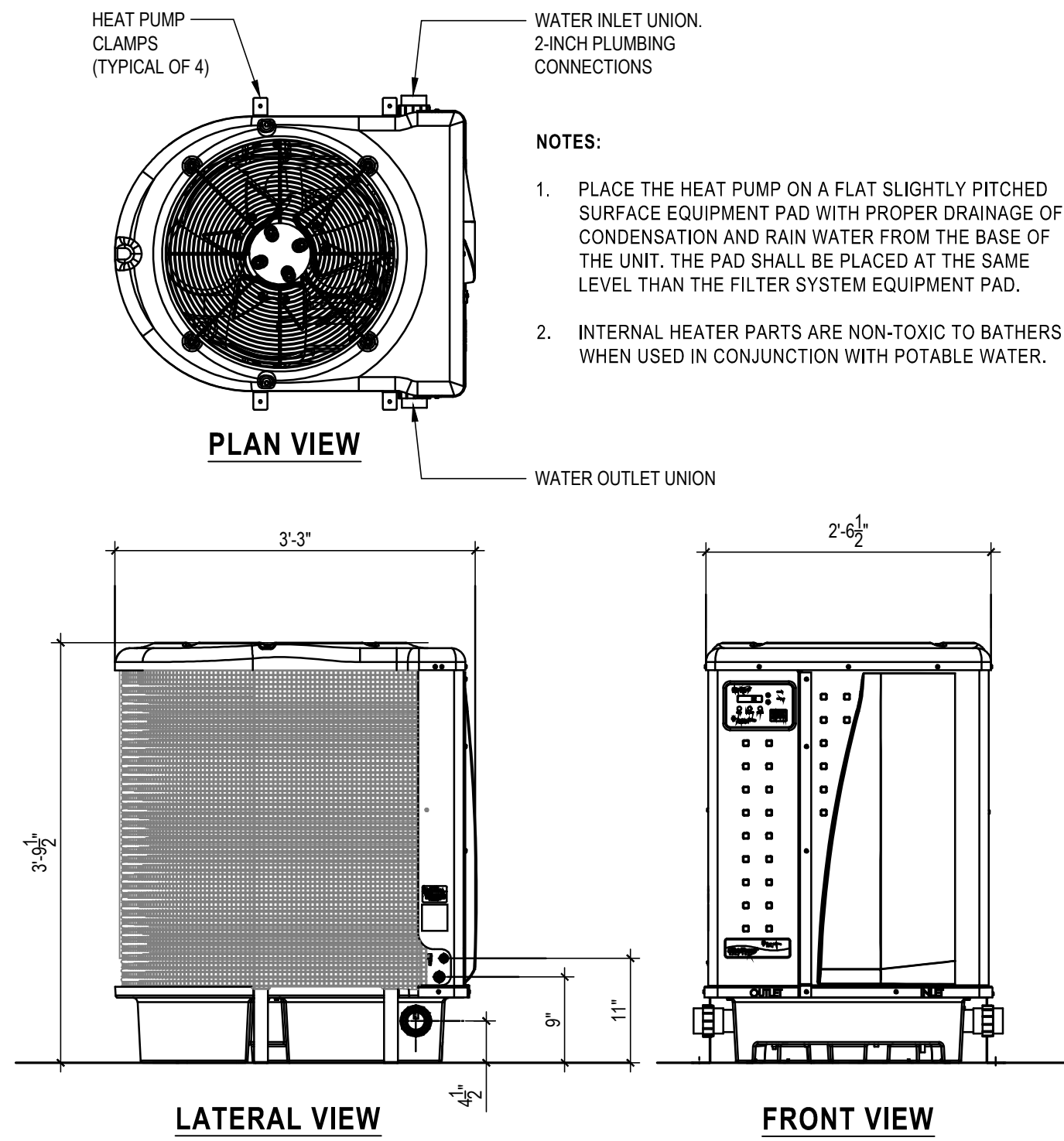
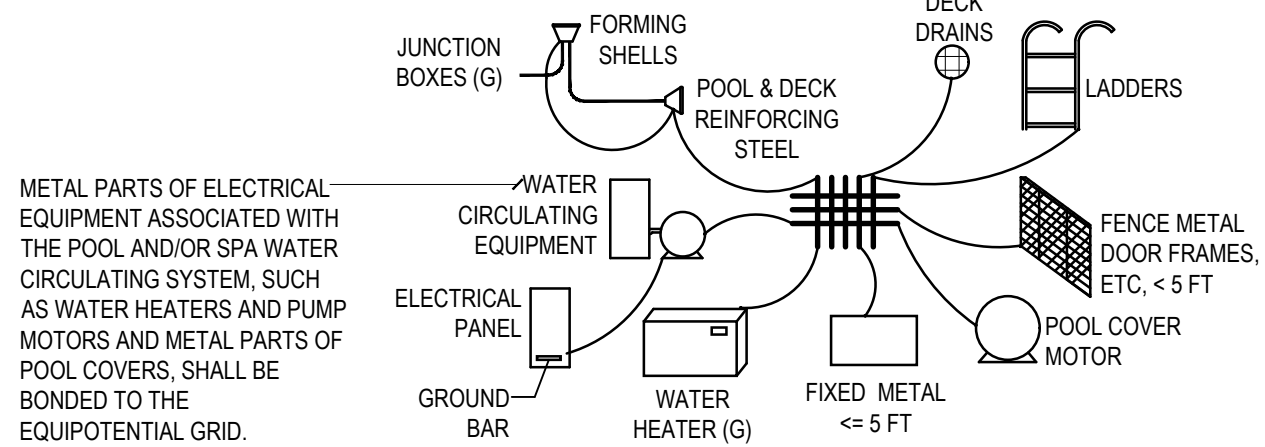
