PRINT DATE 1.4.2023

GENERAL NOTES

GENERAL REQUIREMENTS

1. NEOPRENE PADS TO BE USED UNDER ALL PUMPS.
2. NOT SHOWN: ELECTRICAL CONDUITS & $\frac{3}{4}$"Ø WATER MAKE-UP LINES.
3. PUMPS SHALL BE SET ON 4" THICK CONCRETE PADS.
4. POOL CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS.
5. POOL SHALL BE FILLED BY EXISTING HOSE BIB. POOL WATER LEVEL SHALL BE MAINTAINED BY AUTOMATED WATER LEVEL CONTROLLER WITH APPROVED BACKFLOW PREVENTION.
6. ALL MATERIALS AND ALL WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES AND REGULATIONS.
7. ALL SHOTCRETE SHALL BE 3000 PSI MINIMUM AT 28 DAYS. SPECIAL INSPECTION FOR SHOTCRETE WORK IF REQUIRED.
8. ALL REINFORCING SHALL CONFORM TO ASTM-A615, GRADE 60.
9. ALL FIELD PIPING SHALL BE PVC, SCHEDULE 40. ALL EQUIPMENT ROOM/PAD PIPING SHALL BE PVC, SCHEDULE 80 WITH EXCEPTIONS AS NOTED.
10. SUPPORTING SOIL SHALL BE UNDISTURBED, UNIFORM, NATURAL SOIL CAPABLE OF SUPPORTING 1000 POUNDS PER SQUARE FOOT, IF ANY OTHER CONDITIONS ARE ENCOUNTERED, BUILDER SHALL NOTIFY ENGINEER. BUILDER SHALL BE PROVIDED WITH COPY OF GEO-TECHNICAL REPORT IF AVAILABLE AND FOLLOW RECOMMENDATIONS THEREIN.
11. ALL POOL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS.
12. ALL PIPING SHALL BE NSF APPROVED (ANSI/NSF14), SCHED. 40 PVC (EXCEPT AS NOTED).
13. ALL DRAIN FITTINGS TO CARY 100% OF RECIRCULATION FLOW RATE NOT TO EXCEED MAX. RATED FLOW RATE FOR SELECTED DRAIN FITTING WHEN ONE (1) DRAIN FITTING IS COVERED.
14. MAIN DRAIN PIPING SHALL CARRY 100% OF RECIRCULATION RATE AT A VELOCITY NOT TO EXCEED 6FT PER SECOND.
15. ALL PIPING DESIGNED FOR 6 FT PER SECOND MAX. SUCTION, 8 FT. PER SECOND RETURN, AND 3 FT. PER SECOND MAX. GRAVITY IF APPLICABLE.
16. POOL CONTRACTOR SHALL COORDINATE ALL WORK WITH GENERAL CONTRACTOR TO TAKE PRECAUTIONS AS NECESSARY TO PROTECT FROM DAMAGING NEW/EXISTING UTILITY LINES, WALKWAYS, LANDSCAPING ETC. WHICH WILL REMAIN AS PART OF THE FINAL PRODUCT.

2018 INTERNATIONAL ENERGY CONSERVATION CODE

R403.10
POOLS AND PERMANENT SPA ENERGY CONSUMPTION (MANDATORY). THE ENERGY CONSUMPTION OF POOLS AND PERMANENT SPAS SHALL BE IN ACCORDANCE WITH SECTIONS R403.10.1 THROUGH R403.10.4.

R403.10.1
RESIDENTIAL POOLS AND PERMANENT RESIDENTIAL SPAS. SWIMMING POOLS AND PERMANENT SPAS THAT ARE ACCESSORY TO DETACHED ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES THREE STORIES OR LESS IN HEIGHT ABOVE GRADE PLANE AND THAT ARE AVAILABLE ONLY TO THE HOUSEHOLD AND ITS GUESTS SHALL BE IN ACCORDANCE WITH APSP-145.

