GENERAL POOL REQUIREMENTS

GENERAL NOTES

1. ALL DESIGN ELEMENTS OF THE SWIMMING POOL AND/OR SPA ARE REGULATED BY THE TEXAS ADMINISTRATIVE CODE, TITLE 25 HEALTH SERVICES, PART 1 DEPARTMENT OF STATE HEALTH SERVICES, CHAPTER 265 GENERAL SANITATION, SUBSECTION L STANDARDS FOR PUBLIC POOLS AND SPAS (TDSHS 265).

2. GENERAL NOTES ON THIS SHEET DO NOT DEFINE ALL WORK REQUIRED IN THE PROJECT. CONTRACTORS SHALL REFER TO ALL PLANS AND SPECIFICATIONS FOR FULL DEFINITION OF WORK FOR THE PROJECT.

3. ALL WORK SHALL BE DONE IN CONFORMANCE WITH INTERNATIONAL CODE COUNCIL CODES AS REVISED AND ADOPTED BY THE CITY OF THE COLONY.

4. PRIOR TO BEGINNING CONSTRUCTION OF THE POOL AND/OR SPA, THE POOL CONTRACTOR MUST OBTAIN ALL REQUIRED PERMITS FROM THE CITY/COUNTY.

5. CLEAR SPACING BETWEEN MAIN DRAINS MUST BE A MINIMUM OF 3'-0" PER THE REQUIREMENTS OF TDSHS 265.

6. POOL CONTRACTOR TO PROVIDE A WATER-TIGHT STRUCTURE AT THE CONCLUSION OF THE PROJECT.

7. WATER PROOF, WATERTIGHT, IMPERVIOUS, AND/OR IMPERMEABLE AS SPECIFIED FOR THIS PROJECT ARE ALL DEFINED AS A COMPLETED AND FILLED WATER VESSEL WITH A MEASURABLE LOSS OF LESS THAN 25 GPD PER 1,000 SQUARE FEET OF WATER SURFACE AREA, EXCLUSIVE OF EVAPORATION.

8. WATER LOSSES FROM ALL SOURCES SHALL BE MEASURED BY THE POOL CONTRACTOR USING A METHOD APPROVED BY THE ENGINEER. THE POOL CONTRACTOR SHALL RECORD AND SEND RESULTS OF THE LOSS TESTING TO THE ENGINEER. IF TESTING INDICATES EXCESSIVE LOSSES THEN THE POOL CONTRACTOR SHALL SUBMIT TO THE ENGINEER A REMEDIATION PLAN FOR APPROVAL AND, ONCE APPROVED, PROCEED TO REMEDIATE WATER LOSSES.

9. TESTING FOR WORK & MATERIALS ON THE PROJECT WILL BE PERFORMED BY THE OWNER. IF THE MATERIAL BEING TESTED FAILS IN ANY WAY THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURTHER TESTING AND ANY ADDITIONAL WORK TO MEET THE DESIGN REQUIREMENTS.

10. AN EXPANSION JOINT IS DENOTED BY 'EJ' BETWEEN THE BACK OF POOL COPING AND THE CONCRETE DECKS. ALL POOL/SPA EXPANSION JOINTS SHALL BE SEALED WITH SELF-LEVELING URETHANE. REFER TO OTHERS FOR ADDITIONAL EXPANSION AND SAWED CONTROL JOINTS. DECK INSTALLER SHALL INSTALL EXPANSION JOINT MATERIALS.

11. ALL CORNERS PROTRUDING INTO POOLS SHALL HAVE A RADIUS OF 2" OR LARGER.

12. HOSE BIBS SHALL BE PROVIDED FOR WASHING DOWN THE POOL DECK (REFER TO OTHERS).

13. A DRINKING FOUNTAIN SHALL BE PROVIDED AND BE AVAILABLE TO ALL POOL USERS (REFER TO OTHERS).

DIMENSIONAL NOTES

1. CONSTRUCTION DIMENSIONAL TOLERANCE FOR WATER DEPTH AND STAIR RISERS IS TO BE +/- 1/4" IN THE POOL. ALL OTHER CONSTRUCTION DIMENSION TOLERANCES MAY VARY +/- 2" IN THE POOL.

2. WATER DEPTH AND POOL DIMENSIONS SHOWN ON PLANS ARE TO FINAL PLASTER OR TILE FINISH. ADD 3/8" (MINIMUM, OR 3/4" MAXIMUM) TO EACH DIMENSION FOR DISTANCE TO STRUCTURAL CONCRETE. STRUCTURAL DETAILS ARE MEASURED TO FINISHED CONCRETE.

3. WRITTEN DIMENSIONS GOVERN OVER SCALED DIMENSIONS.

4. REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR HORIZONTAL CONTROL ON THE SITE.

5. POOL FLOOR SLOPES ARE SHOWN ON PLANS, BUT FLOOR SLOPES SHALL NOT EXCEED 1:12 (8.33%) IN ANY DIRECTION UNLESS SPECIFICALLY NOTED OTHERWISE.

6. POOL DECK SHALL BE SLOPED TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE POOL RIM. UNLESS SPECIFICALLY NOTED OTHERWISE, POOL DECK SLOPES MAY NOT EXCEED 1:50 (2.0%) IN ANY DIRECTION IN ORDER TO SATISFY THE REQUIREMENTS OF THE AMERICANS WITH DISABILITY ACT (ADA) AND THE TEXAS ACCESSIBILITY STANDARD (TAS). REFER TO DRAWINGS BY OTHERS FOR POOL DECK GRADING AND DRAINAGE.

7. REFER TO DRAWINGS BY OTHERS FOR DECK DIMENSIONS AND FINISHES.

POOL SAFETY EQUIPMENT:

1. A PHONE CAPABLE OF IMMEDIATELY SUMMONING EMERGENCY HELP MUST BE INSTALLED AT THE POOL SITE WITHIN 200 FT OF THE POOL WATER'S EDGE. IF ENCLOSURE FOR POOL WILL BE LOCKED AT ANY TIME, THE PHONE MUST BE INSTALLED OUTSIDE THE POOL ENCLOSURE IN ACCORDANCE TO SECTION 265.201(m) OF TDSHS 265. CONFIRM LOCATION WITH LANDSCAPE ARCHITECT/OWNER PRIOR TO PLACEMENT.

2. LIFESAVING EQUIPMENT SHALL BE PROVIDED AND MEET THE MINIMUM REQUIREMENTS OF THE TDSHS 265. ALL SAFETY EQUIPMENT SHALL BE INSTALLED WITHIN 20-FEET OF THE POOL'S WATER EDGE (24-SETS OF EQUIPMENT ARE PROPOSED, REFER TO SHEETS SP1.0B - SP1.0E FOR LOCATIONS. COORDINATE FINAL QUANTITIES AND LOCATIONS WITH OWNER AND LOCAL HEALTH OFFICIALS).

3. EACH SET OF LIFESAVING EQUIPMENT SHALL CONSIST OF 12-FOOT (MINIMUM) CORROSION RESISTANT, NON-CONDUCTIVE, NON-TELESCOPING REACHING POLE, 1/4" - 3/8" THROWING ROPE THAT HAS A LENGTH OF AT LEAST TWO-THIRDS THE WIDTH OF THE WIDEST PART OF THE BODY OF WATER WITH A USCG APPROVED RING BUOY(15"-24" DIAMETER) ATTACHED (ALL LIFE SAVING EQUIPMENT SHALL COMPLY WITH THE REQUIREMENTS OUTLINED IN THE TDSHS 265.

PLASTER NOTES

1. POOL INTERIOR FINISHES, PATTERNS AND COLORS SHALL NOT OBSCURE THE VISIBILITY OF OBJECTS ON SURFACES WITHIN THE POOL OR SPA. ALL POOL INTERIOR SURFACES SHALL BE A LIGHT ENOUGH COLOR SO THAT AN 8-INCH BLACK DISK ON THE POOL OR SPA FLOOR AT THE DEEPEST POINT OF THE POOL OR SPA CAN BE CLEARLY AND IMMEDIATELY SEEN BY A PATRON STANDING ADJACENT TO THE POOL OR SPA AT A POINT CLOSEST TO THE DISK (TDSHS SECTION 265.184 (g)).

2. THE POOL OR SPA FINISH SURFACES SHALL BE SLIP-RESISTANT, BUT NOT INFLICT INJURY TO BARE FEET DURING NORMAL USE.

3. INSTALL PLASTER THICKNESS AS SHOWN ON THE PLANS. PLASTER SHALL NOT BE INSTALLED WITH A THICKNESS LESS THAN 3/8" OR GREATER THAN 3/4".

4. PLASTERING MAY ONLY BE PERFORMED WITH THE AMBIENT TEMPERATURE IS BETWEEN 40°F TO 90° F.

5. PLASTER SHALL NOT BE WORKED ONCE THE FINISH HAS PAST ITS FINAL SET.

6. THE PLASTERED STRUCTURE SHALL BE FILLED WITH WATER IMMEDIATELY AFTER PLASTER HAS SET UP.

7. PLASTERING SHALL NOT TAKE PLACE DURING WINDY CONDITIONS OR WHEN OTHER CONSTRUCTION IS TAKING PLACE THAT MAY CONTAMINATE THE PLASTER (SUCH AS PAINTING OR LANDSCAPE INSTALLATION NEARBY THE POOL).

8. IN SALT CHLORINE POOLS, DO NOT ADD SALT FOR 28 DAYS POST FILL TO ALLOW THE POOL PLASTER TO CURE.

POOL ENCLOSURE NOTES (BY OTHERS)

1. OUTLINE OF POOL ENCLOSURE IS INDICATED ON SHEET SP1.0. POOL ENCLOSURE CONSISTS OF FENCING, GATES AND PORTIONS OF BUILDINGS THAT ARE CONSTRUCTED ADJACENT TO POOL AREA.

2. POOL YARD ENCLOSURE/FENCING TO MEET THE MINIMUM REQUIREMENTS OF TDSHS 265.

3. BUILDINGS ADJACENT TO POOL AREA SHALL NOT HAVE OPERABLE WINDOWS THAT ALLOW UNSUPERVISED ACCESS ONTO POOL DECK.

4. ANY BUILDING DOORS THAT OPEN ONTO THE POOL DECK MUST BE SUPERVISED OR HAVE SELF-CLOSING, SELF-LATCHING HARDWARE THAT DOES NOT ALLOW SMALL CHILDREN ACCESS INTO THE POOL AREA WITHOUT SUPERVISION.

5. ALL GATES AND DOORS MUST HAVE SELF-CLOSING, SELF-LATCHING HARDWARE, CAPABLE OF BEING LOCKED, AND OPEN AWAY FROM THE BODY OF WATER.

6. FENCING THAT IS PART OF THE POOL ENCLOSURE SHALL NOT HAVE OPENINGS THAT PERMIT PASSAGE OF A 4-INCH DIAMETER SPHERE.

7. ANY FENCE USED AS AN ENCLOSURE MUST HAVE A MINIMUM EFFECTIVE PERPENDICULAR HEIGHT OF 4 FEET.

8. REFER TO ARCHITECT OR LANDSCAPE ARCHITECT DRAWINGS FOR FENCE DETAILS.

9. GATE HARDWARE MUST BE MOUNTED A MINIMUM OF 42" ABOVE WALKING SURFACE.

10. CHAIN LINK FENCING IS NOT PERMITTED.

11. FENCE SHALL BE OF "CLIMB-RESISTANT" CONSTRUCTION.

12. GATE HANDLES/ENTRY DEVICES SHOULD BE MOUNTED OUT OF REACH OF SMALL CHILDREN.

POOL SIGNAGE NOTES

1. OWNER IS RESPONSIBLE FOR PROVIDING ALL NECESSARY SIGNAGE UNLESS SPECIFICALLY PROVIDED BY THE POOL CONTRACTOR. SIGNAGE MUST BE EASILY SEEN FROM ALL AREAS OF THE POOL AND THE POOL DECK.

2. PROVIDE SIGNAGE ON POOL CHEMICAL STORAGE ENCLOSURE STATING "DANGER POOL CHEMICALS".

3. PROVIDE NFPA 704 MARKING SYSTEM IDENTIFICATION PLACARD ON ENTRY/EXIT OF ALL POOL EQUIPMENT ENCLOSURES.

4. PROVIDE ANY ADDITIONAL SIGNAGE NECESSARY FOR POOL THAT MEETS OR EXCEEDS THE REQUIREMENTS OF THE TEXAS DEPARTMENT OF STATE HEALTH SERVICES OR LOCAL CITY CODE.

5. IF THE MAJORITY OF CITIZENS IN THE AREA ARE NON-ENGLISH SPEAKING, AN IDENTICAL SET OF SIGNAGE SHALL BE PROVIDED IN THE DOMINATE LANGUAGE IN ADDITION TO THE ENGLISH SIGNAGE.

6. GENERAL SIGNAGE SHALL BE INSTALLED IN PLAIN VIEW OF POOL OR SPA AS FOLLOWS (ACCORDING TO TDSHS 265.201(j)(5):

REQUIRED POOL SIGNAGE	LETTER SYMBOL AND SIZE
"WARNING - NO LIFEGUARD ON DUTY" (WHERE NO LIFEGUARD REQUIRED OR PROVIDED.)	4 INCHES
"NO DIVING" AND INTERNATIONAL NO DIVING SYMBOL (WHERE NO LIFEGUARD REQUIRED OR PROVIDED.)	4 INCHES
"IN CASE OF EMERGENCY, DIAL 911"	4 INCHES
PRECISE LOCATION OF THE POOL ON OR WITH THE EMERGENCY PHONE (ADDRESS, OR DIRECTIONS, OR GPS LOCATION, OR BUILDING NUMBER, AS APPROPRIATE)	MINIMUM 1-INCH
HOURS OF OPERATION	MINIMUM 1-INCH
DIRECTIONS TO AND LOCATION OF EMERGENCY PHONE IF PHONE NOT VISIBLE IN POOL YARD	MINIMUM 2-INCHES
MAXIMUM USER LOAD LIMIT	MINIMUM 2-INCHES
"PETS IN THE POOL ARE PROHIBITED"	MINIMUM 2-INCHES
"DO NOT SWIM IF YOU HAVE BEEN ILL WITH DIARRHEA WITHIN THE PAST 2 WEEKS"	MINIMUM 2-INCHES
"CHANGING DIAPERS WITHIN THE POOL ENCLOSURE IS PROHIBITED"	MINIMUM 2-INCHES
"GLASS ITEMS ARE NOT ALLOWED IN THE POOL YARD"	MINIMUM 2-INCHES
"PERSONS UNDER THE AGE OF 14 MUST NOT BE IN THE POOL WITHOUT ADULT SUPERVISON"	MINIMUM 2-INCHES
"EXTENDED BREATH HOLDING ACTIVITIES ARE DANGEROUS AND PROHIBITED"	MINIMUM 2-INCHES

BONDING NOTES

1. ALL METAL COMPONENTS OF POOL (INCLUDING BUT NOT LIMITED TO LADDERS, REINFORCING STEEL, HANDRAILS, LIGHT NICHES, FOUNTAIN NOZZLES, AND MECHANICAL EQUIPMENT) SHALL BE ELECTRICALLY BONDED PER SECTION 680 OF THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE (N.E.C.).

2. CONNECTIONS TO BONDED PARTS OF THE BONDING GRID FOR THE POOL SHALL BE MADE WITH UL LISTED BONDING CONNECTORS OR OTHERWISE AS REQUIRED BY SECTION 250.8 OF THE NATIONAL ELECTRIC CODE (N.E.C.).

3. PROVIDE CONTINUOUS BONDING LOOP CONNECTING THE METAL COMPONENTS OF THE POOL. BONDING WIRE SHALL BE 8 GA. (OR LARGER) COPPER.

4. BOND THE POOL REINFORCING STEEL TO THE DECK IN AT LEAST SIX EVENLY SPACED LOCATIONS WITH WIRE AND CLAMPS, TIE WIRE NOT SUFFICIENT.

5. BONDING SHALL BE WITH UL LISTED BONDING CONNECTORS AND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH SECTION 250.8 OF THE N.E.C.

6. PERIMETER SURFACES EXTENDING 3 FT (1-METER) BEYOND THE INSIDE WALL OF THE POOL SHALL BE BONDED USING METHODS COMPLIANT WITH 680.26(B)(2) OF THE N.E.C.

7. ALL FIXED METAL COMPONENTS WITHIN 5-FEET OF THE WATER'S EDGE SHALL BE BONDED AS REQUIRED BY THE N.E.C. 680.26(B)(1).

8. ALL LIGHT FIXTURES WITHIN 10 FT OF THE WATER'S EDGE AND ALL ELECTRICAL RECEPTACLES WITHIN 20 FT OF THE WATER'S EDGE SHALL COMPLY WITH REQUIRED GFCI PROTECTION PER 680.22 OF THE N.E.C.

UTILITY NOTES

1. CONTACT THE APPROPRIATE AUTHORITIES WITH RESPECT TO LOCATION OF EXISTING UTILITIES AT LEAST 48 HOURS PRIOR TO WORK IN THE AREA.

2. ONE CALL: 1-800-669-8344

3. IT'S THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

EQUIPMENT AND PLUMBING NOTES

WATER QUALITY NOTES

1. REQUIREMENTS OF THE TEXAS DEPARTMENT OF STATE HEALTH SERVICES (TAC TITLE 25 PART 1 CHAPTER 265 SUBCHAPTER 265.181-211) SHALL BE FOLLOWED AT ALL TIMES.

2. INITIAL FILL OF POOL/SPA WILL BE WITH WATER SUPPLIED BY EITHER THE OWNER (ON-SITE SUPPLY) OR BY OTHERS IMMEDIATELY UPON PLASTERING THE POOL. POTABLE WATER SHALL BE USED FOR THE INITIAL FILL AND THROUGH THE LIFE OF THE POOL. MAKE UP WATER MUST BE FROM A POTABLE SOURCE AND MEET APPLICABLE STANDARDS OF 30 TAC, CHAPTER 290 SUBCHAPTER D AND MEET ALL DEPARTMENT OR LOCAL REGULATORY AUTHORITY.

3. INITIAL FILL WATER SHALL CONTAIN LESS THAN 0.3PPM COPPER AND IRON. IF THE PERMANENT WATER SOURCE CAN NOT ACHIEVE THIS QUALITY OF WATER THE POOL CONTRACTOR SHALL SUPPLY SEQUESTERING AGENTS FOR 14 DAYS AFTER FILLING THE POOL. THE OWNER SHALL FURNISH AND MAINTAIN SEQUESTERING AGENTS FROM THE 15TH DAY ON.

4. THE POOL SHALL BE BRUSHED TWICE DAILY TO REMOVE LAITANCE FOR AT LEAST TWO WEEKS FOLLOWING PLASTERING AND FILLING. THE POOL FILTER SHALL BE BACKWASHED REGULARLY DURING THIS TIME TO RESTORE CLARITY TO THE WATER.

