

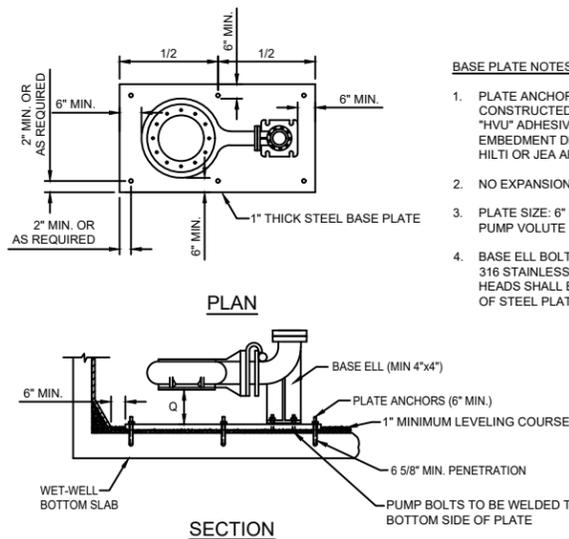
DROP BOWL NOTES:

- ANCHORS TO BE CONSTRUCTED OF 316 STAINLESS STEEL "H.A.S." ROD BY HILTI OR EQUAL. THE ANCHORING SYSTEM SHALL INCLUDE ADHESIVE (HILTI H.V.U. OR EQUAL) WITH AN EMBEDMENT DEPTH OF 4 1/4".
- INSTALL DROP BOWL AFTER THE WET WELL LINER IS INSTALLED. THIS WILL ENSURE EASY REMOVAL OF THE DROP BOWL (IN THE FUTURE).

SECTION "B-B"

DROP BOWL DETAIL
NOT TO SCALE

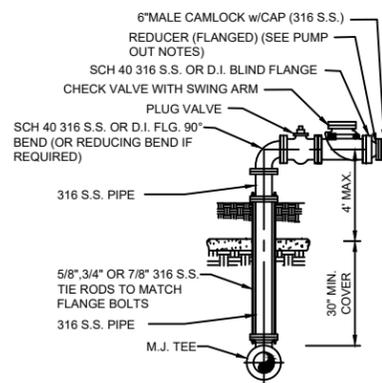
PLAN VIEW



BASE PLATE NOTES:

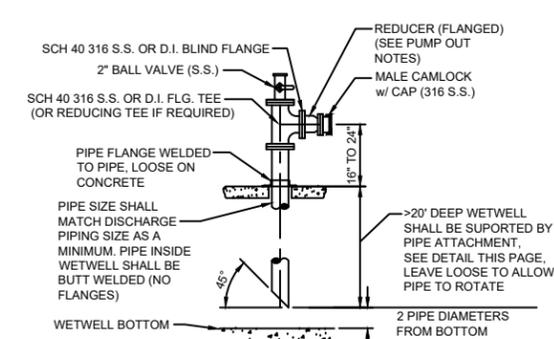
- PLATE ANCHORS TO BE 3/4" DIAMETER, CONSTRUCTED OF 316 S.S. (H.A.S. ROD) w/ "H.V.U" ADHESIVE CAPSULE PROVIDING AN EMBEDMENT DEPTH OF 6 5/8". ACCEPTABLE: HILTI OR JEA APPROVED EQUAL.
- NO EXPANSION ANCHORS ALLOWED.
- PLATE SIZE: 6" LARGER THAN BASE ELL & PUMP VOLUTE TYP. ALL AROUND.
- BASE ELL BOLTS AND STUDS TO BE TYPE 316 STAINLESS STEEL. 5. BASE ELL BOLT HEADS SHALL BE WELDED TO UNDER SIDE OF STEEL PLATE.

SUBMERSIBLE PUMP BASE PLATE DETAIL
NOT TO SCALE

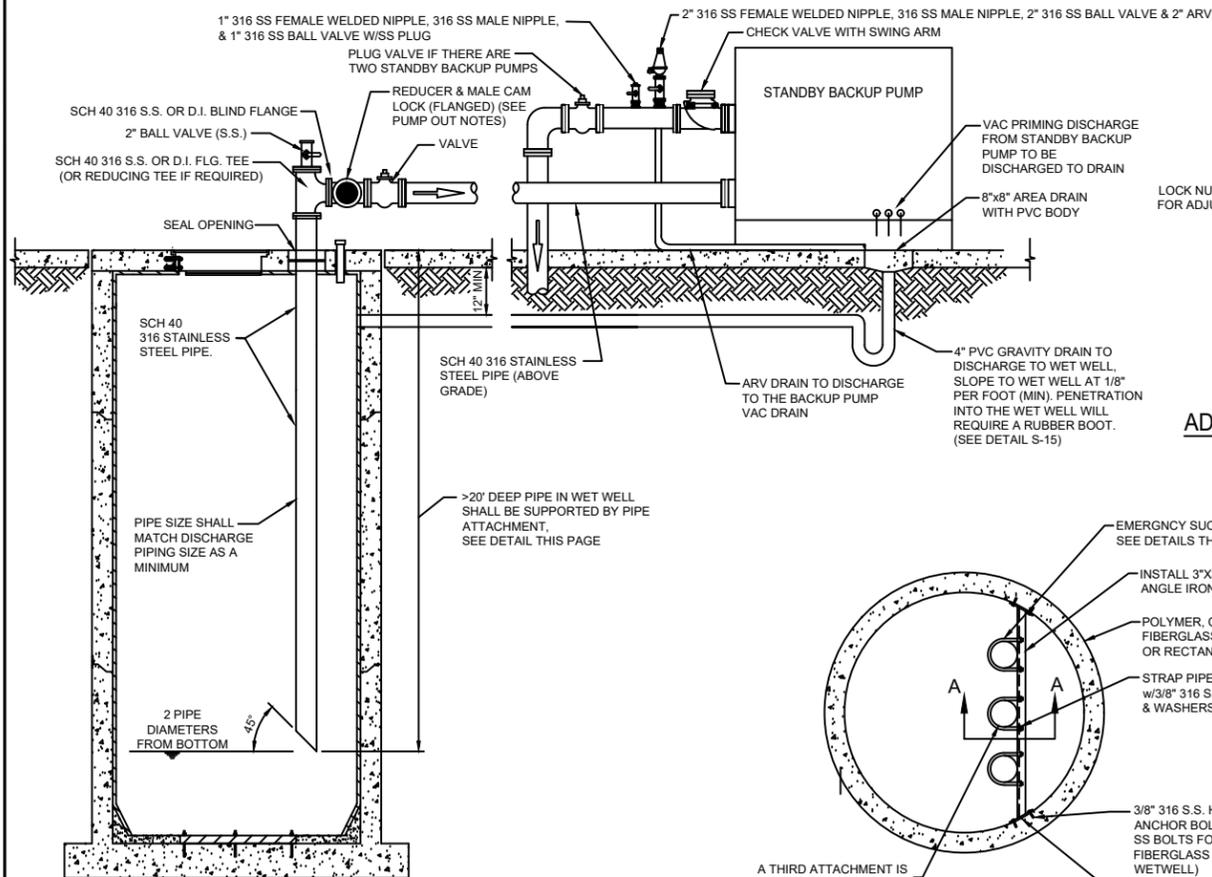


OUTSIDE WETWELL

FREE STANDING PUMP OUT DETAIL
FOR FLOWS GREATER THAN 1000 GPM OR DISCHARGE PIPING GREATER THAN 6"
NOT TO SCALE



EMERGENCY SUCTION PIPE DETAIL
NOT TO SCALE



ADJUSTABLE VALVE SUPPORT DETAIL
NOT TO SCALE

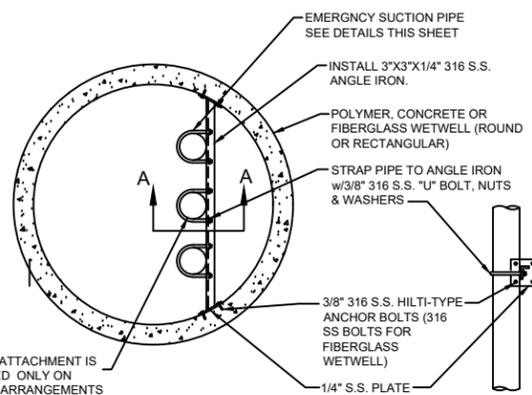
NOTES:

- ALL SUPPORT MATERIALS SHALL BE 316 S.S. AFTER FINAL HEIGHT ADJUSTMENT, COAT ENTIRE SUPPORT AND DISCHARGE PIPING WITH STAINLESS STEEL SPRAY PAINT.
- FOR FORCE MAINS LARGER THAN 10" SIZE, THE COMPONENTS OF THE VALVE SUPPORT SHALL BE ENLARGED AS APPROVED BY JEA.

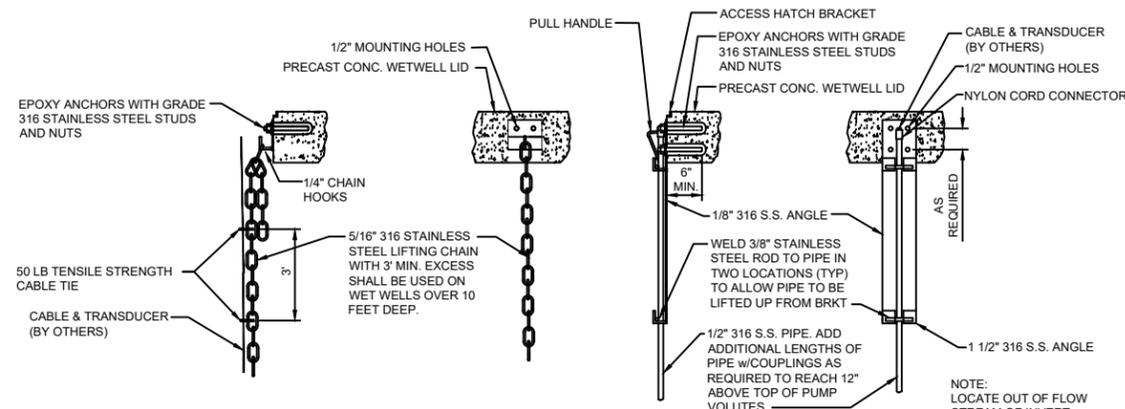
NOTE: ENGINEER SHALL BE RESPONSIBLE FOR SIZING PIPING FOR NET POSITIVE SUCTION HEAD REQUIRED.

THE ABOVE PIPING IS SHOWN FOR CLARITY, SEE PLAN VIEW FOR PIPE ORIENTATION.

WETWELL CONNECTION TO STANDBY BACKUP PUMP DETAIL
NOT TO SCALE



PIPE ATTACHMENT TO WALL DETAIL
REQUIRED FOR ALL PUMPING STATIONS WITH WETWELL 20' DEEP AND GREATER (INSTALLED PRIOR TO SPECIALTY LINER)
NOT TO SCALE



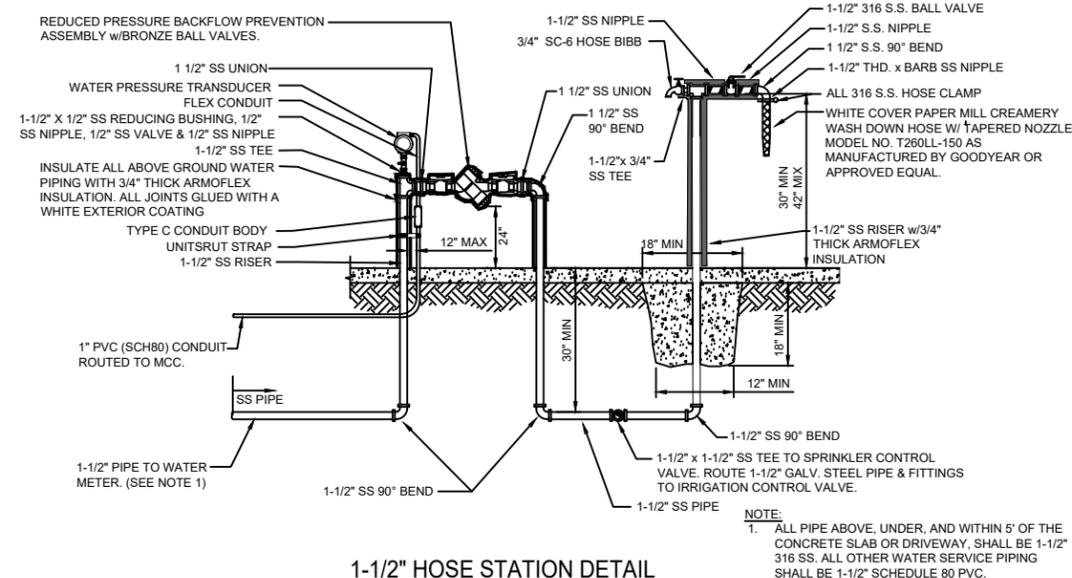
SECTION VIEW

FRONT VIEW

SECTION VIEW

FRONT VIEW

TRANSDUCER BRACKET DETAIL
NOT TO SCALE



1-1/2" HOSE STATION DETAIL
NOT TO SCALE

NOTE: 1. ALL PIPE ABOVE, UNDER, AND WITHIN 5' OF THE CONCRETE SLAB OR DRIVEWAY, SHALL BE 1-1/2" 316 SS. ALL OTHER WATER SERVICE PIPING SHALL BE 1-1/2" SCHEDULE 80 PVC.

NO.	BY	DATE	REVISIONS
4.			
3.			
2.			
1.	L. HENRY	4-14-22	BACKUP PUMP DISCHARGE PIPE BALL VALVES

DESIGNER	DESIGN ENGINEER
L. HENRY	L. HENRY

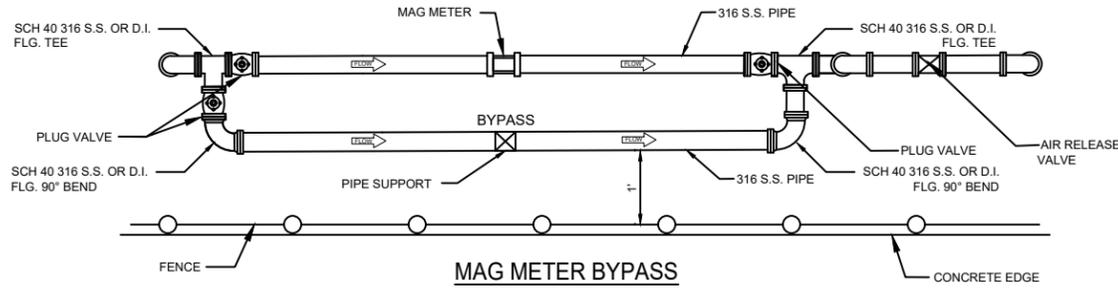
FLORIDA REGISTRATION NO.	DATE

DESIGNER	DESIGN ENGINEER
L. HENRY	L. HENRY

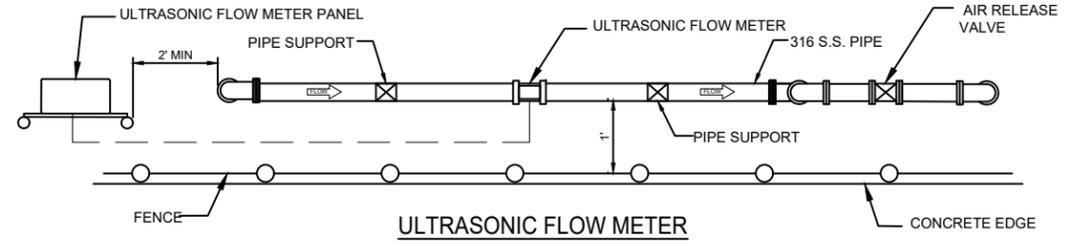
PROJ. NO.	DATE	SCALE

NO. SHEETS	SHEET NO.	DRAWING NO.

