



## ADDENDUM NO. [2]

Issue Date: April 15, 2021

Project Name: Moorhen Marsh Low Energy Aquatic Plant System (Leaps™)

Bid Number: 2021038

Bid Opening Date: May 4, 2021

This addendum is being released to modify bid documents.

The information and documents contained in this addendum are hereby incorporated in the invitation to bid. **This addendum must be acknowledged where indicated on the bid form, or the bid will be declared non-responsive.**

### **Modifications to Bid Documents:**

Electrical Drawings E1, E2, and E4 have been revised to show a new underground electric service coming from a different FPL power pole.

### **Attachments:**

Revised Electrical Drawings dated 4/10/2021

**KEYNOTES**

- 2 MAGNETIC FLOW METER & AMPLIFIER W/ OUTLET IN SS 316 ENCLOSURE
- 3 TO FPL DISTRIBUTION WEST SIDE OF 66TH AVE. COORDINATE FOR NEW 480/277V 3 PHASE SERVICE UNDER 66TH AVE AND CANAL.
- 4 FIELD LOCATED EXISTING FPL DISTRIBUTION POLES FOR EACH RESPECTIVE SERVICE.
- 5 WFL PUMP
- 6 NEW FPL PADMOUNT TRANSFORMERS.
- 7 WASTE WATER PUMPS CONTROL PANEL WITH DISTRIBUTION AND 120V TRANSFORMER.
- 8 FLEXRAKE CONTROL PANEL WITH SERVICE OUTLET NEXT TO IT.
- 9 POLE BARN ELECTRICAL PANEL

**CONDUIT LEGEND**

- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- └ CONDUIT STUB
- CONDUIT CONTINUED
- ~ FLEXIBLE CONDUIT
- UE- UNDERGROUND ELECTRICAL
- UC- UNDERGROUND CONDUIT
- OE- OVERHEAD ELECTRIC
- G- GROUNDING CONDUCTOR

**SUNSHINE STATE ONE CALL OF FLORIDA (SSOCOF)**

CALL BEFORE DIGGING: CONTRACTOR MUST CALL 811, (800) 432-4770 OR (386) 575-2025 BEFORE BEGINNING ANY EXCAVATION OR DEMOLITION SO SSOCOF CAN NOTIFY ITS MEMBERS WITH UNDERGROUND FACILITIES NEAR THE JOB SITE TO MARK OFF THE AREA OF WORK.