WATER CHEMISTRY REQUIREMENTS			
DISINFECTANT LEVELS	MINIMUM	IDEAL	MAXIMUM
POOL FREE AVAILABLE CHLORINE	1.0 PPM	2.0 - 3.0 PPM	8.0 PPM
SPA FREE AVAILABLE CHLORINE	2.0 PPM	3.0 PPM	8.0 PPM
POOL BROMINE	3.0 PPM	4.0 - 6.0 PPM	10.0 PPM
SPA BROMINE	4.0 PPM	5.0 PPM	10.0 PPM
COMBINED CHLORINE	NONE	NONE	0.4 PPM
pH	7.0	7.2 - 7.6	7.8
CYANURIC ACID	NONE	30 - 50 PPM	100 PPM
ORP	600 mV	650 - 750 mV	900 mV
ALKALINITY	60 PPM	60 - 180 PPM	180 PPM
CALCIUM HARDNESS IN POOLS	150 PPM	150 - 400 PPM	1000 PPM
CALCIUM HARDNESS IN SPAS	100 PPM	150 - 400 PPM	800 PPM
ALGAE	NONE	NONE	NONE
LSI	-1<LSI<1 (RECOMMEND WWW.POOLCALCULATOR.COM FOR SIMPLE CALCULATIONS)		
TURBIDITY	CLEAR; ZERO TURBIDITY		

GENERAL POOL ELECTRICAL NOTES

1. ALL ELECTRICAL INSTALLATIONS MUST COMPLY WITH THE 2018 N.E.C. OR MOST CURRENT EDITION OF THE (NEC).

2. GFCI PROTECTION IS REQUIRED FOR ALL RECEPTACLES WITHIN 20-FEET OF THE WATER'S EDGE AND FOR LIGHTING OUTLETS WITHIN 10-FEET OF THE WATER'S EDGE PER THE NEC 680.22

3. ALL CONDUIT TO BE WATERTIGHT SCHEDULE 80 PVC UNLESS NOTED OTHERWISE.

4. ACCORDING TO THE TEXAS DEPARTMENT OF STATE HEALTH SERVICES SECTION 265.192(n), AN ELECTRICIAN LICENSED IN THE STATE OF TEXAS SHALL CONDUCT A MINIMUM OF TWO INSPECTIONS DURING AND AFTER CONSTRUCTION.

5. POOL CONTRACTOR TO RUN LIGHTING CONDUIT AND CONDUCTORS TO J. BOX. J. BOX IS BY ELECTRICAL AND NOT BY POOL CONTRACTOR. CIRCUITING FROM J. BOX TO PANEL BY ELECTRICAL AND NOT BY POOL CONTRACTOR.

6. JUNCTION BOXES MUST BE INSTALLED NOT LESS THAN 4-INCHES ABOVE THE GROUND OR NOT LESS THAN 8-INCHES ABOVE THE MAXIMUM WATER LEVEL, WHICHEVER PROVIDES THE GREATER ELEVATION PER NEC 680.24(A)(2)(a).

7. ELECTRICIAN SHALL WIRE POOL PUMPS AND OTHER EQUIPMENT TO THE PANEL (PANEL DESIGNED AND PROVIDED BY OTHERS). BREAKERS PROVIDED BY ELECTRICAL CONTRACTOR.

8. ELECTRICAL CONTRACTOR TO PROVIDE LIGHTING, VENTILATION, CONVENIENCE OUTLETS AND GENERAL POWER DISTRIBUTION WITHIN THE POOL MECHANICAL ROOM, SITE, AND NATATORIUM AS SHOWN IN THIS PLAN SET. NOT BY POOL CONTRACTOR.

9. LOW VOLTAGE WIRING BY POOL CONTRACTOR.

10. POOL CONTRACTOR TO PROVIDE ELECTRICAL EQUIPOTENTIAL BONDING FOR ALL METAL PARTS PER NEC ARTICLE 680. THE FOLLOWING LIST IS INTENDED TO ASSIST THE CONTRACTOR BUT IS NOT NECESSARILY ALL INCLUSIVE. REFER TO N.E.C. THE FOLLOWING ITEMS MUST BE BONDED:
    - METAL LADDERS, HAND RAILS, AND THEIR ANCHORAGE SLEEVES
    - METAL LIGHT NICHES, LUMINAIRES
    - POOL EQUIPMENT, MOTORS, HEATERS, AND OTHER METAL COMPONENTS
    - DECK REINFORCING STEEL GRID
    - POOL AND SPA REINFORCING STEEL GRID
    - METAL DOORS, WINDOWS, STEEL STRUCTURES WITHIN 5'-0" OF THE POOL WATER
    - METAL SLEEVES AND PARTS FOR THE HANDICAPPED LIFT
    - ANY OTHER METAL PART WITHIN 5'-0" OF THE WATER IN EXCESS OF 4 SQUARE INCHES OR PROJECTING INTO THE POOL BY MORE THAN 1"

11. FOR THIS PROJECT THE BONDING GRID IS THE REINFORCING STEEL IN THE POOL SHELL.

12. CONNECT ALL METAL PARTS TO THE BONDING GRID WITH #8 BARE COPPER WIRE. CLAMP TO REINFORCING STEEL WITH U.L. LISTED COMPRESSION SCREW CLAMPS. WRAPPING WIRE IS NOT ACCEPTABLE.

13. BOND THE POOL REINFORCING STEEL TO THE DECK IN AT LEAST SIX EVENLY SPACED LOCATIONS WITH WIRE AND CLAMPS. TIE WIRE IS NOT SUFFICIENT.

14. ANY ELECTRICAL WORK NOT SPECIFICALLY REQUIRED OF THE POOL CONTRACTOR IS THE RESPONSIBILITY OF THE BUILDING ELECTRICAL CONTRACTOR. IT IS THE INTENT OF THE CONSTRUCTION DOCUMENTS THAT ALL ELECTRICALLY POWERED DEVICES BE BOTH POWERED AND PROPERLY GROUNDED AND WORKING PROPERLY.

15. RIGID CONDUIT BURY DEPTH REQUIREMENTS: REF. TABLE 300.5 OF THE NEC

LOCATION	DIRECT BURY	METAL	SCH 80 PVC
BELOW PARKING, DRIVEWAYS	24"	24"	24"
AT POOL DECK WITH CONC. >4" THICK	18"	4"	4"
IN BUILDING	0"	0"	0"
LANDSCAPING, SODDED, GRASS, AREAS	24"	6"	18"

PLUMBING NOTES

1. BURIED POOL PLUMBING TO BE SCHEDULE 40 PVC (MINIMUM) AND BURIED A MINIMUM OF 24" BELOW FINISH GRADE. ALL PIPE SYSTEMS SHALL BE PRESSURE CHECKED TO A PRESSURE OF 25 PSI FOR 30 MINUTES TO ENSURE A WATERTIGHT SYSTEM. PRESSURE IN THE PIPE SYSTEM MUST BE MAINTAINED THROUGHOUT THE CONCRETE SHELL PLACEMENT AND DECK PLACEMENT PER SECTION 265.190(p) OF THE TDSHS.

2. PLUMBING MAY BE BURIED IN COMMON TRENCHES WHEN POSSIBLE.

3. PLUMBING LOCATIONS MAY VARY SLIGHTLY FROM THOSE SHOWN ON THIS DRAWING.

4. ALL PIPE SIZES ARE STATED IN NOMINAL PIPE SIZES

5. VALVES SHALL BE PROPORTIONAL FLOW TYPE VALVES (BALL), GATE VALVES ARE NOT ACCEPTABLE.

6. ALL VALVES 3" AND SMALLER SHALL BE SPEARS TRUE UNION VALVES OR EQUAL. ALL VALVES 4" AND GREATER SHALL BE ASAHI EPDM BUTTERFLY VALVES OR EQUAL

7. WATER SUPPLY LINES TO POOL AUTO-FILL UNITS SHALL HAVE REDUCED PRESSURE ZONE (RPZ) OR OTHER APPROVED BACKFLOW PREVENTION DEVICE REFER TO OTHERS FOR RPZ'S, WATER LINES AND BACKWASH DRAIN LINES TO BE EXTENDED TO EACH POOL EQUIPMENT ROOM.

8. ALL PLUMBING PENETRATIONS THROUGH CONCRETE POOL STRUCTURES OR BASINS HOLDING WATER SHALL HAVE NO-LEAK FLANGES INSTALLED. LINK SEAL GASKETS SHALL BE INSTALLED ON ALL PENETRATIONS THAT ARE CORED OR SLEEVED.

9. PIPE LAYOUT SHOWN IS SCHEMATIC IN NATURE AND INDICATES THE GENERAL PIPE ROUTING. OUTSIDE OF MINOR REALIGNMENTS AS REQUIRED BY FIELD CONDITIONS, IT IS ASSUMED PIPING INSTALLATION WILL FOLLOW THE DESIGNED LAYOUT. PIPE SYSTEMS SHALL BE INSTALLED IN SUCH A WAY TO REDUCE THE AMOUNT OF FITTINGS USED. CONTRACTOR SHALL REQUEST ANY CHANGE TO THE LAYOUT AND PROVIDE REDLINE DOCUMENTATION ON SP2.0A - SP2.2G SHEETS TO AQUEOUS ENGINEERING FOR APPROVAL BEFORE PIPING IS INSTALLED.

10. ALL INDIVIDUAL POOL INLET BRANCH LINES TO BE 1.5" UNLESS NOTED OTHERWISE.

11. ALL INDIVIDUAL SKIMMER BRANCH LINES TO BE 2" UNLESS NOTED OTHERWISE.

12. ALL POOL MAIN DRAIN SUMPS, FRAMES, AND GRATES MUST COMPLY WITH VIRGINIA GRAEME BAKER ACT. SUCTION DEVICES SHALL COMPLY WITH ANSI/APSP-16 VGB STANDARD.

13. POOL PLUMBING LOCATED BENEATH THE POOL/SPA FLOOR SHALL BE CONCRETE ENCASED SO IT IS INTEGRAL WITH THE POOL/SPA STRUCTURE. PLUMBING BENEATH POOL FLOOR SHALL NOT ENCROACH IN THE NORMAL THICKNESS OF THE FLOOR.

14. ALL PIPING IN THE POOL SYSTEM SHALL MEET AT A MINIMUM U.S. ASTM D-1785-2006 TYPE 1, GRADE 1, SCHEDULE 40 STANDARDS. ALL PLUMBING (PIPE AND FITTINGS) SHALL BE CHARLOTTE PIPE, SPEARS, MUELLER OR EQUAL MANUFACTURER.

15. ALL UNDERWATER POOL LIGHTS MUST BE INSTALLED WITH GFCI PROTECTION IN ACCORDANCE TO ARTICLE 680.22(B) (4) OF THE NATIONAL ELECTRICAL CODE (N.E.C.)

16. ALL POOL LIGHTING SHALL HAVE A PHOTOCELL AND TIMER. LIGHTS SHALL ALSO HAVE A MANUAL OVERRIDE SWITCH. SWITCH LOCATION TO BE COORDINATED WITH ARCHITECT/ LANDSCAPE ARCHITECT.

EQUIPMENT ROOM NOTES

1. ALL POOL MECHANICAL EQUIPMENT MUST BE NSF-50 APPROVED WHERE APPLICABLE.

2. POOL CONTRACTOR TO VERIFY HEATERS ARE NSF-LISTED AND ASME APPROVED FOR THE REQUIREMENTS OF THE STATE DEPARTMENT OF HEALTH. ALL HEATERS SHALL BE FURNISHED WITH GAUGES, PRESSURE AND FLOW SWITCHES, SAFETY DEVICES, AND OTHER APPURTENANCES REQUIRED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TLDR).

3. FIELD CONDITIONS MAY DICTATE ADJUSTMENTS TO POOL EQUIPMENT ARRANGEMENT SHOWN ON THE PLANS. POOL EQUIPMENT LAYOUT SHOWN IS ONE OF MANY FEASIBLE ARRANGEMENTS. POOL CONTRACTOR TO INSTALL ALL EQUIPMENT IN REGARDS TO MANUFACTURER INSTALLATION REQUIREMENTS.

4. ALL PIPE SIZES ARE STATED IN NOMINAL PIPE SIZES

5. ALL PUMPS SHALL HAVE A SUCTION (VACUUM) AND DISCHARGE GAUGE.

6. HOSE BIB IN EQUIPMENT ROOM (IF DESIRED) SHALL BE BY OTHERS.

7. EXPOSED POOL PLUMBING IN EQUIPMENT ROOMS TO BE SCHEDULE 40 PVC (OR BETTER).

8. ALL FILTERS SHALL HAVE INLET AND OUTLET PRESSURE GAUGES.

9. ALL OVERHEAD PLUMBING SHALL BE SUPPORTED BY UNISTRUT BRACING OR OTHER GROUND-SUPPORTED PIPE STANDS. OVERHEAD PIPING SHALL BE A MINIMUM OF 7'-6" ABOVE EQUIPMENT ROOM FLOOR. PIPE SUPPORTED THROUGH CEILING STRAPS MUST FIRST BE COORDINATED WITH THE PROJECTS STRUCTURAL ENGINEER.

10. ALL PUMP STRAINERS TO BE PROVIDED WITH SPARE STRAINER BASKET.

11. POOL EQUIPMENT FLOOR AND CHEMICAL CLOSET FLOOR SHALL BE SLOPED TO DRAIN TO A FLOOR DRAIN OR FLOOR SUMP (REFER TO OTHERS). IF A SUMP IS REQUIRED, CONTRACTOR SHALL FURNISH A SUMP PUMP, DISCHARGE PIPING AND ELECTRICAL REQUIRED TO OPERATE PUMP.

12. ALL CIRCUITS FOR CHEMICAL PUMPS AND FEEDERS SHALL BE INTERLOCKED WITH CIRCUITS FOR THE PRIMARY RECIRCULATION PUMP FOR THE POOL THEY SERVE. WHEN A PRIMARY RECIRCULATION PUMP IS TURNED OFF OR SHUTS DOWN, CHEMICAL PUMPS AND FEEDERS SHALL ALSO SHUT DOWN RATHER THAN CONTINUING TO FEED CHEMICALS INTO THE POOL PLUMBING LINES.

13. IF POOL OPERATOR CANNOT SEE THE FILTER BACKWASH DISCHARGE WHILE OPERATING THE FILTERS INSIDE THE EQUIPMENT ROOM, A SIGHT GLASS WILL NEED TO BE INSTALLED ON THE FILTER BACKWASH LINE(S)

14. GAS LINE FOR POOL HEATER SHALL BE DESIGNED AND INSTALLED BY OTHERS - NOT THE POOL CONTRACTOR. PRESSURE REGULATORS, DRIP LEGS, AND OTHER CODE-REQUIRED APPURTENANCES ARE BY OTHERS - NOT POOL CONTRACTOR.

15. CONCRETE HOUSEKEEPING PADS REQUIRED BENEATH ALL PUMPS AND HEATERS (NOT SHOWN FOR CLARITY). HOUSEKEEPING PADS TO BE 4" HIGH (MIN.) BUT MAY VARY IN HEIGHT TO ALIGN PLUMBING BETWEEN EQUIPMENT AND CORRESPONDING PLUMBING.

16. A FLOW METER SHALL BE INSTALLED ON EACH CIRCULATION SYSTEM SO THE FLOW THROUGH EACH FILTER CAN BE MEASURED. FLOW METERS SHALL BE ACCURATE WITHIN 10% OF TRUE FLOW AND CAPABLE OF MEASURING FLOW AT LEAST 1.5 TIMES GREATER THAN THE DESIGN FLOW OF THE SYSTEM

17. ALL EXPOSED POOL PLUMBING IN EQUIPMENT ROOM AREA SHALL BE LABELED TO IDENTIFY THE PIPING FUNCTION AND DIRECTION OF FLOW IN ACCORDANCE TO SECTION 265.190(q) OF THE TDSHS.

18. MOTORS FOR POOL PUMPS SHALL BE PREMIUM EFFICIENT MOTOR DESIGN AS DEFINED BY NEMA PREMIUM PROGRAM.

19. VENTILATION INSIDE POOL EQUIPMENT ROOM BY OTHERS (NOT SHOWN ON THESE DRAWINGS).

20. PLUMBER SHALL EXTEND A BACKWASH DRAIN LINE TO THE POOL EQUIPMENT AREA (COORDINATE LOCATION WITH POOL CONTRACTOR). DRAIN LINE SHALL BE TRAPPED AND VENTED BY PLUMBER PER PLUMBING CODE. LINE CAPACITY OF DRAIN LINE MUST BE 130 GPM (MINIMUM). (NOTE: FILTERS SHALL BE PLUMBED SO THAT THEY CAN BE BACKWASHED SEPARATELY).

STRUCTURAL NOTES

STRUCTURAL NOTES

1. CONCRETE:

1.1. POOL SHELLS SHALL BE INSTALLED WITH PNEUMATICALLY PLACED CONCRETE (SHOTCRETE) OR CAST IN PLACE CONCRETE. REFER TO SPECIFICATIONS FOR CONCRETE MIX AND COMPRESSIVE STRENGTH REQUIREMENTS.

1.2. SHOTCRETE MIX AND INSTALLATION SHALL CONFIRM TO THE LATEST ACI (ACI 506) AND ASTM STANDARDS FOR SHOTCRETE CONSTRUCTION.

1.3. AN ACI /ASA CERTIFIED NOZZLEMAN IS REQUIRED TO INSTALL ALL SHOTCRETE MATERIAL. IT IS THE RESPONSIBILITY OF THE POOL CONTRACTOR TO ENSURE THE NOZZLEMAN IS PROPERLY TRAINED PRIOR TO POOL SHELL PLACEMENT

1.4. ALL CONCRETE TO BE CURED AND PLACED IN ACCORDANCE TO THE LATEST ACI STANDARDS.

1.5. ALL CONCRETE RELATED TO THE DESIGN SHOWN ON THESE PLANS SHALL BE TESTED TO ENSURE QUALITY CONTROL AND ASSURANCE THAT THE ACTUAL CONCRETE/SHOTCRETE PLACED MEETS OR EXCEEDS THE SPECIFICATION'S OF THE PROJECT. ALL TESTING TO BE DONE BY CERTIFIED ACI TECHNICIANS OF A THIRD PARTY COMPANY.

1.6. FORM OILS OR CURING AGENTS SHALL NOT BE USED ON SURFACES RECEIVING ANY TYPE OF FINISH. WATER BASED CURING COMPOUNDS ARE ALLOWED ONLY IF THE SURFACE IS TREATED WELL AND SAND OR WATER BLASTED PRIOR TO THE APPLICATION OF POOL FINISH

1.7. MAXIMUM AGGREGATE SIZE SHALL BE AS FOLLOWS:
- 1-1/2" --- CAST-IN-PLACE FOOTINGS AND SLABS ON GRADE.
- 1" --- CAST-IN-PLACE GRADE BEAMS, STRUCTURAL SUSPENDED SLABS AND WALLS.
- 1" --- SHOTCRETE/GUNITE STRUCTURES (SUCH AS POOL SHELLS)

2. REINFORCED STEEL:

2.1. REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 DEFORMED BARS MANUFACTURED IN THE USA. BAR PLACEMENT AND DETAILING SHALL BE IN ACCORDANCE WITH ACI 318 (LATEST EDITION).

2.2. REINFORCING DOWELS SHALL HAVE THE SAME SIZE AND SPACING AS THE MAIN BARS THEY ADJOIN (MIN. LAP = 30*BAR DIAM.) THE MINIMUM SPLICE OF ALL CONTINUOUS BARS SHALL BE 40*BAR DIAM. (2'-0" MIN).

2.3. MINIMUM SPLICE LENGTH SHALL BE 50 TIMES THE BAR DIAMETER OR 18 INCHES, WHICHEVER IS GREATER.

2.4. CLEAR MINIMUM COVER OF CONCRETE OVER REINFORCING BARS SHALL BE IN ACCORDANCE WITH ACI 318 AND AS FOLLOWS:
- 1-1/2" --- FORMED CONCRETE AGAINST EARTH
- 3" --- CAST-IN-PLACE CONCRETE AGAINST EARTH
- 3/4" --- TOP OF SLABS-ON-GRADE
- 2" --- CAST-IN-PLACE CONCRETE RETAINING WATER
- BE CAREFUL TO MAINTAIN MINIMUM CLEARANCES ON ALL SHOTCRETE/GUNITE STRUCTURES SUCH AS POOL SHELLS. CONCRETE CLEARANCES LISTED ARE CRITICAL.