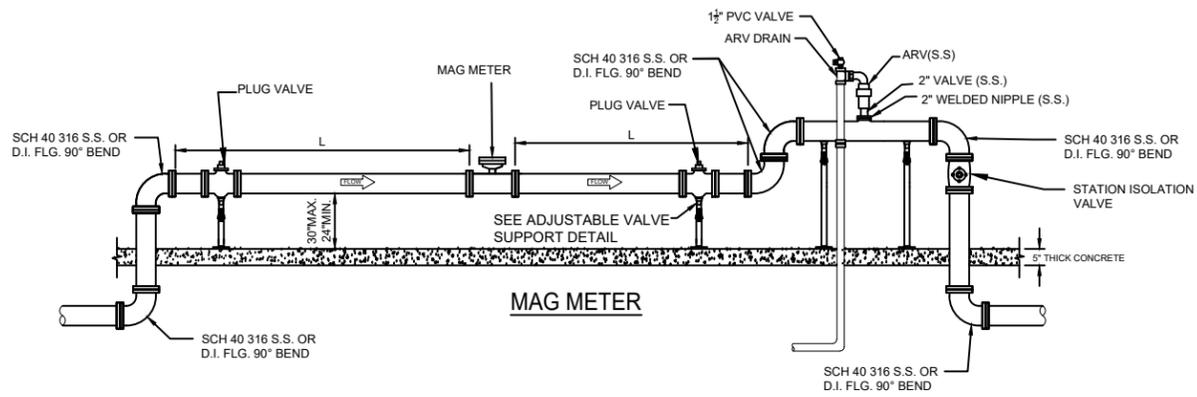
JEA STANDARD
 PUMP STATION CONSTRUCTION DETAILS
 MISCELLANEOUS DETAILS
JEA
 Building Community



MAG METER BYPASS

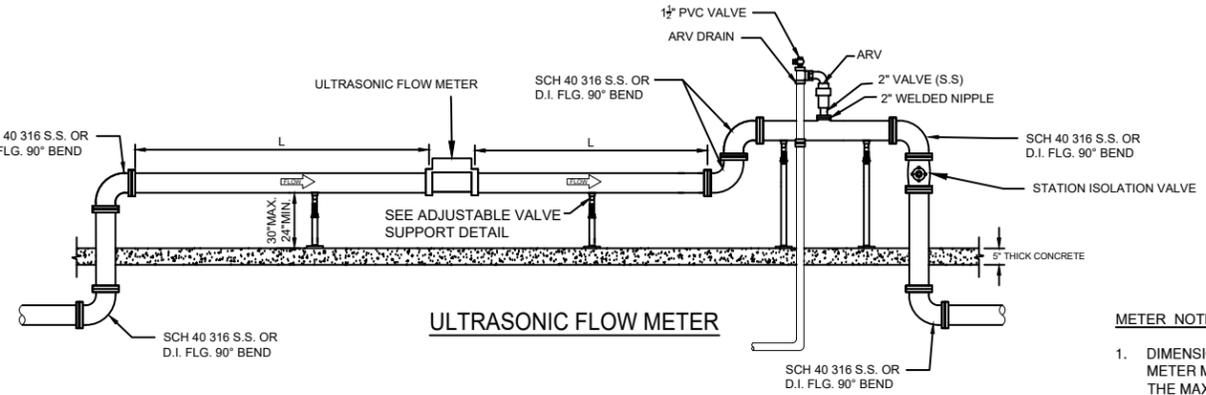


ULTRASONIC FLOW METER



MAG METER DETAIL

NOT TO SCALE



ULTRASONIC FLOW METER DETAIL

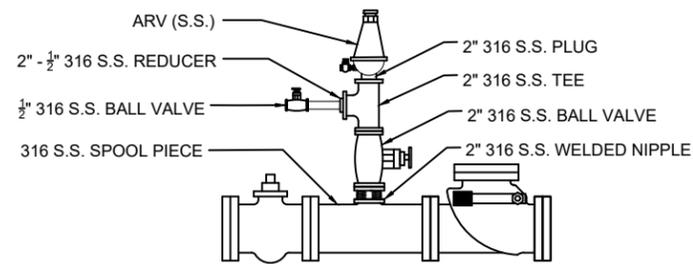
NOT TO SCALE

METER NOTES:

1. DIMENSION "L" AS SPECIFIED BY THE METER MANUFACTURER TO PROVIDE THE MAXIMUM STATED ACCURACY.

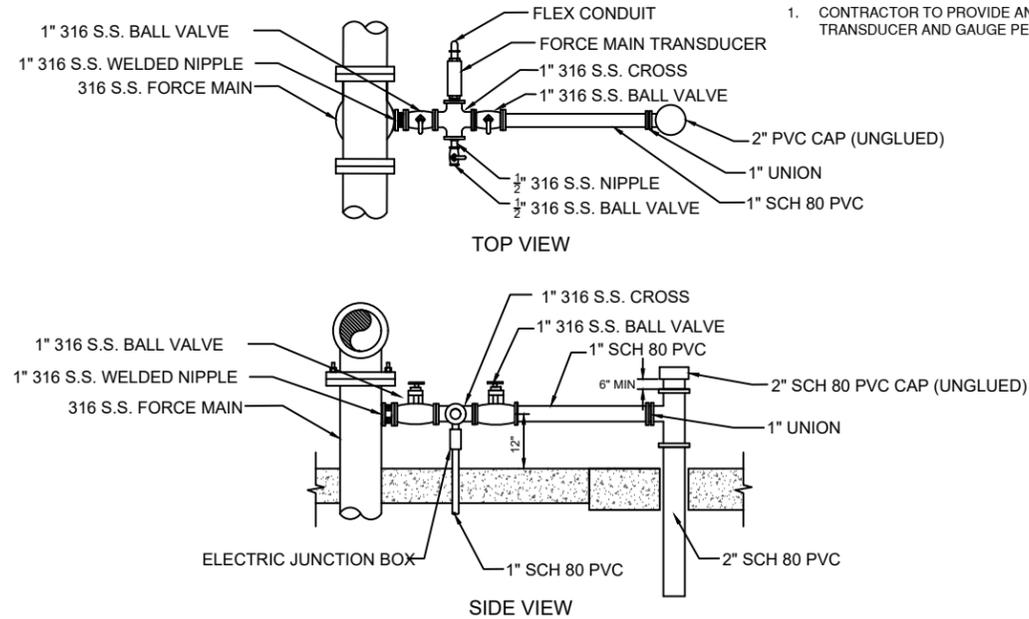
NOTES:

1. CONTRACTOR TO PROVIDE AND INSTALL TRANSDUCER AND GAUGE PER JEA SPECIFICATIONS.



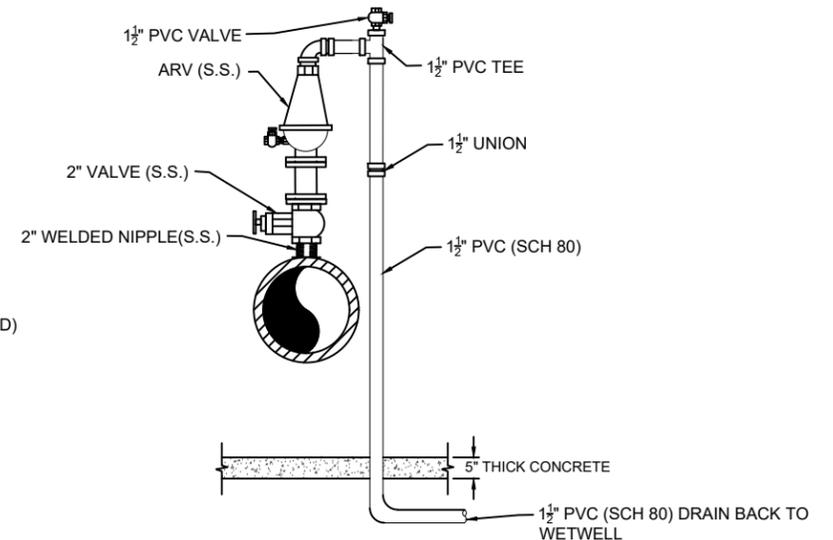
DISCHARGE ARV DETAIL

NOT TO SCALE



FORCE MAIN TRANSDUCER DETAIL

NOT TO SCALE



ARV DRAIN DETAIL

NOT TO SCALE

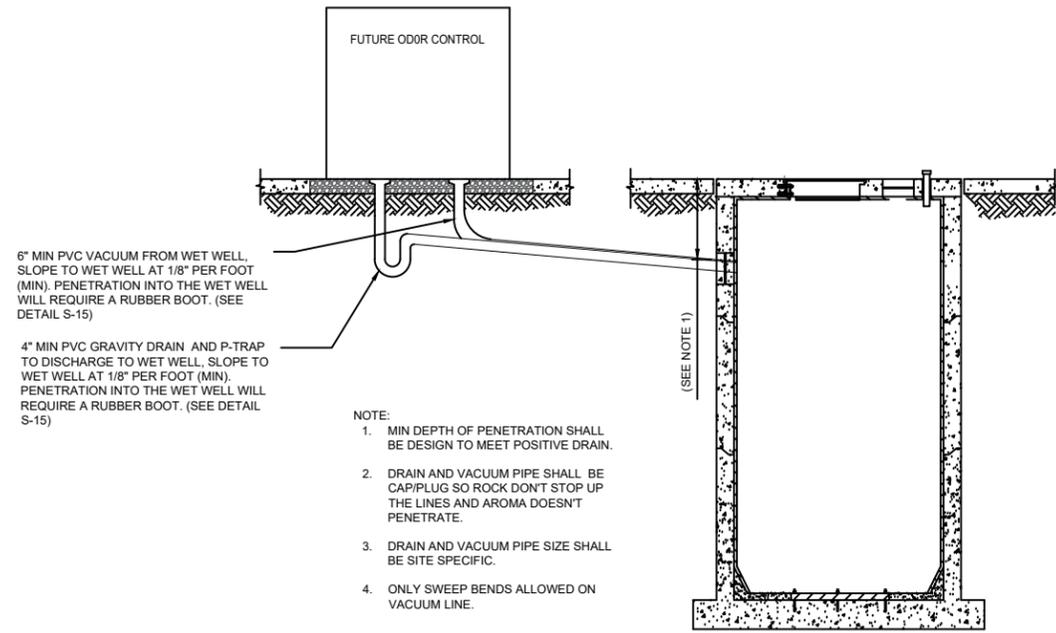
NO.	BY	DATE	REVISIONS
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DESIGNER:	DESIGN ENGINEER
DRAWN BY:	FLORIDA REGISTRATION NO.
CHECKED BY:	DATE



JEA STANDARD
 PUMP STATION CONSTRUCTION DETAILS
 MISCELLANEOUS DETAILS 2

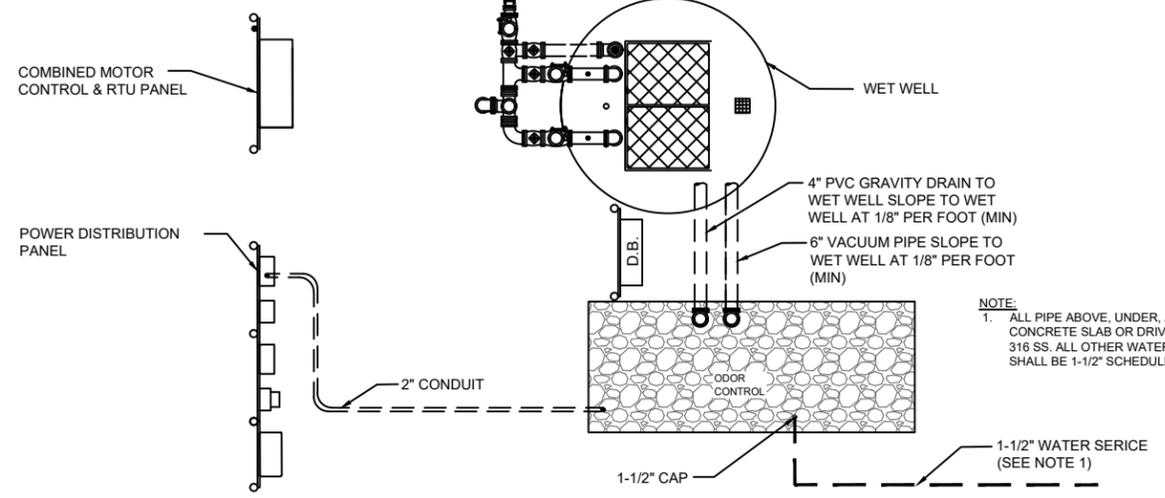
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DATE:	
SHEET NO.	
DRAWING NO.	



ODOR CONTROL DRAIN AND VACUUM CONNECTION TO WET WELL DETAIL

NOT TO SCALE

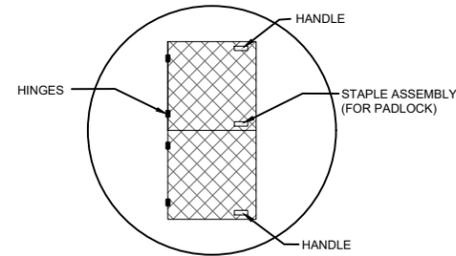
- NOTE:
1. MIN DEPTH OF PENETRATION SHALL BE DESIGN TO MEET POSITIVE DRAIN.
 2. DRAIN AND VACUUM PIPE SHALL BE CAP/PLUG SO ROCK DON'T STOP UP THE LINES AND AROMA DOESN'T PENETRATE.
 3. DRAIN AND VACUUM PIPE SIZE SHALL BE SITE SPECIFIC.
 4. ONLY SWEEP BENDS ALLOWED ON VACUUM LINE.



ODOR CONTROL STUB OUT DETAIL

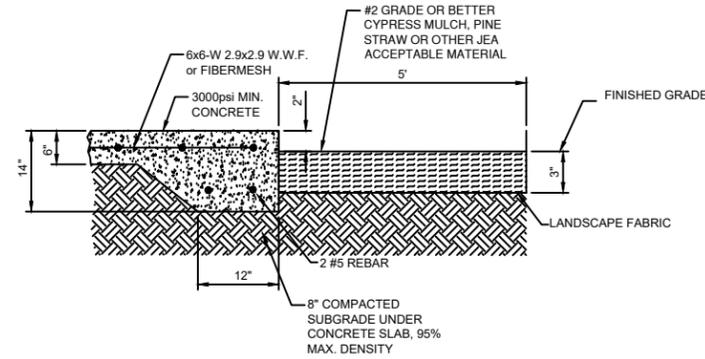
NOT TO SCALE

- NOTE:
1. ALL PIPE ABOVE, UNDER, AND WITHIN 5' OF THE CONCRETE SLAB OR DRIVEWAY, SHALL BE 1-1/2" 316 SS. ALL OTHER WATER SERVICE PIPING SHALL BE 1-1/2" SCHEDULE 80 PVC.



