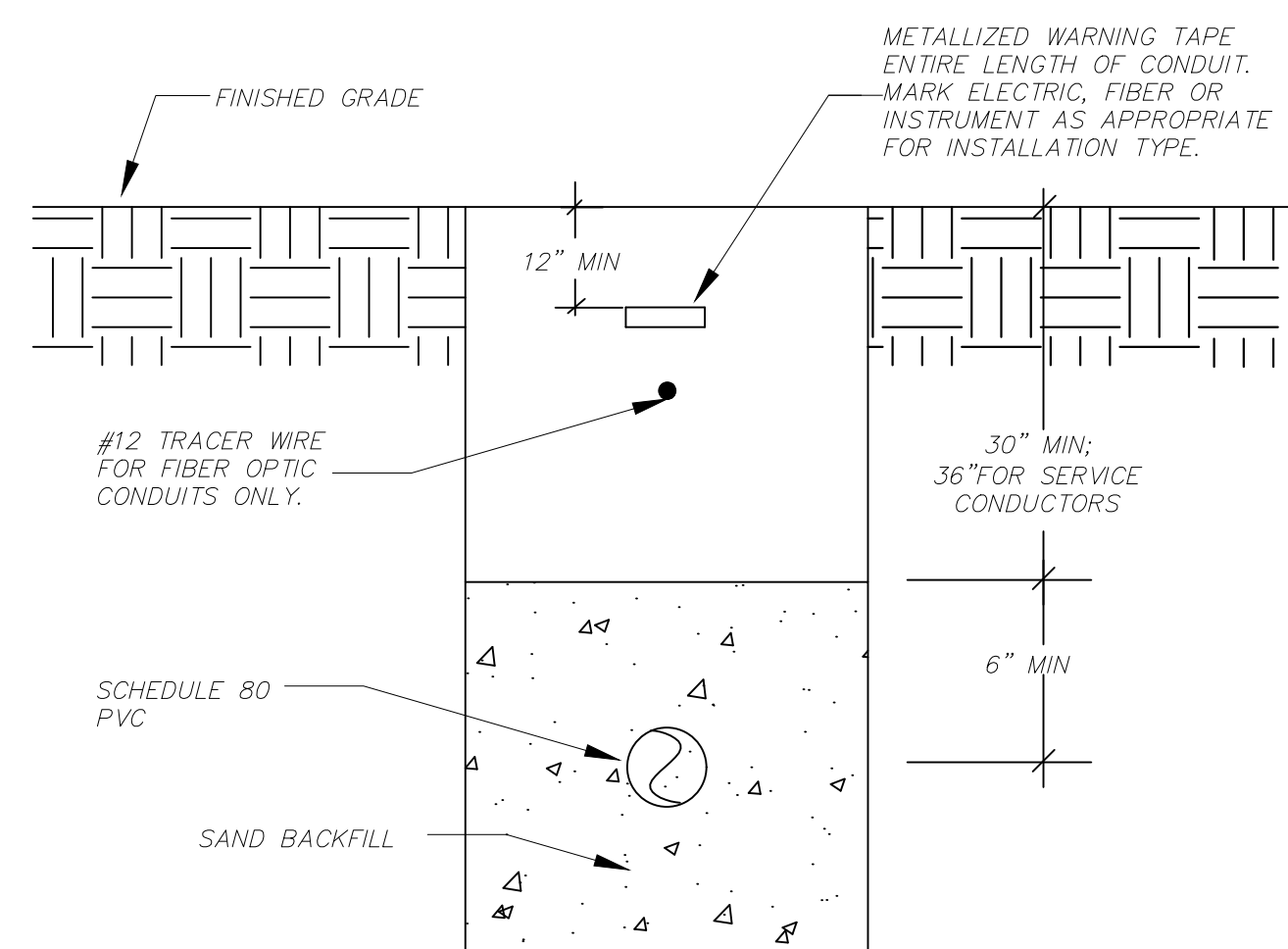
TITLE: STANDARD 480V DUPLEX
PUMP STATION w-GEN