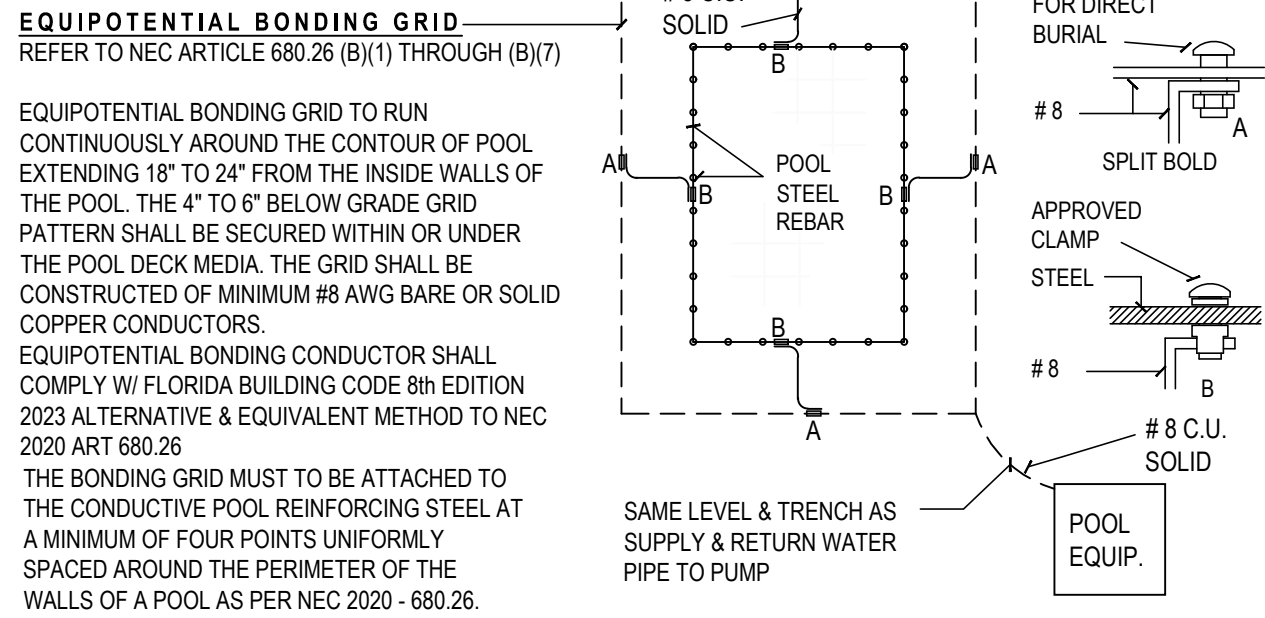
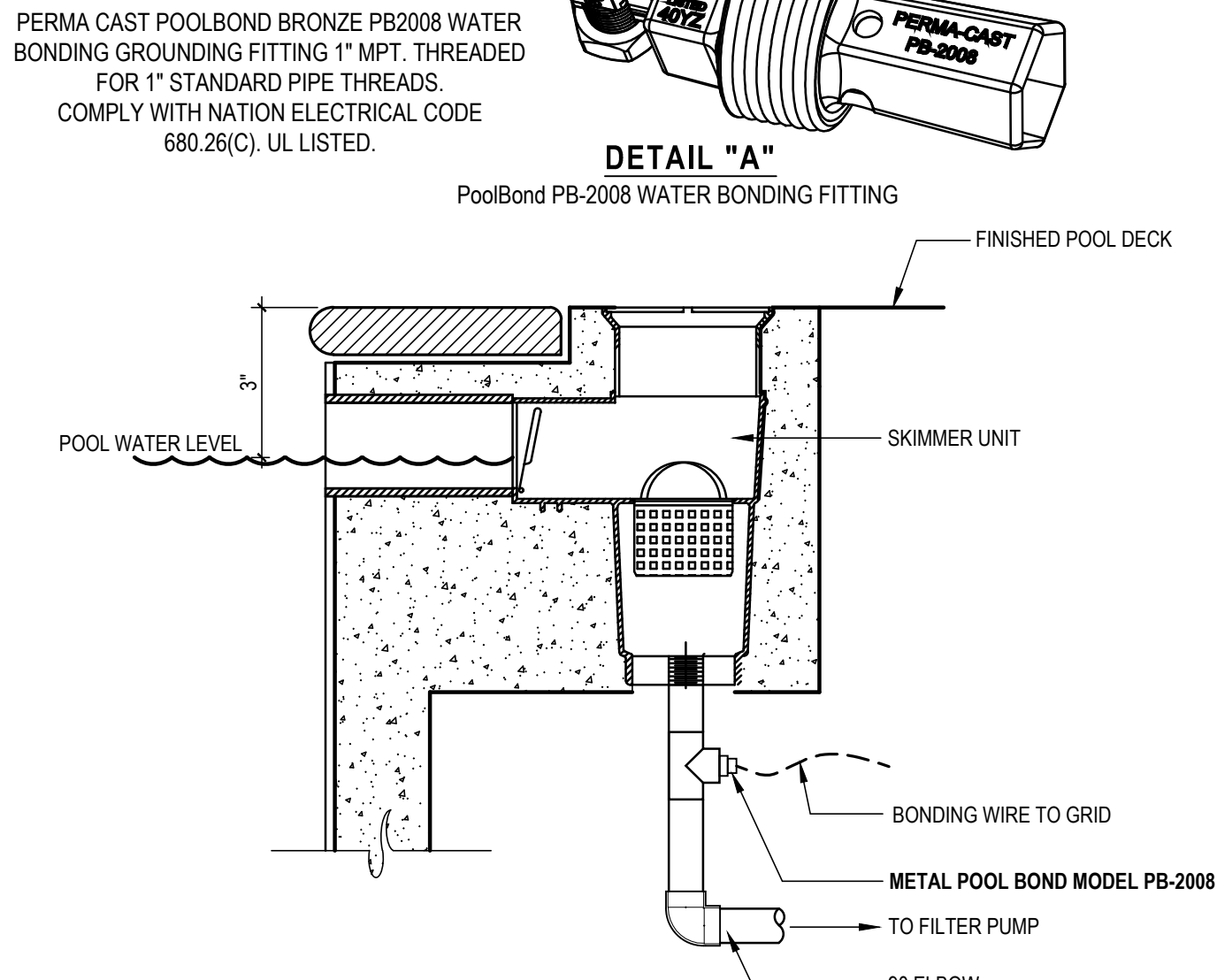