WET WELL HATCH DETAIL

NOT TO SCALE

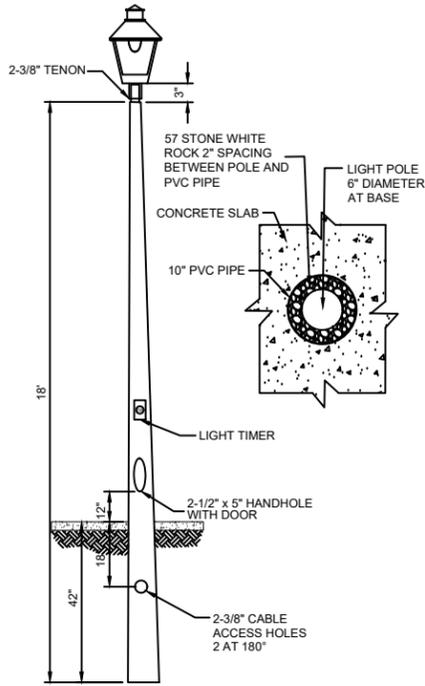


CONCRETE SLAB AND GROUND COVER DETAIL

NOT TO SCALE

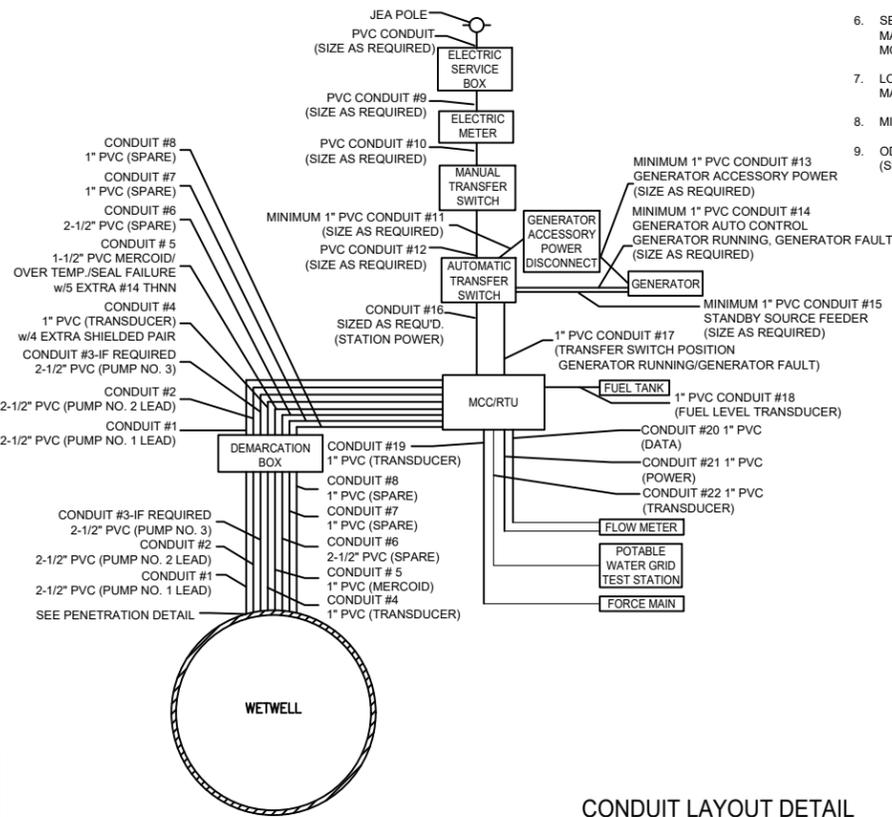
NO. SHEETS	PROJ. NO.	DESIGNER	DATE	REVISIONS
SHEET NO.	DATE	DRAWN BY	BY	DATE
DRAWING NO.	SCALE	CHECKED BY	NO.	BY
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JEA STANDARD		DESIGN ENGINEER		
PUMP STATION CONSTRUCTION DETAILS		FLORIDA REGISTRATION NO.		
MISCELLANEOUS DETAILS 2				



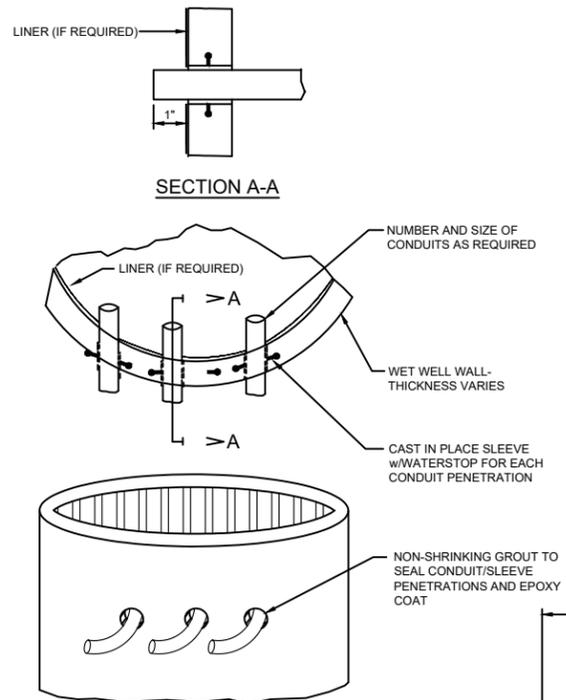


- A. TOP
HINGED DIE-CAST ALUMINUM TOP WITH
CUPOLA COVER.
- B. SOCKET
VERTICAL: BASE UP STANDARD ON TYPE I.
- C. LAMP
70W HIGH PRESSURE SODIUM
- D. REFRACTOR
INJECTION MOLDED ACRYLIC REFRACTOR PANELS.
- E. HOUSING
DIE-CAST ALUMINUM BADE HOUSING.
STANDARD COLOR: BLACK
- F. STARTER
PLUG-IN STARTER
- G. MOUNTING
SELF-ALIGNING POLE TOP FITTER FOR
2-3/8 O.D. TENONS. SQUARE HEADED 1-1/4"
POLYMER COATED MOUNTING BOLTS.
- H. TERMINAL BLOCK
TERMINAL BLOCK STANDARD.
- I. POLE
FIBERGLASS DIRECT BURIED
A: BLACK

SITE LIGHT DETAIL
NOT TO SCALE

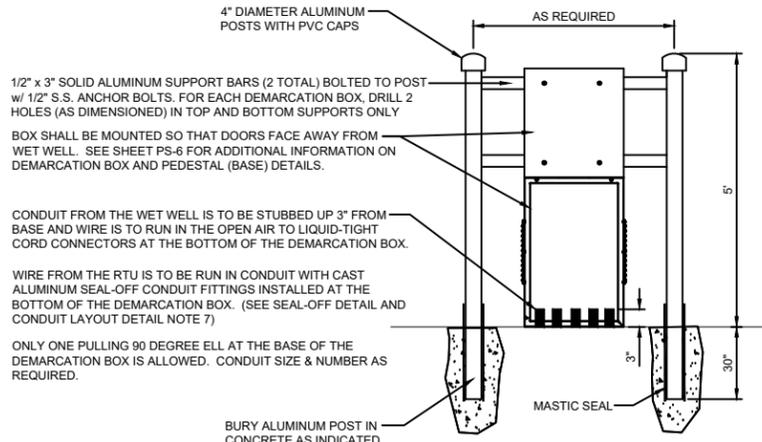


CONDUIT LAYOUT DETAIL
NOT TO SCALE



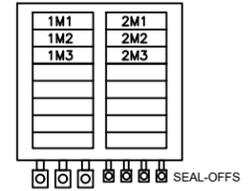
- NOTES:
- CORE BORING FOR CONDUITS SHALL BE ALLOWED FOR EXISTING WET WELLS ONLY.
 - EXTEND CONDUITS AND ARV DRAIN 1" INSIDE WET WELL.
 - FOR POLYMER WET WELLS USE POLYMER GROUT TO SEAL AROUND CONDUIT PENETRATIONS.
 - FOR CONCRETE WET WELLS USE NON-SHRINKING GROUT TO SEAL AROUND CONDUIT PENETRATIONS. MANUFACTURER: QUIKRETE MODEL: 1585
 - IF INTERIOR OF THE CONCRETE WET WELL IS DAMAGED, REPAIR USING A SPECIAL LINING PRODUCT: SEE SPEC. SECTION #446.
 - SEAL CONDUIT AT THE WET WELL USING DUCT SEAL. MANUFACTURER: BLACKBURN MODEL: DX5, S-1# DUCT SEAL
 - LOCATE CONDUIT SLEEVE SO AS NOT TO INTERFERE WITH WET WELL MAINTENANCE AND OPERATION.
 - MINIMUM FOUR 1-INCH AND THREE 2-1/2-INCH CONDUITS.
 - ODDER CONTROL VACUUM PIPING WILL REQUIRE A RUBBER BOOT (SEE DETAIL S-15)

WET WELL PENETRATION DETAIL
NOT TO SCALE



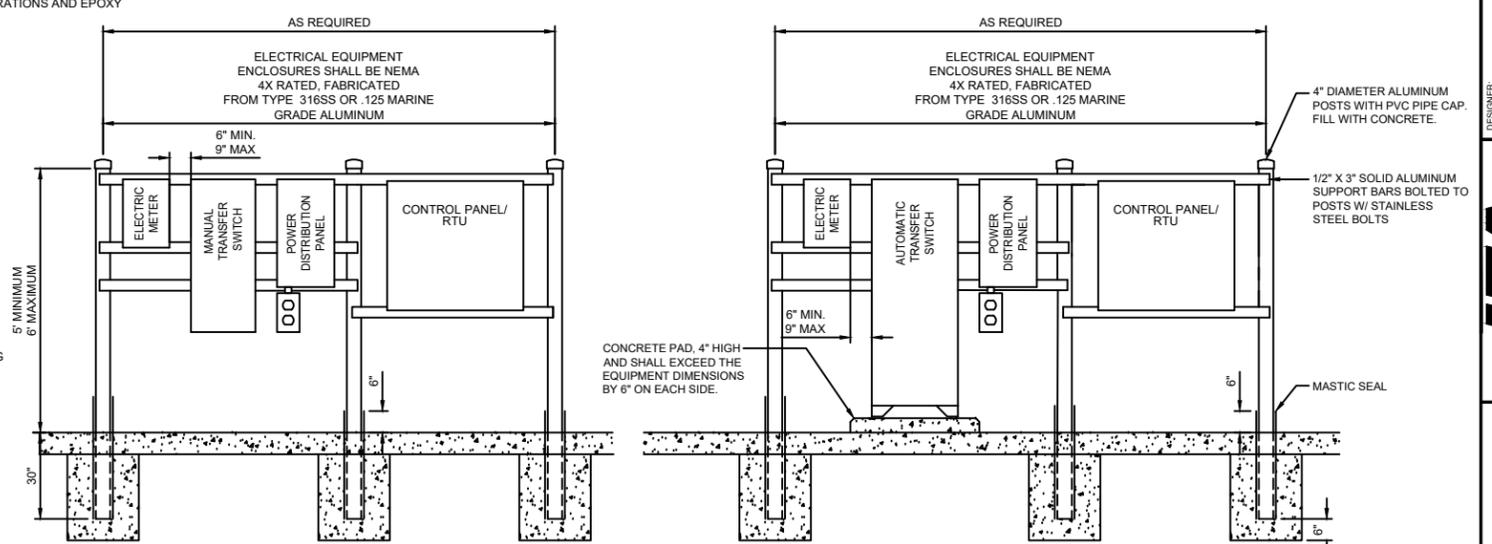
DEMARCATON BOX DETAILS
NOT TO SCALE

MOTOR TERMINAL BLOCKS SHALL BE WAGO "POWER CAGE CLAMP" SERIES. CONDUCTOR AMPACITY, VOLTAGE, AND WIRE SIZE SHALL DETERMINE FINAL SELECTION.