2.5. CONCRETE REINFORCING SHALL BE SECURED IN POSITION PRIOR TO PLACEMENT. IT IS RECOMMENDED THAT FLOOR STEEL BE SUPPORTED WITH PLASTIC CHAIRS OR METAL (SPIDER) CHAIRS WITH PLASTIC BEARING PLATES. DO NOT SUPPORT FLOORS WITH CHUNKS OF WOOD OR BROKEN BRICK PIECES.

CONCRETE SPECIFICATION:

LOCATION:	COMPRESSIVE STRENGTH (PSI)	W.C. RATIO*	MIX
CAST-IN-PLACE STRUCTURES (INCLUDING BUT NOT LIMITED TO FLOOR SLABS, POOL FLOORS, CAISSONS, POOL WALLS, RETAINING WALLS, ETC)	4,000	0.45-0.49	5.5 SACKS/C.Y. OR 517#/C.Y.
SHOTCRETE FOR POOLS (WET PROCESS)	4,000	0.45-0.59	7 SACKS/C.Y. OR 658#/C.Y.
CAST-IN-PLACE FOOTINGS, GRADE BEAMS, SLABS ON GRADE, HOUSEKEEPING PADS, ETC.	3,000	0.45-0.49	5 SACKS/C.Y. OR 658#/C.Y.

* CONCRETE SUPPLIER MAY SUBMIT DOCUMENTATION TO ENGINEER FOR REVIEW AND APPROVAL OF MIX DESIGNS THAT UTILIZE A DIFFERENT W/C RATION TO MEET THE SAME STRENGTH REQUIREMENT.

SOIL NOTES

1. SOIL PREPARATION:

- SOIL PREPARATION WILL BE PERFORMED BY THE SITE CONTRACTOR, NOT BY POOL CONTRACTOR (UNLESS SPECIFICALLY INCLUDED IN THE CONTRACT). ALL POOL STRUCTURES HAVE BEEN DESIGNED ASSUMING THAT THE SOIL WILL BE PREPARED ACCORDING TO THE GEOTECHNICAL REPORT. THE SOILS SHALL BE PREPARED SUCH THAT THE POTENTIAL FOR VERTICAL RISE (PVR) FOR ANY EXPANSIVE SOILS WILL BE REDUCED TO 1-INCH OR LESS. ADDITIONALLY, ALL SOIL BENEATH THE POOL STRUCTURES (SHELL AND DECK) MUST HAVE NEGLIGIBLE SETTLEMENT OVER THE LIFE OF THE POOL.

- THE GEOTECHNICAL REPORT BY LANDTEC ENGINEERS (NO. 1221-3151, DATED 12/22/2021) PREDICTS THE IN-SITU SOILS HAVE A POTENTIAL VERTICAL MOVEMENT OF 3 TO 8 INCHES. THE REPORT SUGGESTS MOISTURE CONDITIONING EXISTING SOILS TO A DEPTH OF 7 FEET BELOW THE BOTTOM OF EACH POOL SHELL AND PLACING A SELECT FILL CAP TO REDUCE THE PVR TO ABOUT 1.0 INCHES. THE POOL CONTRACTOR SHALL VERIFY ALL SUBGRADE IMPROVEMENTS DONE IN THE POOL AREA AND CONFIRM SOIL MITIGATION PERFORMED WILL REDUCE THE PVR TO 1-INCH OR LESS. THE STRUCTURAL DESIGN PROVIDED HAS ASSUMED THE PVR WILL NOT EXCEED 1-INCH. IF THIS CANNOT BE ACHIEVED, CONTACT THE AQUATIC ENGINEER PRIOR TO CONSTRUCTION SO THE DESIGN CAN BE REVISED.

- EXCAVATION PERFORMED IN MOISTURE-CONDITIONED SOILS SHALL NOT BE LEFT OPEN FOR AN EXTENDED AMOUNT OF TIME SO SOILS DO NOT HAVE A CHANCE TO DRY OUT.

- POSITIVE DRAINAGE AWAY FROM THE POOL STRUCTURE MUST BE PROVIDED DURING CONSTRUCTION AND MAINTAINED THROUGH THE LIFE OF THE POOL TO HELP PREVENT THE POSSIBILITY OF PONDING BELOW THE PROPOSED POOL.

1.1. SOILS BEING USED AS FILL MATERIAL SHALL BE CONSIDERED "SELECT FILL" WITH THE FOLLOWING CHARACTERISTICS:

- SELECT FILL SOILS SHALL BE CLAYEY SAND (SC) OR A LOW PLASTICITY SANDY CLAY (CL) HAVING A LIQUID LIMIT LESS THAN 38 AND A PLASTICITY INDEX (PI) BETWEEN 7 AND 18.
- SELECT FILL SHALL BE FREE OF ORGANIC MATERIAL
- SELECT FILL SHALL HAVE NO PARTICLES MEASURING GREATER THAN 2-INCHES IN ANY DIRECTION, A PERCENT PASSING U.S. STANDARD SIEVE No.4 BETWEEN 40% AND 80% AND SIEVE No.40 PASSING SHOULD BE IN BETWEEN 10% AND 50%
- THE PERCENT PASSING SIEVE No.200 SHOULD BE LESS THAN 30%
- SELECT FILL SHALL BE INSTALLED IN 8-INCH LIFTS AND COMPACTED TO 95% OF THE MODIFIED PROCTOR DENSITY AT ± 3.0% OF OPTIMUM MOISTURE CONTENT FOR THE SOIL.

2. BACKFILL:

2.1. UNLESS OTHERWISE NOTED, USE SELECT FILL MATERIAL MEETING THE "FOUNDATIONS" NOTES ABOVE FOR BACKFILL BEHIND WALLS. BACKFILL SHALL BE COMPACTED BY "HAND-TAMPING." DO NOT USE MECHANICAL EQUIPMENT TO COMPACT BACKFILL BEHIND STRUCTURAL WALLS AS WALLS HAVE NOT BEEN DESIGNED FOR SURCHARGE LOADS OR SUCH MACHINERY.

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

ELECTRICAL SPECIFICATIONS

Drawen By: A.B

Date: 4/26/23 PROJ.NO.:

E0-01

SHEET 1 OF 16

SHEET NO.

GENERAL ELECTRICAL NOTES

A. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70, NATIONAL ELECTRICAL CODE. ALL ITEMS ARE ON AN OR EQUAL BASIS.
B. ALL SINGLE PHASE BRANCH CIRCUITS (RECEPTACLES, LIGHTING, ETC.; ARE 1/2" CONDUIT OR EMT WITH THIN, 90C WIRING, UNLESS NOTED OTHERWISE. ALL OTHER CONDUIT AND WIRING SHALL BE AS INDICATED ON THE PLANS. ACTUAL ROUTING AND HOME RUN GROUPINGS ARE TO BE DETERMINED IN THE FIELD.
C. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC EXCEPT FOR DETAILS AND ELEVATIONS. DO NOT SCALE FROM DIAGRAMMATIC DRAWINGS. EXACT LOCATIONS OF DEVICES AND PANELS ARE TO BE DETERMINED AND ROUGHED-IN DURING CONSTRUCTION TO AVOID INTERFERENCE, TO MEET USER REQUIREMENTS, TO PROVIDE ADEQUATE MOUNTING, AND TO MEET NEC LINEAR ACCESS AND CLEARANCE REQUIREMENTS.
D. BACK TO BACK MOUNTING OF RECEPTACLES IS NOT PERMITTED.
E. IN ADDITION TO THE NEC REQUIREMENTS FOR GFCI PROTECTION FOR RECEPTACLES, THE FOLLOWING RECEPTACLES SHALL ALSO HAVE GFCI PROTECTION: (1)-ALL RECEPTACLES LOCATED WITHIN 8 FEET OF A SINK, (2)-ALL RECEPTACLES WHICH ARE PROVIDED FOR CONVENIENCE IN SERVICING HVAC EQUIPMENT REGARDLESS OF LOCATION.AS REQUIRED TO ACCOMMODATE CONDUCTOR PULLING EASE, FIELD LIFE SAFETY.
F. PROVIDE A LAMICOID NAMEPLATE (WHITE LETTERS ON BLACK BACKGROUND; ON EACH PANELBOARD, MOTOR STARTER,CONTACTOR, TRANSFORMER, ETC. LETTERS SHALL BE 0.75 INCH MAINIMUM.
G. CONTRACTOR SHALL CUT AS REQUIRED TO INSTALL ELECTRICAL EQUIPMENT REPAIR OF FLOOR OR WALLS SHALL BE COORDINATED WITH GENERAL CONTRACTOR CONTRACTOR SHALL ALSO REPAIR ALL OPENINGS LEFT DUE TO EQUIPMENT REMOVAL.
H. CONDUCTORS ARE COPPER UNLESS OTHERWISE SHOWN. ALL CONDUCTORS LARGER THAN #10 SHALL BE STRANDED.
I. PANELBOARDS SHALL CONTAIN A TYPEWRITTEN DIRECTORY WITH A PLASTIC COVER AFFIXED TO THE INSIDE DOOR.
J. ALL FIXTURES, DEVICES, CONDUIT, AND EQUIPMENT SHALL BE SECURED WITH APPROVED HANGERS AND ANCHORS AND IN ACCORDANCE WITH APPROVED STANDARDS OF INSTALLATION.
K. ALL BREAKERS SHOWN IN THE PANELBOARD SCHEDULE SHALL BE RATED AS SHOWN FOR BOTH CIRCUIT CAPACITY AND FAULT CURRENT INTERRUPTING CAPACITY.
L. ALL PANELBOARDS, DISCONNECT SWITCHES, MOTOR STARTERS, AND CONTACTORS SHALL BE NEMA 1, UNLESS OTHERWISE NOTED.
M. ELECTRICAL CONTRACTOR MUST BE AVAILABLE AT TIME OF DBS INSPECTION. COORDINATE WITH GENERAL CONTRACTON.
N. FIELD VERIFY THE AVAILABLE FAULT CURRENT AT THE LANDLORD'S EXISTING PANEL AND PROVIDE A NEW, FULLY RATED, PANEL TO MATCH EXISTING.

ELECTRICAL LEGEND

- EMERGENCY PUSH BUTTON
- WEATHER PROOF EMERGENCY CALL BOX
- FLOOR MOUNTED JUNCTION BOX
- NEMA-3R DISCONNECT SWITCH

GENERAL ELECTRICAL NOTES

#	DESCRIPTION
1	GENERAL CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE SUBMITTING BID.
2	ALL WORK SHALL BE DONE IN ACCORDANCE WITH 2017 NATIONAL ELECTRICAL CODE. AND THE ENERGY CODE 2012 IECC
3	GENERAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, CERTIFICATES, ETC. REQUIRED.
4	GENERAL CONTRACTOR SHALL OBTAIN AND PAY FOR BOTH ROUGH AND FINAL UNDER-WRITERS OR OTHER APPROVED INSPECTION AGENCY CERTIFICATES "ELECTRICAL INSPECTION". THESE CERTIFICATES SHALL BE PRESENTED WITH REQUEST FOR FINAL PAYMENT.
5	IT IS THE INTENT OF THESE PLANS TO PROVIDE A COMPLETE OPERATING ELECTRICAL SYSTEM. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL WIRING, EQUIPMENT, MATERIAL, ETC. REQUIRED, EXCEPT WHERE SPECIFICALLY NOTED AS BEING FURNISHED BY OTHERS. SHOULD THERE BE ANY QUESTIONS CONCERNING RESPONSIBILITY, THEY SHALL BE ADDRESSED TO ARCHITECT PRIOR TO BID. NO EXTRA CHARGES WILL BE ALLOWED.
6	ELECTRICAL SERVICE SHALL BE COORDINATED WITH THE EXISTING FIELD CONDITIONS.
7	CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO ALL CONTROLS, OWNER-SUPPLIED EQUIPMENT, MECHANICAL AND PLUMBING EQUIPMENT AS REQUIRED.
8	REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATION DETAILS. ALL FIXTURE AND DEVICE LOCATIONS SHOWN ON ARCHITECTURAL DRAWINGS SUPERSEDE THOSE SHOWN ON ELECTRICAL PLANS.
9	CIRCUIT NUMBER ON THE DRAWINGS SHALL BE AS PER APPROVED PLANS.
10	BRANCH CIRCUIT CONDUCTOR INSULATION SHALL BE COLOR CODED AND SHALL BE 600 VOLT. TYPE THHN/THWN.
11	CABLES IN HIGH TEMPERATURE AREAS SHALL HAVE INSULATION TYPE SUITABLE FOR THE TEMPERATURE. CABLES USED IN SPACES FOR ENVIRONMENTAL AIR SHALL CONFORM WITH APPLICABLE C.E.C REQUIREMENTS.
12	ALL WIRING USED IN RETURN OR DISCHARGE AIR PLENUMS SHALL BE PLENUM RATED OR INSTALLED PER METHODS APPROVED BY THE LATEST EDITION OF THE C.E.C. FOR SUCH APPLICATION.
13	ALL WIRE AND CABLE CONDUCTORS SHALL BE COPPER WITH INSULATION RATED 600V. CONDUCTORS SIZED #10 AWG AND SMALLER SHALL BE SOLID OD STRANDED, AND CONDUCTORS SIZED LARGER THAN #10 AWG SHALL BE STRANDED WIRE.
14	BRANCH CIRCUITS FOR POWER AND LIGHTING SHALL NOT BE LESS THAN #12 AWG. OR AS NOTED. WIRES ARE TO BE SIZED FOR THE APPROPRIATE VOLTAGE DROPS. SEE WIRE SIZE SCHEDULE ON THIS SHEET.
15	ALL DATA CABLES SHALL BE CAT6, PLENUM RATED. TO BE PROVIDED BY OWNER SELECTED VENDOR. ELECTRICAL WORK SHALL BE TO PROVIDE OUTLET BOXES AND "RING AND STRING" FOR PULLING OF CABLES IN CONCEALED SPACES.
16	CONTROL WIRING SHALL NOT BE LESS THAN #14 AWG UNLESS OTHERWISE NOTED.
17	HOMERUNS SHOWN ARE SCHEMATIC. CONTRACTOR MAY ORIGINATE HOMERUNS FROM DIFFERENT LOCATIONS. ALL WIRE INCLUDING HOMERUNS SHALL BE DELINEATED ON AS-BUILT DRAWINGS.
18	ALL WIRING INSTALLED UNDER THIS CONTRACT SHALL BE TESTED FOR PROPER CONNECTIONS AND SHORT CIRCUITS PRIOR TO THE TURNING OVER OF WORK AS A COMPLETE UNIT.
19	PROVIDE ALL ELECTRICAL SYSTEM GROUNDING IN ACCORDANCE WITH C.E.C. REQUIREMENTS EVEN IF IT IS NOT SHOWN ON THE DRAWINGS. INCLUDE ADDITIONAL GROUNDING CONDUCTORS IN ALL RACEWAYS EVEN THOUGH THE DRAWINGS SHOW ONLY CIRCUIT AND/OR NEUTRALS CONDUCTORS. THE PLUMBING AND PIPING SYSTEM SHALL NOT BE USED AS A GROUND. ALL TRANSFORMER NEUTRALS SHALL BE GROUNDED TO BUILDING STEEL IN ACCORDANCE WITH NEC 250-70.
20	ALL CONDUITS PASSING THROUGH PARTITIONS ARE TO BE APPROPRIATELY SLEEVED AND SEALED.
21	FURNISH AND INSTALL ALL CONDUIT WITH PULL WIRES AS REQUIRED. ALL OUTLET BOXES SHALL BE STEEL, EXTRA DEEP WITH GROUNDING PIGTAILS. GROUNDING PUSH-CLIPS ARE NOT ACCEPTABLE.

GENERAL ELECTRICAL NOTES

#	DESCRIPTION
22	ALL PENETRATIONS SHALL BE INSTALLED AND SEALED PER NATIONAL STATE AND LOCAL CODES
23	DO NOT MAKE ANY CHANGES OR SUBSTITUTIONS WITHOUT SPECIFIC WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER.
24	GUARANTEE ALL WORK, MATERIAL AND EQUIPMENT FOR A PERIOD OF ONE YEAR FROM THE DATE OF APPROVAL AND FINAL ACCEPTANCE.
25	THIS DESIGN IS BASED ON INITIAL DESIGN DATA. GENERAL CONTRACTOR TO SUPPLY AND INSTALL FEEDERS, FUSES AND CIRCUIT BREAKERS TO MATCH THE NAMEPLATE RATING OF ALL EQUIPMENT. THIS SHALL BE INCLUDED IN THE INITIAL BID PROPOSAL AND NO EXTRAS SHALL BE ENTERTAINED.
26	SERVICE EQUIPMENT IN OTHER THAN DWELLING UNITS SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT. THE FIELD MARKINGS SHALL INCLUDE THE DATE THE FAULT CURRENT CALCULATION WAS PERFORMED AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
27	LABEL ALL JUNCTION BOXES, OUTLETS, LIGHT SWITCH, ETC. WITH CIRCUIT NUMBER ON INTERIOR ON COVER PLATE. USE SELF-ADHESIVE "DYMO" LABEL 1/8" HIGH LETTERS.
28	GENERAL CONTRACTOR SHALL PROVIDE SEISMIC RESTRAINTS AND SUPPORTS FOR ALL FLOOR, WALL, AND CEILING MOUNTED ELECTRICAL EQUIPMENT TO RESIST EARTHQUAKE EFFECTS DETERMINED IN ACCORDANCE WITH THE BUILDING CODE.
29	THE G.C. SHALL PROVIDE ALL EQUIPMENT. MATERIALS AND LABOR TO COMPLETE ALL ELECTRICAL WORK IN A NEAT AND WORKMANLIKE MANNER AND IN ACCORDANCE WITH GOOD COMMERCIAL PRACTICE INCLUDING THE INSTALLATION OF ALL THE EQUIPMENT MATERIALS AND SYSTEMS AND THE FINAL CONNECTIONS TO THE OWNER'S EQUIPMENT AND FIXTURES AS REQUIRED BY THE OWNER. THE G.C. SHALL ALSO FURNISH TEMPORARY WIRING AND LIGHTING TO PROVIDE A MINIMUM OF 25 FC IN WORK AREAS FOR USE OF ALL THE TRADES DURING CONSTRUCTION AND THE INSTALLATION OF THE OWNERS FIXTURES. THE G.C. IS RESPONSIBLE TO REMOVE ALL TEMPORARY WIRING UPON COMPLETION OF CONSTRUCTION OF ALL TRADES.
30	THIS CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND INSTALL ALL SUPPLEMENTARY SUPPORT, INCLUDING SUPPORT STEEL AS REQUIRED TO HANG ALL EQUIPMENT AND LIGHTING FROM THE EXISTING STRUCTURE IN ACCORDANCE WITH THE ARCHITECTURAL/STRUCTURAL SUPPORT AND LOADING CRITERIA.
31	IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO PROVIDE FULLY DIMENSIONED COORDINATION DRAWINGS FOR ALL OF HIS RESPECTIVE WORK. THESE DRAWINGS MUST BE FULLY COORDINATED WITH ALL EXISTING CONDITIONS. ALL HVAC, PLUMBING, FIRE PROTECTION, ELECTRICAL, LIGHTING, STRUCTURAL AND ARCHITECTURAL SYSTEMS PRIOR TO PREPARING COMPOSITE MULTI DISCIPLINE COORDINATION DRAWINGS.
32	ALL DISCONNECTING MEANS AND EQUIPMENT INDICATED ON THE DRAWING SHALL BE IDENTIFIED BY NAMEPLATE IN COMPLIANCE WITH THE LOCAL ELECTRICAL CODE.
33	ALL WIRING FOR THE EMERGENCY LIGHTING AND EMERGENCY SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL ELECTRICAL CODE.
34	THE WIRING METHODS AND MATERIALS INDICATED IN THE SPECIFICATIONS AND ON THE DRAWINGS SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL ELECTRICAL CODE.
35	ALL OVER CURRENT PROTECTION SHALL BE IN COMPLIANCE WITH THE LOCAL ELECTRICAL CODE.
36	ALL GROUNDING REQUIREMENTS OF THE COMPLETE ELECTRICAL DISTRIBUTION SYSTEM AND AS INDICATED IN THE SPECIFICATIONS SHALL BE IN ACCORDANCE WITH LOCAL ELECTRICAL CODE.
37	PRIOR TO ANY REQUIRED CUTTING AND PATCHING OF CONCRETE FLOOR AND/OR CUTTING OF ROOF, CONTRACTOR SHALL COORDINATE WITH BUILDING ENGINEER.
38	DO NOT SCALE FROM THESE DRAWINGS.
39	PLANS ARE PREPARED WITH REQUIRED BRANCH CIRCUITS INDICATED BY CIRCUITS NUMBERS. PROVIDE AND INSTALL ALL CONDUITS, CONDUCTORS, BOXES, MISCELLANEOUS FITTINGS, ETC. FOR A COMPLETE AND OPERABLE SYSTEM (HOME RUN SHOWN). BRANCH CIRCUIT INSTALLATION SHALL COMPLY WITH SPECIFICATIONS AND N.E.C.