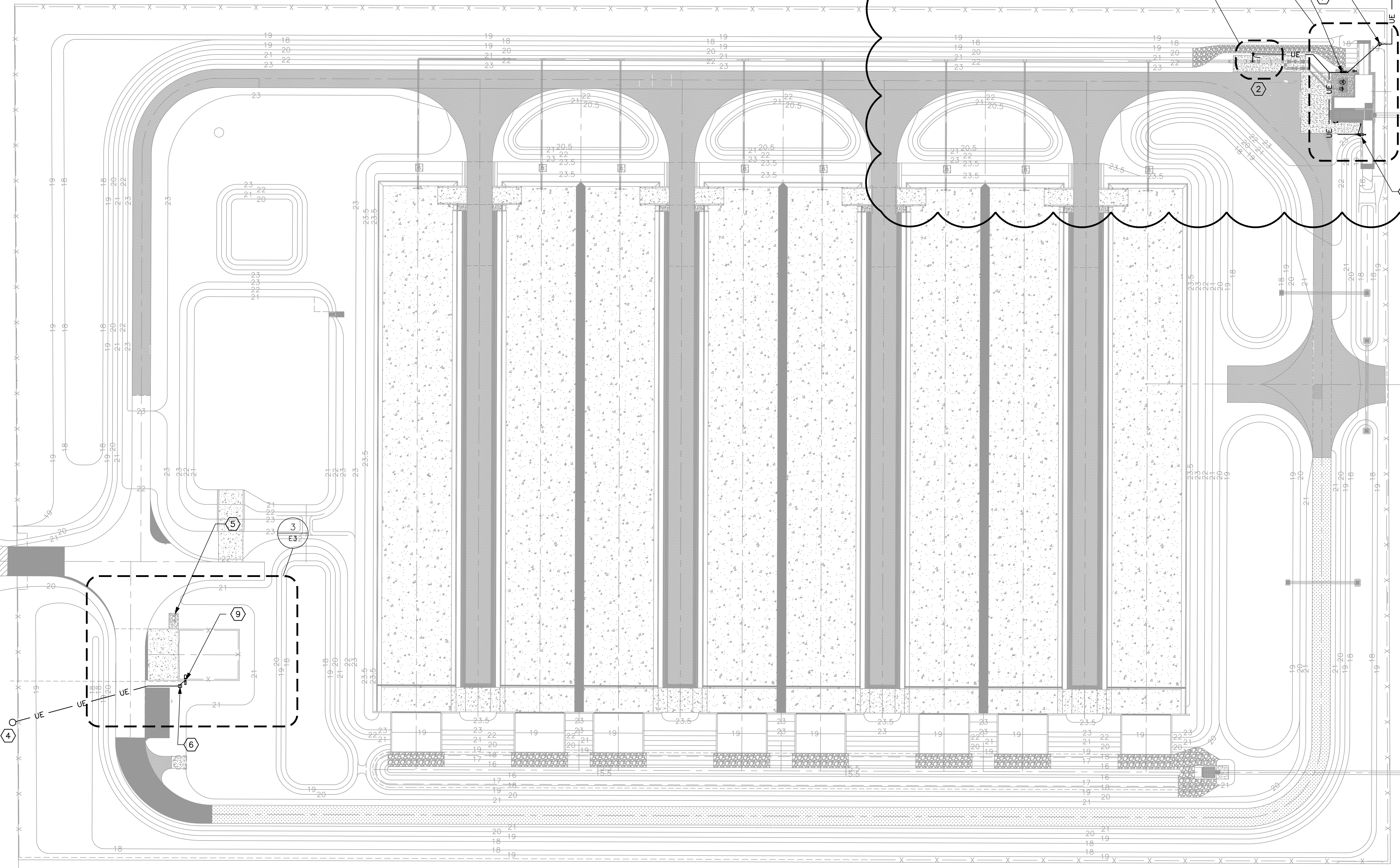
**480/277V SERVICE LATERAL NOTE**

PRIOR TO PERFORMING THE DIRECTIONAL DRILL, THE CONTRACTOR SHALL COORDINATE THE DIRECTIONAL DRILL PATH WITH INDIAN RIVER COUNTY PUBLIC WORKS DEPARTMENT TO INSURE THERE IS NO FUTURE CONFLICT WITH PROPOSED BRIDGE PILLINGS OR OTHER CONSTRUCTION WHEN 66TH AVENUE ROAD IMPROVEMENTS ARE COMMENCED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CROSSING 66TH AVENUE RIGHT-OF-WAY AND INDIAN RIVER FARMS WATER CONTROL DISTRICT LATERAL A CANAL RIGHT-OF-WAY. THE BORE WILL HAVE TO GO BELOW THE CANAL WHICH IRFWCD WILL REQUIRE A MINIMUM OF 10' CLEARANCE BETWEEN THE POWER CONDUIT AND THE CANAL BOTTOM. THE COUNTY WILL PAY ALL PERMIT FEES. THE STRAIGHT-LINE HORIZONTAL DISTANCE FROM THE FPL POWER SUPPLY POLE TO THE PROJECT'S NORTHWEST PROPERTY CORNER IS APPROXIMATELY 260 FEET.

66TH AVENUE

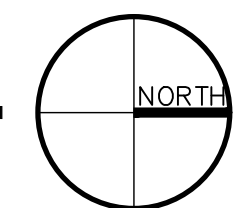
IRFWCD LATERAL A CANAL

53RD STREET (NOT PAVED)



**ELECTRICAL PLAN VIEW**

SCALE = 40' = 1"



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DATE	DESCRIPTION	MARK	TECHNICAL	DESIGNED	DRAWN	CHECKED	SCALE	ISSUE DATE
			TC19032E-SD1903-E1	ARJ	ARJ	ARJ	3/16"=1"	4/10/21

TO THE BEST OF THE ENGINEER'S KNOWLEDGE AND BELIEF, THESE PLANS AND SPECIFICATIONS COMPLY WITH ALL CITY, COUNTY, STATE AND FEDERAL REQUIREMENTS. TREASURE COAST ENGINEERING, INC. IS NOT PROVIDING PROFESSIONAL SERVICES IN ANY STATE OTHER THAN FLORIDA.

**BID SET**

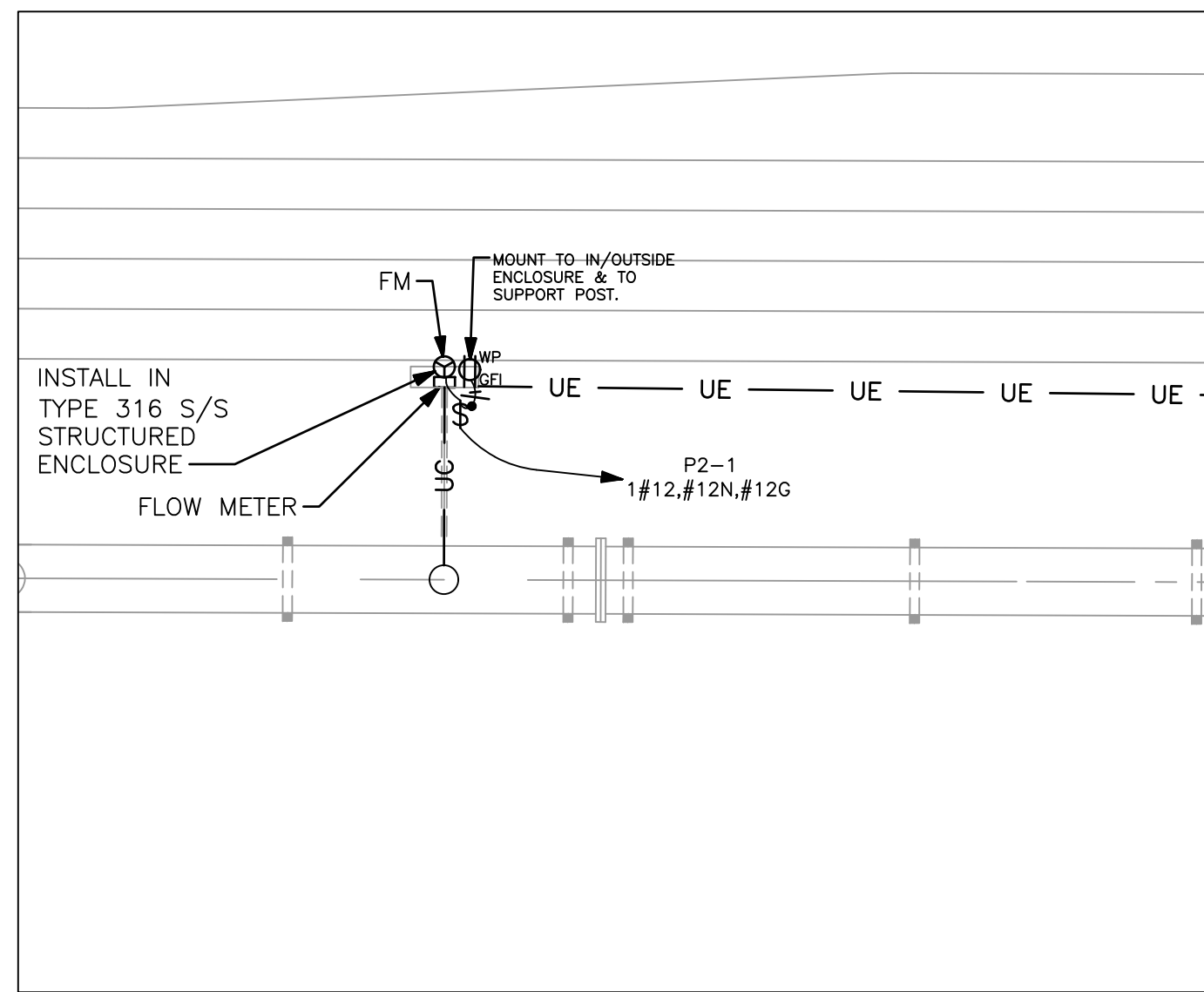
**ELECTRICAL SITE**

MOORHEN MARSH LEAPS  
 ELECTRICAL SCREENING & PUMPING  
 OPERATIONS BUILDING  
 INDIAN RIVER COUNTY FL

TREASURE COAST ENGINEERING, INC.  
 CERTIFICATE OF AUTHORIZATION# 27181  
 4825 13TH LANE, VERO BEACH, FL 32966  
 TEL: 772-567-1007 FAX: 772-567-1084  
 WWW.TCE.ENG.PRO  
 Your MEP Design Consultant