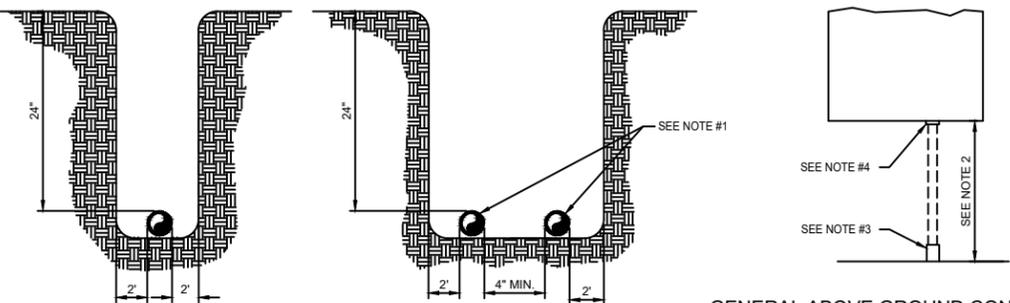
SEAL-OFF DETAIL

SEE DEMARCATON BOX DRAWINGS FOR ADDITIONAL INFORMATION



PUMP STATIONS WITHOUT STANDBY GENERATOR **PUMP STATIONS WITH STANDBY GENERATOR**

ELECTRICAL EQUIPMENT RACK DETAIL
NOT TO SCALE



SINGLE CONDUIT RUN **MULTIPLE CONDUIT RUN**

GENERAL ABOVE GROUND CONDUIT RUN SHOWING COUPLING AND CONNECTOR

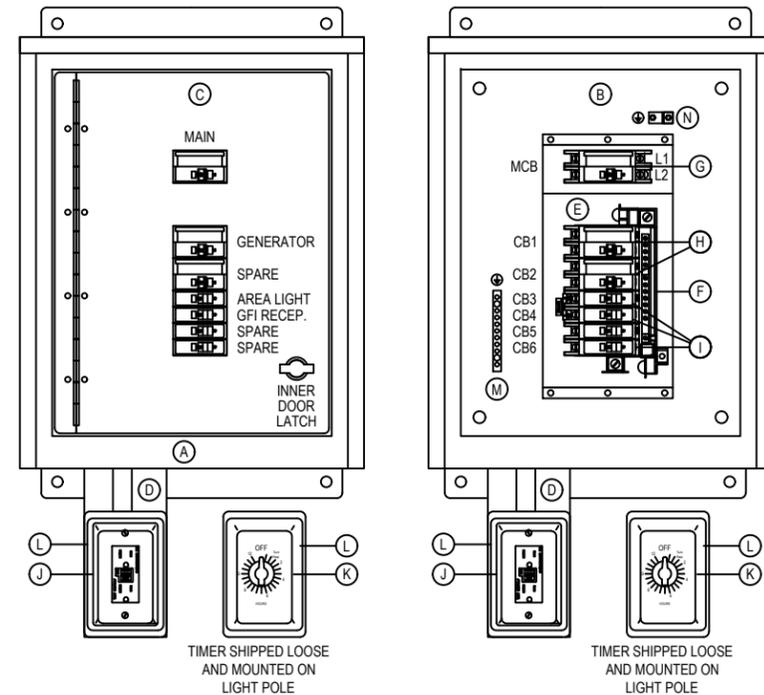
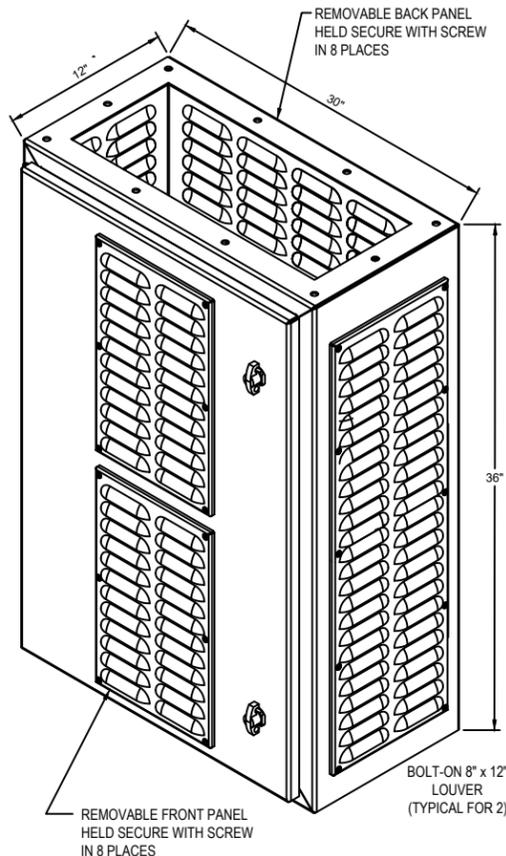
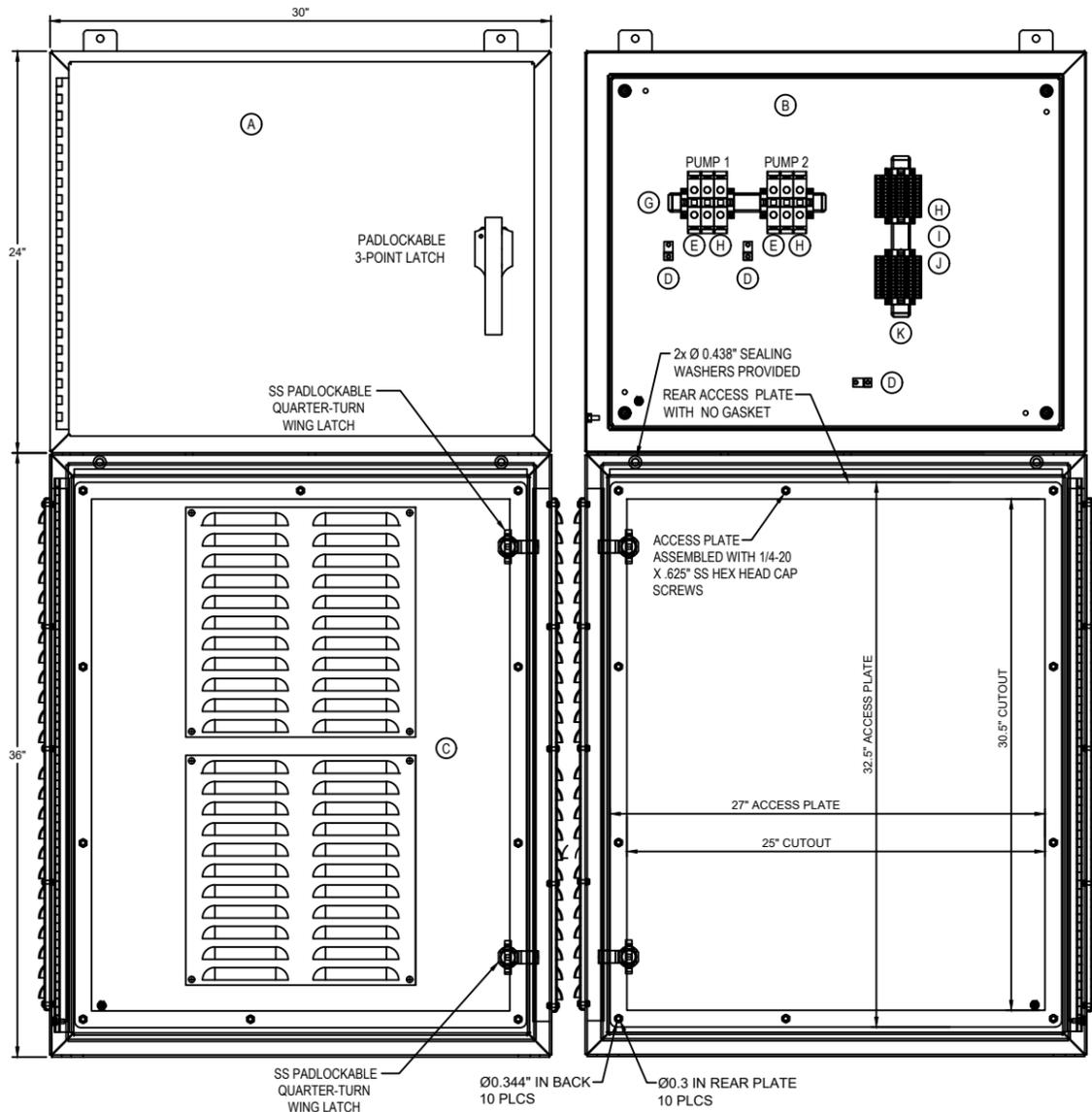
ABOVE AND UNDERGROUND ELECTRICAL RACEWAY DETAILS
NOT TO SCALE

- NOTES:
- UNDERGROUND CONDUIT SCHEDULE 80 PVC. MANUFACTURER: CARLON
 - CONDUIT ABOVE GROUND TO CABINETS SCHEDULE 80 PVC NEMA TC-2 SUNLIGHT RESISTANT. MANUFACTURER: CARLON
 - UNDERGROUND PVC COUPLED TO ABOVE GROUND PVC WITH A PVC COUPLING. MANUFACTURER: CARLON
 - ABOVE GROUND PVC CONNECTED TO RTU AND MCC USING A PVC CONNECTOR. MANUFACTURER: CARLON

NO. SHEETS	PROJ. NO.	DESIGN ENGINEER	REVISIONS
SHEET NO.	DATE	BY	DATE
DRAWING NO.	SCALE	CHECKED BY	DATE
		DESIGNED BY	
		FLORIDA REGISTRATION NO.	



JEA STANDARD
 PUMP STATION CONSTRUCTION DETAILS
 MISCELLANEOUS DETAILS 2



POWER DISTRIBUTION PANEL (TYPICAL 240VAC - 1 PHASE SHOWN)

ENCLOSURE:
SPLRHCSS6-20168 (20"H x 16"W x 8"D) NEMA 12/3R RATED, FABRICATED FROM TYPE 316 STAINLESS STEEL. OUTER DOOR IS FITTED WITH A PADLOCKABLE 3-POINT LATCH.

BACK PANEL:
SPP-2016 (17"H x 13"W) FABRICATED FROM 14ga. CARBON STEEL WITH WHITE POLYESTER POWDER COAT FINISH.

HINGED INNER DOOR:
FABRICATED FROM .125 ALUMINUM WITH CONTINUOUS HINGE AND TWIST LATCH.

240 VAC DISTRIBUTION PANEL NOTES:

- POWER DISTRIBUTION PANEL 120/240V 1 PHASE WITH 60A 2-POLE MAIN BREAKER.
- PANEL OUTER DOOR SHALL BE HINGED AND PADLOCKABLE.
- ALL LIVE PARTS SHALL BE ENCLOSED FOR PERSONNEL SAFETY AND EQUIPMENT PROTECTION.
- GROUNDING TERMINAL SHALL BE PROVIDED IN THE ENCLOSURE
- THE ENCLOSURE SHALL BE NEMA 3R RATED.
- IF ENCLOSURE IS FABRICATED WITHIN AN AUTHORIZED PANEL SHOP, .125 MARINE GRADE ALUMINUM SHALL BE USED.
- IF ENCLOSURE IS PURCHASED FROM AN AUTHORIZED DISTRIBUTOR, TYPE 316 STAINLESS STEEL MAY ALSO BE USED.
- THE LOAD CENTER MOUNTING BASE PLATE SHALL BE UL LISTED, RATED AT 240 VOLTS / 200 AMPS MINIMUM.
- THE LOAD CENTER BUS MATERIAL SHALL BE ALUMINUM OR TIN-PLATED ALUMINUM.
- THE LOAD CENTER SHALL HAVE EIGHT SPACES.
- BREAKERS MAY BE SNAP-IN; JEA DETERMINED LOCATIONS WITH HIGH-VIBRATION REQUIRE BOLT-IN TYPE BREAKERS.
- PANEL SHALL CONTAIN TWO 2-POLE 30-AMP BREAKERS: (1) GENERATOR USE, (1) SPARE.
- PANEL SHALL CONTAIN FOUR 1-POLE 15-AMP BREAKERS: (1) LIGHT, (1) GFI, (2) SPARES.
- PANEL SHALL HAVE A 20-AMP OUTDOOR RATED GFCI RECEPTACLE AND SPRING-WOUND COMMERCIAL RATED LIGHT TIMER.
- GFCI AND TIMER SHALL BE MOUNTED ACCORDING TO N.E.C. STANDARDS.
- GFCI AND TIMER SHALL BE RIGIDLY MOUNTED ON THE EXTERIOR OF THE PANEL USING TYPE 316 SS OR ALUMINUM BRACKETS.

480 VAC DISTRIBUTION PANEL NOTES:

- STANDARD PANEL: 3 KVA TRANSFORMER 480V-120/480V WITH 2-POLE 20-AMP MAIN BREAKER.
- PANEL WITH ODOR CONTROL: 5 KVA TRANSFORMER 480V-120/480V WITH 2-POLE 30-AMP MAIN BREAKER.
- PANEL WITH GENERATOR: 10 KVA TRANSFORMER 480V-120/480V WITH 2-POLE 60-AMP MAIN BREAKER.
- PANEL OUTER DOOR SHALL BE HINGED AND PADLOCKABLE.
- ALL LIVE PARTS SHALL BE ENCLOSED FOR PERSONNEL SAFETY AND EQUIPMENT PROTECTION.
- GROUNDING TERMINAL SHALL BE PROVIDED IN THE ENCLOSURE
- THE ENCLOSURE SHALL BE NEMA 3R RATED.
- IF ENCLOSURE IS FABRICATED WITHIN AN AUTHORIZED PANEL SHOP, .125 MARINE GRADE ALUMINUM SHALL BE USED.
- IF ENCLOSURE IS PURCHASED FROM AN AUTHORIZED DISTRIBUTOR, TYPE 316 STAINLESS STEEL MAY ALSO BE USED.
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- THE LOAD CENTER BUS MATERIAL SHALL BE ALUMINUM OR TIN-PLATED ALUMINUM.
- THE LOAD CENTER SHALL HAVE EIGHT SPACES.
- BREAKERS MAY BE SNAP-IN; JEA DETERMINED LOCATIONS WITH HIGH-VIBRATION REQUIRE BOLT-IN TYPE BREAKERS.
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- GFCI AND TIMER SHALL BE MOUNTED ACCORDING TO N.E.C. STANDARDS.
- GFCI AND TIMER SHALL BE RIGIDLY MOUNTED ON THE EXTERIOR OF THE PANEL USING TYPE 316 SS OR ALUMINUM BRACKETS.

DEMARCATION BOX and PEDESTAL

ENCLOSURE:
SPN4AL-243012-JEA220 (24"H x 30"W x 12"D) NEMA 4X RATED, FABRICATED FROM .125 MARINE GRADE ALUMINUM. OUTER DOOR IS FITTED WITH A PADLOCKABLE 3-POINT LATCH.

BACK PANEL:
SPP-3030 (27"H x 27"W) FABRICATED FROM 12ga. CARBON STEEL WITH WHITE POLYESTER POWDER COAT FINISH.

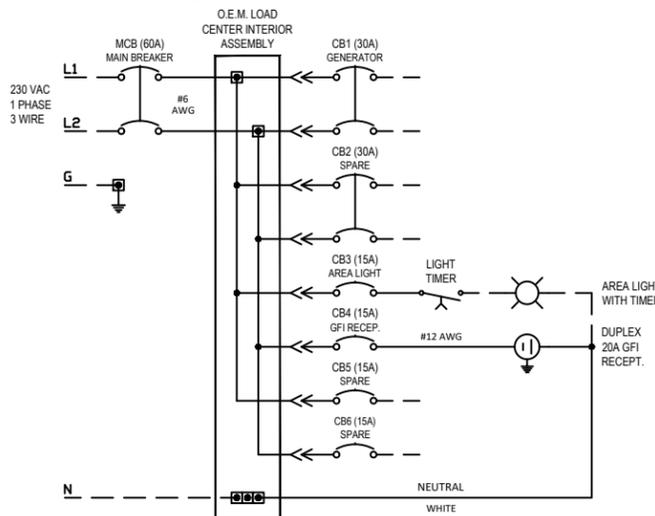
PEDESTAL:
SPN12AL-363012-JEA220 (36"H x 30"W x 12"D) NEMA 12 RATED, FABRICATED FROM .125 MARINE GRADE ALUMINUM. OUTER DOOR IS FITTED WITH TWO PADLOCKABLE QUARTER-TURN LATCHES.

BILLS of MATERIAL

DEMARCATION BOX and PEDESTAL			
QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
A	SCHAEFER	SPN4AL-243012	ENCLOSURE, NEMA 4X ALUMINUM, 3-PT.
B	SCHAEFER	SPP-2430	MOUNTING PANEL, 12ga. PAINTED STEEL
C	SCHAEFER	SPN12AL-363012-215	PEDESTAL, NEMA 12 ALUMINUM, LOUVERS
D	PANDUIT	LAMA2-14-QY	GROUND LUG, DUAL-RATED, #2-14 AWG
E	WAGO	285-135	TERMINAL BLOCK, 1 POLE, 115A
	WAGO	285-150	TERMINAL BLOCK, 1 POLE, 150A
	WAGO	285-195	TERMINAL BLOCK, 1 POLE, 200A
	WAGO	285-1185	TERMINAL BLOCK, 1 POLE, 310A
	WAGO	285-435	ADJACENT JUMPER, 115A
	WAGO	285-450	ADJACENT JUMPER, 150A
	WAGO	285-495	ADJACENT JUMPER, 200A
	WAGO	285-1171	ADJACENT JUMPER, 310A
G	WAGO	210-118	2M CARRIER RAIL, STEEL, UNSLOTTED
H	WAGO	249-197	TERMINAL END STOP, GRAY
I	WAGO	2002-1401	CONTROL TERMINALS, 24A, 800V, SPRING
J	WAGO	2002-1492	TERMINAL END / PARTITION PLATE, ORANGE
K	WAGO	210-112	2M DIN RAIL, GALVANIZED, SLOTTED

POWER DISTRIBUTION PANEL (AS SHOWN)			
QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
A	SCHAEFER	SPLRHCSS6-20168	ENCLOSURE, NEMA 12/3R, 316 SS, 3-PT.
B	SCHAEFER	SPP-2016	MOUNTING PANEL, 14ga. PAINTED STEEL
C	OEM		HINGED INNER DOOR, .125 ALUMINUM
D	OEM		GFI MOUNT TO RIGIDLY MOUNT EXTERNAL DEVICES
E	OEM		BREAKER MOUNT TO RAISE CBs FLUSH WITH INNER DOOR
F	SQUARE D	QON816L100	100 AMP LOAD CENTER INTERIOR ASSY.
G	SQUARE D	QOQ260	MCB MAIN CIRCUIT BREAKER, 2 POLE, 60A
H	SQUARE D	QO230	CB1-CB2 GEN. BREAKER, 2 POLE, 30A
I	SQUARE D	QO115	CB3-CB6 CONTROL BREAKER, 1 POLE, 15A
J	HUBBELL	GF20WLA	DUPLEX GFCI RECEPTACLE, 20A
K	INTERMATIC	FF30MC	SPRING-WOUND TIMER, 30 min. NO HOLD
L	INTERMATIC	WP1030C	SINGLE GANG WEATHER-PROOF COVER, CLEAR
M	SQUARE D	PK9GTA	EQUIPMENT GROUND BAR, 9-POINT
N	PANDUIT	LAMA2-14-QY	GROUND LUG, DUAL-RATED, #2-14 AWG

POWER DISTRIBUTION PANEL SCHEMATIC:



NOTE 1: SELECT APPROPRIATELY SIZED TERMINAL BLOCK BASED ON MOTOR LOAD
 NOTE 2: INSERTING MULTIPLE CABLES INTO A SINGLE TERMINAL IS PROHIBITED. USE A SECOND BLOCK AND THE ASSOCIATED ADJACENT JUMPER
 NOTE 3: USE PRINTED GUIDE ON TERMINAL BLOCKS TO MEASURE CORRECT CABLE STRIP LENGTH
 NOTE 4: ENGINEER APPROVED EQUAL COMPONENT MAY BE SUBSTITUTED

NO.	BY	DATE	REVISIONS
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3			
2			
1			

DESIGNER:	DESIGN ENGINEER
DRAWN BY:	FLORIDA REGISTRATION NO.
CHECKED BY:	DATE

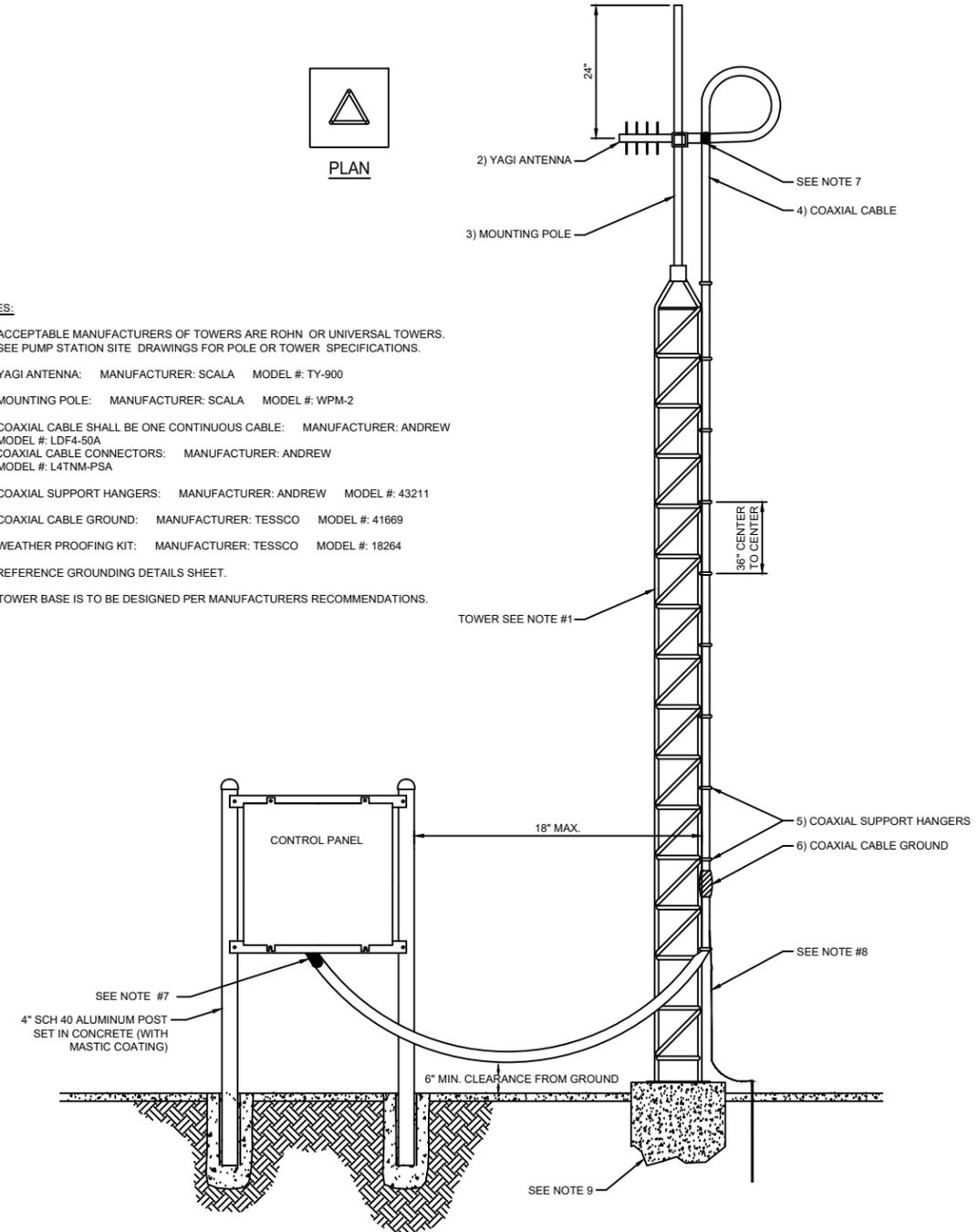


**JEA STANDARD
PUMP STATION CONSTRUCTION DETAILS
DEMARCATION BOX & POWER DISTRIBUTION PANEL**

PROJ. NO.	DATE:	SCALE:
SHEET NO.		
DRAWING NO.		

NOTES:

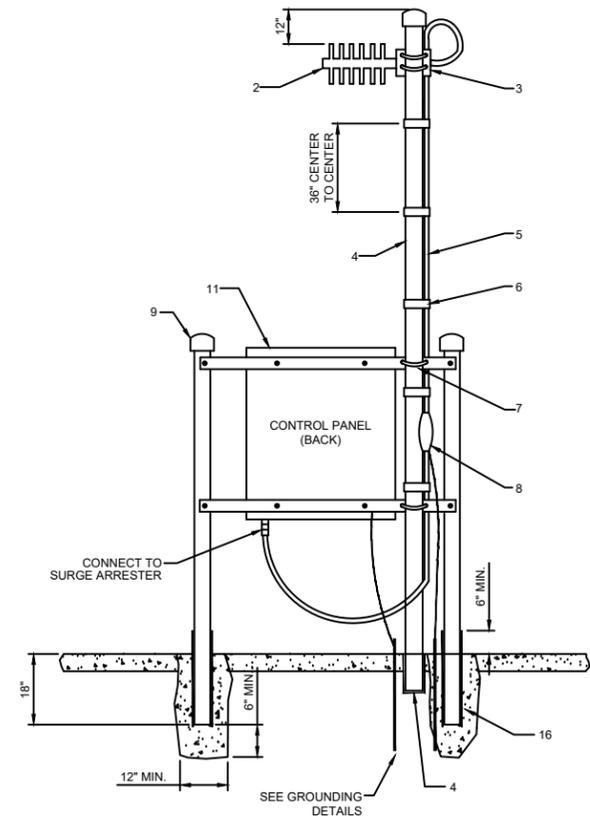
1. ACCEPTABLE MANUFACTURERS OF TOWERS ARE ROHN OR UNIVERSAL TOWERS. SEE PUMP STATION SITE DRAWINGS FOR POLE OR TOWER SPECIFICATIONS.
2. YAGI ANTENNA: MANUFACTURER: SCALA MODEL #: TY-900
3. MOUNTING POLE: MANUFACTURER: SCALA MODEL #: WPM-2
4. COAXIAL CABLE SHALL BE ONE CONTINUOUS CABLE: MANUFACTURER: ANDREW MODEL #: LDF4-50A
COAXIAL CABLE CONNECTORS: MANUFACTURER: ANDREW MODEL #: L4TMM-PSA
5. COAXIAL SUPPORT HANGERS: MANUFACTURER: ANDREW MODEL #: 43211
6. COAXIAL CABLE GROUND: MANUFACTURER: TESSCO MODEL #: 41669
7. WEATHER PROOFING KIT: MANUFACTURER: TESSCO MODEL #: 18264
8. REFERENCE GROUNDING DETAILS SHEET.
9. TOWER BASE IS TO BE DESIGNED PER MANUFACTURERS RECOMMENDATIONS.



ALTERNATE POLE SCADA INSTALLATION DETAIL
FOR POLE HEIGHTS 20 FEET AND ABOVE
NOT TO SCALE

NOTES:

1. SEE PUMP STATION SITE DRAWINGS FOR POLE OR TOWER SPECIFICATIONS.
2. YAGI ANTENNA COMES W/ MOUNTING HARDWARE(MAST SHALL BE SLEEVED THRU CONCRETE TO ALLOW ROTATION (DO NOT USE WOOD POLE MOUNT) MANUFACTURE: SCALA MODEL NUMBER: TY-900
3. COAX CONNECTOR MANUFACTURE: WIRELESS SOLUTIONS MODEL NUMBER: NM50V-1/2
4. 2 3/8" O.D. SCD. 40 ALUMINUM 20' POLE. POLE SHALL BE SLEEVED THROUGH CONCRETE TO ALLOW FOR ROTATION
5. COAXIAL CABLE SHALL BE ONE CONTINUOUS CABLE MANUFACTURER: ANDREW MODEL #: LDF4-50A
6. STAINLESS STEEL STRAPS 3" O/C MANUFACTURE: WIRELESS SOLUTIONS MODEL NUMBER: RM-A300
7. 316 STAINLESS STEEL U-BOLTS MANUFACTURE: ANY DOMESTIC BRAND MODEL NUMBER: N/A
8. COAXIAL CABLE GROUND MANUFACTURER: TESSCO MODEL #: 41669
9. 4" PVC CAPS
10. 4" DIA. ALUMINUM POST
11. 1/2"x3" SOLID ALUMINUM SUPPORT BARS (2 TOTAL) BOLTED TO POST W/ 5/8" S.S. ANCHOR BOLTS. DRILL 2 HOLES (AS DIMENSIONED ON DETAIL) IN TOP & BOTTOM SUPPORTS ONLY
12. BURY ALUMINUM POST IN CONCRETE AS SHOWN ON DRAWING.
13. INSTALL RTU MOUNT SO THAT WHEN CABINET IS ATTACHED DOOR IS FACING NORTH UNLESS DOOR HAS SUN SHIELD. IN ALL INSTANCES JEA PREFERRED THE DOOR TO FACE NORTH IF POSSIBLE.
14. CABINET SHALL HAVE CLEARANCE TO OPEN DOOR COMPLETELY.
15. SCADA SYSTEM WOOD POLE ALTERNATE DETAIL TO BE USED ONLY WHEN ADDITIONAL ANTENNA HEIGHT IS REQUIRED, AND APPROVED.
16. MASTIC SEAL ALL POSTS WHICH ARE EMBEDDED IN CONCRETE.
17. ALL MATERIALS MUST MEET OR EXCEED JEA SPECIFICATIONS

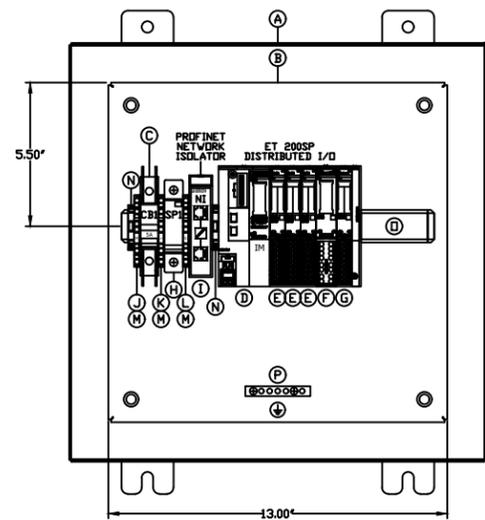
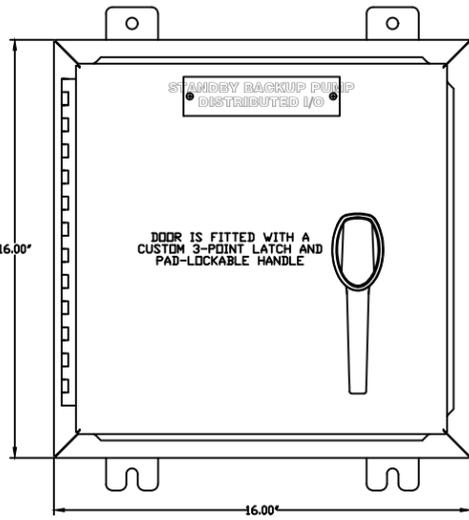


SCADA INSTALLATION DETAIL
FOR POLE HEIGHTS LESS THAN 20 FEET
NOT TO SCALE

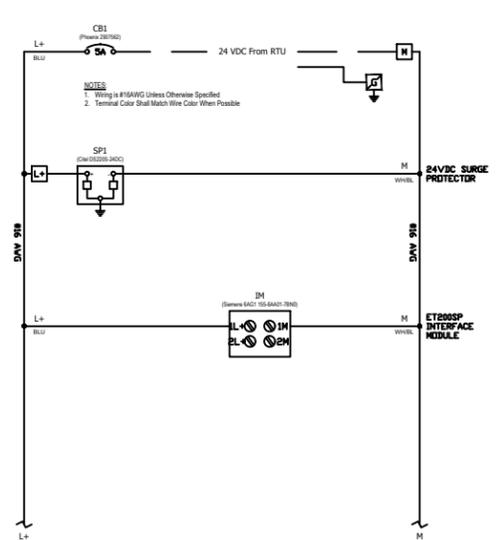
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	SHEET NO.				
DRAWING NO.	DATE	FLORIDA REGISTRATION NO.			
	SCALE:				



JEA STANDARD
PUMP STATION CONSTRUCTION DETAILS
SCADA INSTALLATION



GENERATOR DISTRIBUTED I/O PANEL - BILL OF MATERIAL					
ITEM	TAG	PART No.	DESCRIPTION	MANUFACTURER	QTY.
A		SPN4AL-16166-W	ENCLOSURE, NEMA 4X, ALUMINUM, WHITE PAINTED FINISH, 3-PT. LATCH	SCHAEFER	1
B		SPP-1616	BACK PANEL, 12ga. CARBON STEEL, WHITE ENAMEL FINISH	SCHAEFER	1
C	CB1	2907562	CIRCUIT BREAKER, UL489 BRANCH RATED, C-CURVE, 1-POLE, 5A	PHOENIX CONTACT	1
D	IM	6AG1 155-6AA01-7BD0	INTERFACE MODULE, SIPLUS ET200SP IM155-6PN STANDARD	SIEMENS	1
E		6AG1 131-6BF00-7BA0	DIGITAL INPUT MODULE, SIPLUS ET200SP DI 8x24VDC ST	SIEMENS	3
		6AG1 193-6BF00-7DA0	BASE MODULE, WHITE	SIEMENS	3
F		6AG1 132-6HD00-7BB1	DIGITAL OUTPUT MODULE, SIPLUS ET200SP DO 4x120VAC/230VAC/5A ST	SIEMENS	1
		6AG1 193-6BF20-7BB1	BASE MODULE, BLACK	SIEMENS	1
G		6AG1 134-6GD00-7BA1	ANALOG INPUT MODULE, SIPLUS ET200SP AI 4xI 2- / 4-WIRE ST	SIEMENS	1
		6AG1 193-6BF00-7DA0	BASE MODULE, WHITE	SIEMENS	1
H	SP1	DS220S-24DC	SURGE PROTECTOR, 24VDC	CITEL	1
I	NI	2313931	PROFINET NETWORK ISOLATOR	PHOENIX CONTACT	1
J	M	2002-1406	TERMINAL, PUSH-IN, 1-CIRCUIT, YELLOW	WAGO	1
K	L+	2002-1404	TERMINAL, PUSH-IN, 1-CIRCUIT, BLUE	WAGO	1
L	G	2002-1407	TERMINAL, PUSH-IN, 1-CIRCUIT, GREEN/YELLOW, GROUNDING	WAGO	1
M		2002-1492	TERMINAL END PLATE, ORANGE	WAGO	3
N		249-116	END ANCHOR, 6mm, GRAY	WAGO	2
O		210-112	DIN RAIL, GALVANIZED, SLOTTED, 2M	WAGO	1
P		PK5GTA	EQUIPMENT GROUND BAR KIT	SQUARE D	1