WIRE SCHEDULE AND NOTES

LOAD PER PH (KVA)	WIRE SIZE (AWG)	MAXIMUM LENGTH OF BRANCH CIRCUIT PER UTILIZATION VOLTAGE (120, 1PH, MAX V.D. 3%)	(240, 1PH, MAX V.D. 3%)	(240, 3PH, MAX V.D. 3%)	NOTES AND REMARKS
< 1.92	# 12	56 FT	85 FT	98 FT	5
	# 10	94 FT	141 FT	163 FT	5
	# 8	144 FT	217 FT	250 FT	5
	# 6	230 FT	345 FT	398 FT	5
< 1.44	# 12	75 FT	113 FT	130 FT	5
	# 10	125 FT	188 FT	217 FT	5
	# 8	192 FT	289 FT	334 FT	5
	# 6	306 FT	460 FT	531 FT	5
< 1.26	# 12	86 FT	129 FT	149 FT	
	# 10	143 FT	215 FT	248 FT	
	# 8	220 FT	330 FT	381 FT	
< 1.08	# 12	100 FT	150 FT	173 FT	
	# 10	167 FT	250 FT	289 FT	
	# 8	256 FT	385 FT	445 FT	
< 0.9	# 12	120 FT	180 FT	240 FT	
	# 10	200 FT	300 FT	347 FT	
< 0.72	# 12	150 FT	225 FT	260 FT	
	# 10	250 FT	376 FT	434 FT	

#	NOTES
1	CONTRACTOR SHALL REFER TO THIS TABLE PRIOR TO START OF BRANCH CIRCUIT ROUGH-IN.
2	CONTRACTOR SHALL USE THE APPROPRIATE WIRE SIZE IN CONJUNCTION WITH THE LENGTH OF THE PROPOSED FIELD VERIFIED ROUTING OF BRANCH CIRCUIT WIRING (INCLUDING VERTICAL & LATERAL RUN, ROUTED PARALLEL/PERPENDICULAR TO THE BUILDING STRUCTURE).
3	SEE PANEL SCHEDULE FOR THE CORRESPONDING KVA LOAD PER PHASE OF A PARTICULAR BRANCH CIRCUIT.
4	RESISTANCE VALUES USED ARE FOR UNCOATED COPPER WIRES IN STEEL CONDUIT. 75 DEGREE C., OPERATING AT 60HZ.
5	THE VALUES IN "120V, 1PH" COLUMN IS TO BE USED FOR GENERAL PURPOSE RECEPTACLE LOADS.

ABBREVIATIONS AND TAGS

ABB.	DESCRIPTION	ABB.	DESCRIPTION
EWH	ELECTRIC WATER HEATER	SD	SMOKE DETECTOR
(E)	EXISTING TO REMAIN	TEL	TELEPHONE
EC	ELECTRICAL CONTRACTOR	TX	TRANSFORMER
FA	FIRE ALARM	TV	TELEVISION
FMT	FLEXIBLE METALLIC TUBING	UAC	UNDER ANOTHER CONTRACT
GC	GENERAL CONTRACTOR	UAS	UNDER ANOTHER SECTION
GFCI	GROUND FAULT INTERUPTER	UON	UNLESS OTHERWISE NOTED
IG	ISOLATED GROUND	V.D.	VOLTAGE DROP
LL	LANDLORD	W	WIRE
LV	LOW VOLTAGE	WP	WEATHERPROOF
AC 1	MECHANICAL UNIT TAG. SEE MECHANICAL DRAWINGS FOR ADDITIONAL DESCRIPTION.	E-4 4	DETAIL TAG. REFER TO DETAIL 4 ON SHEET NUMBER E 4.

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

ELECTRICAL LEGEND & GENERAL NOTES

Drawen By: A.B
Date: 4/26/23 PROJ.NO.:

E1-01
SHEET 2 OF 16

SHEET NO.

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

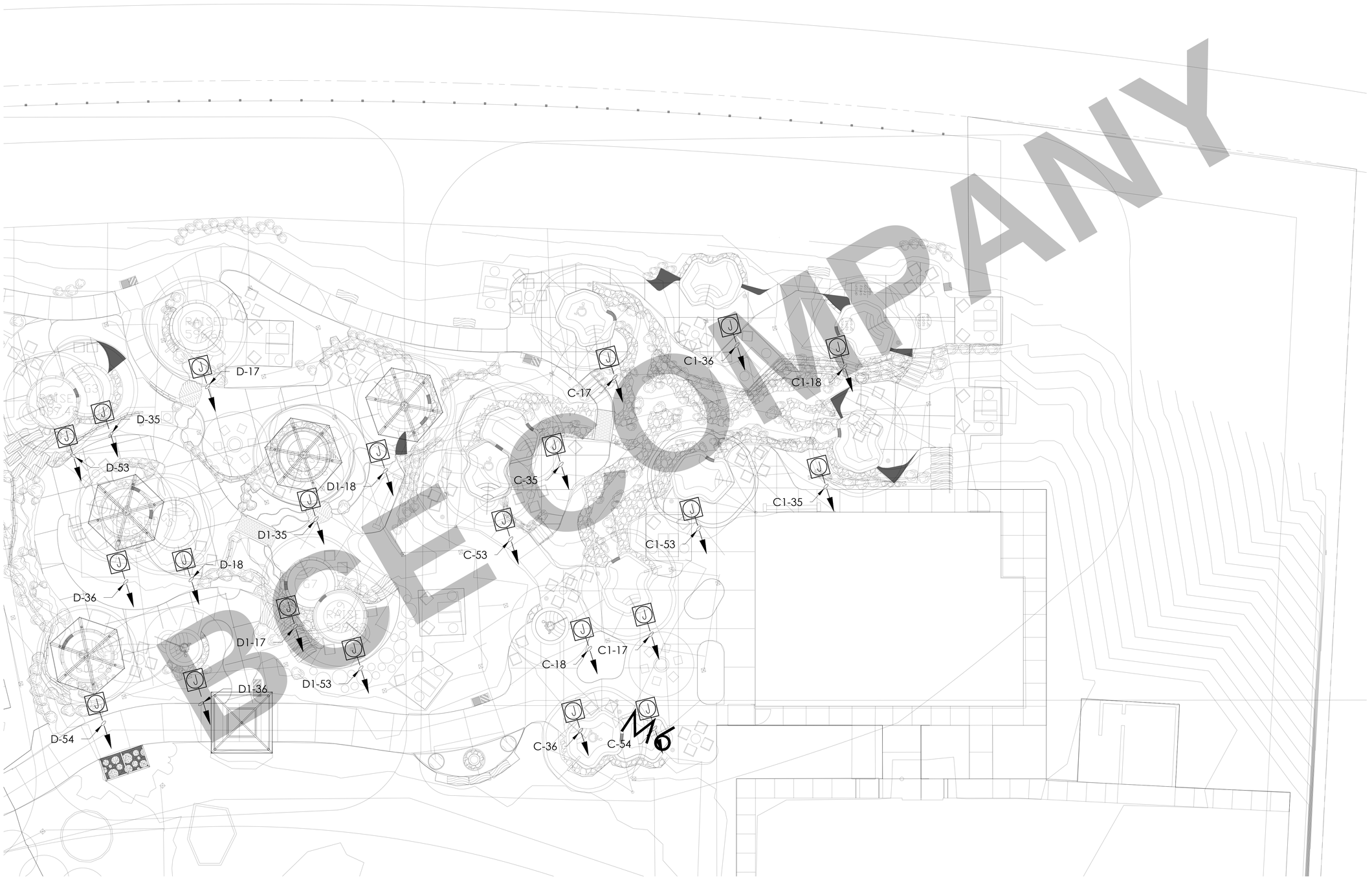
POOL LIGHTING POWER SUPPLY PLAN FAMILY AND URBAN PODS

Drawen By:	A.B
Date: 4/26/23	PROJ.NO.:

E2-01

SHEET 3 OF 16

SHEET NO.



REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

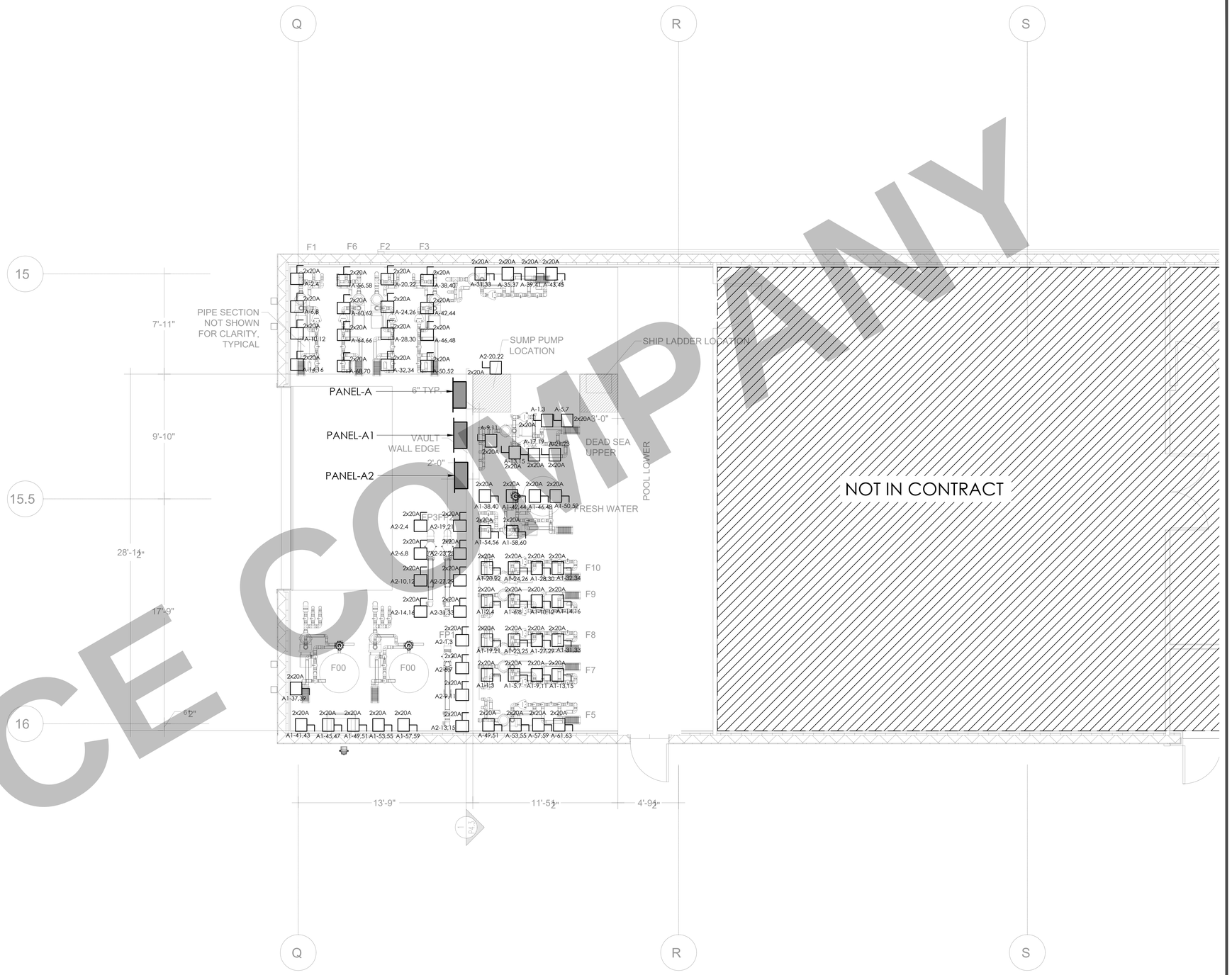
POOL LIGHTING POWER SUPPLY PLAN DESERT AND MOUNTAIN PODS

Drawen By:	A.B
Date: 4/26/23	PROJ.NO.:

E2-02

SHEET 4 OF 16

SHEET NO.



BACK OF HOUSE BLDG - POOL EQUI

1

SCALE: 1/4" = 1'

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

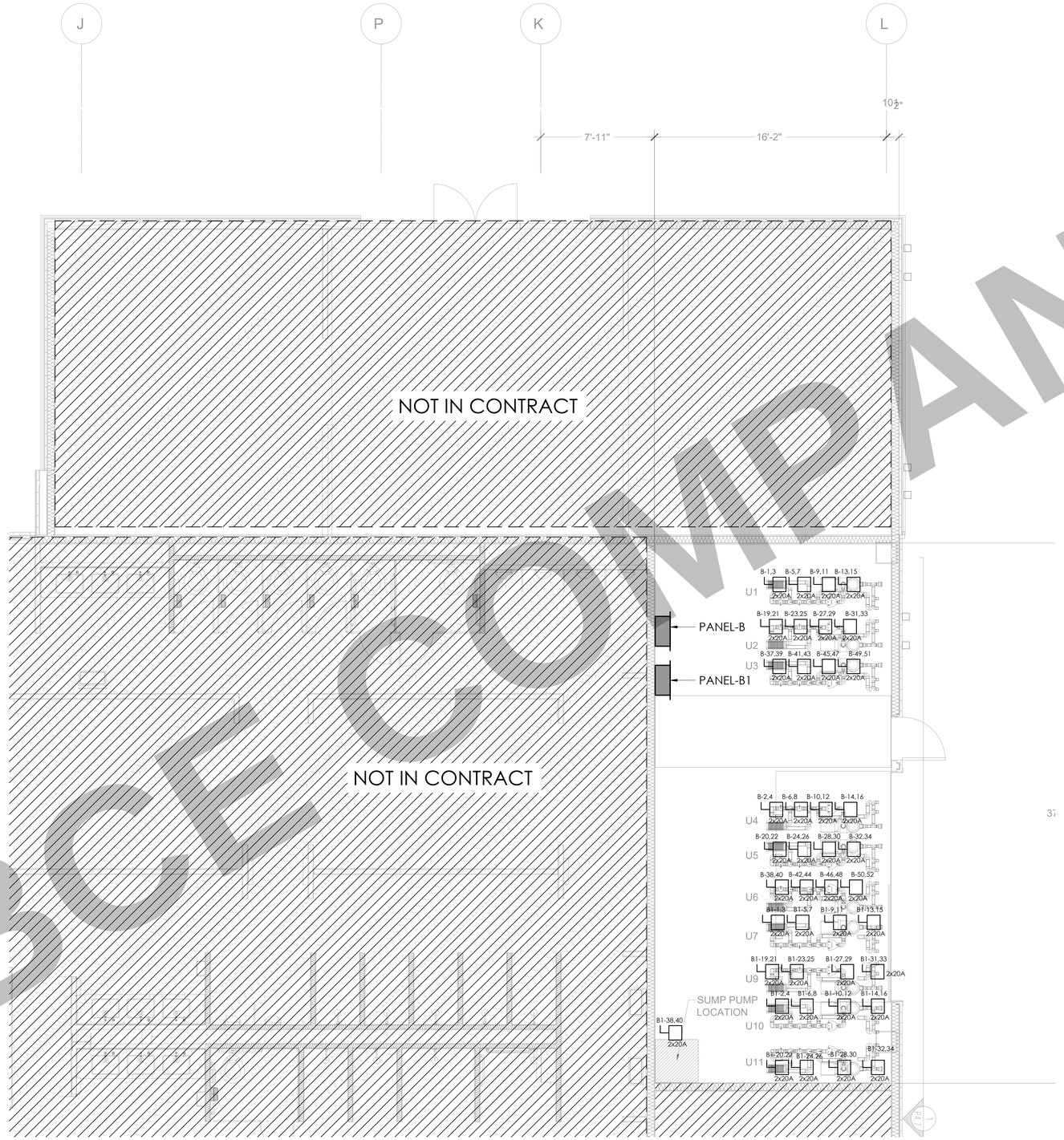
POWER SUPPLY FOR POOLS EQUIPMENT LAYOUT PART 1/3

Drawen By:	A.B
Date: 4/26/23	PROJ.NO.:

E3–01

SHEET 5 OF 16

SHEET NO.