**ENGINEER CERTIFICATION**  
 ALBERT B. JENKS JR.  
 FL. REG. NO. 65650

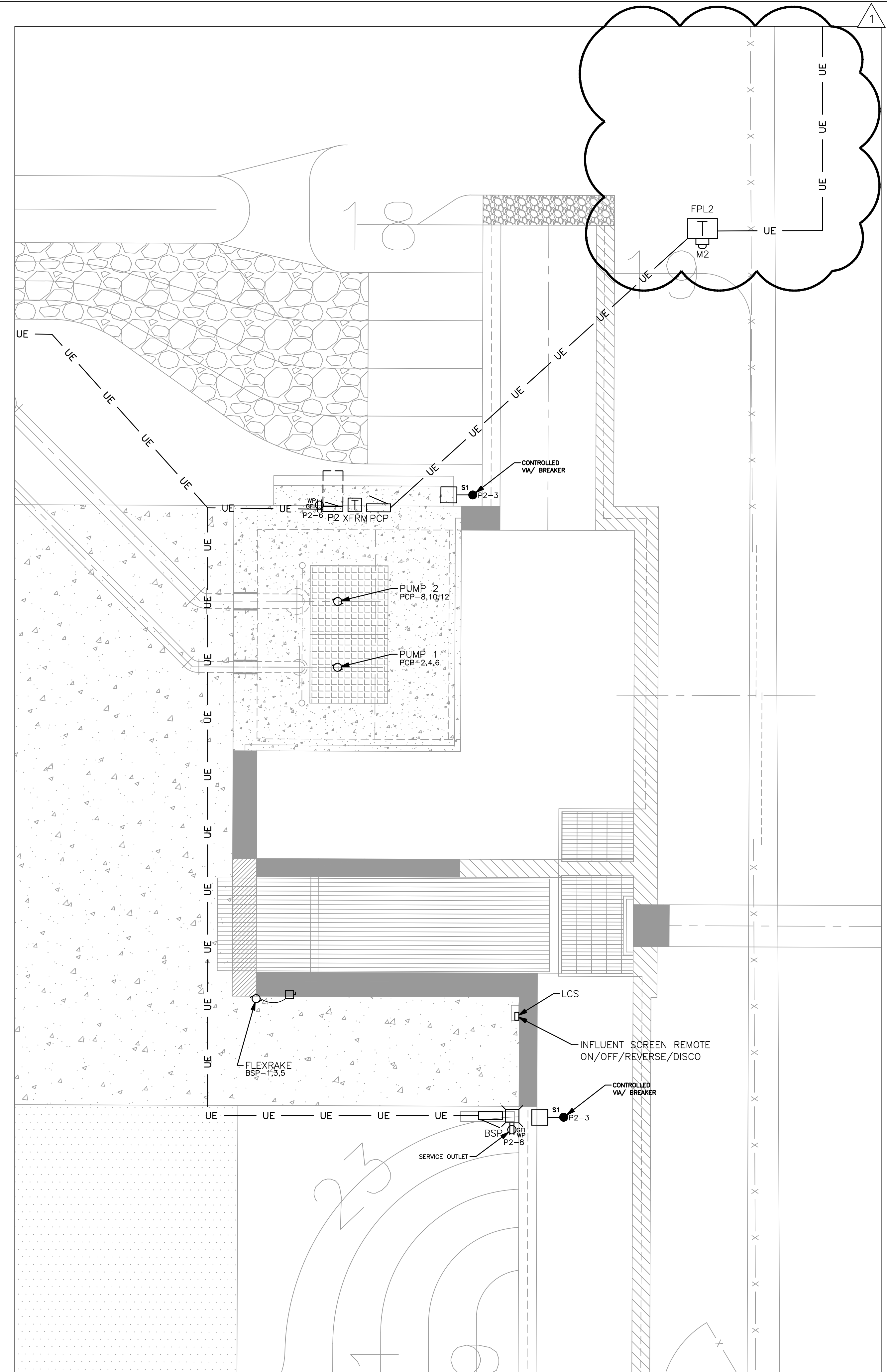
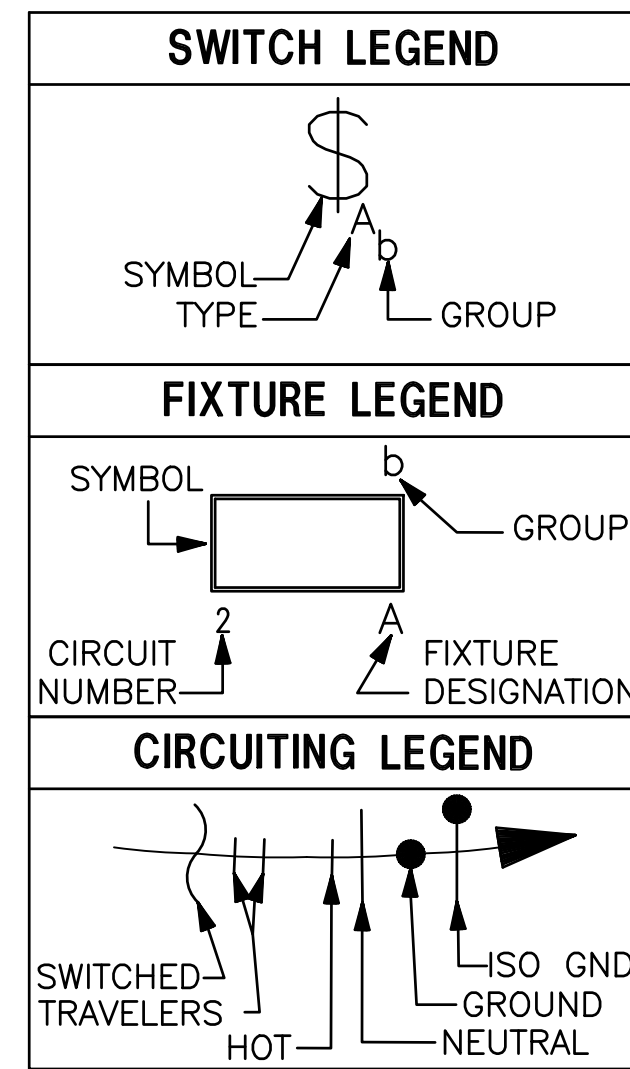
DATE: 4/10/21  
 SHEET  
**E1**  
 PROJECT NO.  
 TC19032