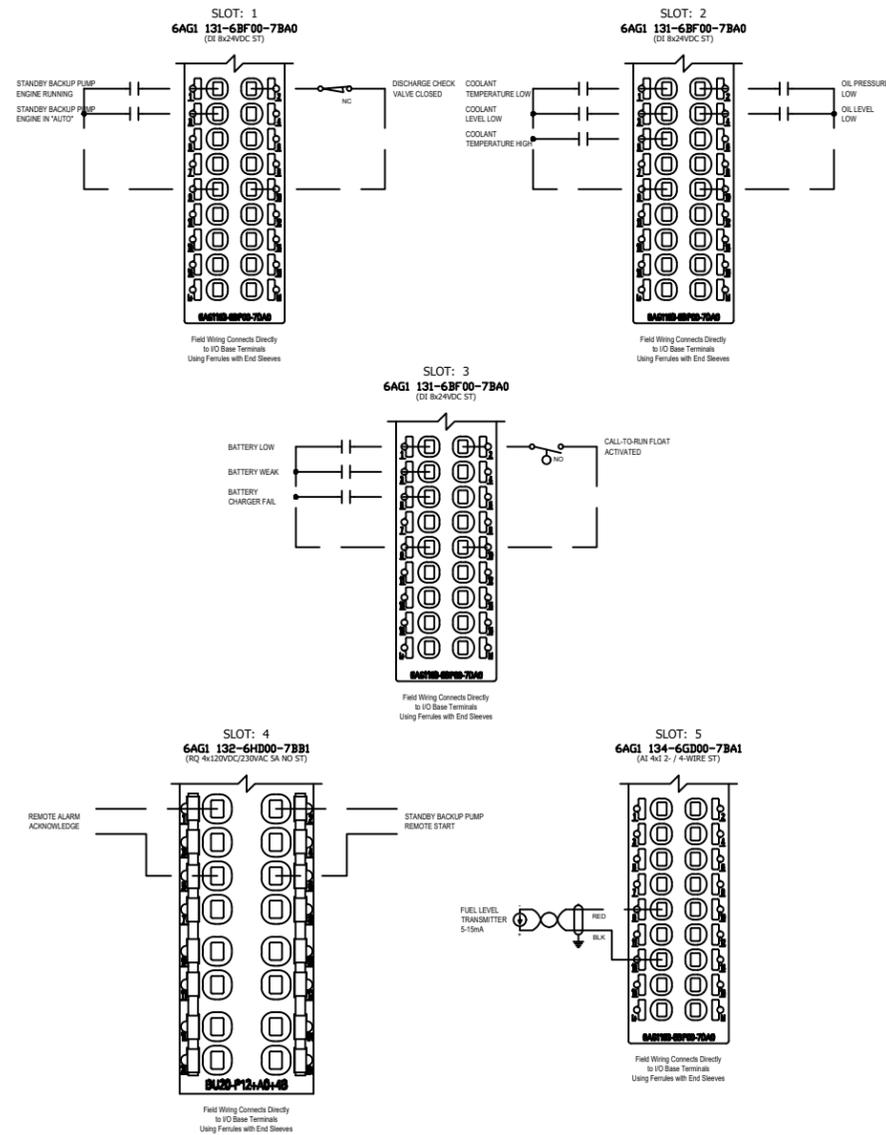
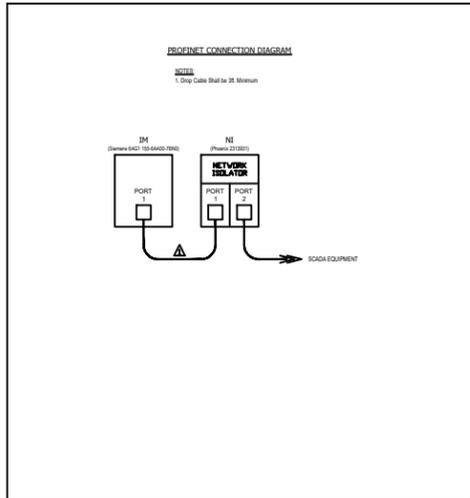
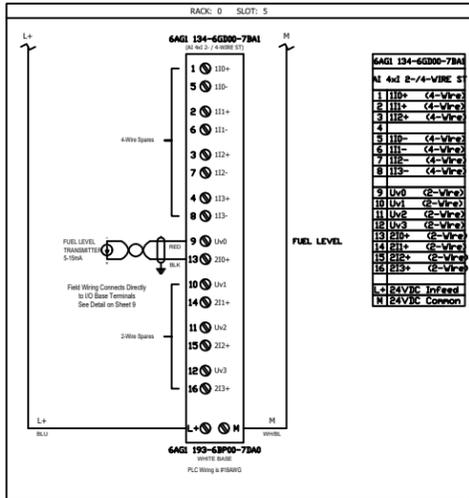
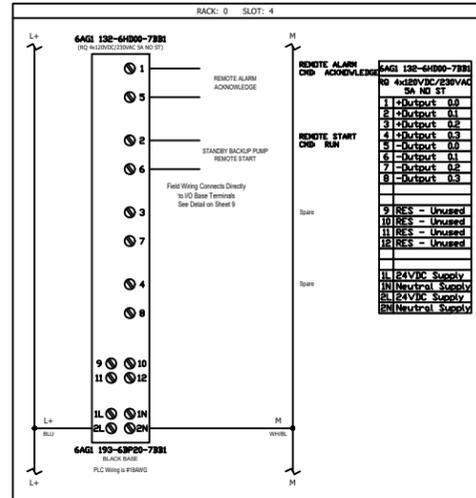
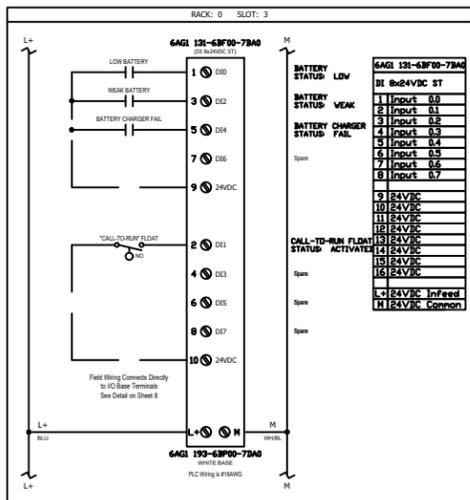
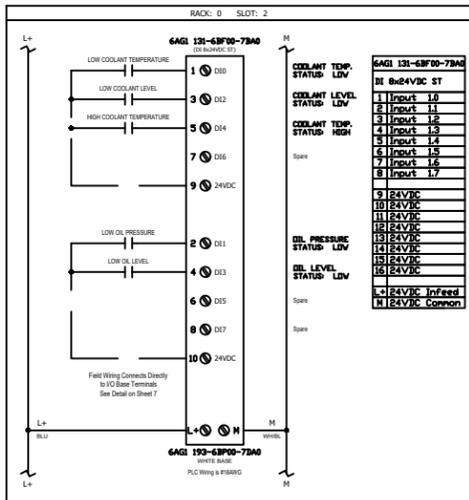
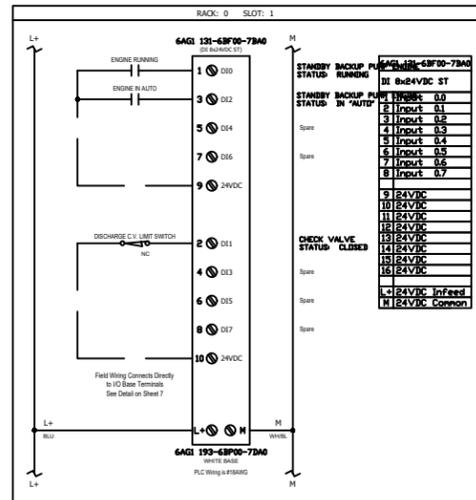
- GENERAL NOTES:**
- THIS DRAWING IS AN EXAMPLE OF HOW OVERALL CABINET IS TO BE DESIGNED
 - REFER TO NOTES AND DETAILS ON ALL DRAWING SHEETS
 - ALL FIELD WIRING SHALL BE #18 AWG STRANDED, TIN-PLATED COPPER
 - ALL FIELD WIRING SHALL CONNECT DIRECTLY TO I/O BASE TERMINALS USING FERRULES WITH END SLEEVES
 - ALL PLC I/O WIRING SHALL BE #18 AWG
 - ALL MOUNTING SCREWS SHALL BE DRILLED AND TAPPED (NO SELF-TAPPING SCREWS ARE ALLOWED)
 - ALL MOUNTING SCREWS SHALL BE STAINLESS STEEL
 - DIN RAIL SHALL BE MODEL 1492-DR9 OR EQUIVALENT

- CONTROL TERMINAL COLOR:**
- ORANGE - +12VDC SUPPLY
 - BROWN - -12VDC SUPPLY
 - BLUE - +24VDC CONTROL CIRCUITS
 - YELLOW - -24VDC CONTROL CIRCUITS
 - GRAY - REMOTELY POWERED CIRCUITS
 - GREEN/YELLOW - GROUND

- ENCLOSURE:**
 SPN4AL-16166-W (16"H x 16"W x 6"D) NEMA 4X RATED, FABRICATED FROM .125 MARINE GRADE ALUMINUM WITH WHITE POLYESTER POWDER COAT FINISH INSIDE AND OUT. DOOR IS FITTED WITH A CUSTOM 3-POINT LATCH AND PAD-LOCKABLE HANDLE.
- BACK PANEL:**
 SPP-1616 (13"H x 13"W) FABRICATED FROM 12GA. CARBON STEEL WITH WHITE ENAMEL FINISH.

- DRAWING LAYER COLOR LEGEND:**
- GREY - NOTES
 - BLACK - ELECTRICAL SCHEMATIC WIRING DIAGRAMS AND DEVICES
 - BLUE - PART IDENTIFICATION
 - PURPLE - WIRE NUMBERS
 - GREEN - FIELD DEVICES AND WIRING OUTSIDE ENCLOSURE (DASHED)
 - RED - FUTURE / OPTIONAL DEVICES AND WIRING
 - TEAL - DIMENSIONS

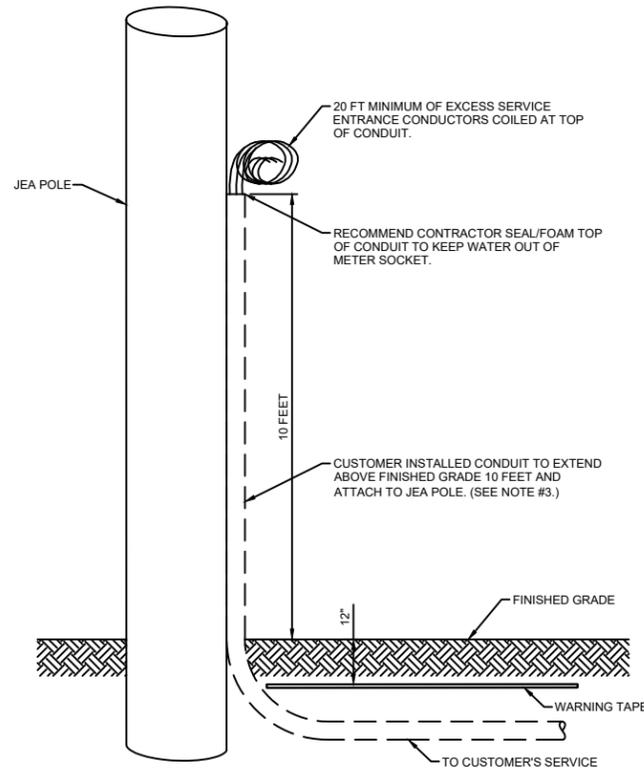
FIELD WIRING CONNECTION DETAILS



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DRAWN BY:		FLORIDA REGISTRATION NO.	
CHECKED BY:		NO.	
DATE:		DATE	
SCALE:		BY	
NO. SHEETS		REVISIONS	
SHEET NO.		DATE	
DRAWING NO.		NO.	

JEA STANDARD
PUMP STATION CONSTRUCTION DETAILS
STANDBY BACKUP PUMP DISTRIBUTED I/O PANEL



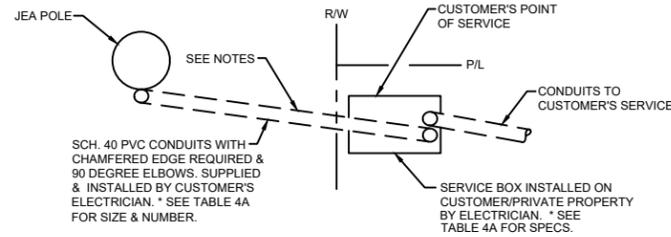


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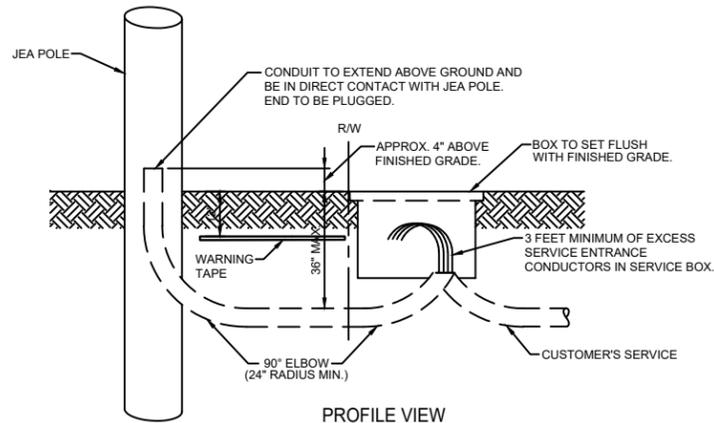
1. 100 AMP MAXIMUM SERVICE SIZE.
2. THE CUSTOMER WILL MAINTAIN THE WARNING TAPE, CONDUIT AND CONDUCTORS SHOWN.
3. THE CUSTOMER MUST PICK A CLEAR SIDE OF THE JEA POLE TO EXTEND UP CONDUIT. CLEAR FROM PHONE OR COMMUNICATION CABLES, OR ANY OTHER EQUIPMENT, FROM FINISHED GRADE TO JEA POINT OF SERVICE. CALL JEA DISTRIBUTION ENGINEER IF LOCATION IS REQUIRED.
4. THE JEA WILL MAKE ALL CONNECTIONS TO CUSTOMER'S SERVICE WIRE ON THE JEA POLE.
5. THE JEA WILL INSTALL CABLE GUARD ON JEA POLE AND COVER CUSTOMER'S SERVICE WIRE AND CONDUIT TO FINISHED GRADE.

**COMMERCIAL SERVICE
100AMP MAXIMUM UNDERGROUND
SERVICE FROM AN OVERHEAD POLE**

NOT TO SCALE



PLAN VIEW



PROFILE VIEW

NOTES:

1. THE MINIMUM DISTANCE BETWEEN THE SERVICE BOX AND SERVICE POLE IS 4 FEET.
2. THE CUSTOMER MUST PICK A CLEAR SIDE OF THE JEA POLE FOR THE JEA TO EXTEND UP THE POLE RISER. CLEAR FROM PHONE OR COMMUNICATION CABLES, OR ANY OTHER EQUIPMENT, FROM FINISHED GRADE TO CONNECTIONS TO OVERHEAD FACILITIES. CALL JEA DISTRIBUTION ENGINEER IF LOCATION IS REQUIRED.
3. THE JEA WILL MAINTAIN THE POLE RISER AND CONDUCTOR FROM THE OVERHEAD FACILITIES TO A CUSTOMER-PROVIDED SERVICE BOX.
4. THE JEA WILL MAKE ALL CONNECTIONS TO THE CUSTOMER'S SERVICE WIRE IN THE SERVICE BOX. SAID CONNECTIONS WILL BE THE CUSTOMER'S POINT OF SERVICE.