LOCKER ROOM BLDG - POOL EQUIPMI

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

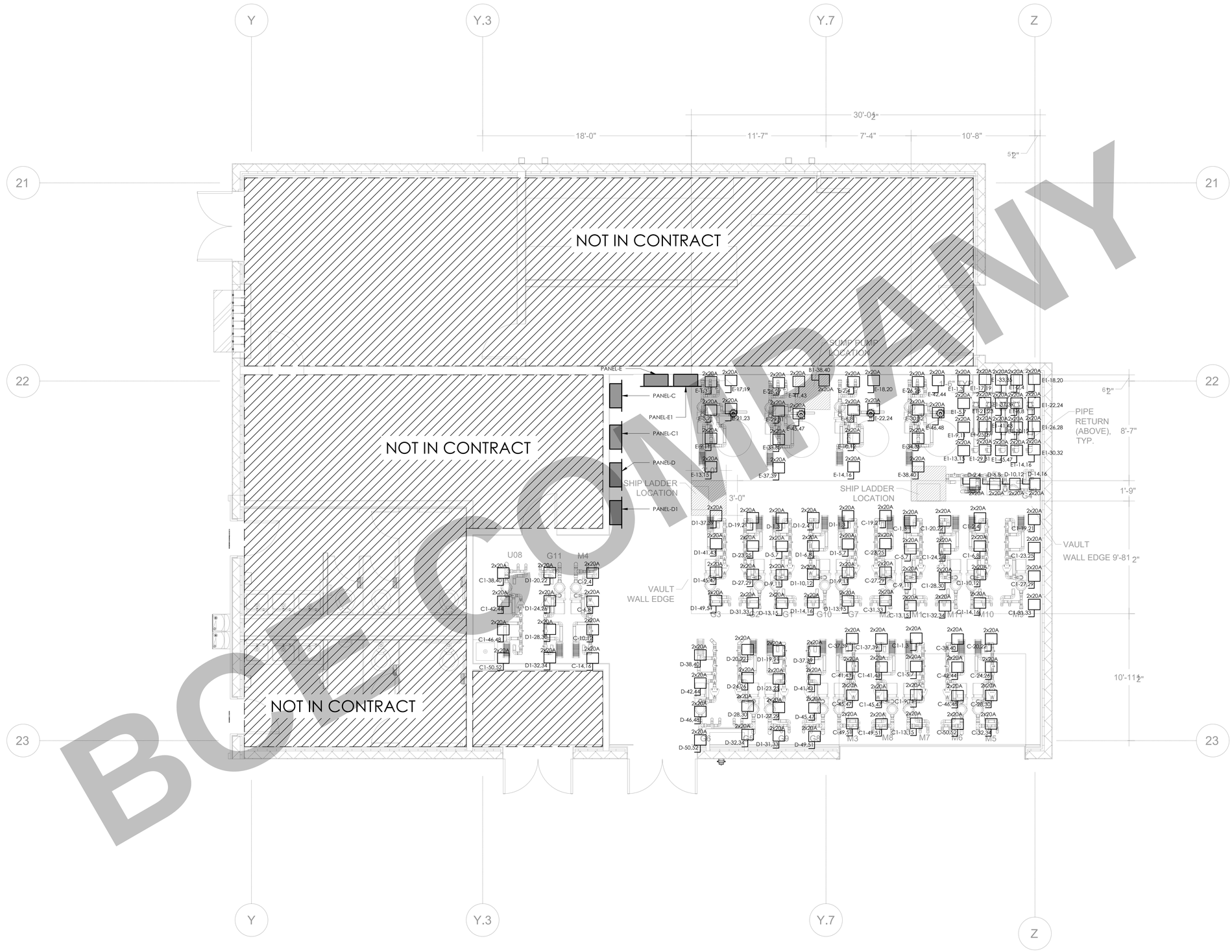
POWER SUPPLY FOR POOLS EQUIPMENT LAYOUT PART 2/3

Drawen By:	A.B
Date: 4/26/23	PROJ.NO.:

E3–01

SHEET 6 OF 16

SHEET NO.



MECHANICAL ROOM BLDG - POOL EOUIPMENT LAYOUT

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

POWER SUPPLY FOR POOLS EQUIPMENT LAYOUT PART 3/3

Drawen By:	A.B
Date: 4/26/23	PROJ.NO.:

E3–01

SHEET 7 OF 16

SHEET NO.

POOL AND SPA BONDING NOTES

# INDICATES GENERAL NOTES

(#) INDICATES NOTES KEYED TO PLAN

(1) PROVIDE A #8 AWG COPPER GROUNDING WIRE AROUND THE PERIMETER OF THE POOL AND SPA

(2) TYPICAL BOND THE POOL STRUCTURAL REINFORCING STEEL WITH #8 AWG TO THE PERIMETER GROUNDING RING PER NEC ARTICLE 680

(3) TYPICAL BOND ALL METAL HANG RAILS METALLIC COMPONENTS FIXED METAL PARTS, WATER OF THE POOL WITH #8 AWG TO THE PERIMETER GROUNDING RING

(4) TYPICAL BOND ALL UNDERWATER LIGHTING WITH #8 AWG TO THE PERIMETER GROUNDING RING. PROVIDE BRASS OR CORROSION RESISTANT RIGID METAL CONDUIT TO SUPPORT UNDERWATER LUMINAIRE BRANCH CIRCUIT CONDUCTOR MUST CONTAIN AN INSULATED GROUNDING CONDUCTOR NOT SMALLER THAN 12 AWG.

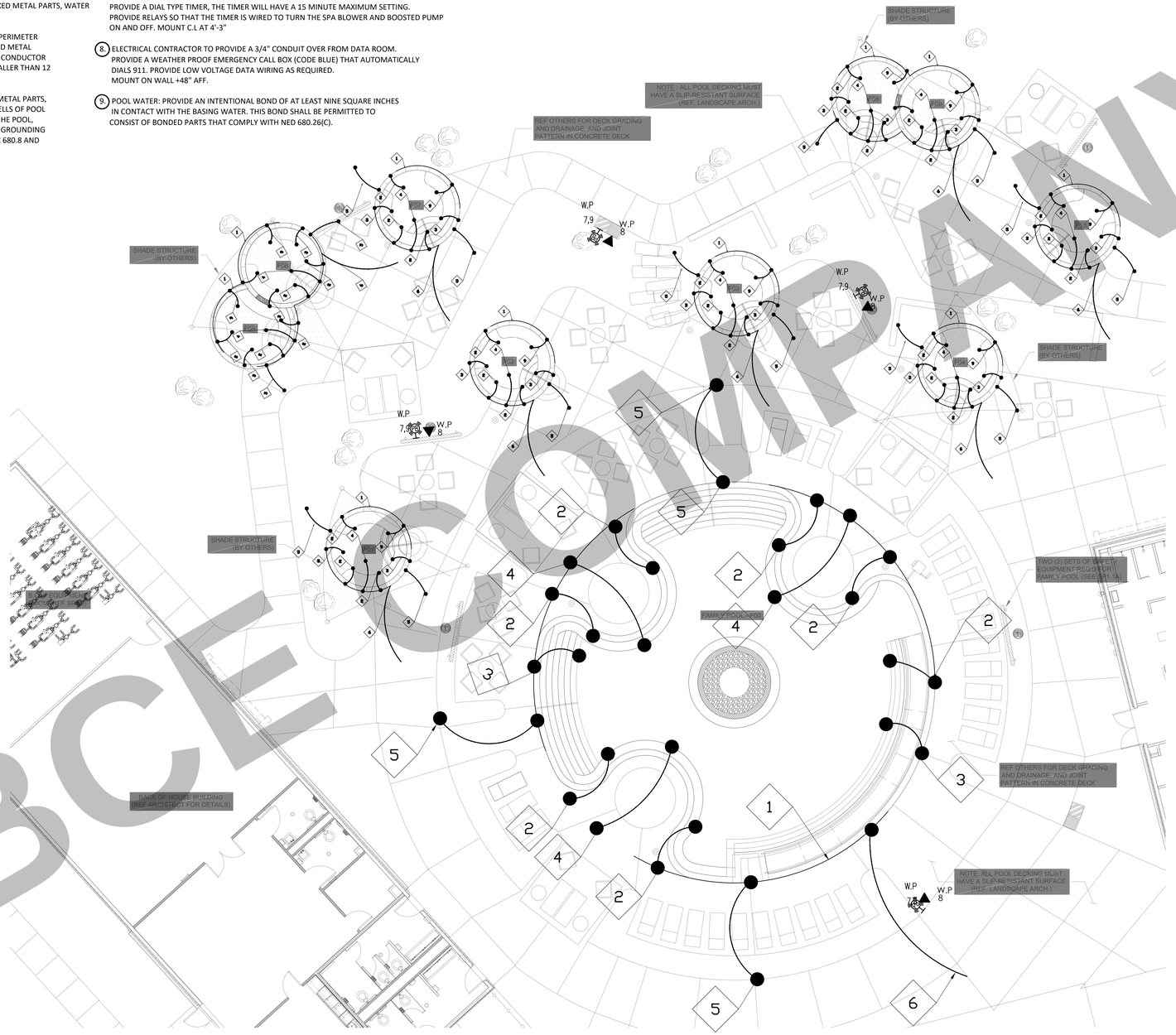
(5) POOL DECK, ALL METALLIC COMPONENTS, METAL FITTINGS, FIXED METAL PARTS, J-BOXES SUPPORTING UNDERWATER LUMINAIRES CONDUCTIVE SHELLS OF POOL DECK, ELECTRICAL EQUIPMENT WITHIN 5 FT OF THE INIDE WALL OF HE POOL, LOCATED IN THE POOL DECK SHALL BE BONDED TO THE PERIMETER GROUNDING RING TO CREATE AN EQUIPOTENTIAL GROUNDING SYSTEM PER NEC 680.8 AND SPECIFICATIONS SECTION 260527.

6. PROVIDE #8 AWG GROUNDING CONDUCTOR ROUTED ON LEVEL 1 TO THE BUILDING MAIN GROUNDING RISER IN THE ELECTRICAL ROOM AND A LIGHTNING PROTECTION DOWN LEAD

(7) PROVIDE A LABELED EMERGENCY PUSH BUTTON SHUT OFF SWITCH TO DISCONNECT ALL POWER TO THE POOL SPA FOUNTAIN EQUIPMENT AND UNDERWATER LIGHTING SYSTEMS. REFER TO DETAILS ON DRAWING E6.01. IN ADDITION TO THE EMERGENCY SHUT OFF SWITCH PROVIDE A DIAL TYPE TIMER, THE TIMER WILL HAVE A 15 MINUTE MAXIMUM SETTING. PROVIDE RELAYS SO THAT THE TIMER IS WIRED TO TURN THE SPA BLOWER AND BOOSTED PUMP ON AND OFF. MOUNT C.L AT 4'-3"

(8) ELECTRICAL CONTRACTOR TO PROVIDE A 3/4" CONDUIT OVER FROM DATA ROOM. PROVIDE A WEATHER PROOF EMERGENCY CALL BOX (CODE BLUE) THAT AUTOMATICALLY DIALS 911. PROVIDE LOW VOLTAGE DATA WIRING AS REQUIRED. MOUNT ON WALL +48" AFF.

(9) POOL WATER: PROVIDE AN INTENTIONAL BOND OF AT LEAST NINE SQUARE INCHES IN CONTACT WITH THE BASING WATER. THIS BOND SHALL BE PERMITTED TO CONSIST OF BONDED PARTS THAT COMPLY WITH NED 680.26(C).



4 FAMILY POD EARTHING LAYOUT

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

POOLS GROUNDING LAYOUT PART 1/4

Drawen By:	A.B
Date: 4/26/23	PROJ.NO.:

E4-01

SHEET 8 OF 16

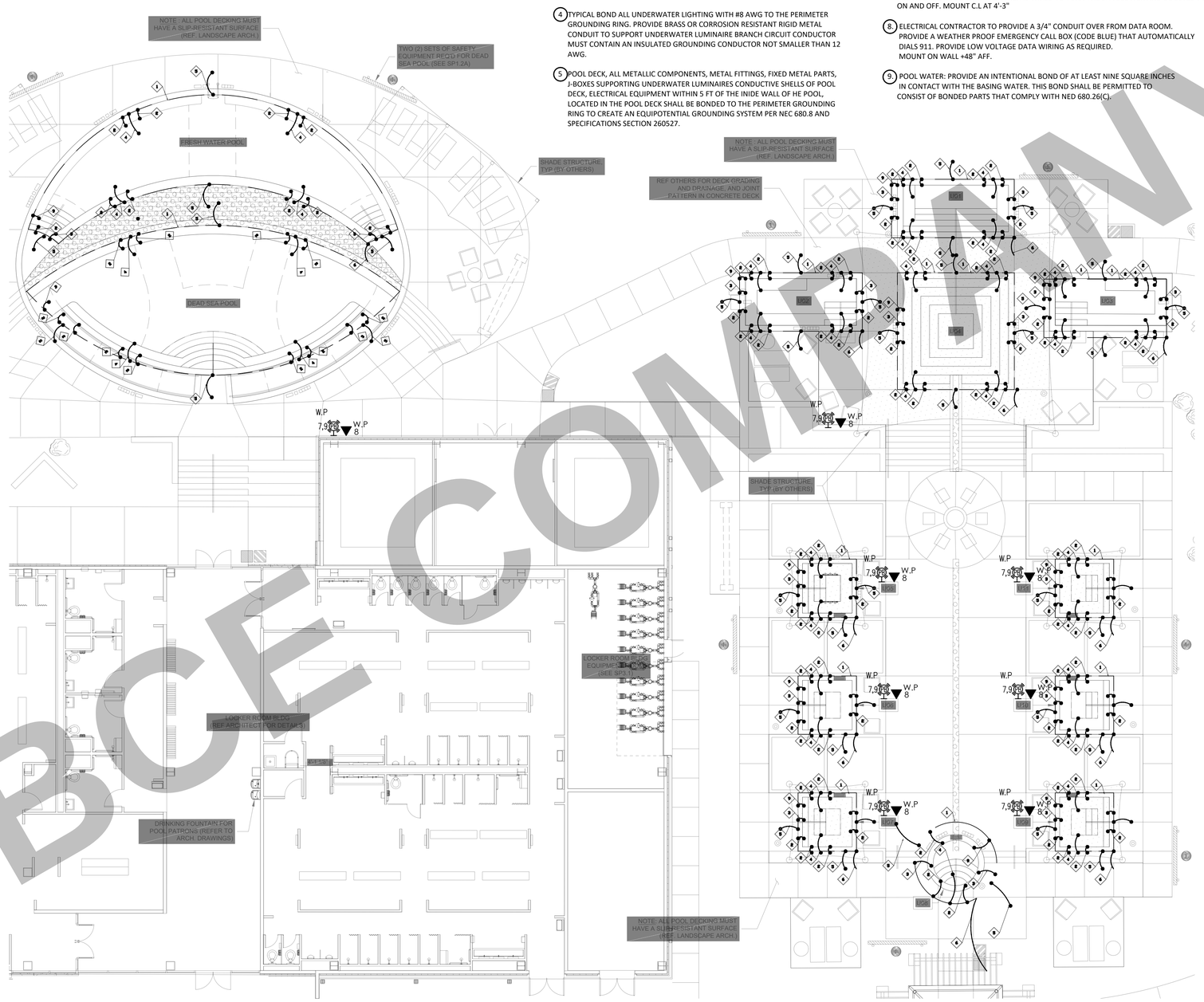
SHEET NO.

POOL AND SPA BONDING NOTES

# INDICATES GENERAL NOTES

(#) INDICATES NOTES KEYED TO PLAN

1. PROVIDE A #8 AWG COPPER GROUNDING WIRE AROUND THE PERIMETER OF THE POOL AND SPA
2. TYPICAL BOND THE POOL STRUCTURAL REINFORCING STEEL WITH #8 AWG TO THE PERIMETER GROUNDING RING PER NEC ARTICLE 680
3. TYPICAL BOND ALL METAL HANG RAILS METALLIC COMPONENTS FIXED METAL PARTS, WATER OF THE POOL WITH #8 AWG TO THE PERIMETER GROUNDING RING
4. TYPICAL BOND ALL UNDERWATER LIGHTING WITH #8 AWG TO THE PERIMETER GROUNDING RING. PROVIDE BRASS OR CORROSION RESISTANT RIGID METAL CONDUIT TO SUPPORT UNDERWATER LUMINAIRE BRANCH CIRCUIT CONDUCTOR MUST CONTAIN AN INSULATED GROUNDING CONDUCTOR NOT SMALLER THAN 12 AWG.
5. POOL DECK, ALL METALLIC COMPONENTS, METAL FITTINGS, FIXED METAL PARTS, J-BOXES SUPPORTING UNDERWATER LUMINAIRES CONDUCTIVE SHELLS OF POOL DECK, ELECTRICAL EQUIPMENT WITHIN 5 FT OF THE INIDE WALL OF HE POOL, LOCATED IN THE POOL DECK SHALL BE BONDED TO THE PERIMETER GROUNDING RING TO CREATE AN EQUIPOTENTIAL GROUNDING SYSTEM PER NEC 680.8 AND SPECIFICATIONS SECTION 260527.
6. PROVIDE #8 AWG GROUNDING CONDUCTOR ROUTED ON LEVEL 1 TO THE BUILDING MAIN GROUNDING RISER IN THE ELECTRICAL ROOM AND A LIGHTNING PROTECTION DOWN LEAD
7. PROVIDE A LABELED EMERGENCY PUSH BUTTON SHUT OFF SWITCH TO DISCONNECT ALL POWER TO THE POOL SPA FOUNTAIN EQUIPMENT AND UNDERWATER LIGHTING SYSTEMS. REFER TO DETAILS ON DRAWING E6.01. IN ADDITION TO THE EMERGENCY SHUT OFF SWITCH PROVIDE A DIAL TYPE TIMER, THE TIMER WILL HAVE A 15 MINUTE MAXIMUM SETTING. PROVIDE RELAYS SO THAT THE TIMER IS WIRED TO TURN THE SPA BLOWER AND BOOSTED PUMP ON AND OFF. MOUNT C.L AT 4'-3"
8. ELECTRICAL CONTRACTOR TO PROVIDE A 3/4" CONDUIT OVER FROM DATA ROOM. PROVIDE A WEATHER PROOF EMERGENCY CALL BOX (CODE BLUE) THAT AUTOMATICALLY DIALS 911. PROVIDE LOW VOLTAGE DATA WIRING AS REQUIRED. MOUNT ON WALL +48" AFF.
9. POOL WATER: PROVIDE AN INTENTIONAL BOND OF AT LEAST NINE SQUARE INCHES IN CONTACT WITH THE BASING WATER. THIS BOND SHALL BE PERMITTED TO CONSIST OF BONDED PARTS THAT COMPLY WITH NED 680.26(C).



5 DEAD SEA AND URBAN POD BONDING LAYOUT

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

POOLS GROUNDING LAYOUT PART 2/4

Drawen By: A.B

Date: 4/26/23 PROJ.NO.:

E4-02

SHEET 9 OF 16

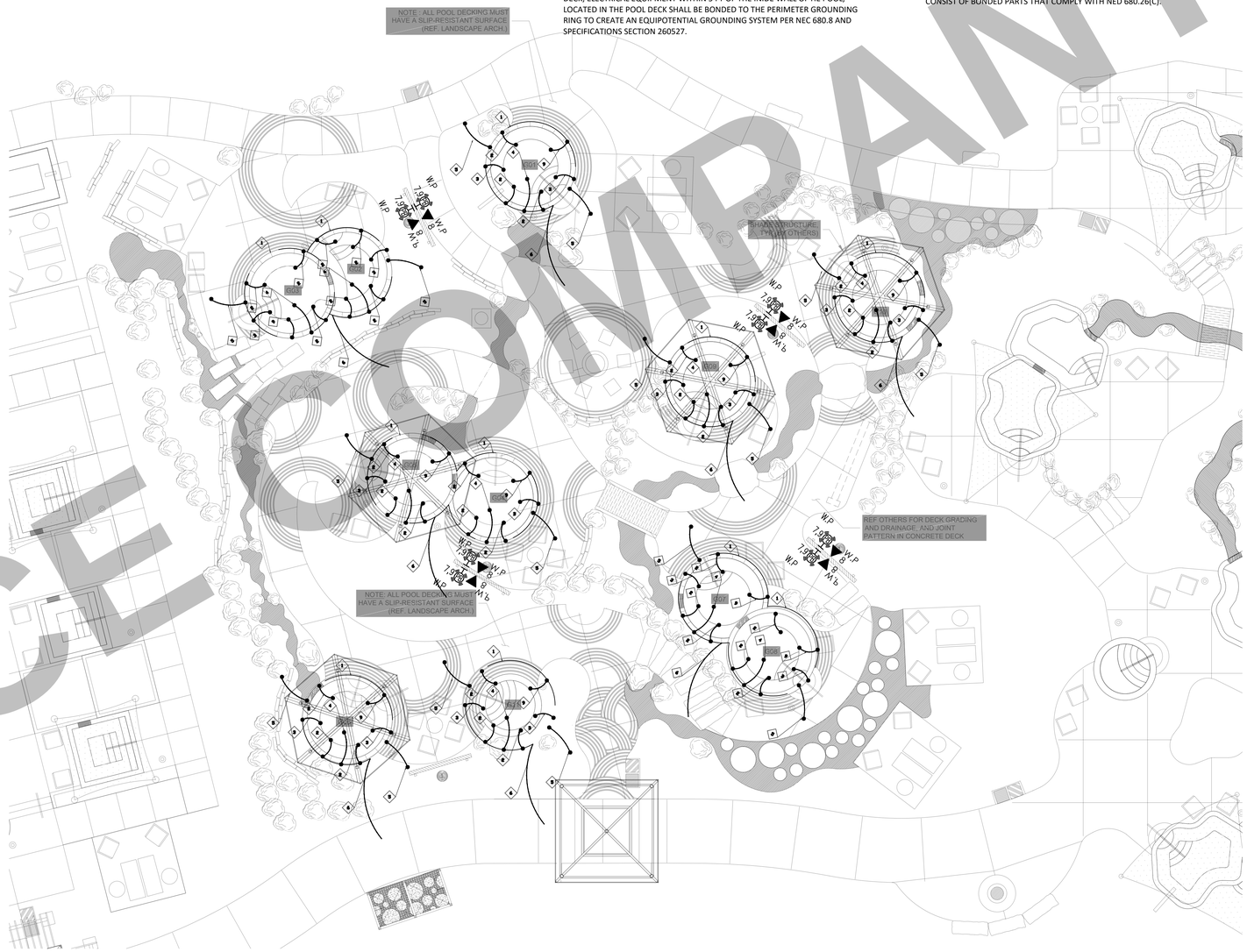
SHEET NO.