FLOW METER DETAIL VIEW

3/16" = 1"

1



WASTE WATER PUMP DETAIL VIEW

SCALE = 3/16" = 1"

2

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DATE	DESCRIPTION	MARK	DATE
4/10/21	DESIGNED: ARJ		
	DRAWN: ARJ		
	CHECKED: ARJ		
	SCALE: 3/16"=1"		
	ISSUE DATE: 4/10/21		

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THESE PLANS AND SPECIFICATIONS COMPLY WITH ALL APPLICABLE CODES (2017 FLORIDA BUILDING CODE, 2017 FLORIDA ELECTRICAL CODE, 2017 FLORIDA MECHANICAL CODE, 2017 FLORIDA PLUMBING CODE, 2017 FLORIDA FIRE PROTECTION CODE, 2017 FLORIDA ENERGY CODE, 2017 FLORIDA WIND-BURST LOADS).

BID SET

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ELECTRICAL SITE DETAILS

MOORHEN MARSH LEAPS  
 ELECTRICAL SCREENING & PUMPING  
 OPERATIONS BUILDING  
 INDIAN RIVER COUNTY FL

ENGINEER CERTIFICATION  
 ALBERT B. JENKS JR.  
 FL. REG. NO. 65650

DATE: 4/10/21  
 SHEET: E2  
 PROJECT NO. TC19032

P1 ROOM MOUNTING SURFACE VOLTS 240/120V 2P 3W BUS AMPS 200 MAIN BKR 200 AIC 22,000 FED FROM FPL1 NEUTRAL 100% LUGS STANDARD NOTE 200A QB BREAKER/ SQ D NQ30L1/MH44WP316SS TYPE 316 STAINLESS STEEL ENCLOSURE

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA	
			A	B				A	B
1	20/1	LIGHTING	1.16		2	20/2	RECEPTACLE	0.54	
3	20/1	LIGHTING		0.116	4	20/2	RECEPTACLE		0.72
5	-/1	SPACE	0		6	20/2	RECEPTACLE	0.54	
7	-/1	SPACE	0	0	8	-/1	RECEPTACLE		0.54
9	-/1	SPACE	0		10	50/2	WELL	3.36	
11	-/1	SPACE	0	0	12	-/1	SPACE		3.36
13	-/1	SPACE	0		14	-/1	SPACE	0	
15	-/1	SPACE	0	0	16	-/1	SPACE	0	
17	-/1	SPACE	0		18	-/1	SPACE	0	
19	-/1	SPACE	0	0	20	-/1	SPACE	0	
21	-/1	SPACE	0		22	-/1	SPACE	0	
23	-/1	SPACE	0	0	24	-/1	SPACE	0	
25	-/1	SPACE	0		26	-/1	SPACE	0	
27	30/2	*SPD	0	0	28	-/1	SPACE	0	
29	-/1		0		30	-/1	SPACE	0	

TOTAL CONNECTED KVA BY PHASE			
CONN KVA	CALC KVA	A	B
GENERAL LIGHTING	1.05	1.05	(100%)
AREA	2,105 SF		
LIGHTING	0.116	0.145	(125%)
LARGEST MOTOR	6.72	8.4	(125%)
OTHER MOTORS	0	0	(100%)
RECEPTACLES	2.34	2.34	(50%>10)
SIGN OUTLETS	0	0	(125%)
KITCHEN EQUIP	0	0	(N/A)
CONTINUOUS	0	0	(125%)
HEATING	0	0	(N/A)
COOLING	0	0	(N/A)
NONCONTINUOUS	0	0	(100%)
DIVERSE	0	0	(N/A)
METERED DEMAND	0	0	(125%)
TOTAL KVA	13.8	15.5	
BALANCED AMPS		64.7	

Panel ROOM PEDESTAL MOUNT VOLTS 480Y/277V 3P 4W AIC 22,000 MOUNTING SURFACE BUS AMPS 250 MAIN BKR 150 FED FROM FPL2 NEUTRAL 100% LUGS STANDARD NOTE PUMP CONTROLLER (SUPPLIED BY OTHERS)

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CONN KVA		CALC KVA				
								A	B	A	B			
1	100/3	0	BACKFEED/INTERLOCK	a 2	40/3	28.3	PUMP 1	0.382	0.478	(125%)	CONTINUOUS	1.01	1.26	(125%)
5	-/1	0	SPACE	b 4	-/1	0	SPACE	64	80	(125%)	HEATING	0	0	(N/A)
7	15/2	0.5	CONTROL POWER	c 6	-/1	0	SPACE	0.915	0.915	(100%)	COOLING	0	0	(N/A)
9	-/1	0	SPACE	a 8	100/3	64	PUMP 2	0.9	0.9	(50%>10)	NONCONTINUOUS	0	0	(100%)
11	15/3	1.41	BAR SCREEN CONTROL PANEL	b 10	-/1	0	SPACE	0	0	(N/A)	DIVERSE	28.3	0	(0%)
13	-/1	0	SPACE	c 12	-/1	0	SPACE	0	0	(125%)	METERED DEMAND	0	0	(125%)
15	-/1	0	SPACE	a 14	20/2	1.29	XFMR				TOTAL KVA	95.5	83.6	
				b 16	-/1	0	SPACE				BALANCED 3-PHASE AMPS		101	

TOTAL CONNECTED KVA BY PHASE			
CONN KVA	CALC KVA	A	B
GENERAL LIGHTING	0.382	0.478	(125%)
LARGEST MOTOR	64	80	(125%)
OTHER MOTORS	0.915	0.915	(100%)
RECEPTACLES	0.9	0.9	(50%>10)
KITCHEN EQUIP	0	0	(N/A)
SIGN OUTLETS	0	0	(125%)
TOTAL KVA		95.5	83.6
BALANCED AMPS			101

PHASE BALANCE PERCENT: PHASE A 100% PHASE B 101% PHASE C 98.4%

XFRM ROOM PEDESTAL PRIMARY VOLTS 480V 2P 2W AIC 22,000 FED FROM PCP SECONDARY VOLTS 240/120V 2P 3W KVA 3 NOTE SQ D 3SIFSS