R403.10.2 HEATERS
THE ELECTRIC POWER TO HEATERS SHALL BE CONTROLLED BY A READILY ACCESSIBLE ON-OFF SWITCH THAT IS AN INTEGRAL PART OF THE HEATER MOUNTED ON THE EXTERIOR OF THE HEATER, OR EXTERNAL TO AND WITHIN 3 FEET (914 MM) OF THE HEATER. OPERATION OF SUCH SWITCH SHALL NOT CHANGE THE SETTING OF THE HEATER THERMOSTAT. SUCH SWITCHES SHALL BE IN ADDITION TO A CIRCUIT BREAKER FOR THE POWER TO THE HEATER. GAS-FIRED HEATERS SHALL NOT BE EQUIPPED WITH CONTINUOUSLY BURNING IGNITION PILOTS.

R403.10.3 TIME SWITCHES
TIME SWITCHES OR OTHER CONTROL METHODS THAT CAN AUTOMATICALLY TURN OFF AND ON ACCORDING TO A PRESET SCHEDULE SHALL BE INSTALLED FOR HEATERS AND PUMP MOTORS. HEATERS AND PUMP MOTORS THAT HAVE BUILT-IN TIME SWITCHES SHALL BE IN COMPLIANCE WITH THIS SECTION.

EXCEPTIONS:
1. WHERE PUBLIC HEALTH STANDARDS REQUIRE 24-HOUR PUMP OPERATION.
2. PUMPS THAT OPERATE SOLAR- AND WASTE-HEAT-RECOVERY POOL HEATING SYSTEMS.

R403.10.4 COVERS
OUTDOOR HEATED POOLS AND OUTDOOR PERMANENT SPAS SHALL BE PROVIDED WITH A VAPOR-RETARDANT COVER OR OTHER APPROVED VAPOR-RETARDANT MEANS.
EXCEPTION: WHERE MORE THAN 70 PERCENT OF THE ENERGY FOR HEATING, COMPUTED OVER AN OPERATION SEASON, IS FROM SITE-RECOVERED ENERGY, SUCH AS FROM A HEAT PUMP OR SOLAR ENERGY SOURCE, COVERS OR OTHER VAPOR-RETARDANT MEANS SHALL NOT BE REQUIRED.

R403.11 PORTABLE SPAS (MANDATORY)
THE ENERGY CONSUMPTION OF ELECTRIC-POWERED PORTABLE SPAS SHALL BE CONTROLLED BY THE REQUIREMENTS OF APSP-14.

R403.12 RESIDENTIAL POOLS AND PERMANENT RESIDENTIAL SPAS
RESIDENTIAL SWIMMING POOLS AND PERMANENT RESIDENTIAL SPAS THAT ARE ACCESSORY TO DETACHED ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES THREE STORIES OR LESS IN HEIGHT ABOVE GRADE PLANE AND THAT ARE AVAILABLE ONLY TO THE HOUSEHOLD AND ITS GUESTS SHALL BE IN ACCORDANCE WITH APSP-15.

POOL/SPA VAPOR-RETARDANT COVER (BY HOME OWNER)

IECC 2018 R403.10.4 COVERS

THIS POOL AND SPA REQUIRE THE USE OF A VAPOR-RETARDANT COVER OR OTHER APPROVED VAPOR-RETARDANT MEANS SUCH AS THE FOLLOWING OR SIMILAR:

☐ T-STAR EnergySaver STANDARD THERMAL FLOATING POOL COVER

☒ Sun2Solar CLEAR 1200 SERIES STYLE FLOATING SOLAR BLANKET

ADDITIONAL NOTES:

THE ABOVE POOL COVERS ARE FOR THERMAL/VAPOR-RETARDANT PROPERTIES ONLY AND ARE NOT CONSIDERED POOL SAFETY COVERS.

SAFETY:
IT IS THE RESPONSIBILITY OF HOME OWNER TO ENSURE THE POOL BARRIER, GATES AND SAFETY DOOR ALARMS ARE ALWAYS OPERATING AS SPECIFIED

CODE DATA

IRC 2018

THE DESIGN AND CONSTRUCTION OF POOLS AND SPAS SHALL COMPLY WITH THE INTERNATIONAL SWIMMING POOL AND SPA CODE.