POOL AND SPA BONDING NOTES

# INDICATES GENERAL NOTES

(#) INDICATES NOTES KEYED TO PLAN

1. PROVIDE A #8 AWG COPPER GROUNDING WIRE AROUND THE PERIMETER OF THE POOL AND SPA
2. TYPICAL BOND THE POOL STRUCTURAL REINFORCING STEEL WITH #8 AWG TO THE PERIMETER GROUNDING RING PER NEC ARTICLE 680
3. TYPICAL BOND ALL METAL HANG RAILS METALLIC COMPONENTS FIXED METAL PARTS, WATER OF THE POOL WITH #8 AWG TO THE PERIMETER GROUNDING RING
4. TYPICAL BOND ALL UNDERWATER LIGHTING WITH #8 AWG TO THE PERIMETER GROUNDING RING. PROVIDE BRASS OR CORROSION RESISTANT RIGID METAL CONDUIT TO SUPPORT UNDERWATER LUMINAIRE BRANCH CIRCUIT CONDUCTOR MUST CONTAIN AN INSULATED GROUNDING CONDUCTOR NOT SMALLER THAN 12 AWG.
5. POOL DECK, ALL METALLIC COMPONENTS, METAL FITTINGS, FIXED METAL PARTS, J-BOXES SUPPORTING UNDERWATER LUMINAIRES CONDUCTIVE SHELLS OF POOL DECK, ELECTRICAL EQUIPMENT WITHIN 5 FT OF THE INIDE WALL OF HE POOL, LOCATED IN THE POOL DECK SHALL BE BONDED TO THE PERIMETER GROUNDING RING TO CREATE AN EQUIPOTENTIAL GROUNDING SYSTEM PER NEC 680.8 AND SPECIFICATIONS SECTION 260527.
6. PROVIDE #8 AWG GROUNDING CONDUCTOR ROUTED ON LEVEL 1 TO THE BUILDING MAIN GROUNDING RISER IN THE ELECTRICAL ROOM AND A LIGHTNING PROTECTION DOWN LEAD
7. PROVIDE A LABELED EMERGENCY PUSH BUTTON SHUT OFF SWITCH TO DISCONNECT ALL POWER TO THE POOL SPA FOUNTAIN EQUIPMENT AND UNDERWATER LIGHTING SYSTEMS. REFER TO DETAILS ON DRAWING E6.01. IN ADDITION TO THE EMERGENCY SHUT OFF SWITCH PROVIDE A DIAL TYPE TIMER, THE TIMER WILL HAVE A 15 MINUTE MAXIMUM SETTING. PROVIDE RELAYS SO THAT THE TIMER IS WIRED TO TURN THE SPA BLOWER AND BOOSTED PUMP ON AND OFF. MOUNT C.L AT 4'-3"
8. ELECTRICAL CONTRACTOR TO PROVIDE A 3/4" CONDUIT OVER FROM DATA ROOM. PROVIDE A WEATHER PROOF EMERGENCY CALL BOX (CODE BLUE) THAT AUTOMATICALLY DIALS 911. PROVIDE LOW VOLTAGE DATA WIRING AS REQUIRED. MOUNT ON WALL +48" AFF.
9. POOL WATER: PROVIDE AN INTENTIONAL BOND OF AT LEAST NINE SQUARE INCHES IN CONTACT WITH THE BASING WATER. THIS BOND SHALL BE PERMITTED TO CONSIST OF BONDED PARTS THAT COMPLY WITH NED 680.26(C).



6 GARDEN POD BONDING LAYOUT

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

POOLS GROUNDING LAYOUT PART 3/4

Drawen By:	A.B
Date: 4/26/23	PROJ.NO.:

E4-03

SHEET 10 OF 16

SHEET NO.

POOL AND SPA BONDING NOTES

# INDICATES GENERAL NOTES

(#) INDICATES NOTES KEYED TO PLAN

(1) PROVIDE A #8 AWG COPPER GROUNDING WIRE AROUND THE PERIMETER OF THE POOL AND SPA

(2) TYPICAL BOND THE POOL STRUCTURAL REINFORCING STEEL WITH #8 AWG TO THE PERIMETER GROUNDING RING PER NEC ARTICLE 680

(3) TYPICAL BOND ALL METAL HANG RAILS METALLIC COMPONENTS FIXED METAL PARTS, WATER OF THE POOL WITH #8 AWG TO THE PERIMETER GROUNDING RING

(4) TYPICAL BOND ALL UNDERWATER LIGHTING WITH #8 AWG TO THE PERIMETER GROUNDING RING. PROVIDE BRASS OR CORROSION RESISTANT RIGID METAL CONDUIT TO SUPPORT UNDERWATER LUMINAIRE BRANCH CIRCUIT CONDUCTOR MUST CONTAIN AN INSULATED GROUNDING CONDUCTOR NOT SMALLER THAN 12 AWG.

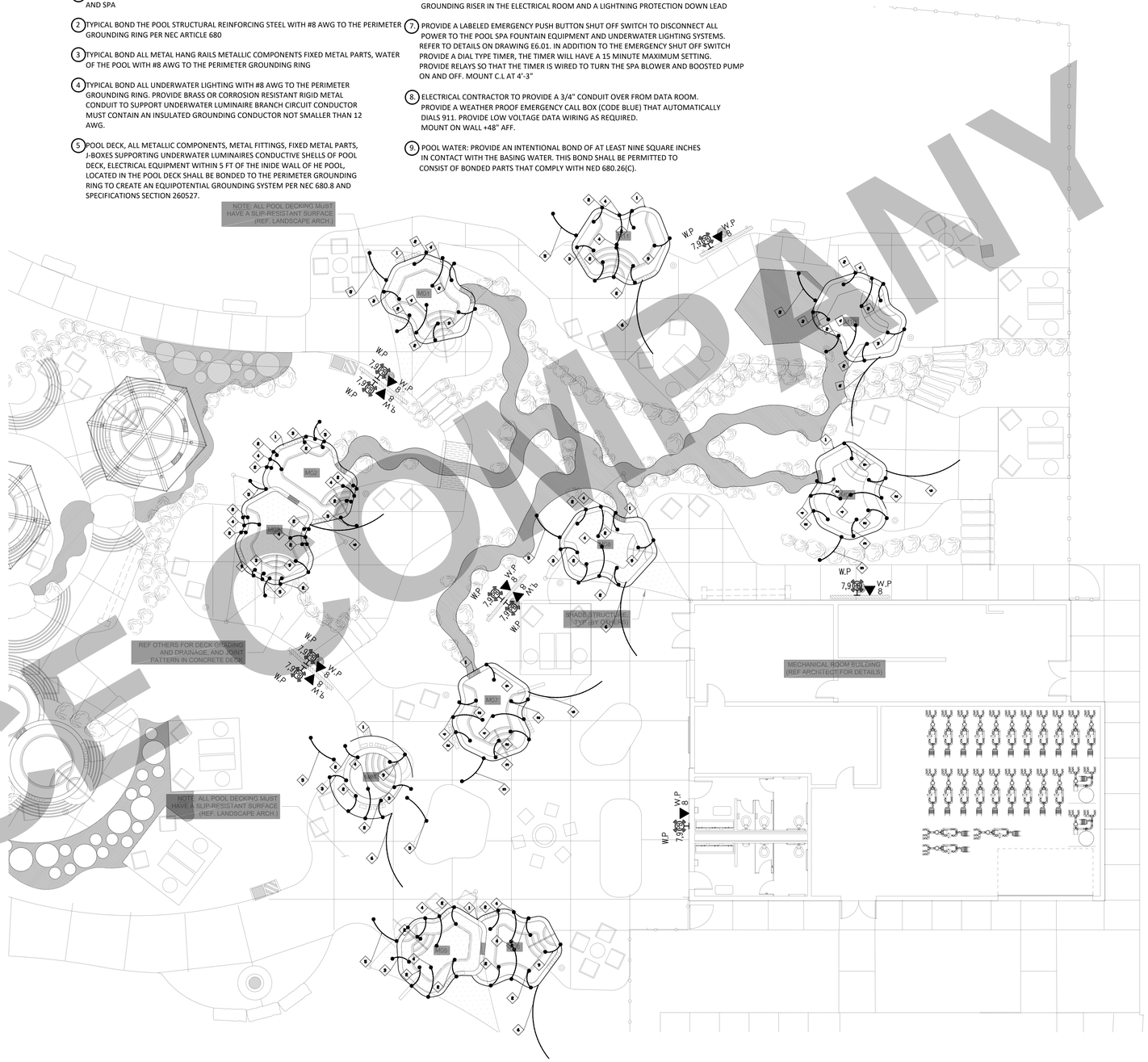
(5) POOL DECK, ALL METALLIC COMPONENTS, METAL FITTINGS, FIXED METAL PARTS, J-BOXES SUPPORTING UNDERWATER LUMINAIRES CONDUCTIVE SHELLS OF POOL DECK, ELECTRICAL EQUIPMENT WITHIN 5 FT OF THE INIDE WALL OF HE POOL, LOCATED IN THE POOL DECK SHALL BE BONDED TO THE PERIMETER GROUNDING RING TO CREATE AN EQUIPOTENTIAL GROUNDING SYSTEM PER NEC 680.8 AND SPECIFICATIONS SECTION 260527.

6. PROVIDE #8 AWG GROUNDING CONDUCTOR ROUTED ON LEVEL 1 TO THE BUILDING MAIN GROUNDING RISER IN THE ELECTRICAL ROOM AND A LIGHTNING PROTECTION DOWN LEAD

(7) PROVIDE A LABELED EMERGENCY PUSH BUTTON SHUT OFF SWITCH TO DISCONNECT ALL POWER TO THE POOL SPA FOUNTAIN EQUIPMENT AND UNDERWATER LIGHTING SYSTEMS. REFER TO DETAILS ON DRAWING E6.01. IN ADDITION TO THE EMERGENCY SHUT OFF SWITCH PROVIDE A DIAL TYPE TIMER, THE TIMER WILL HAVE A 15 MINUTE MAXIMUM SETTING. PROVIDE RELAYS SO THAT THE TIMER IS WIRED TO TURN THE SPA BLOWER AND BOOSTED PUMP ON AND OFF. MOUNT C.L AT 4'-3"

(8) ELECTRICAL CONTRACTOR TO PROVIDE A 3/4" CONDUIT OVER FROM DATA ROOM. PROVIDE A WEATHER PROOF EMERGENCY CALL BOX (CODE BLUE) THAT AUTOMATICALLY DIALS 911. PROVIDE LOW VOLTAGE DATA WIRING AS REQUIRED. MOUNT ON WALL +48" AFF.

(9) POOL WATER: PROVIDE AN INTENTIONAL BOND OF AT LEAST NINE SQUARE INCHES IN CONTACT WITH THE BASING WATER. THIS BOND SHALL BE PERMITTED TO CONSIST OF BONDED PARTS THAT COMPLY WITH NED 680.26(C).



6 MOUNTAIN POD BONDING LAYOUT

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

POOLS GROUNDING LAYOUT PART 4/4

Drawen By:	A.B
Date: 4/26/23	PROJ.NO.:

E4-04

SHEET 11 OF 16

SHEET NO.

Location: Back of House Bldg. / Pool Equipment Room

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	1.92	1.25	1.20	0.72	2.40
R	Convenience Recept					
H	Heating (Space)		1.25			
C	Cooling		1.00			
A	HVAC		1.00			
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen		13.00			
N	Noncontinuous	37.34	1.00	7.47	7.47	37.34
			1.00			
	Total	**39.26**		8.67	8.19	39.74

Total Demand Load (KVA)	39.74
Total Demand Current (A)	165.60
Min. Feeder Ampacity (A)	207.00

PANEL-A

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	240/120V, 1Φ, 3W
BUS SIZE	200A
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-2P C/B Bus Plug
CONDUCTOR SIZE	3/0 AWG 1- #3G CU
CONDUCTOR/PHASE	1
MAINS	200A MCB
SCCR	FULLY RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	100
FEEDER V. DROP (%)	1.281
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 1

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	DEAD SEA POOL-FILTER PUMP P1	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-F01	N	2
3		N				1.63		3.26	1.63					N	4
5	DEAD SEA POOL-FILTER PUMP P2	N	3x 12 AWG	- #12G	20A-2P	1.63	2.23		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-F01	N	6
7		N				1.63		2.23	0.60					N	8
9	DEAD SEA POOL-BECYS 3 CONTROL	N	3x 12 AWG	- #12G	20A-2P	0.60	0.73		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-F01	N	10
11		N				0.60		0.73	0.13					N	12
13	DEAD SEA POOL-DEL AOP 40 UV-1	N	3x 12 AWG	- #12G	20A-2P	0.13	0.19		0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-F01	N	14
15		N				0.13		0.19	0.06					N	16
17	DEAD SEA POOL-DEL AOP 40 UV-2	N	3x 12 AWG	- #12G	20A-2P	0.13	0.37		0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL F-01	L	18
19		N				0.13		1.76	1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-F02	N	20
21	DEAD SEA POOL-LEVELOR	N	3x 12 AWG	- #12G	20A-2P	0.06	1.69		1.63					N	22
23		N				0.06		0.66	0.60					N	24
25	DEAD SEA POOL LIGHTS	L	2x 12 AWG	- #12G	20A-1P	0.24	0.84		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-F02	N	26
27	DEAD SEA POOL LIGHTS	L	2x 12 AWG	- #12G	20A-1P	0.24		0.37	0.13					N	28
29	DEAD SEA POOL LIGHTS	L	2x 12 AWG	- #12G	20A-1P	0.24	0.37		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-F02	N	30
31	FILTER PUMP-F04	N	3x 12 AWG	- #12G	20A-2P	1.63		1.69	0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-F02	N	32
33		N				1.63	1.69		0.06					N	34
35	BECS SYS 3 CONTROL-F04	N	3x 12 AWG	- #12G	20A-2P	0.60		0.84	0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL- F02	L	36
37		N				0.60	2.23		1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-F03	N	38
39	DEL AOP-25 UV-1-F04	N	3x 12 AWG	- #12G	20A-2P	0.13		1.76	1.63					N	40
41		N				0.13	0.73		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-F03	N	42
43	LEVELOR AF-1-F04	N	3x 12 AWG	- #12G	20A-2P	0.06		0.66	0.60					N	44
45		N				0.06	0.19		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-F03	N	46
47	LIGHTS POOL F-04	L	2x 12 AWG	- #12G	20A-1P	0.24		0.37	0.13					N	48
49	FILTER PUMP-F05	N	3x 12 AWG	- #12G	20A-2P	1.63	1.69		0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-F03	N	50
51		N				1.63		1.69	0.06					N	52
53	BECS SYS 3 CONTROL-F05	N	3x 12 AWG	- #12G	20A-2P	0.60	0.84		0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL- F03	L	54
55		N				0.60		2.23	1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-F06	N	56
57	DEL AOP-25 UV-1-F05	N	3x 12 AWG	- #12G	20A-2P	0.13	1.76		1.63					N	58
59		N				0.13		0.73	0.60					N	60
61	LEVELOR AF-1-F05	N	3x 12 AWG	- #12G	20A-2P	0.06	0.66		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-F06	N	62
63		N				0.06		0.19	0.13					N	64
65	LIGHTS POOL F-05	L	2x 12 AWG	- #12G	20A-1P	0.24	0.37		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-F06	N	66
67							0.06		0.06					N	68
69								0.06	0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-F06	N	70
71							0.24		0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL- F06	L	72
73															74
	(KVA)														
	Total Connected Load					19.87	19.39								

Location: Back of House Bldg. / Pool Equipment Room

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	2.40	1.25	1.44	0.96	3.00
R	Convenience Recept					
H	Heating (Space)		1.25			
C	Cooling		1.00			
A	HVAC		1.00			
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen		13.00			
N	Noncontinuous	36.14	1.00	7.23	7.23	36.14
			1.00			
	Total	**38.54**		8.67	8.19	39.14

Total Demand Load (KVA)	39.14
Total Demand Current (A)	163.10
Min. Feeder Ampacity (A)	203.88

PANEL-A1

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	240/120V, 1Φ, 3W
BUS SIZE	200A
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-2P C/B Bus Plug
CONDUCTOR SIZE	3/0 AWG 1- #3G CU
CONDUCTOR/PHASE	
MAINS	200A MCB
SCCR	FULLY RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	100
FEEDER V. DROP (%)	1.281
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 1

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	FILTER PUMP-F07	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-F09	N	2
3		N				1.63		3.26	1.63					N	4
5	BECS SYS 3 CONTROL-F07	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-F09	N	6
7		N				0.60		1.20	0.60					N	8
9	DEL AOP-25 UV-1-F07	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-F09	N	10
11		N				0.13		0.26	0.13					N	12
13	LEVELOR AF-1-F07	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-F09	N	14
15		N				0.06		0.12	0.06					N	16
17	LIGHTS POOL F-07	L	2x 12 AWG	- #12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL F-09	L	18
19	FILTER PUMP-F08	N	3x 12 AWG	- #12G	20A-2P	1.63		3.26	1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-F10	N	20
21		N				1.63	3.26		1.63					N	22
23	BECS SYS 3 CONTROL-F08	N	3x 12 AWG	- #12G	20A-2P	0.60		1.20	0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-F10	N	24
25		N				0.60	1.20		0.60					N	26
27	DEL AOP-25 UV-1-F08	N	3x 12 AWG	- #12G	20A-2P	0.13		0.26	0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-F10	N	28
29		N				0.13	0.26		0.13					N	30
31	LEVELOR AF-1-F08	N	3x 12 AWG	- #12G	20A-2P	0.06		0.12	0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-F10	N	32
33		N				0.06	0.12		0.06					N	34
35	LIGHTS POOL F-08	L	2x 12 AWG	- #12G	20A-1P	0.24		0.48	0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL- F10	L	36
37	FAMILY POOL-FILTER PUMP P1	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FRESH WATER POOL-FILTER PUMP P1	N	38
39		N				1.63		3.26	1.63					N	40
41	FAMILY POOL-FILTER PUMP P2	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FRESH WATER POOL-FILTER PUMP P2	N	42
43		N				1.63		3.26	1.63					N	44
45	FAMILY POOL-BECYS 3 CONTROL	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	FRESH WATER POOL-BECYS 3 CONTROL	N	46
47		N				0.60		1.20	0.60					N	48
49	FAMILY POOL-DEL AOP 40 UV-1	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	FRESH WATER POOL-DEL AOP 40 UV-1	N	50
51		N				0.13		0.26	0.13					N	52
53	FAMILY POOL-DEL AOP 40 UV-2	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	FRESH WATER POOL-DEL AOP 40 UV-2	N	54
55		N				0.13		0.26	0.13					N	56
57	FAMILY POOL-LEVELOR	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	FRESH WATER POOL-LEVELOR	N	58
59		N				0.06		0.12	0.06					N	60
61	FAMILY POOL LIGHTS	L	2x 12 AWG	- #12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	- #12G	FRESH WATER POOL-LIGHTS	L	62
63	FAMILY POOL LIGHTS	L	2x 12 AWG	- #12G	20A-1P	0.24		0.48	0.24	20A-1P	2x 12 AWG	- #12G	FRESH WATER POOL-LIGHTS	L	64
65	FAMILY POOL LIGHTS	L	2x 12 AWG	- #12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	- #12G	FRESH WATER POOL-LIGHTS	L	66
67															68
69															70
71															72
73															74
	(KVA)														
	Total Connected Load					19.51	19.03								