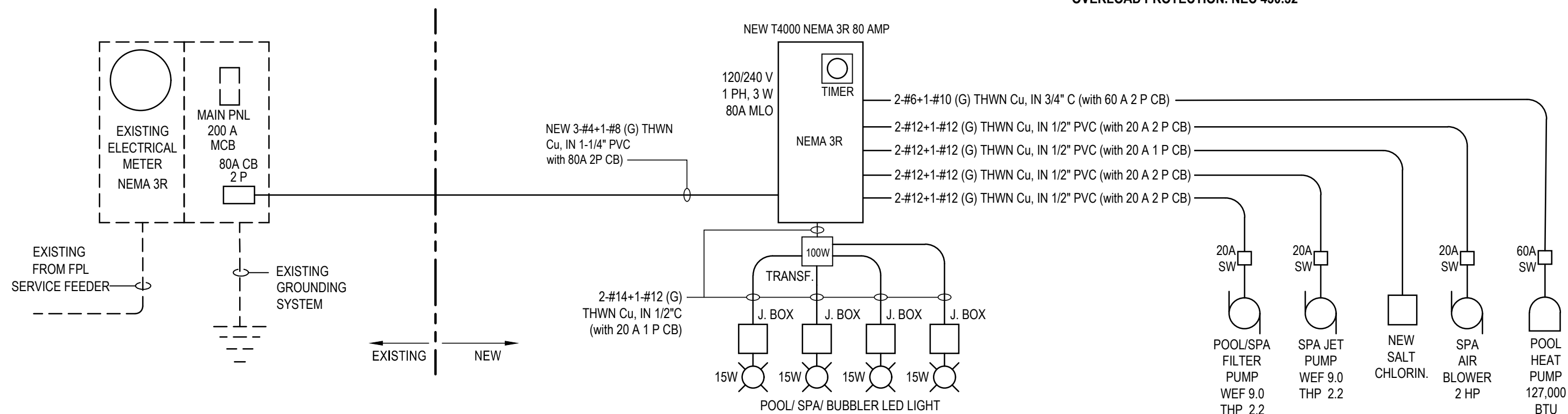
1 SWIMMING POOL HEAT PUMP DETAIL
SCALE: 3/4" = 1'-0" PENTAIR ULTRATEMP HEAT PUMP