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA		FEEDER RACEWAY AND CONDUCTORS
			A	B	
1	-/2	PANEL P2	0.37	0.922	2#12,#12N,#12G

TOTAL CONNECTED KVA BY PHASE			
CONN KVA	CALC KVA	A	B
GENERAL LIGHTING	0	0	(N/A)
AREA	0 SF		
LIGHTING	0.382	0.478	(125%)
LARGEST MOTOR	0	0	(N/A)
OTHER MOTORS	0	0	(100%)
RECEPTACLES	0.9	0.9	(50%>10)
SIGN OUTLETS	0	0	(125%)
KITCHEN EQUIP	0	0	(N/A)
CONTINUOUS	0.01	0.013	(125%)
HEATING	0	0	(N/A)
COOLING	0	0	(N/A)
NONCONTINUOUS	0	0	(100%)
DIVERSE	0	0	(N/A)
METERED DEMAND	0	0	(125%)
TOTAL KVA	1.29	1.39	
BALANCED AMPS		5.79	

CAN BE COMBINED WITH P2 USING SQ D MPZ3S40FSS

Panel ROOM PEDESTAL VOLTS 240/120V 2P 3W AIC 22,000 MOUNTING SURFACE BUS AMPS 100 MAIN BKR MLO FED FROM XFRM NEUTRAL 100% LUGS STANDARD NOTE SQ D NQ18L1 MH26WP W/316 S/S ENCLOSURE

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CONN KVA		CALC KVA				
								A	B	A	B			
1	20/1	0.19	FLOW METER, RECEPTACLE	a 2	20/2	0	BACKFEED	0.382	0.478	(125%)	CONTINUOUS	0.01	0.013	(125%)
3	20/1	0.382	LIGHTING	b 4	-/1	0	SPACE	0	0	(N/A)	HEATING	0	0	(N/A)
5	-/1	0	SPACE	a 6	20/1	0.18	RECEPTACLE	0	0	(100%)	COOLING	0	0	(N/A)
7	-/1	0	SPACE	b 8	20/1	0.54	RECEPTACLE	0.9	0.9	(50%>10)	NONCONTINUOUS	0	0	(100%)
9	-/1	0	SPACE	a 10	-/1	0	SPACE	0	0	(N/A)	DIVERSE	0	0	(N/A)
11	-/1	0	SPACE	b 12	-/1	0	SPACE	0	0	(125%)	METERED DEMAND	0	0	(125%)
13	-/1	0	SPACE	a 14	-/1	0	SPACE				TOTAL KVA	1.29	1.39	
15	-/1	0	SPACE	b 16	-/1	0	SPACE				BALANCED AMPS		5.79	
17	-/1	0	SPACE	a 18	-/1	0	SPACE				PHASE BALANCE PERCENT:			PHASE B 143%

TOTAL CONNECTED KVA BY PHASE			
CONN KVA	CALC KVA	A	B
GENERAL LIGHTING	0.382	0.478	(125%)
LARGEST MOTOR	0	0	(N/A)
OTHER MOTORS	0	0	(100%)
RECEPTACLES	0.9	0.9	(50%>10)
KITCHEN EQUIP	0	0	(N/A)
SIGN OUTLETS	0	0	(125%)
TOTAL KVA		1.29	1.39
BALANCED AMPS			5.79