2018 IECC REQUIREMENTS	CODE SECTION
POOLS AND PERMANENT SPAS:	R403.10
HEATERS. ELECTRIC POWER SWITCH REQUIRED.	R403.12
NO GAS PILOT.	
AUTOMATIC TIME SWITCHES ON HEATER AND PUMPS.	
COVERS REQUIRED (EXCEPT WITH SOLAR HEATING).	
COMPLY WITH APSP-15 STANDARD.	

FLOOR LIVE LOAD ____N/A___ PSF
ROOF LIVE LOAD ____N/A___ PSF
ULTIMATE WIND SPEED ____130___ MPH
ALLOWABLE WIND SPEED ___100___ MPH
WIND EXPOSURE CATEGORY (REF. R301.2.1.4) ____C____
SEISMIC DESIGN CATEGORY (REF. FIGURE 301.2(2)) _____E____

ELECTRICAL STANDARDS FOR WATER FEATURES

ELECTRICAL STANDARDS FOR SWIMMING POOLS, FOUNTAINS, SPAS, THERAPEUTIC POOLS, AND SIMILAR INSTALLATIONS

1. THE FOLLOWING IS A BRIEF SUMMARY OF THE REQUIREMENTS FOR SWIMMING POOLS, FOUNTAINS, SPAS, THERAPEUTIC POOLS, AND SIMILAR INSTALLATIONS. FOR SPECIFIC DETAILS AND EXCEPTIONS, REFER TO ARTICLE 680 NATIONAL ELECTRICAL CODE, LATEST EDITION.
2. ALL ELECTRICAL EQUIPMENT TO BE U/L APPROVED FOR THE PURPOSE.
3. BONDING CONDUCTOR FOR POOL REINFORCING STEEL AND OTHER METALLIC EQUIPMENT TO BE #8 AWG SOLID COPPER CONDUCTOR. GROUNDING PER 680-24 & 680-25.
4. NO ATTACHMENT PLUG RECEPTACLES SHALL BE INSTALLED WITHIN 10 FEET OF INSIDE OF WALLS OF POOL. WHERE SWIMMING POOL IS INSTALLED AT A DWELLING, AT LEAST ONE 125 VOLT CONVENIENCE RECEPTACLE SHALL BE INSTALLED BETWEEN 10 AND 20 FEET OF THE INSIDE OF THE POOL. ALL 125-VOLT RECEPTACLES LOCATED WITHIN 20 FEET FROM POOL SHALL BE PROTECTED BY A GROUND FAULT CIRCUIT INTERRUPTER (CFGI).
5. IF LIGHTING FIXTURES AND LIGHTING OUTLETS ARE LOCATED:
   (A) WITHIN 5 FEET OF POOL, FIXTURES, ND OUTLETS SHALL BE AT LEAST 12 FEET ABOVE MAXIMUM WATER LEVEL.
   (B) WITHIN 10 FEET AND NOT LESS THAN 5 FEET OF POOL FIXTURES, AND OUTLETS SHALL BE PROTECTED BY A CFGI UNLESS INSTALLED 5 FEET ABOVE THE MAXIMUM WATER LEVEL AND RIGIDLY ATTACHED TO THE STRUCTURE ADJACENT TO OR ENCLOSING THE POOL.
   (C) SEE ARTICLE 680 FOR EXCEPTIONS TO (A) AND (B) ABOVE.
6. SWITCHING DEVICES ON THE PROPERTY MUST BE LOCATED AT LEAST 5 FEET FROM THE POOL.
7. OVERHEAD WIRING SHALL NOT BE INSTALLED WITHIN 10 FEET OF SWIMMING POOL AREA.
8. UNDERGROUND WIRING SHALL NOT BE PERMITTED UNDER THE POOL OR UNDER THE AREA EXTENDING 5 FEET HORIZONTALLY FORM THE INSIDE WALL OF THE POOL.
9. ANY UNDERWATER LIGHTING FIXTURE OVER 15 VOLTS SHALL BE PROTECED BY A CFGI.
10. STORABLE SWIMMING POOLS: ALL ELECTRICAL EQUIPMENT, INCLUDING POWER SUPPLY CORDS, USED WITH STORABLE SWIMMING POOLS SHALL BE PROTECTED BY A CFGI.