2 COMMON BONDING GRID DETAIL
SCALE: N.T.S.



3 POOL SKIMMER WATER BONDING DETAIL
SCALE: N.T.S.



EXISTING GFCI RECEPTACLE SHALL BE LOCATED NOT CLOSER THAN 6 FEET & NO MORE THAN 20 FEET FROM WATER'S EDGE.

NEW POOL ELECTRICAL RISER DIAGRAM
SCALE: N.T.S.

NEW POOL ELECTRICAL SUBPANEL PANEL													
Type: POOL INTERMATIC CONTROL PANEL									Mains: MLO				
Mounting: SURFACE									Amp rating: 80				
Location: POOL EQUIPMENT AREA									Volts: 240/120 V. 1 PH. 3W				
Description	Wire	Cond	VA	TRIP	CT No	A	B	CT No	TRIP	VA	Cond	Wire	Description
POOL/SPA LIGHTS	#12	1/2"	60	20(1P)	1	x		2	20(2P)	1,840	1/2"	#12	POOL/SPA FILTER PUMP
SALT CHLORINATOR	#12	1/2"	300	20(1P)	3	x		4					
POOL HEAT PUMP	#8	3/4"	9,616	50(2P)	5	x		6	20(2P)	1,344	1/2"	#12	SPA AIR BLOWER
CONNECTED LOAD=			13,160	VA									
TOTAL DEMAND=			15,564	VA	(125% OF BIGGEST MOTOR)								
AMPS=			65										

GENERAL LOAD CALCULATION		
HOUSE AREA (SQ-F)=	3,050	SQ-F
(1) LIGHTING LOAD 3 VA/SQ-F=	9,150	VA
(2) LAUNDRY REC.+S.APP.CIRC.=	6,000	VA
OTHER EQUIPMENT LOAD		
RANGE=	8,000	VA
REFRIGERATOR=	1,000	VA
WATER HEATERS=	4,500	VA
HOOD=	400	VA
MICROWAVE=	1,000	VA
DISHWASHER=	1,500	VA
DISPOSAL=	800	VA
WASHER=	1,500	VA
DRYER=	5,000	VA
(3) TOTAL OTHER EQUIP. INT.	23,700	VA
(4) HOUSE GEN. LOAD (1)+(2)+(3)=	38,850	VA
POOL PANEL P		
NEW POOL/SPA/ BUBBLER LIGHTS=	60	VA
NEW POOL FILTER PUMP=	1,840	VA
NEW SPA AIR BLOWER=	1,344	VA
NEW SALT CHLORINATOR=	300	VA
NEW (1) HEAT PUMP=	9,660	VA
(5) POOL DEMAND=	15,564	VA
(AMPS POOL)=	65	
(6) TOTAL GEN. LOAD (4)+(5)+(-)=	52,010	VA
(7) 1ST 10,000 VA OF (6) AT 100%=	10,000	VA
(8) REMAINDER GL. (6)-(7) AT 40%=	16,804	VA
(9) A/C LOAD (A/C HOUSE+HEATER)=	19,816	VA
(10) TOTAL DEMAND (7)+(8)+(9)=	46,620	VA
AMPS=	194	
(125% OF BIGGEST MOTOR)		