CAN BE COMBINED WITH XFRM USING SQ D MPZ3S40FSS

WIRING METHODS & MATERIALS

- 1. THE NATIONAL AND LOCAL ELECTRIC AND BUILDING CODES, AND THE ELECTRICAL REQUIREMENTS AS ESTABLISHED BY THE STATE AND LOCAL FIRE MARSHAL, AND RULES AND REGULATIONS OF THE POWER COMPANY SERVING THE PROJECT, ARE HEREBY MADE PART OF THIS SPECIFICATION. SHOULD ANY CHANGES BE NECESSARY IN THE DRAWINGS OR SPECIFICATIONS TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS, THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER. CIRCUITS SHOWN ON PLANS ARE TO DETERMINE LOAD DATA AND PANEL SIZE. EQUIPMENT SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL).
- 2. CONTRACT INCLUDES INSTALLING ELECTRICAL CONDUIT AND CONNECTIONS TO A FLOW METER. FLOW METER 2 REQUIRES INSTALLATION OF AN OUTDOOR ENCLOSURE WITH THE AMPLIFIER, SNAP SWITCH DISCONNECT INSTALLED INSIDE AND MOUNTED TO A SUPPORT POST. INSTALLED A LOCAL SERVICE OUTLET MOUNTED TO THE FLOW METER BEFORE THE SNAP SWITCH.
- 3. CONTRACTOR TO INSTALL A COMPLETE ELECTRICAL SYSTEM FOR LIGHT AND POWER FROM THE POINT OF SERVICE OF THE POWER COMPANY TO AND THROUGH THE MAIN SERVICE DISCONNECT, DISTRIBUTION PANELS, AND BRANCH PANELS. INCLUDING ALL OUTLETS, DEVICES AND EQUIPMENT FURNISHED BY OTHERS MAY BE REQUIRED. UNTIL WORK IS COMPLETE, COST OF ALL POWER CONSUMED DURING CONSTRUCTION SHALL BE PAID BY THE PARTY DESIGNATED BY THE PRIME CONTRACTOR.
- 4. CONTRACTOR MUST COORDINATE WITH FPL FOR A NEW 480/277V 3 PHASE SERVICE BEING RAN FROM THE WEST SIDE OF 66TH ST UNDER THE STREET AND CANAL TO A NEW SERVICE TRANSFORMER SHOWN ON THE PLAN VIEW AND FOR INSTALLATION OF METER. THIS WILL REQUIRE DIRECTIONAL DRILLING UNDER 66TH AND CANAL. ALSO SUPPLY A 240/120V SINGLE PHASE SERVICE TRANSFORMER FROM THE EXISTING FPL DISTRIBUTION LINE LOCATED ON THE NORTH SIDE OF 53RD STREET.
- 5. PRIOR TO PERFORMING THE DIRECTIONAL DRILL, THE CONTRACTOR SHALL COORDINATE THE DIRECTIONAL DRILL PATH WITH INDIAN RIVER COUNTY PUBLIC WORKS DEPARTMENT TO INSURE THERE IS NO FUTURE CONFLICT WITH PROPOSED BRIDGE PILING OR OTHER CONSTRUCTION WHEN 66TH AVENUE ROAD IMPROVEMENTS ARE COMMENCED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CROSSING 66TH AVENUE RIGHT-OF-WAY AND INDIAN RIVER FARMS WATER CONTROL DISTRICT LATERAL A CANAL RIGHT-OF-WAY. THE BORE WILL HAVE TO GO BELOW THE CANAL WHICH IRFWD WILL REQUIRE A MINIMUM OF 10' CLEARANCE BETWEEN THE POWER CONDUIT AND THE CANAL BOTTOM. THE COUNTY WILL PAY ALL PERMIT FEES. THE STRAIGHT-LINE HORIZONTAL DISTANCE FROM THE FPL POWER SUPPLY POLE TO THE PROJECT'S NORTHWEST PROPERTY CORNER IS APPROXIMATELY 260 FEET.
- 6. PROVIDE AND MAINTAIN A CLEAR WORKING SPACE ABOUT ELECTRIC EQUIPMENT IN ACCORDANCE WITH NEC ARTICLES 110.26 AND 110.34. AND TO BE PROPERLY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR.
- 7. PROVIDE CIRCUIT BREAKERS WITH THE LISTED INTERRUPTING RATING (RMS SYMMETRICAL AMPERES) GREATER THAN THE AVAILABLE FAULT CURRENT SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM. ALL SUB-FEED BREAKERS ALLOWED TO BE SERIES RATED AT 10KA
- 8. BOND RACEWAYS AND THE FRAMES AND ENCLOSURES OF MOTORS, BREAKERS, SWITCHES, AND OTHER ELECTRICAL EQUIPMENT TO THE BUILDING GROUNDING SYSTEM. INSTALL AN INSULATED EQUIPMENT RACEWAY OR CONDUIT.
- 9. CONTRACTOR TO MAKE NECESSARY PROVISIONS FOR THE INSTALLATION OF TELEPHONE SYSTEM INCLUDING RACEWAYS, CABINETS, PULL BOXES AND OUTLETS.
- 10. METAL FRAMING MEMBERS SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR FOR ANY CIRCUIT THAT MAY ENERGIZE THE BUILDING FRAMING AND BE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, TABLE 250.122. FOR THE PURPOSE OF THIS REQUIREMENT, A GROUNDED METAL OUTLET BOX ATTACHED TO THE FRAMING SHALL BE PERMITTED.
- 11. IDENTIFY NEW BRANCH CIRCUITS AT THE PANEL AND AT THE LOAD OUTLET, RECEPTACLE AND SWITCH. IDENTIFY THE PURPOSE OF INDIVIDUAL CIRCUIT BREAKERS, SAFETY SWITCHES AND MOTOR STARTERS BY MEANS OF NAMEPLATES AS INDICATED.
- 12. ROUTE CONDUITS TO SUIT EQUIPMENT AND BUILDING STRUCTURE. UNLESS OTHERWISE NOTED ON DRAWINGS OR NOT ALLOWED BY THE AHJ THE FOLLOWING SHALL APPLY: CONDUIT FOR ABOVE GRADE SHALL BE INTERMEDIATE METAL CONDUIT (IMC), RIGID METAL CONDUIT (RMC) OR ELECTRICAL METALLIC TUBING (EMT). OPTIONAL: RIGID PVC CONDUIT CAN BE USED EXCEPT WHERE NOT ALLOWED PER CODE SUCH AS THEATER & ASSEMBLY LOCATIONS WITHOUT CONCEALED 15-MINUTE FINISH RATING OR DUCT/PLENUMS, AND OTHER AIR-HANDLING SPACES.] LIMIT THE USE OF EMT TO AREAS WHERE IT WILL NOT BE SUBJECT TO PHYSICAL DAMAGE, WET ENVIRONMENTS, OR CORROSION. USE IMC, RMC OR RIGID PVC SCH 40 FOR WORK EMBEDDED IN CONCRETE. ALL BURIED CONDUIT SHALL BE RIGID PVC SCH 40. GENERAL POWER AND LIGHTING HOME RUN CIRCUITS IN CONDUIT (IMC, RMC, EMT) WHEN RAN ABOVE CEILING (EXPOSED AND CONCEALED) SHALL BE RAN TO A JUNCTION