PROJECT: WASTE WATER DUPLEX, TRIPLEX PUMP STA.
MASTER PUMP STATION DESIGN STANDARD

PROJECT NO.: 480V DPS w-GEN

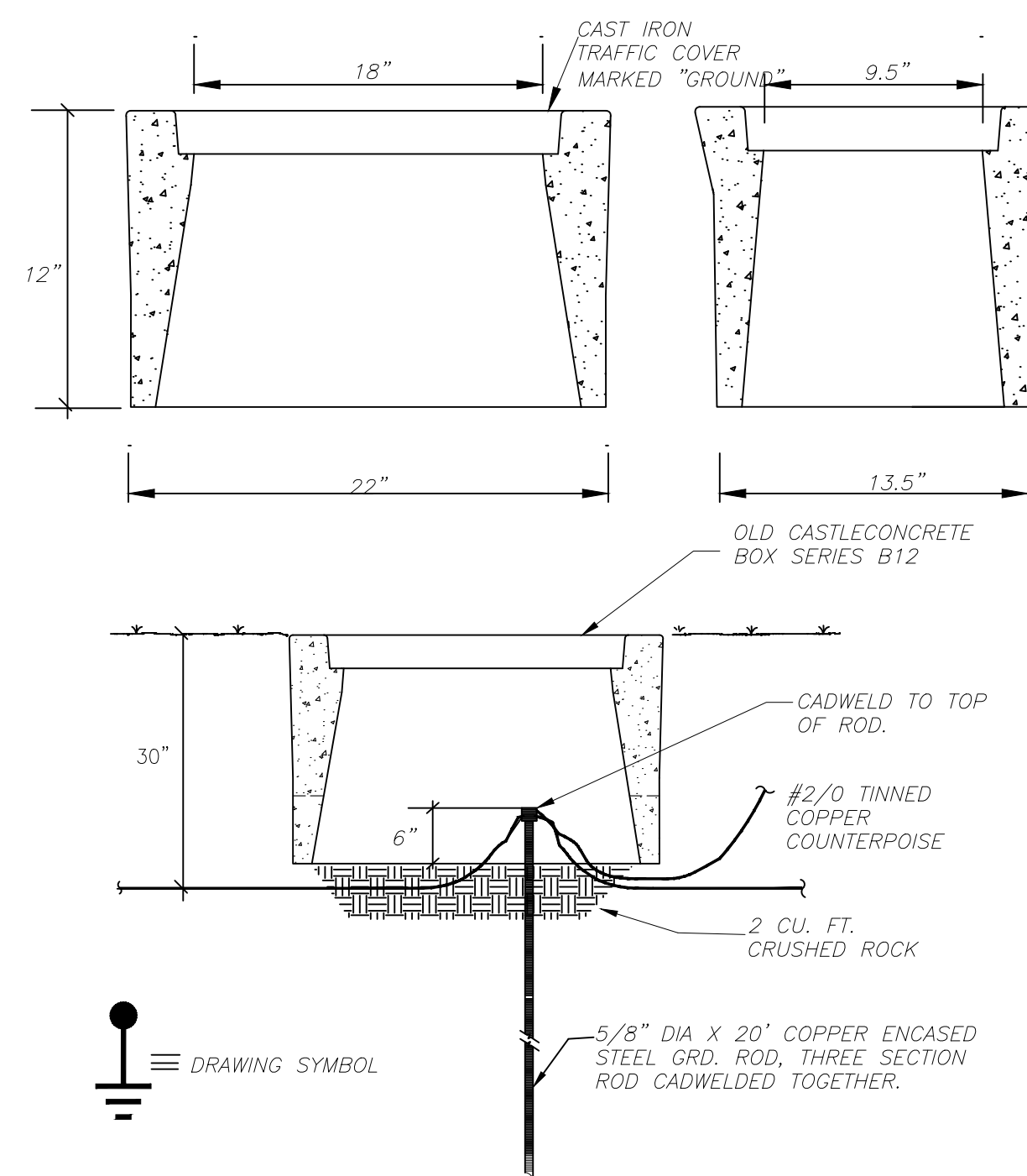
FILE NAME: Triplex 480V w-GEN

SHEET NUMBER: 11 OF 12



UNDERGROUND CONDUIT INSTALLATION DETAIL

ES-7



GROUND ROD INSTALLATION DETAIL

ES-8

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SHEET TITLE: DUPLEX PUMP STATION TYPICAL DETAILS		
TITLE: STANDARD 480V DUPLEX PUMP STATION w-GEN		
PROJECT: WASTE WATER DUPLEX, TRIPLEX PUMP STA. MASTER PUMP STATION DESIGN STANDARD		
PROJECT NO.: 480V DPS w-GEN	FILE NAME: Triplex 480V w-GEN	SHEET NUMBER: 12 OF 12