- ELECTRICAL NOTES:**
- ALL WORK SHALL BE PERFORMED TO MEET THE REQUIREMENTS OF THE GOVERNING EDITION OF THE NATIONAL ELECTRICAL CODE (NEC 2020), LOCAL AND STATE CODES AND ANY OTHER APPLICABLE CODES AND STANDARDS.
 - ALL WIRING SHALL BE COPPER (CU) THWN INSULATION.
 - ALL CIRCUIT BREAKERS SHALL BE RATED AT MINIMUM OF 10,000 AIC.
 - PRIOR TO INSTALLATION OF ROUGH ELECTRICAL WIRING, CHECK NAMEPLATE DATA OF ALL EQUIPMENT FOR REQUIRED VOLTAGES, MINIMUM CIRCUIT AMPACITY, AND OVER CURRENT PROTECTION.
 - ELECTRICAL PLANS AND CALCULATIONS WERE BASED ON INFORMATION PROVIDED BY OWNER AGENT. ELECTRICAL CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND ADJUST ACCORDINGLY, CHANGES TO BE REFLECTED IN THE DRAWINGS.
 - THE ELECTRICAL DESIGN IS BASED UPON THE AVAILABLE INFORMATION AT DESIGN TIME AND THE CONTRACTOR SHALL REVIEW NAMEPLATE DATA AND MANUFACTURER SUPPLIED LITERATURE FOR ALL PIECES OF EQUIPMENT PRIOR TO ROUGH ELECTRICAL WIRING. THE CONTRACTOR SHALL CHECK ALL EQUIPMENT FOR PROPER VOLTAGE, PHASE AND AMP RATING PRIOR TO INSTALLATION. THE CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO ANY FIELD ADJUSTMENT.
 - ALL BRANCH CIRCUITS SHALL BE PROPERLY PHASE BALANCED.
 - ALL NEW CONDUCTORS SHALL BE RUN IN CONDUIT (METALLIC TYPE) UNLESS OTHER SPECIFICATIONS APPLY AS PER NEC. AND LOCAL CODES.
 - IF PVC CONDUITS ARE USED FOR FEEDERS, AN EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH N.E.C. 250 - 122 MUST BE INSTALLED AND CONDUIT SIZE INCREASED AS REQUIRED.
 - TYPEWRITTEN PANEL TALLY SHALL BE FURNISHED AFTER JOB IS COMPLETED REFLECTING ALL CHANGES AND ADDITIONS.
 - RISERS ARE DIAGRAMMATIC ONLY. THEY DO NOT SHOW EVERY BEND REQUIRED FOR THE INSTALLATION. ELECTRICAL CONTRACTOR TO FIND BEST POSSIBLE ROUTE FOR ALL CIRCUITS.
 - THIS DRAWING IS A GUIDE FOR THE INSTALLATION OF ELECTRICAL SERVICE. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE A FUNCTIONING SYSTEM.
 - CONTRACTOR TO VERIFY ADJUSTMENT FACTORS FOR MORE THAN THREE CURRENT-CARRYING CONDUCTORS IN A CONDUIT ACCORDING TO TABLE 310-15(b)(2)(a) NEC.
 - ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ARCHITECT TO FIELD VERIFY INSTALLATION FOR OUTLETS, LIGHTING FIXTURES AND ELECTRICAL EQUIPMENT.
 - ELECTRICAL CONTRACTOR TO VERIFY EXISTING CONDITIONS AND CODE VIOLATIONS TO FIX.
 - ALL POOL AND SPA EQUIPMENT SHALL BE INSTALLED ACCORDING TO NEC 680 2020 EDITION**
- RESIDENTIAL POOL PUMPS AND PUMP MOTORS ACCORDING TO FBC 403.9**
POOL FILTRATION PUMP MOTORS SHALL MEET THE FOLLOWING REQUIREMENTS.
- POOL PUMP MOTORS SHALL NOT BE SPLIT-PHASE, SHADED-POLE OR CAPACITOR START-INDUCTION RUN TYPES.
 - POOL PUMPS AND POOL PUMP MOTORS WITH A TOTAL HORSEPOWER (HP) OF GREATER THAN OR EQUAL TO 1 HP SHALL HAVE THE CAPABILITY OF OPERATING AT TWO OR MORE SPEEDS. THE LOW SPEED SHALL HAVE A ROTATION RATE OF NO MORE THAN 1/2 OF THE MOTOR'S MAXIMUM ROTATION RATE.
 - POOL PUMPS MOTOR CONTROLS SHALL HAVE THE CAPABILITY OF OPERATING THE POOL PUMP AT A MINIMUM OF TWO SPEEDS. THE DEFAULT CIRCULATION SPEED SHALL BE THE RESIDENTIAL FILTRATION SPEED, WITH A HIGHER SPEED OVERRIDE CAPABILITY FOR A TEMPORARY PERIOD NOT TO EXCEED ONE NORMAL CYCLE OR 24 HOURS, WHICHEVER IS LESS.
EXCEPTION: SOLAR POOL HEATING SYSTEMS SHALL BE PERMITTED TO RUN AT HIGHER SPEEDS DURING PERIODS OF USABLE SOLAR HEAT GAIN.
- FBC-EC-403.9
403.9 POOLS (MANDATORY). POOLS SHALL BE PROVIDED WITH ENERGY-CONSERVING MEASURES IN ACCORDANCE WITH SECTIONS 403.9.1 THROUGH 403.9.53, AND COMPLIANCE CRITERIA FOUND IN APPENDIX D-FLORIDA STANDARDS, FLORIDA STANDARD No. 2 (FL-2), FLORIDA REGULATORY REQUIREMENTS FOR ENERGY EFFICIENCY FOR RESIDENTIAL INGROUND SWIMMING POOLS AND SPAS, AND FLORIDA STANDARD No. 3 (FL-3), FLORIDA REGULATORY REQUIREMENTS FOR PORTABLE SPA ENERGY EFFICIENCY.
- 403.9.1 POOL AND SPA HEATERS. ALL POOL HEATERS SHALL BE EQUIPPED WITH A READILY ACCESSIBLE ON-OFF SWITCH THAT IS MOUNTED OUTSIDE THE HEATER TO ALLOW SHUTTING OFF THE HEATER WITHOUT ADJUSTING THE THERMOSTAT SETTING.