**COMMERCIAL SERVICE
ABOVE 100 AMPS AND MULTI-METERED UNDERGROUND
SERVICE FROM AN OVERHEAD POLE**

NOT TO SCALE

**TABLE 4A
CONDUIT AND SERVICE BOX REQUIREMENTS
FOR UNDERGROUND COMMERCIAL SERVICES FROM AN OVERHEAD POLE**

SERVICE SIZE	CONDUIT SIZE (From Service Box to JEA Overhead Pole)	SERVICE BOX SIZE
20A - 150A	1-2 in	13" x 24" x 18" d
151A -200A	1-3 in	17" x 30" x 18" d
201A - 399A	1-3 in	24" x 36" x 18" d
400A-800A	400A=1-4 in 401-800A=2-4 in	30" x 48" x 24" d manhole
801A-1400A	801-1000A=2-4 in 1001-1400A=3-4 in	36" x 60" x 36" d manhole

NOTE:

1. ALL CONDUITS TO BE SCHEDULE 40 PVC WITH CHAMFERED EDGES REQUIRED. CONDUIT SIZE AND NUMBER DOES NOT HAVE TO MATCH CUSTOMERS' SERVICE CONDUIT SIZE, TYPE, AND NUMBER.
2. ALL CONDUIT RADIUS TO BE 24 INCH MINIMUM.
3. JEA WILL ALLOW THE OPTION OF PURCHASING THESE BOXES FROM AN ELECTRICAL SUPPLY HOUSE. THESE BOXES MUST MEET THE FOLLOWING SPECIFICATIONS.
4. SERVICE BOX SIZE MAY VARY FOR 3 PHASE APPLICATIONS.
5. CONTACT JEA SERVICE ENGINEER FOR CONDUIT AND BOX LOCATION.

TECHNICAL SPECIFICATIONS

MATERIAL SPECIFICATIONS:

SERVICE BOX

1. TOP: COMPRESSION MOLDED POLYMER CONCRETE WITH MINIMUM THICKNESS OF TWO INCHES.
2. BODY: REINFORCED PLASTIC MORTAR (RPM) CONSISTING OF FIBERGLASS AND ISOPHOLIC RESIN. THE BASE WILL HAVE A FLANGE OF TWO INCHES FROM THE INSIDE WALL.
3. RING: THE RING WILL BE OF POLYMER CONCRETE AND WILL BE PERMANENTLY FUSED TO THE BODY DURING THE CURING PROCESS.

MANHOLE

1. MANHOLE BODY SHALL BE OF ONE PIECE CONSTRUCTION WITH A SOLID COVER.
2. MANHOLE DIMENSIONS SHALL BE 60" L X 36" W X 36"D.

LOAD RATING:

1. LOAD RATING: H-10 (INCIDENTAL TRAFFIC).
2. LOAD RATINGS SHALL BE IN ACCORDANCE WITH ASTM, C-857-87 (STD. PRACTICE FOR MINIMUM STRUCTURAL DESIGN LOADING FOR UG PRECAST CONCRETE UTILITY STRUCTURES) AASHTO AND WESTERN UNDERGROUND COMMITTEE RECOMMENDED GUIDELINES RULE 3.6 DATED 6-15-87.

MISCELLANEOUS REQUIREMENTS:

1. HARDWARE: TWO CAPTIVE STAINLESS PENTA HEAD BOLTS FOR SECURING TOP. BOLT HEADS WILL BE FLUSH WITH TOP OF COVER.
2. IDENTIFICATION: EACH TOP WILL HAVE THE WORD "ELECTRIC" PERMANENTLY MARKED INTO THE TOP.

ELECTRICAL NOTES

1. GROUND WIRE SHALL RUN FROM THE CHASSIS CONTINUOUS THROUGH THE METER CAN TO 2 GROUND RODS SPACED 6 FEET APART AND TERMINATE ON A FENCE POST IN CONCRETE.
2. ELECTRICAL ENCLOSURES SHALL BE ORIENTED SUCH THAT THE FRONT OF THE ENCLOSURE FACES THE INTERIOR OF THE PUMP STATION SITE.
3. QUANTITY AND SIZE OF NEMA 4x 316-STAINLESS STEEL ENCLOSURES AS REQUIRED FOR STATION OPERATION.
4. SERVICE DISCONNECT SHALL BE MANUAL FUSE 3 PHASE-4 WIRE

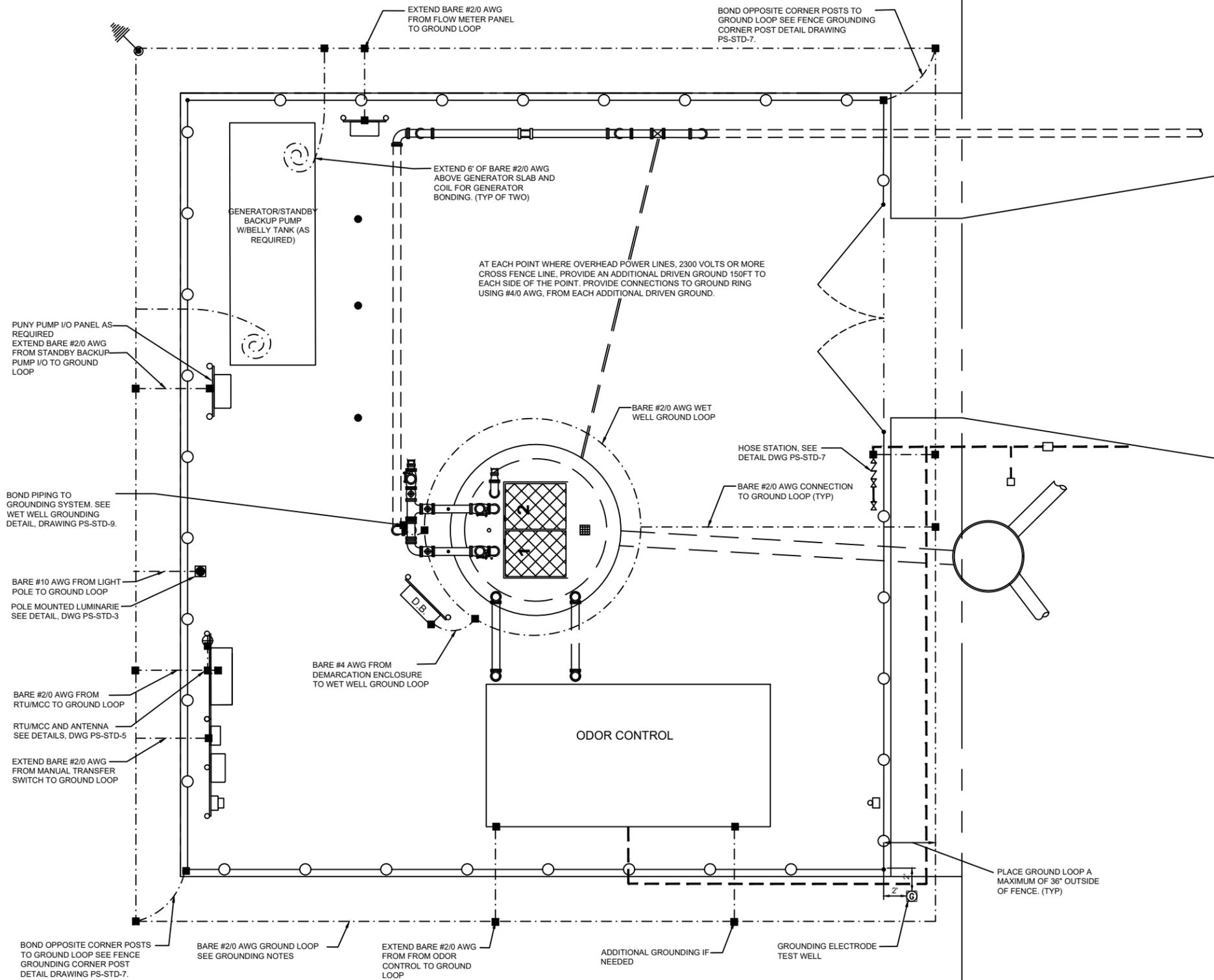
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DRAWN BY:	
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DATE:	
FLORIDA REGISTRATION NO.:	



**JEA STANDARD
PUMP STATION CONSTRUCTION DETAILS
SERVICE DETAILS**

NO. SHEETS	PROJ. NO.
SHEET NO.	DATE:
DRAWING NO.	SCALE:

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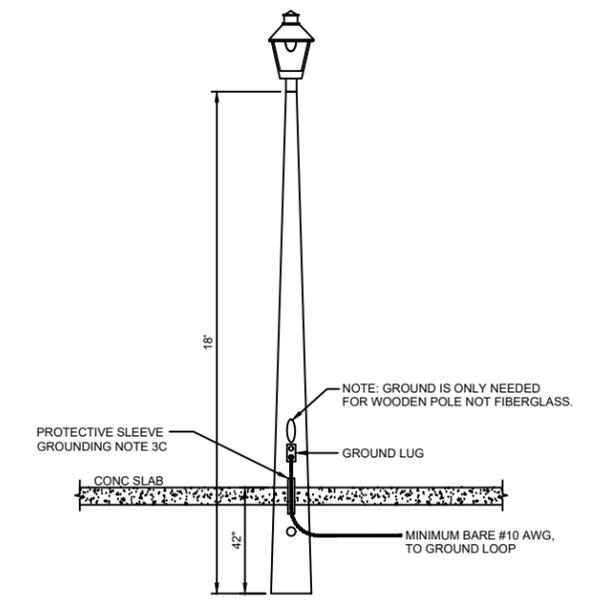
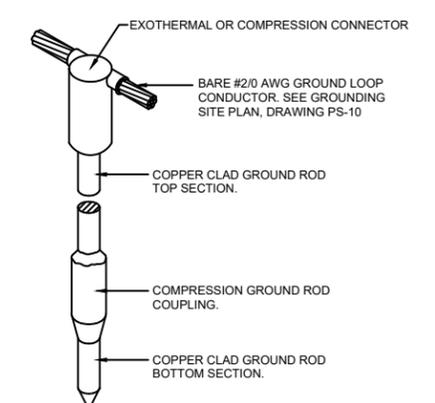
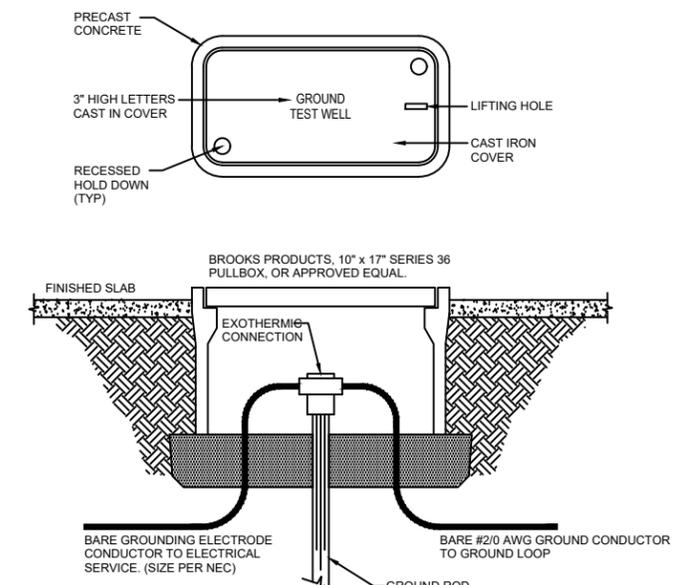
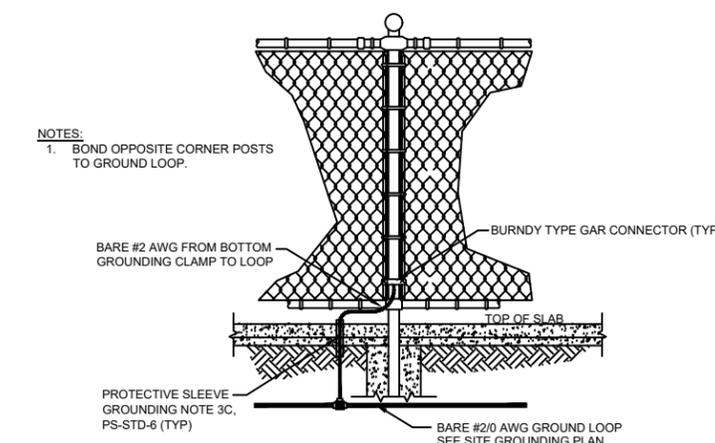
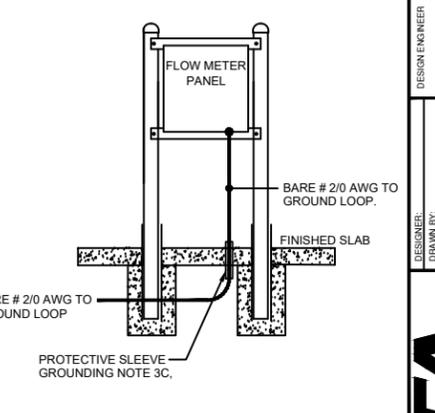
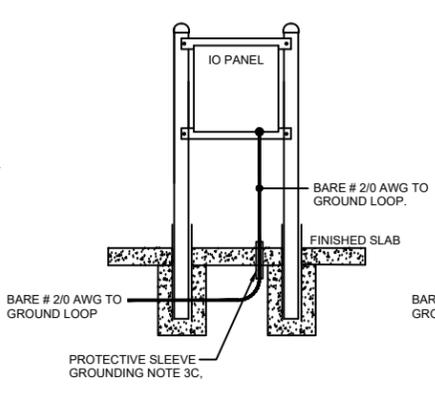
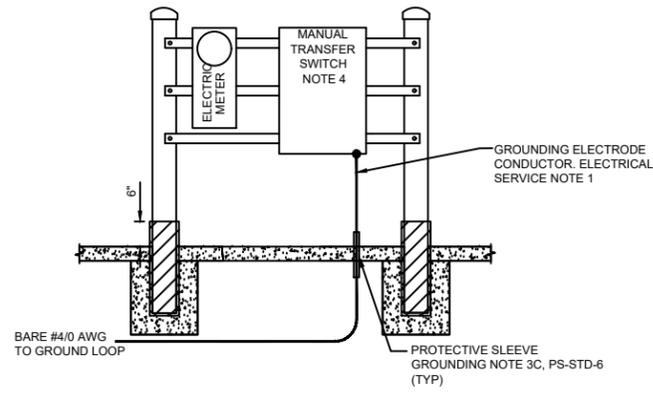
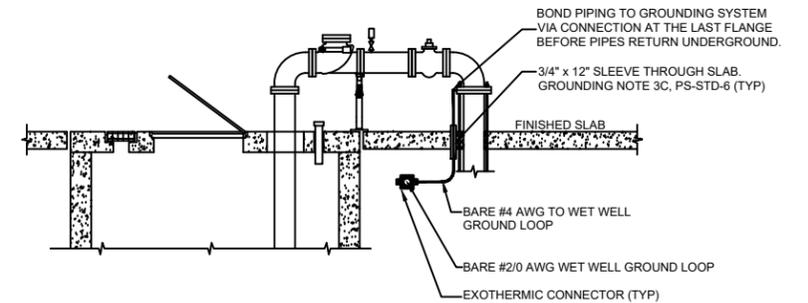
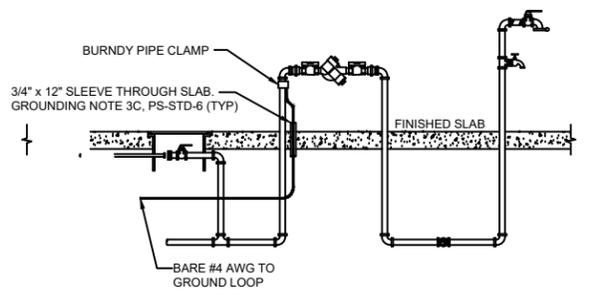
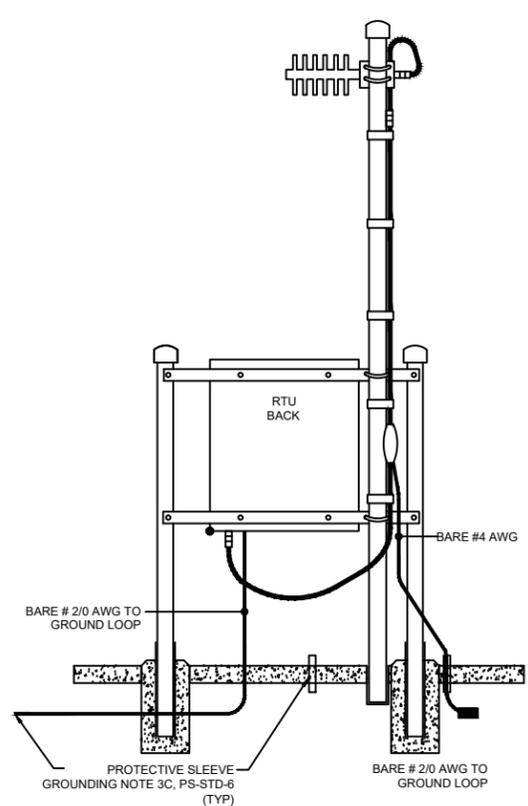
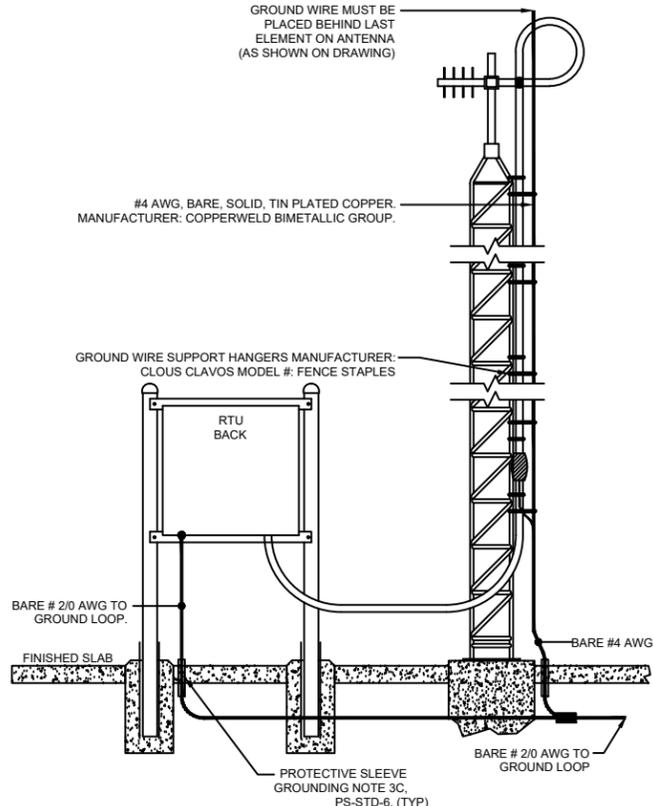