Location: Back of House Bldg. / Pool Equipment Room

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	0.72	1.25	0.48	0.24	0.90
R	Convenience Recept					
H	Heating (Space)		1.25			
C	Cooling		1.00			
A	HVAC		1.00			
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen		13.00			
N	Noncontinuous	16.41	1.00	3.28	3.28	16.41
			1.00			
	Total	**17.13**		3.76	3.52	17.31

Total Demand Load (KVA)	17.31
Total Demand Current (A)	72.12
Min. Feeder Ampacity (A)	90.15

PANEL-A2

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	240/120V, 1Φ, 3W
BUS SIZE	100A
SYSTEM TYPE	NORMAL
FEEDER PROT	100A-2P C/B Bus Plug
CONDUCTOR SIZE	1 AWG 1- #3G CU
CONDUCTOR/PHASE	
MAINS	200A MCB
SCCR	FULLY RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	100
FEEDER V. DROP (%)	2.569
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 1

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	FILTER PUMP-FP1	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-FP3	N	2
3		N				1.63		3.26	1.63					N	4
5	BECS SYS 3 CONTROL-FP1	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-FP3	N	6
7		N				0.60		1.20	0.60					N	8
9	DEL AOP-25 UV-1-FP1	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-FP3	N	10
11		N				0.13		0.26	0.13					N	12
13	LEVELOR AF-1-FP1	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-FP3	N	14
15		N				0.06		0.12	0.06					N	16
17	LIGHTS POOL F-FP1	L	2x 12 AWG	- #12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL-FP3	L	18
19	FILTER PUMP-FP2	N	3x 12 AWG	- #12G	20A-2P	1.63		2.56	0.93	20A-2P	3x 12 AWG	- #12G	SUMP PUMP	N	20
21		N				1.63	2.56		0.93					N	22
23	BECS SYS 3 CONTROL-FP2	N	3x 12 AWG	- #12G	20A-2P	0.60		0.60							24
25		N				0.60	0.60								26
27	DEL AOP-25 UV-1-FP2	N	3x 12 AWG	- #12G	20A-2P	0.13		0.13							28
29		N				0.13	0.13								30
31	LEVELOR AF-1-FP2	N	3x 12 AWG	- #12G	20A-2P	0.06		0.06							32
33		N				0.06	0.06								34
35	LIGHTS POOL F-P2	L	2x 12 AWG	- #12G	20A-1P	0.24		0.24							36
	(KVA)														
	Total Connected Load					8.68	8.44								

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

PANEL BOARDS SCHEDULE PART 1/4

Drawen By:	A.B
Date: 4/26/23	PROJ.NO.:

E5-01

SHEET 12 OF 16

SHEET NO.

PANEL-B

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	240/120V, 1Φ 3W
BUS SIZE	200A
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-2P C/B Bus Plug
CONDUCTOR SIZE	3/0 AWG 1- #3G CU
CONDUCTOR/PHASE	1
MAINS	200A MCB
SCCR	FULLY RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	100
FEEDER V. DROP (%)	1.281
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 1

Location: Locker Room Bldg. / Pool Equipment Room

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	1.44	1.25	0.96	0.48	1.80
R	Convenience Receipt					
H	Heating (Space)		1.25			
C	Cooling		1.00			
A	HVAC		1.00			
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen		13.00			
N	Noncontinuous	29.09	1.00	5.82	5.82	29.09
			1.00			
	Total	**30.53**		6.78	6.30	30.89

Total Demand Load (KVA)	30.89
Total Demand Current (A)	128.70
Min. Feeder Ampacity (A)	160.88

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	FILTER PUMP-U1	N	3x 12 AWG	-#12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	-#12G	FILTER PUMP-U4	N	2
3		N				1.63		3.26	1.63					N	4
5	BECS SYS 3 CONTROL-U1	N	3x 12 AWG	-#12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	-#12G	BECS SYS 3 CONTROL-U4	N	6
7		N				0.60		1.20	0.60					N	8
9	DEL AOP-25 UV-1-U1	N	3x 12 AWG	-#12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	-#12G	DEL AOP-25 UV-1-U4	N	10
11		N				0.13		0.26	0.13					N	12
13	LEVELOR AF-1-U1	N	3x 12 AWG	-#12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	-#12G	LEVELOR AF-1-U4	N	14
15		N				0.06		0.12	0.06					N	16
17	LIGHTS POOL-U1	L	2x 12 AWG	-#12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	-#12G	LIGHTS POOL-U4	L	18
19	FILTER PUMP-U2	N	3x 12 AWG	-#12G	20A-2P	1.63		3.26	1.63	20A-2P	3x 12 AWG	-#12G	FILTER PUMP-U5	N	20
21		N				1.63	3.26		1.63					N	22
23	BECS SYS 3 CONTROL-U2	N	3x 12 AWG	-#12G	20A-2P	0.60		1.20	0.60	20A-2P	3x 12 AWG	-#12G	BECS SYS 3 CONTROL-U5	N	24
25		N				0.60	1.20		0.60					N	26
27	DEL AOP-25 UV-1-U2	N	3x 12 AWG	-#12G	20A-2P	0.13		0.26	0.13	20A-2P	3x 12 AWG	-#12G	DEL AOP-25 UV-1-U5	N	28
29		N				0.13	0.26		0.13					N	30
31	LEVELOR AF-1-U2	N	3x 12 AWG	-#12G	20A-2P	0.06		0.12	0.06	20A-2P	3x 12 AWG	-#12G	LEVELOR AF-1-U5	N	32
33		N				0.06	0.12		0.06					N	34
35	LIGHTS POOL-U2	L	2x 12 AWG	-#12G	20A-1P	0.24		0.48	0.24	20A-1P	2x 12 AWG	-#12G	LIGHTS POOL-U5	L	36
37	FILTER PUMP-U3	N	3x 12 AWG	-#12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	-#12G	FILTER PUMP-U6	N	38
39		N				1.63		3.26	1.63					N	40
41	BECS SYS 3 CONTROL-U3	N	3x 12 AWG	-#12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	-#12G	BECS SYS 3 CONTROL-U6	N	42
43		N				0.60		1.20	0.60					N	44
45	DEL AOP-25 UV-1-U3	N	3x 12 AWG	-#12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	-#12G	DEL AOP-25 UV-1-U6	N	46
47		N				0.13		0.26	0.13					N	48
49	LEVELOR AF-1-U3	N	3x 12 AWG	-#12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	-#12G	LEVELOR AF-1-U6	N	50
51		N				0.06		0.12	0.06					N	52
53	LIGHTS POOL-U3	L	2x 12 AWG	-#12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	-#12G	LIGHTS POOL-U6	L	54
		(KVA)													
					Total Connected Load		15.50	15.02							

Location: Locker Room Bldg. / Pool Equipment Room

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	0.48	1.25	33.24	31.20	0.60
R	Convenience Receipt					
H	Heating (Space)		1.25			
C	Cooling		1.00			
A	HVAC		1.00			
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen		13.00			
N	Noncontinuous	21.26	1.00	4.25	4.25	21.26
			1.00			
	Total	**21.74**		37.49	35.45	21.86

Total Demand Load (KVA)	21.86
Total Demand Current (A)	91.07
Min. Feeder Ampacity (A)	113.84

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	FILTER PUMP-U7	N	3x 12 AWG	-#12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	-#12G	FILTER PUMP-U10	N	2
3		N				1.63		3.26	1.63					N	4
5	BECS SYS 3 CONTROL-U7	N	3x 12 AWG	-#12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	-#12G	BECS SYS 3 CONTROL-U10	N	6
7		N				0.60		1.20	0.60					N	8
9	DEL AOP-25 UV-1-U7	N	3x 12 AWG	-#12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	-#12G	DEL AOP-25 UV-1-U10	N	10
11		N				0.13		0.26	0.13					N	12
13	LEVELOR AF-1-U7	N	3x 12 AWG	-#12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	-#12G	LEVELOR AF-1-U10	N	14
15		N				0.06		0.12	0.06					N	16
17	LIGHTS POOL-U7	L	2x 12 AWG	-#12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	-#12G	LIGHTS POOL-U10	L	18
19	FILTER PUMP-U9	N	3x 12 AWG	-#12G	20A-2P	1.63		3.26	1.63	20A-2P	3x 12 AWG	-#12G	FILTER PUMP-U11	N	20
21		N				1.63	3.26		1.63					N	22
23	BECS SYS 3 CONTROL-U9	N	3x 12 AWG	-#12G	20A-2P	0.60		1.20	0.60	20A-2P	3x 12 AWG	-#12G	BECS SYS 3 CONTROL-U11	N	24
25		N				0.60	1.20		0.60					N	26
27	DEL AOP-25 UV-1-U9	N	3x 12 AWG	-#12G	20A-2P	0.13		0.26	0.13	20A-2P	3x 12 AWG	-#12G	DEL AOP-25 UV-1-U11	N	28
29		N				0.13	0.26		0.13					N	30
31	LEVELOR AF-1-U9	N	3x 12 AWG	-#12G	20A-2P	0.06		0.12	0.06	20A-2P	3x 12 AWG	-#12G	LEVELOR AF-1-U11	N	32
33		N				0.06	0.12		0.06					N	34
35	LIGHTS POOL-U9	L	2x 12 AWG	-#12G	20A-1P	0.24		0.48	0.24	20A-1P	2x 12 AWG	-#12G	LIGHTS POOL-U11	L	36
37	SPACE						0.93		0.93	20A-2P	3x 12 AWG	-#12G	SUMP PUMP	N	38
39	SPACE							0.93	0.93					N	40
41	SPACE												SPACE		42
43	SPACE												SPACE		44
		(KVA)													
					Total Connected Load		11.11	11.11							

PANEL-B1

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	240/120V, 1Φ 3W
BUS SIZE	200A
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-2P C/B Bus Plug
CONDUCTOR SIZE	3/0 AWG 1- #3G CU
CONDUCTOR/PHASE	1
MAINS	200A MCB
SCCR	FULLY RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	100
FEEDER V. DROP (%)	1.281
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 1

Location: Mechanical Room Bldg. / Pool Equipment Room

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	1.44	1.25	0.96	0.48	1.80
R	Convenience Receipt					
H	Heating (Space)		1.25			
C	Cooling		1.00			
A	HVAC		1.00			
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen		13.00			
N	Noncontinuous	29.09	1.00	5.82	5.82	29.09
			1.00			
	Total	**30.53**		6.78	6.30	30.89

Total Demand Load (KVA)	30.89
Total Demand Current (A)	128.70
Min. Feeder Ampacity (A)	160.88

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	FILTER PUMP-M1	N	3x 12 AWG	-#12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	-#12G	FILTER PUMP-M4	N	2
3		N				1.63		3.26	1.63					N	4
5	BECS SYS 3 CONTROL-M1	N	3x 12 AWG	-#12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	-#12G	BECS SYS 3 CONTROL-M4	N	6
7		N				0.60		1.20	0.60					N	8
9	DEL AOP-25 UV-1-M1	N	3x 12 AWG	-#12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	-#12G	DEL AOP-25 UV-1-M4	N	10
11		N				0.13		0.26	0.13					N	12
13	LEVELOR AF-1-M1	N	3x 12 AWG	-#12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	-#12G	LEVELOR AF-1-M4	N	14
15		N				0.06		0.12	0.06					N	16
17	LIGHTS POOL-M1	L	2x 12 AWG	-#12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	-#12G	LIGHTS POOL-M4	L	18
19	FILTER PUMP-M2	N	3x 12 AWG	-#12G	20A-2P	1.63		3.26	1.63	20A-2P	3x 12 AWG	-#12G	FILTER PUMP-M5	N	20
21		N				1.63	3.26		1.63					N	22
23	BECS SYS 3 CONTROL-M2	N	3x 12 AWG	-#12G	20A-2P	0.60		1.20	0.60	20A-2P	3x 12 AWG	-#12G	BECS SYS 3 CONTROL-M5	N	24
25		N				0.60	1.20		0.60					N	26
27	DEL AOP-25 UV-1-M2	N	3x 12 AWG	-#12G	20A-2P	0.13		0.26	0.13	20A-2P	3x 12 AWG	-#12G	DEL AOP-25 UV-1-M5	N	28
29		N				0.13	0.26		0.13					N	30
31	LEVELOR AF-1-M2	N	3x 12 AWG	-#12G	20A-2P	0.06		0.12	0.06	20A-2P	3x 12 AWG	-#12G	LEVELOR AF-1-M5	N	32
33		N				0.06	0.12		0.06					N	34
35	LIGHTS POOL-M2	L	2x 12 AWG	-#12G	20A-1P	0.24		0.48	0.24	20A-1P	2x 12 AWG	-#12G	LIGHTS POOL-M5	L	36
37	FILTER PUMP-M3	N	3x 12 AWG	-#12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	-#12G	FILTER PUMP-M6	N	38
39		N				1.63		3.26	1.63					N	40
41	BECS SYS 3 CONTROL-M3	N	3x 12 AWG	-#12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	-#12G	BECS SYS 3 CONTROL-M6	N	42
43		N				0.60		1.20	0.60					N	44
45	DEL AOP-25 UV-1-M3	N	3x 12 AWG	-#12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	-#12G	DEL AOP-25 UV-1-M6	N	46
47		N				0.13		0.26	0.13					N	48
49	LEVELOR AF-1-M3	N	3x 12 AWG	-#12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	-#12G	LEVELOR AF-1-M6	N	50
51		N				0.06		0.12	0.06					N	52
53	LIGHTS POOL-M3	L	2x 12 AWG	-#12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	-#12G	LIGHTS POOL-M6	L	54
		(KVA)													
					Total Connected Load		15.50	15.02							

PANEL-C

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	240/120V, 1Φ 3W
BUS SIZE	200A
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-2P C/B Bus Plug
CONDUCTOR SIZE	3/0 AWG 1- #3G CU
CONDUCTOR/PHASE	1
MAINS	200A MCB
SCCR	FULLY RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	100
FEEDER V. DROP (%)	1.281
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 1

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

PANEL BOARDS SCHEDULE PART 2/4

Drawen By:	A.B
Date: 4/26/23	PROJ.NO.:

E5-02

SHEET 13 OF 16

SHEET NO.

Location: Mechanical Room Bldg. / Pool Equipment Room

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	0.72	1.25	53.22	49.92	0.90
R	Convenience Recept					
H	Heating (Space)		1.25			
C	Cooling		1.00			
A	HVAC		1.00			
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen		13.00			
N	Noncontinuous	29.09	1.00	5.82	5.82	29.09
			1.00			
	Total	**29.81**		59.04	55.74	29.99

Total Demand Load (KVA)	29.99
Total Demand Current (A)	124.95
Min. Feeder Ampacity (A)	156.19

PANEL-C1

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	240/120V, 1Φ, 3W
BUS SIZE	200A
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-2P C/B Bus Plug
CONDUCTOR SIZE	3/0 AWG 1- #3G CU
CONDUCTOR/PHASE	1
MAINS	200A MCB
SCCR	FULLY RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	100
FEEDER V. DROP (%)	1.281
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 1

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	FILTER PMMP-M7	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FILTER PMMP-M10	N	2
3		N				1.63		3.26	1.63					N	4
5	BECS SYS 3 CONTROL-M7	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-M10	N	6
7		N				0.60		1.20	0.60					N	8
9	DEL AOP-25 MV-1-M7	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 MV-1-M10	N	10
11		N				0.13		0.26	0.13					N	12
13	LEVELOR AF-1-M7	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-M10	N	14
15		N				0.06		0.12	0.06					N	16
17	LIGHTS POOL-M7	L	2x 12 AWG	- #12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL-M10	L	18
19	FILTER PMMP-M9	N	3x 12 AWG	- #12G	20A-2P	1.63		3.26	1.63	20A-2P	3x 12 AWG	- #12G	FILTER PMMP-M11	N	20
21		N				1.63	3.26		1.63					N	22
23	BECS SYS 3 CONTROL-M9	N	3x 12 AWG	- #12G	20A-2P	0.60		1.20	0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-M11	N	24
25		N				0.60	1.20		0.60					N	26
27	DEL AOP-25 MV-1-M9	N	3x 12 AWG	- #12G	20A-2P	0.13		0.26	0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 MV-1-M11	N	28
29		N				0.13	0.26		0.13					N	30
31	LEVELOR AF-1-M9	N	3x 12 AWG	- #12G	20A-2P	0.06		0.12	0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-M11	N	32
33		N				0.06	0.12		0.06					N	34
35	LIGHTS POOL-M9	L	2x 12 AWG	- #12G	20A-1P	0.24		0.48	0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL-M11	L	36
37	FILTER PMMP-M8	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FILTER PMMP-U08	N	38
39		N				1.63		3.26	1.63					N	40
41	BECS SYS 3 CONTROL-M8	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-U08	N	42
43		N				0.60		1.20	0.60					N	44
45	DEL AOP-25 MV-1-M8	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 MV-1-U08	N	46
47		N				0.13		0.26	0.13					N	48
49	LEVELOR AF-1-M8	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-U08	N	50
51		N				0.06		0.12	0.06					N	52
53	LIGHTS POOL-M8	L	2x 12 AWG	- #12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL-U08	L	54
		(KVA)													
	Total Connected Load					15.50	15.02								

Location: Mechanical Room Bldg. / Pool Equipment Room

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	1.44	1.25	0.96	0.48	1.80
R	Convenience Recept					
H	Heating (Space)		1.25			
C	Cooling		1.00			
A	HVAC		1.00			
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen		13.00			
N	Noncontinuous	29.09	1.00	5.82	5.82	29.09
			1.00			
	Total	**52.28**		6.78	6.30	30.89

Total Demand Load (KVA)	30.89
Total Demand Current (A)	128.70
Min. Feeder Ampacity (A)	160.88

PANEL-D

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	240/120V, 1Φ, 3W
BUS SIZE	200A
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-2P C/B Bus Plug
CONDUCTOR SIZE	3/0 AWG 1- #3G CU
CONDUCTOR/PHASE	1
MAINS	200A MCB
SCCR	FULLY RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	100
FEEDER V. DROP (%)	1.281
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 1