11. SPAS, HOT TUBS, AND HYDROMASSAGE BATHTUBS:
   (A) ALL RECEPTACLES MUST BE LOCATED AT LEAST 5 FEET AWAY FROM THE SPA OR HOT TUB.
   (B) ALL RECEPTACLES WITHIN 20 FEET OF SPA OR HOT TUB MUST BE PROTECTED BY A CFGI.
   (C) ALSO ANY RECEPTABLE THAT PROVIDES POWER FOR A SPA OR HOT TUB MUST BE PROTECTED BY A CFGI.
   (D) LIGHTING FIXTURES AND LIGHTING OUTLETS LOCATED OVER OR WITHIN 5 FEET OF SPA OR HOT TUB JUST BE PROTECTED BY A CFGI AND BE AT LEAST 7.5 FEET ABOVER WATER LEVEL.
   (E) WALL SWITCHES MUST BE LOCATED AT LEAST 5 FEET AWAY FROM SPA OR HOT TUB.
   (F) UNDERWATER LIGHTING FIXTURES SHALL MEET THE SAME REQUIREMENTS AS THOSE LISTED FOR SWIMMING POOL UNDERWATER LIGHTING FIXTURES.
12. FOUNTAINS, FOUNTAIN POOLS, ORNAMENTAL DISPLAY POOLS, AND REFLECTOR POOLS: LIGHTING FIXTURES, SUBMERSIBLE PUMPS AND OTHER SUBMERSIBLE EQUIPMENT, CORD AND PLUG CONNECTED EQUIPMENT SHALL BE PROTECTED BY A CFGI.
13. THERAPEUTIC POOLS AND TUBS IN HEALTH CARE FACILITIES: SEE ARTICLE 680 FOR COMPLETE REQUIREMENTS.
14. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENT OF THE CITY & COUNTY OF HONOLULU N.E.C. ART. 680.
15. ALL ELECTRICAL EQUIPMENT SHALL COMPLY WITH N.E.C.
16. ALL ELECTRICAL EQUIPMENT SHALL BE U.L. APPROVED.
17. BONDING AND GROUNDING OF ALL EQUIPMENT OF REINFORCING STEEL SHALL BE WITH A.W.S. #8 INSULATED COPPER CONDUCTOR.
18. NO ELECTRICAL ATTACHMENTS OR RECEPTICALS SHALL BE WITHIN 10'-0" OF POOL.
19. OVERHEAD WIRING SHALL NOT BE INSTALLED WITHIN 10'-0" OF POOL.
20. UNDERWATER LIGHTS SHALL BE INSTALLED WITH ADEQUATE CORD LENGTH TO ALLOW LIGHT TO BE REMOVED FROM NICHE AND SET ON DECK FOR BULB REPLACEMENT.
21. PENTAIR IN-HOUSE CONTROL PANEL LOCATION TO BE INDOOR AND DETERMINED BY GENERAL CONTRACTOR/OWNER AND (4) 22 GUAGE MIN., STANDARD WIRES TO BE RUN BY ELECTRICIAN FROM THAT LOCATION TO MASTER PANEL IN PUMP ROOM.
22. ELECTRICAL CONTRACTOR TO PROVIDE ALL CONDUITS REQUIRED FOR ALL ELECTRICAL WORK RELATED TO SWIMMING POOL.

SHEET INDEX

STRUCTURAL NOTES

1. #4 @ 12" O.C. HORIZONTAL & #4 @ 12" O.C. VERTICAL, UNLESS NOTED.
2. PROVIDE 3" COVER WHEN CAST AGAINST EARTH & 2" COVER ALL REBAR.
3. EXTEND ALTERNATE VERTICALS INTO BOND BEAM.
4. #3 @ 6 O.C. B.W. CONTINUOUS AROUND SKIMMER, LIGHT NICHE, DRAIN AND ANCHORS.
5. LAP SPLICES SHALL BE NON-CONTACT SPLICES. LAP SPLICES 2'-0", AND SHALL HAVE MIN. 2" BETWEEN BARS.
6. REINFORCING BARS SHALL BE A-615, GRADE 60.