BOX. METAL CLAD CABLE (MC) WILL BE PERMITTED FROM THE JUNCTION BOX DROPPED DOWN TO THE RECEPTACLE OUTLET OR SWITCH AT A MAXIMUM LENGTH OF 30 FEET. FLEXIBLE METAL CONDUIT OR MC CABLE MAY BE USED FOR TAP CONDUCTORS PER CODE FROM THE FIXTURES TERMINATION TO AN OUTLET BOX IN ACCESSIBLE CEILING. CONDUIT TERMINATIONS AT ELECTRICAL EQUIPMENT SUCH AS ELECTRIC MOTORS AND HEATERS SHALL BE MADE USING LIQUID-TIGHT, FLEXIBLE METAL CONDUIT. USE MINIMUM 3/4" CONDUIT EXCEPT AS FOLLOWS: 1/2" CONDUIT MAY BE USED FOR 20 AMP GENERAL LIGHTING AND CONTROL CIRCUITS. CONDUIT EXPANSION FITTINGS AND CONDUIT GROUNDING JUMPERS SHALL BE INSTALLED ON ALL CONDUITS PASSING THROUGH BUILDING EXPANSION JOINTS TO PREVENT MOVEMENT IN THE CONDUIT SYSTEM. WHERE GROUPS OF CONDUITS TERMINATE TOGETHER OR PASS THROUGH FLOORS, PROVIDE TEMPLATE TO HOLD CONDUITS IN PROPER RELATION TO EACH OTHER AND TO BUILDING.
- 13. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
- 14. DISCONNECT SWITCHES SHALL BE H.P.P. RATED, HEAVY DUTY, QUICK MAKE, QUICK BREAK, WITH ENCLOSURES AS REQUIRED BY EXPOSURE.
- 15. SEAL AROUND CONDUIT PENETRATIONS THROUGH INTERIOR WALLS AND FLOORS SEPARATING AREAS TO RESTORE SEAL PENETRATIONS THROUGH ROOF AND EXTERIOR WALLS TO MAKE WATERPROOF. REQUEST INSPECTION OF FIRE SEALS BY ELECTRICAL INSPECTOR FROM AUTHORITY HAVING JURISDICTION BEFORE AND AFTER PLACEMENT OF FIRE SEAL MATERIALS.
- 16. WHEN ANY TYPE OF ELECTRICAL BOXES ARE LOCATED IN VERTICAL FIRE-RESISTIVE ASSEMBLIES, (CLASSIFIED AS FIRE/SMOKE AND SMOKE PARTITIONS), SUCH BOXES SHALL BE TESTED FOR USE IN FIRE RESISTIVE ASSEMBLIES AND INSTALLED IN ACCORDANCE WITH THE TESTED ASSEMBLY. ALL OF THE FOLLOWING CONDITIONS SHALL BE MET WITHOUT THE NEED FOR "PUDDY PADS":
  - USE STEEL ELECTRICAL BOXES THAT DO NOT EXCEED 16 SQ. IN. IN AREA, PROVIDED THAT THE AREA OF SUCH OPENINGS DOES NOT EXCEED 100 SQ. IN. FOR ANY 100 SQ. FT. OF WALL AREA. ANY OUTLET BOXES ON OPPOSITE SIDES OF THE WALL SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 IN. OUTLET BOXES SHALL BE SECURELY FASTENED TO WALL FRAMING MEMBERS AND THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT NOT TO EXCEED 1/8" INCH BETWEEN THE EDGES OF THE OUTLET BOX AND THE EDGES OF THE OPENING.
  - USE "PUDDY PADS" IF THE AGGREGATE AREA OF THE BOXES EXCEEDS 100 SQ. IN. FOR ANY 100 SQ. FT. OF WALL AREA, OR IF THE HORIZONTAL SPACING BETWEEN BOXES IS LESS THAN THE REQUIRED 24 IN., OR IF ANY BOX EXCEEDS 16 SQ. IN. IN NO CASE SHALL THERE BE OVERLAPPING OF BACKS ANYWHERE.
  - USE 12 AWG OR LARGER CONDUCTORS FOR POWER WIRING UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS OR SCHEDULE. USE 14 AWG STRANDED CONDUCTORS FOR CONTROL WIRING UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS.
  - USE ONLY COPPER CONDUCTORS ON CIRCUITS 600V AND LESS. CONDUCTORS 10 AWG AND SMALLER SHALL BE SOLID AND 8 AWG AND LARGER AWG SHALL BE STRANDED. PROVIDE TYPE THHN/THWN WIRE INSULATION; XHHW INSULATION MAY BE USED FOR 1 AWG AND LARGER.
  - USE THE FOLLOWING CONDUCTOR COLOR CODES:
    - 120/240V 120A/240V 120Y/208V 277Y/480V
    - PHASE A BLACK BLACK BROWN BROWN
    - PHASE B RED ORANGE RED ORANGE
    - PHASE C BLUE BLUE YELLOW YELLOW
    - NEUTRAL WHITE WHITE WHITE GRAY
    - EQUIP. GROUND GREEN
    - ISOLATED GROUND SHALL BE GREEN WITH YELLOW TRACER.
  - TEST CONDUCTORS FOR CONTINUITY AND FREEDOM FROM SHORTS AND UNINTENTIONAL GROUNDS.
  - KEEP JOB SITE IN AN ORDERLY CONDITION AND AT PROJECT COMPLETION, REMOVE ALL WASTE.
  - IF DIRECTED BY THE ARCHITECT, THE CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES OR FOR PROPER EXECUTION OF THE WORK.
  - ANY APPARATUS, APPLIANCE, MATERIAL OR WORK NOT SHOWN ON DRAWINGS OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND PERFECT IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED, SHALL BE FURNISHED, DELIVERED AND INSTALLED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
  - WITH SUBMISSION OF BID, THE ELECTRICAL CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE ARCHITECT/ENGINEER OF ANY MATERIALS OR APPARATUS BELIEVED INADEQUATE OR UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES; AND ANY NECESSARY ITEMS OR WORK OMITTED, IN THE ABSENCE OF SUCH WRITTEN NOTICE, IT IS MUTUALLY AGREED THE CONTRACTOR HAS INCLUDED THE COST OF ALL REQUIRED ITEMS IN HIS PROPOSAL, AND THAT HE WILL BE RESPONSIBLE FOR THE APPROVED SATISFACTORY FUNCTIONING OF THE ENTIRE SYSTEM WITHOUT EXTRA COMPENSATION.
  - DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHITECTURAL/CIVIL ENGINEERS PLANS AND ELEVATIONS FOR EXACT LOCATION OF ALL EQUIPMENT. ALWAYS CONFIRM WITH OWNER'S REPRESENTATIVE IF IN DOUBT. ANY QUALITIES SHOW IN SCHEDULES ARE FOR REFERENCE ONLY AND SHALL NOT BE USED AS AN EXACT TAKE OFF. CONTRACTOR IS RESPONSIBLE FOR ALL ACTUAL QUANTITY COUNTS.