GROUNDING SYMBOL LEGEND	
	GROUND CONDUCTOR (SIZE AS REQUIRED BY NOTES)
	EXOTHERMIC OR COMPRESSION CONNECTION
	GROUND ROD AND CONNECTION
	GROUND TEST WELL WITH GROUND ROD
	GROUND CONDUCTOR COILED ABOVE GRADE OR SLAB FOR FUTURE CONNECTION

- GROUNDING NOTES:**
- PROVIDE A COMPLETE ELECTRICAL GROUNDING SYSTEM WITH A MEASURED GROUND RESISTANCE OF 5 OHMS OR LESS. GROUNDING COMPONENTS AND MATERIALS SHALL BE NEW AND UNDAMAGED.
 - INSULATED GROUND CONDUCTOR SHALL BE SOFT DRAWN, TIN PLATED, STRANDED COPPER CONFORMING TO THE REQUIREMENTS OF UL 83. INSULATED GROUND CONDUCTOR SHALL BE TYPE TW OR THW, AND GREEN COLORED INSULATION. MINIMUM SIZE FOR INSULATED GROUND CONDUCTORS, REGARDLESS OF APPLICATION SHALL BE #12 AWG.
 - BURIED GROUND LOOP CONDUCTORS
 - A. GROUND LOOP CONDUCTOR SHALL BE BARE #2/0 AWG, SOFT DRAWN, TIN PLATED STRANDED COPPER CONDUCTOR UNLESS OTHERWISE NOTED.
 - B. BARE GROUND CONDUCTORS BELOW GRADE, SHALL HAVE A MINIMUM OF 18 INCHES AND A MAXIMUM OF 30 INCHES COVER FROM FINISHED GRADE. BARE GROUND CONDUCTORS UNDER FOUNDATIONS OR SLABS, SHALL HAVE A MINIMUM OF 6 INCHES OF EARTH COVER BETWEEN THE TOP OF CONDUCTOR CONDUCTOR AND THE FOUNDATION OR SLAB.
 - C. BARE GROUND CONDUCTORS THAT PENETRATE THROUGH EXPOSED SLABS OR WET WELL WALL, SHALL DO SO THROUGH A 3/4" x 12" (MIN), SCHED 40 PVC SLEEVE, WITH GROUND WIRE CENTERED IN SLEEVE, FILL TOP OF SLEEVE WITH APPROVED SEALANT TO A DEPTH AT LEAST 3 TIMES THE OUTSIDE DIAMETER OF THE SLEEVE. ALL WIRES PROTRUDING TO THE SURFACE SHALL BE TIN PLATED.
 - D. BARE GROUND CONDUCTOR SHALL BE DIRECTLY BURIED IN EARTH; TO WITHIN 24 TO 36 INCHES FROM BASE OF STRUCTURES OR EQUIPMENT IDENTIFIED FOR GROUNDING.
 - GROUND RODS
 - A. SHALL BE COPPER CLAD MIN 13MIL, COLD DRAWN CARBON STEEL MANUFACTURED IN ACCORDANCE WITH UL 467, WITH THE COPPER CLADDING BONDED TO THE STEEL ROD BY ELECTROLYTIC, OR MOLTEN WELDING PROCESS. GROUND RODS SHALL HAVE A CONICAL TAPER ON PENETRATING END. EACH GROUND ROD SHALL BE 10-FOOT BY 3/4 INCH DIAMETER SECTIONS.
 - B. THERE SHALL BE A MINIMUM OF 2 GROUND RODS THAT SHALL BE DRIVEN TO A MINIMUM OF 60FT EACH. IF GROUND RODS ARE UNABLE TO BE DRIVEN 60FT OR 5 OHMS IS NOT ACHIEVED THEN ADDITIONAL GROUND RODS MUST BE DRIVEN TILL THE 5 OHMS IS REACHED. IF AN ADDITIONAL GROUND ROD IS REQUIRED IT MUST BE DRIVEN IN A CORNER THAT DOESN'T HAVE A ROD.
 - C. GROUND RODS SHALL BE CONNECTED BY COMPRESSION COUPLINGS, SCREW COUPLINGS WILL NOT BE ACCEPTED.
 - GROUNDING SYSTEM HARDWARE
 - A. GROUNDING SYSTEM HARDWARE, INCLUDING CLAMPS, CONNECTORS, BOLTS, WASHERS, AND NUTS, SHALL BE TIN PLATED COPPER.
 - B. SPLICES, JOINTS, AND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC OR IRREVERSIBLE COMPRESSION TYPE. THREADED OR BOLTED COUPLINGS ARE NOT ACCEPTABLE EXCEPT WHERE NOTED IN GROUNDING DETAILS.
 - C. PREPARE CONDUCTORS AND CONNECTORS PER MANUFACTURERS REQUIREMENTS. REMAKE CONNECTIONS THAT FAIL MANUFACTURER'S RECOMMENDED TESTS.
 - D. GROUNDING CONNECTIONS SHALL ENCOMPASS 100 PERCENT OF THE GROUND CONDUCTOR AND CONDUCTOR ENDS.
 - E. GROUND LUGS SHALL BE SINGLE OR TWO-HOLE, HEAVY-DUTY, TIN PLATED COPPER BARS CONFORMING TO THE REQUIREMENTS OF IEEE 837 AND UL 467. TWO-HOLE GROUND LUGS SHALL HAVE NEMA CENTERLINE HOLE SPACING. GROUND LUGS USING AN EXOTHERMIC PROCESS SHALL BE SIMILAR TO TYPE LA AS MANUFACTURED BY ERICO
 - F. MAKE CABLE CONNECTIONS TO BUS BARS USING HIGH-COMPRESSION LUGS. GROUND LUGS USED WITH THE COMPRESSION PROCESS SHALL BE TYPE YGHA AS MANUFACTURED BY BURNDY ELECTRICAL.
 - BOND PIPING TO GROUNDING SYSTEM VIA CONNECTION AT THE LAST FLANGE BEFORE PIPES RETURN UNDERGROUND. SEE WET WELL GROUNDING DETAIL.
 - GROUNDING BY USE OF ANCHOR BOLTS, AGAINST GASKETS, ON PAINTED OR VARNISHED SURFACES, OR ON BOLTS HOLDING REMOVABLE ACCESS COVERS WILL NOT BE ACCEPTABLE.
 - GROUND RESISTANCE SHALL BE CERTIFIED BY AN INDEPENDENT GROUNDING SYSTEM TESTING ORGANIZATION. TESTING SHALL BE DONE AT EACH TEST WELL USING THE 3-POINT FALL OF POTENTIAL METHOD. THIS DOCUMENT MUST BE SUBMITTED AT THE TIME OF STARTUP FOR FINAL ACCEPTANCE.
 - NO CHEMICALS SHALL BE USED TO REDUCE THE RESISTANCE UNLESS APPROVED BY JEA.
 - A MINIMUM OF 5 OHMS OF SHALL BE GUARANTEED BY THE CONTRACTOR FOR 3 YEARS FROM THE SITES ACCEPTANCE. IF THE RESISTANCE FAILS IN THIS TIME THE CONTRACTOR WILL BE RESPONSIBLE FOR ADDING ADDITIONAL GROUND RODS AT THE CONTRACTORS EXPENSE.

PUMP STATION GROUNDING SITE PLAN
NOT TO SCALE

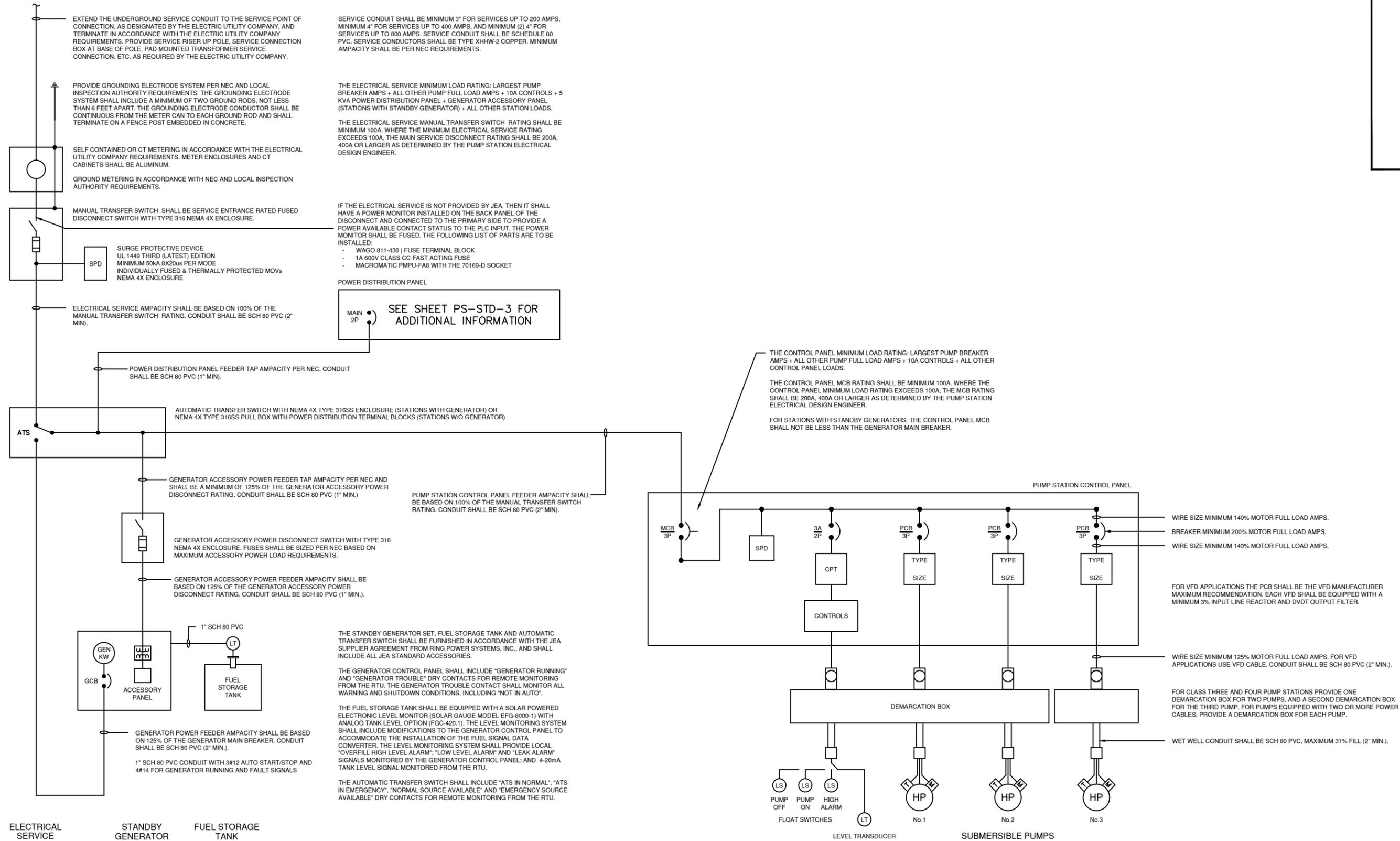
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		JEA sm Building Community		2
		JEA STANDARD		3
		PUMP STATION CONSTRUCTION DETAILS		4
		GROUNDING SITE PLAN		



NO. SHEETS	PROJ. NO.		DESIGN ENGINEER	FLORIDA REGISTRATION NO.
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JEA STANDARD
 PUMP STATION CONSTRUCTION DETAILS
 GROUNDING DETAILS



ELECTRIC SINGLE LINE DETAIL DIAGRAM

NO. SHEETS	PROJ. NO.	DESIGNER	DESIGN ENGINEER	NO.	BY	DATE	REVISIONS
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DRAWING NO.	SCALE	CHECKED BY		3.			
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JEA STANDARD PUMP STATION CONSTRUCTION DETAILS ELECTRIC SINGLE LINE DIAGRAM