DESIGN LOADS
1. UNIFORM LIVE LOADS:
   ROOFS: 20 PSF
   FLOORS: 40 PSF
   LANAIS: 40PSF
2. LATERAL LOADS:
WIND: EXPOSURE C
   132 MPH EFFECTIVE (ULT) WINF SPEED
   Kzt = 1.0
   OCCUPANCY CATEGORY II
   IMPORTANCE FACTOR= 1.0
EARTHQUAKE: SITE CLASSIFICATION D
   RISK CATEGORY II
   R=6.5, PLYWOOD SHEAR WALLS
   IMPORTANCE FACTOR = 1.0
   Ss = 2.31, S1 = 0.854
   Sds = 1.848

PLUMBING STANDARDS

1. CROSS-CONNECTION SHALL BE PREVENTED BY:
   __APPROVED PRESSURE VACUUM BREAKER
   __FEBCO 765 INSTALLED ABOVE FLOOD LEVEL
   __APPROVED AIR-GAP ABOVE FLOOD LEVEL
   __FILLED VIA EXISITING HOUSE BIB
2. STANDARD PLUMBING AND DISCHARGE NOTES FOR SWIMMING POOLS:
   A) POOL BACKWASH WATER DISCHARGES AND/OR WASHING OUT OF DEBRIS INTO THE PUBLIC RIGHT-OF-WAY, INTO ANY PUBLIC EASEMENT, AND INTO THE CITY'S STOM DRAIN SYSTEM, ARE NOT ALLOWED.
   B) IF DISCHARGING POOL WATER WITHIN THE SUBJECT PROPERTY, ADEQUATE PROVISIONS SHALL BE MADE TO PREVENT SURFACE WATERS AND/OR SEDIMENT-LADEN RUNOFF FROM LEAVING THE SITE. IN ADDITION, THE POOL WATER SHOULD NOT CAUSE WATER TO STAGNATE ON, OR TO FLOOD, ANY ADJOINING PROPERTIES.
   C) POOL WATER DISCHARGES TO THE CITY'S STORM DRAIN SYSTEM REQUIRE APPROVAL BY THE STORM WATER QUALITY BRANCH OF THE CITY DEPARTMENT OF ENVIRONMENTAL SERVICES (ENV). FOR MORE INFORMATION AND TO ARRANGE FOR INSPECTION PRIOR TO COMMENCEMENT OF DISCHARGE, PLEASE CONTACT ENV AT (808) 768-3245.
   D) POOL WATER DISCHAARGES TO CITY'S SANITARY SEWER SYSTEM REQUIRE APPROVAL BY THE REGULATORY CONTROL BRANCH OF THE CITY DEPARTMENT OF ENVIRONMENTAL SERVICES (ENV). PLEASE CONTACT ENV AT (808) 768-3261 OR (808) 768-3262.
   E) POOL WATER DISCHARGES TO THE STATE'S STOM DRAIN SYSTEM REQUIRE APPROVAL BY THE HIGHWAYS DIVISION OF THE STATE DEPARTMENT OF TRANSPORTATION (DOT). PLEASE CONTACT DOT AT (808) 831-6712.
   F) POOL WATER (PUBLIC SWIMMING POOL) DISCHARGES REQUIREAPPROVAL BY THE SANITATION BRANCH OF THE STATE DEPARTMENT OF HEALTH (DOH). PLEASE CONTACT DOH AT (808) 586-8000.
   G) NO STOCKPILING OF EXCAVATED MATERIALS SHALL BE ALLOWED WITHIN THE PUBLIC RIGHT-OF-WAY OR ANY PUBLIC EASEMENT. IF WORK ON THE PUBLIC RIGHT-OF-WAY IS NECESSITATED. PLEASE CONTACT THE STREET USAGE BRANCH OF THE CITY DEPARTMENT OF TRANSPORTATION SERVICES (DTS) AT (808) 768-8390
   H) NON-COMPLIANCE WITH ANY OF THE ABOVE REQUIREMENTS MAY RESULT IN ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES.