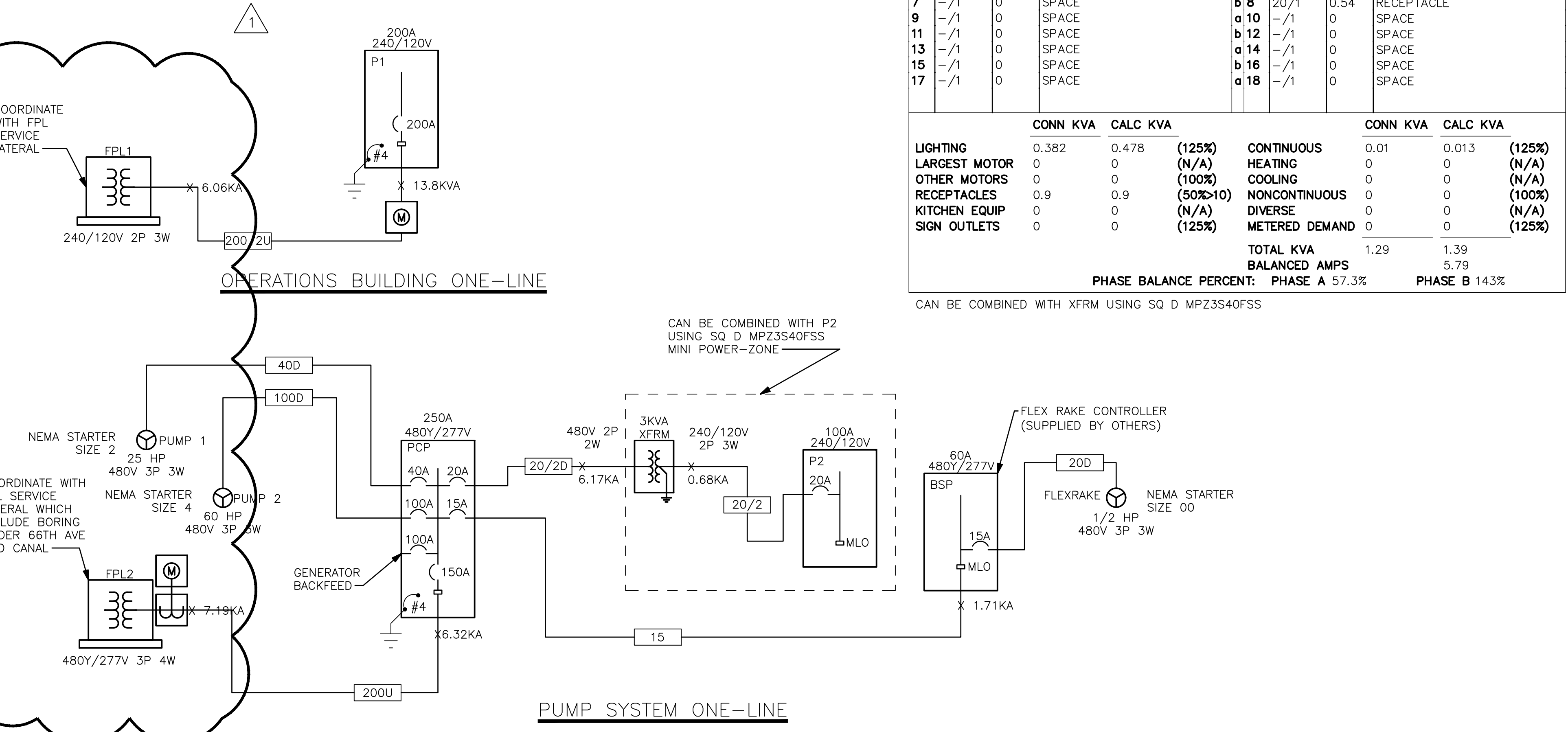
ONE-LINE NOTES

- REPRESENT AN N-G BONDED GROUNDING ELECTRODE. TYPICALLY SHOWN AT SERVICE ENTRANCES OR OUTPUT OF A SEPARATELY DERIVED SYSTEM SUCH AS AN ISOLATION TRANSFORMER. SEE GROUNDING DETAIL FOR CONDUCTOR SIZING. IF MORE THAN ONE SYMBOL IS SHOWN THEN THE SYMBOL WILL ALSO SHOW THE GEC SIZED SPECIFICALLY FOR THAT DEVICE.
- REPRESENT AN ISOLATED N-G BONDED GROUNDING ELECTRODE CONDUCTOR. TYPICALLY SHOWN AT SEPARATE STRUCTURES. SEE GROUNDING DETAIL FOR CONDUCTOR SIZING.
- KA--- INDICATE THE AVAILABLE SHORT-CIRCUIT CURRENT LEVELS AT THE LOCATION SHOWN. FAULT CALCULATIONS ARE BASED ON IEEE STD 242-1975 RECOMMENDED PRACTICE FOR PROTECTION AND COORDINATION OF INDUSTRIAL AND COMMERCIAL POWER SYSTEMS. THE SHORT-CIRCUIT CALCULATIONS INCLUDES MOTOR CONTRIBUTIONS EQUAL TO 4 TIMES THE RATED CURRENT OF THE MOTOR AND AN X/R RATIO OF 4.
- AIC AIC RATINGS SHOWN AT THE EQUIPMENT WILL BE BASED ON THE SUPPLY VOLTAGE, AVAILABLE FAULT CURRENT AND THE OVER CURRENT DEVICE PROTECTING THE EQUIPMENT. THE SSCR OF ALL EQUIPMENT SHALL MEET OR EXCEED THE AIC RATING SHOWN. PLEASE NOTE THAT AIC APPLIES ONLY TO OVERCURRENT PROTECTION DEVICES (CIRCUIT BREAKERS, FUSES, ETC.) AND NOT TO A FULLY ASSEMBLED DEVICE (I.E., PANELBOARDS, CONTRACTORS, STARTERS), WHICH MAY USE SPECIFIC AIC-RATED OVERCURRENT PROTECTION DEVICES.
- X SEE FEEDER SCHEDULE TO IDENTIFY NUMBER OF CONDUITS. THE QUANTITY OF PHASE, NEUTRAL, & ECG IS PER CONDUIT. GEC ARE NOT INCLUDED IN FEEDER SCHEDULE.

FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
15	3/4"C,3#12,#12N,#12G
20/2	2#12,#12N,#12G
20/2D	2#12,#12G
200	3#12,#12G
40D	3/4"C,3#8,#10G
100D	1-1/2"C,3#1,#8G
200/2U	2"C,2#3/0,#3/0N
200U	2"C,3#3/0,#3/0N

SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C 1/0 AND ABOVE PVC (EXCEPT WHERE NOTED)



TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THESE PLANS AND SPECIFICATIONS COMPLY WITH THE CITY OF MIAMI FLORIDA ENGINEERING CODE, 2017 IBC, AND THE FLORIDA ENGINEERING CODE, 2017 IBC.

TREASURE COAST ENGINEERING, INC. CERTIFICATE OF AUTHORIZATION# 27181 4925 13TH LANE, VERO BEACH, FL 32966 TEL: 772-567-1007 FAX: 772-567-1084 WWW.TCE.ENG.PRO

ELECTRICAL SCHEDULES, NOTES, ONE-LINE

MOORHEN MARSH LEAPS ELECTRICAL SCREENING & PUMPING OPERATIONS BUILDING INDIAN RIVER COUNTY FL

ENGINEER CERTIFICATION ALBERT B. JENKS JR. FL. REG. NO. 65560

DATE: 4/10/21 SHEET E4 PROJECT NO. TC19032

DATE	DESCRIPTION

DESIGNED BY	DATE
ABJ	

CHECKED BY	DATE
ABJ	

SCALE	DATE
3/8"=1'	4/10/21

ISSUE DATE	DESCRIPTION

DATE	DESCRIPTION