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	FILTER PUMP-G1	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-G4	N	2
3		N				1.63		3.26	1.63					N	4
5	BECS SYS 3 CONTROL-G1	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-G4	N	6
7		N				0.60		1.20	0.60					N	8
9	DEL AOP-25 UV-1-G1	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-G4	N	10
11		N				0.13		0.26	0.13					N	12
13	LEVELOR AF-1-G1	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-G4	N	14
15		N				0.06		0.12	0.06					N	16
17	LIGHTS POOL-G1	L	2x 12 AWG	- #12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL-G4	L	18
19	FILTER PUMP-G2	N	3x 12 AWG	- #12G	20A-2P	1.63		3.26	1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-G5	N	20
21		N				1.63	3.26		1.63					N	22
23	BECS SYS 3 CONTROL-G2	N	3x 12 AWG	- #12G	20A-2P	0.60		1.20	0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-G5	N	24
25		N				0.60	1.20		0.60					N	26
27	DEL AOP-25 UV-1-G2	N	3x 12 AWG	- #12G	20A-2P	0.13		0.26	0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-G5	N	28
29		N				0.13	0.26		0.13					N	30
31	LEVELOR AF-1-G2	N	3x 12 AWG	- #12G	20A-2P	0.06		0.12	0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-G5	N	32
33		N				0.06	0.12		0.06					N	34
35	LIGHTS POOL-G2	L	2x 12 AWG	- #12G	20A-1P	0.24		0.48	0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL-G5	L	36
37	FILTER PUMP-G3	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-G6	N	38
39		N				1.63		3.26	1.63					N	40
41	BECS SYS 3 CONTROL-G3	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-G6	N	42
43		N				0.60		1.20	0.60					N	44
45	DEL AOP-25 UV-1-G3	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-G6	N	46
47		N				0.13		0.26	0.13					N	48
49	LEVELOR AF-1-G3	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-G6	N	50
51		N				0.06		0.12	0.06					N	52
53	LIGHTS POOL-G3	L	2x 12 AWG	- #12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL-G6	L	54
		(KVA)													
	Total Connected Load					15.50	15.02								

Location: Mechanical Room Bldg. / Pool Equipment Room

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting	0.72	1.25	49.66	46.60	0.90
R	Convenience Recept					
H	Heating (Space)		1.25			
C	Cooling		1.00			
A	HVAC		1.00			
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen		13.00			
N	Noncontinuous	26.23	1.00	5.25	5.25	26.23
			1.00			
	Total	**26.95**		55.10	52.05	27.13

Total Demand Load (KVA)	27.13
Total Demand Current (A)	113.02
Min. Feeder Ampacity (A)	141.28

PANEL-D1

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	240/120V, 1Φ, 3W
BUS SIZE	200A
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-2P C/B Bus Plug
CONDUCTOR SIZE	3/0 AWG 1- #3G CU
CONDUCTOR/PHASE	1
MAINS	200A MCB
SCCR	FULLY RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	100
FEEDER V. DROP (%)	1.281
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 1

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	FILTER PMMP-G7	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FILTER PMMP-G10	N	2
3		N				1.63		3.26	1.63					N	4
5	BECS SYS 3 CONTROL-G7	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-G10	N	6
7		N				0.60		1.20	0.60					N	8
9	DEL AOP-25 MV-1-G7	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 MV-1-G10	N	10
11		N				0.13		0.26	0.13					N	12
13	LEVELOR AF-1-G7	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-G10	N	14
15		N				0.06		0.12	0.06					N	16
17	LIGHTS POOL-G7	L	2x 12 AWG	- #12G	20A-1P	0.24	0.48		0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL-G10	L	18
19	FILTER PMMP-G9	N	3x 12 AWG	- #12G	20A-2P	1.63		3.26	1.63	20A-2P	3x 12 AWG	- #12G	FILTER PMMP-G11	N	20
21		N				1.63	3.26		1.63					N	22
23	BECS SYS 3 CONTROL-G9	N	3x 12 AWG	- #12G	20A-2P	0.60		1.20	0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-G11	N	24
25		N				0.60	1.20		0.60					N	26
27	DEL AOP-25 MV-1-G9	N	3x 12 AWG	- #12G	20A-2P	0.13		0.26	0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 MV-1-G11	N	28
29		N				0.13	0.26		0.13					N	30
31	LEVELOR AF-1-G9	N	3x 12 AWG	- #12G	20A-2P	0.06		0.12	0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-G11	N	32
33		N				0.06	0.12		0.06					N	34
35	LIGHTS POOL-G9	L	2x 12 AWG	- #12G	20A-1P	0.24		0.48	0.24	20A-1P	2x 12 AWG	- #12G	LIGHTS POOL-G11	L	36
37	FILTER PMMP-G8	N	3x 12 AWG	- #12G	20A-2P	1.63	1.69		0.06	20A-2P	3x 12 AWG	- #12G	SUMP PUMP	N	38
39		N				1.63		1.69	0.06					N	40
41	BECS SYS 3 CONTROL-G8	N	3x 12 AWG	- #12G	20A-2P	0.60	1.53		0.93	20A-2P	3x 12 AWG	- #12G	SUMP PUMP	N	42
43		N				0.60		1.53	0.93					N	44
45	DEL AOP-25 MV-1-G8	N	3x 12 AWG	- #12G	20A-2P	0.13	0.13						SPACE		46
47		N				0.13		0.13					SPACE		48
49	LEVELOR AF-1-G8	N	3x 12 AWG	- #12G	20A-2P	0.06	0.06						SPACE		50
51		N				0.06		0.06					SPACE		52
53	LIGHTS POOL-G8	L	2x 12 AWG	- #12G	20A-1P	0.24	0.24						SPACE		54
		(KVA)													
	Total Connected Load					13.83	13.56								

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

PANEL BOARDS SCHEDULE PART 3/4

Drawen By:	A.B
Date: 4/26/23	PROJ.NO.:

E5-03

SHEET 14 OF 16

SHEET NO.

Location: Mechanical Room Bldg. / Pool Equipment Room

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting		1.25			
R	Convenience Recept					
H	Heating (Space)		1.25			
C	Cooling		1.00			
A	HVAC		1.00			
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen		13.00			
N	Noncontinuous	33.50	1.00	6.70	6.70	33.50
			1.00			
	Total	**55.25**		6.70	6.70	33.50

Total Demand Load (KVA)	33.50
Total Demand Current (A)	139.60
Min. Feeder Ampacity (A)	174.50

PANEL-E

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	240/120V, 1Φ, 3W
BUS SIZE	200A
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-2P C/B Bus Plug
CONDUCTOR SIZE	3/0 AWG 1- #3G CU
CONDUCTOR/PHASE	1
MAINS	200A MCB
SCCR	FULLY RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	100
FEEDER V. DROP (%)	1.281
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 1

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	WATER-FEATURE-1-FILTER PUMP P1	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-3-FILTER PUMP P1	N	2
3		N				1.63		3.26	1.63					N	4
5	WATER-FEATURE-1-FILTER PUMP P2	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-3-FILTER PUMP P2	N	6
7		N				1.63		3.26	1.63					N	8
9	WATER-FEATURE-1-BECYS 3 CONTROL	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-3-BECYS 3 CONTROL	N	10
11		N				0.60		1.20	0.60					N	12
13	WATER-FEATURE-1-DEL AOP 40 UV-1	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-3-DEL AOP 40 UV-1	N	14
15		N				0.13		0.26	0.13					N	16
17	WATER-FEATURE-1-DEL AOP 40 UV-2	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-3-DEL AOP 40 UV-2	N	18
19		N				0.13		0.26	0.13					N	20
21	WATER-FEATURE-1-LEVELOR	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-3-LEVELOR	N	22
23		N				0.06		0.12	0.06					N	24
25	WATER-FEATURE-2-FILTER PUMP P1	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-4-FILTER PUMP P1	N	26
27		N				1.63		3.26	1.63					N	28
29	WATER-FEATURE-2-FILTER PUMP P2	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-4-FILTER PUMP P2	N	30
31		N				1.63		3.26	1.63					N	32
33	WATER-FEATURE-2-BECYS 3 CONTROL	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-4-BECYS 3 CONTROL	N	34
35		N				0.60		1.20	0.60					N	36
37	WATER-FEATURE-2-DEL AOP 40 UV-1	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-4-DEL AOP 40 UV-1	N	38
39		N				0.13		0.26	0.13					N	40
41	WATER-FEATURE-2-DEL AOP 40 UV-2	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-4-DEL AOP 40 UV-2	N	42
43		N				0.13		0.26	0.13					N	44
45	WATER-FEATURE-2-LEVELOR	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	WATER-FEATURE-4-LEVELOR	N	46
47		N				0.06		0.12	0.06					N	48
49	SPACE												SPACE		50
51	SPACE												SPACE		52
53	SPACE												SPACE		54
	(KVA)														
						Total Connected Load	16.75	16.75							

Location: Mechanical Room Bldg. / Pool Equipment Room

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	CONNECTED LOAD B	DEMAND TOTAL
L	Lighting		1.25			
R	Convenience Recept					
H	Heating (Space)		1.25			
C	Cooling		1.00			
A	HVAC		1.00			
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen		13.00			
N	Noncontinuous	24.24	1.00	4.85	4.85	24.24
			1.00			
	Total	**45.99**		4.85	4.85	24.24

Total Demand Load (KVA)	24.24
Total Demand Current (A)	101.00
Min. Feeder Ampacity (A)	126.25

PANEL-E1

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	240/120V, 1Φ, 3W
BUS SIZE	200A
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-2P C/B Bus Plug
CONDUCTOR SIZE	3/0 AWG 1- #3G CU
CONDUCTOR/PHASE	1
MAINS	200A MCB
SCCR	FULLY RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	100
FEEDER V. DROP (%)	1.281
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 1

	DESCRIPTION	*	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION	*	
1	FILTER PUMP-WATER FEATURE-1	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-WATER FEATURE-4	N	2
3		N				1.63		3.26	1.63					N	4
5	BECS SYS 3 CONTROL-WATER FEATURE-1	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-WATER FEATURE-4	N	6
7		N				0.60		1.20	0.60					N	8
9	DEL AOP-25 UV-1-WATER FEATURE-1	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-WATER FEATURE-4	N	10
11		N				0.13		0.26	0.13					N	12
13	LEVELOR AF-1-WATER FEATURE-1	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-WATER FEATURE-4	N	14
15		N				0.06		0.12	0.06					N	16
17	FILTER PUMP-WATER FEATURE-2	N	3x 12 AWG	- #12G	20A-2P	1.63	3.26		1.63	20A-2P	3x 12 AWG	- #12G	FILTER PUMP-WATER FEATURE-5	N	18
19		N				1.63		3.26	1.63					N	20
21	BECS SYS 3 CONTROL-WATER FEATURE-2	N	3x 12 AWG	- #12G	20A-2P	0.60	1.20		0.60	20A-2P	3x 12 AWG	- #12G	BECS SYS 3 CONTROL-WATER FEATURE-5	N	22
23		N				0.60		1.20	0.60					N	24
25	DEL AOP-25 UV-1-WATER FEATURE-2	N	3x 12 AWG	- #12G	20A-2P	0.13	0.26		0.13	20A-2P	3x 12 AWG	- #12G	DEL AOP-25 UV-1-WATER FEATURE-5	N	26
27		N				0.13		0.26	0.13					N	28
29	LEVELOR AF-1-WATER FEATURE-2	N	3x 12 AWG	- #12G	20A-2P	0.06	0.12		0.06	20A-2P	3x 12 AWG	- #12G	LEVELOR AF-1-WATER FEATURE-5	N	30
31		N				0.06		0.12	0.06					N	32
33	FILTER PUMP-WATER FEATURE-3	N	3x 12 AWG	- #12G	20A-2P	1.63	1.63						SPACE		34
35		N				1.63		1.63					SPACE		36
37	BECS SYS 3 CONTROL-WATER FEATURE-3	N	3x 12 AWG	- #12G	20A-2P	0.60	0.60						SPACE		38
39		N				0.60		0.60					SPACE		40
41	DEL AOP-25 UV-1-WATER FEATURE-3	N	3x 12 AWG	- #12G	20A-2P	0.13	0.13						SPACE		42
43		N				0.13		0.13					SPACE		44
45	LEVELOR AF-1-WATER FEATURE-3	N	3x 12 AWG	- #12G	20A-2P	0.06	0.06						SPACE		46
47		N				0.06		0.06					SPACE		48
	(KVA)														
						Total Connected Load	12.12	12.12							

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

PANEL BOARDS SCHEDULE PART 4/4

Drawen By: A.B

Date: 4/26/23 PROJ.NO.:

E5-04

SHEET 15 OF 16

SHEET NO.

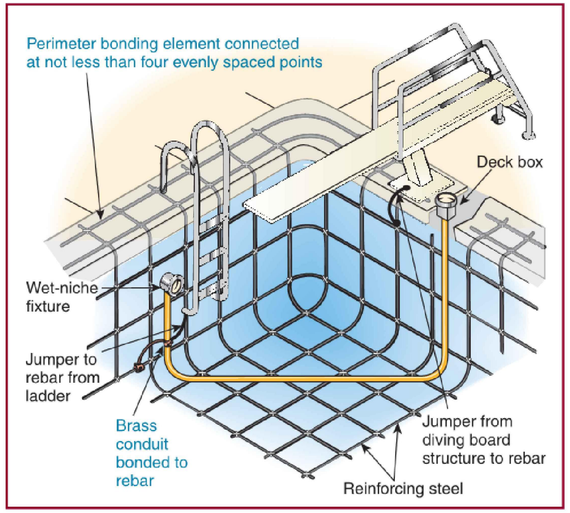


EXHIBIT 680.7 *Bonding of conductive metal equipment and parts associated with a swimming pool.*

NOTES.
1. REINFORCING STEEL TO BE BONDED TO #8 AWG PERIMETER POOL GROUNDING RING.

UNDERWATER BONDING WITH BRASS CONDUIT

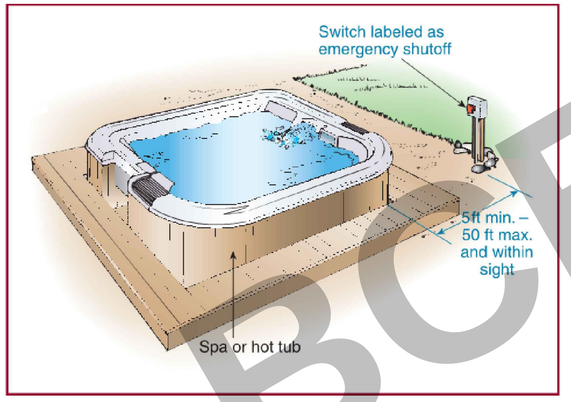
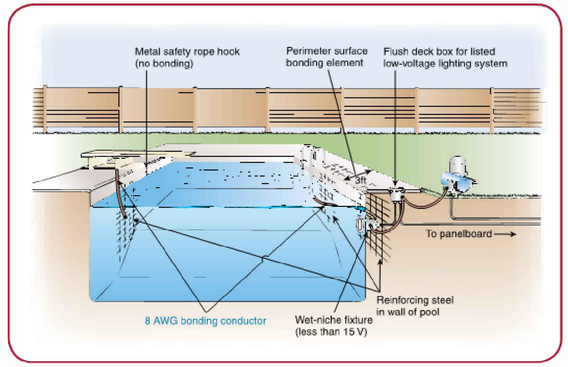


EXHIBIT 680.11 *Location of the required emergency shutoff device.*

EMERGENCY SHUTTOFF SWITCH PER NEC 680.41



NOTES.
1. REINFORCING STEEL TO BE BONDED TO #8 AWG PERIMETER POOL GROUNDING RING.

EQUIPOTENTAIL BONDING PER NEC 680.26

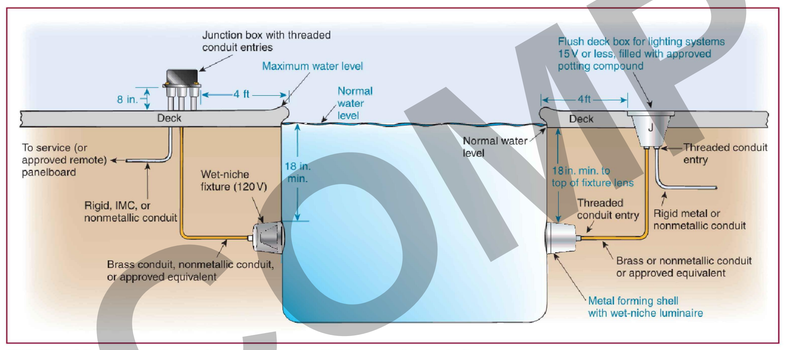
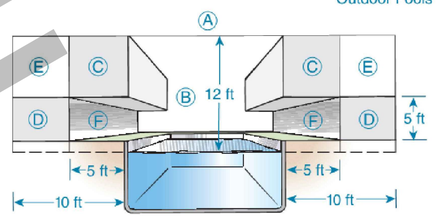


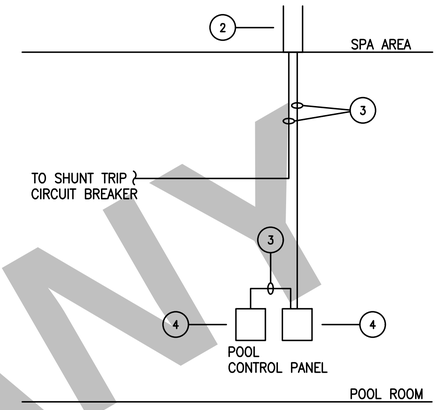
EXHIBIT 680.5 *A flush junction (deck) box and a forming shell for a wet-niche luminaire.*

FLUSH JUNCTION (DECK) BOX AND POOL SHELL FOR A WET-NICHE LUMINAIRE.



Ⓐ Luminaires, lighting outlets, and ceiling-suspended (paddle) fans permitted above 12 ft.
Ⓑ Luminaires, lighting outlets, and ceiling-suspended (paddle) fans not permitted below 12 ft.
Ⓒ Existing luminaires and lighting outlets permitted in this space if rigidly attached to existing structure (GFCI required).
Ⓓ Luminaires and lighting outlets permitted if protected by a GFCI.
Ⓔ Luminaires and lighting outlets permitted if rigidly attached.
Ⓕ Listed low-voltage luminaires not requiring grounding and not exceeding the low-voltage contact limit, powered by supplies in accordance with 680.23(A)(2).

LIMITATIONS FOR AREAS SURROUNDING POOL PER NEC 680.22.



NOTES

(#) INDICATES GENERAL NOTES
(#) INDICATES NOTES KEYED TO PLAN

(1) PROVIDE A LABELED EMERGENCY SHUT OFF SWITCH. THE EMERGENCY SHUT OFF SHALL BE RED IN COLOR AND OF THE MUSHROOM "PUSH TO KILL" TYPE PER NEC 680.13

(2) ARCHITECT TO PROVIDE A WALL MOUNT EMERGENCY WITCH IN.

(3) PROVIDE CONTROL WIRING TO SHUNT TRIP DEVICES IN PANEL SERVING SPA EQUIPMENT.

(4) POOL MANUFACTURER TO PROVIDE CONTACTS IN EQUIPMENT CONTROL PANELS TO DISCONNECT ALL POWER TO THE PUMP MOTORS. PER THE NEC.

EMERGENCY SHUT-OFF DETAIL FOR SPAS

REVISIONS

No.	Description	Date
1	PERMIT SET	04/26/2023

GENERAL DETAILS

Drawen By: A.B
Date: 4/26/23 PROJ.NO.:

E6-01

SHEET 16 OF 16

SHEET NO.