- NOTES:**
- ALL POOL ELECTRICAL WORK SHALL COMPLY WITH NEC 680 2020 EDITION.
 - NO OVERHEAD ELECTRICAL WIRING SHALL BE LOCATED WITHIN 10' OF POOL'S WATER EDGE UNLESS IT IS 18" OR HIGHER AS PER NEC TABLE 680.8
 - GROUND ALL BOXES, LIGHTS, MOTORS, ETC WITH #8 GROUND WIRE.
 - DECK AROUND POOL REQUIRE (4) EQUAL SIDES BONDED WITHIN 3' OF THE RIM.
 - ALL SWIMMING POOL PUMPS REQUIRE GFCI BREAKERS AS PER NEC 680.22B & COMPLY WITH THE CODE REQUIREMENT 430.32 NEC.**
 - HEATED SWIMMING POOLS AND IN GROUND PERMANENT INSTALLED SPAS SHALL BE EQUIPPED WITH A VAPOR-RETARDANT COVER ON OR A LIQUID COVER OR OTHER MEANS PROVEN TO REDUCE HEAT LOSS. (FLORIDA BUILDING CODE 8th EDITION 2023 - ENERGY- R403.9.3)
 - RESIDENTIAL POOL PUMP MOTORS SHALL COMPLY WITH FLORIDA BUILDING CODE 8th EDITION 2023- R403.10 ENERGY CODE**

Alejandro F Pino

Digitally signed by Alejandro F Pino
DN: cn=US, o=Pino Curtis PE Corp,
c=US, email=A01410C0000015437A2D24
0001FD1DC, cn=Alejandro F Pino
Reason: I am the author of this document
Location: your signing location here
Date: 2025-05-23 16:46:44
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