CHRIS WILSON
LICENSED PROFESSIONAL ENGINEER
No. 14056-S
HAWAII, U.S.A.

SIGNATURE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION (AS DEFINED BY HAWAII ADMIN. RULES, TITLE 16, CHAPTER 115. EXP. 04.30.24

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2413 SOLOMONS PLACE
ST PAUL, TEXAS 75098
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e-mail: lin@kolohedesign.com

REVISIONS

No.	Description	Date
1	POOL BARRIERS	01/04/23

SINGLE FAMILY RESIDENCE
LOT 31 NOHEA, PHASE 1
TMK: (3) 6-8-043:031
Nohea at Mauna Lani, LLC
101 Hodencamp Rd. Suite 200
Thousand Oaks, Ca 91360
PH: 805-494-7704 FAX: 805-494-1226

Date: 08/05/2022

Scale:

Sheet Title: TITLE SHEET, AND GENERAL NOTES

Sheet Number: T-1.0

PERMIT SET

PRINT DATE 1.4.2023

SPECIFICATIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

THE GENERAL CONDITIONS AND SPECIAL PROVISIONS OF THE PROJECT SPECIFICATIONS SHALL GOVERN WORK SPECIFIED HEREIN.

1.02 DESCRIPTION OF WORK

WORK INCLUDED: THE WORK SPECIFIED IN THIS SECTION INCLUDES ALL LABOR, MATERIALS, EQUIPMENT TO CONSTRUCT AND COMPLETE THE SWIMMING POOL WORK, AND EQUIPMENT AT LOT 31 NOHEA, PHASE 1, MAUNA LANI- HAWAII, AS SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED INCLUDING BUT NOT LIMITED TO:

1. SHOP DRAWINGS, SUBMITTALS, AND PERMITS.
2. START-UP, INSTRUCTION AND MAINTENANCE MANUALS
3. FORMING WORK
4. STEEL REINFORCEMENT
5. PNEUMATICALLY APPLIED CONCRETE (SHOTCRETE)
6. CERAMIC TILE WORK
7. MARBLEIZED PLASTER
8. RECIRCULATING AND FILTRATION SYSTEMS
9. PIPING AND FITTINGS
10. SANITATION AND CONTROL SYSTEMS
11. WATER SANITATION SYSTEMS
12. UNDERWATER NICHE AND LIGHTING SYSTEMS
13. MAKE-UP WATER SYSTEMS
14. COPING
15. ROCKWORK

1.03 RELATED WORK SPECIFIED IN OTHER AREAS

A. POOL DECK IS BY OTHERS.

B. UTILITY SERVICES TO EQUIPMENT AREA.

1. POTABLE WATER SUPPLY LINE WITH A DEDICATED REDUCED PRESSURE BACKFLOW PREVENTOR.
2. ELECTRICAL SERVICE TO THE EQUIPMENT ROOM FOR THE SIMMING POOL EQUIPMENT.

C. ALL EXCAVATION AND EARTHWORKS BY OTHERS

D. MINIMUM 4" DRAIN CONNECTIONS TO DRYWELL FOR EQUIPMENT BACKWASH (AS REQUIRED)

1.04 PERMITS

WORK INCLUDED: SECURE AND PAY FOR ALL NECESSARY PERMITS REQUIRED FOR CONSTRUCTION OF POOL.

1.05 QUALIFICATIONS & QUALITY CONTROL

A. CONTRACTOR SHALL HAVE A VALID C-49 HAWAII LICENSE AND SHALL SHOW PROOF OF FIVE PROJECTS OF A SIMILAR TYPE SUCCESSFULLY COMPLETED.

B. CONTRACTOR SHALL PROVIDE ONE PERSON WHO SHALL BE PRESENT DURING THE EXECUTION OF THE WORK SPECIFIED WHO SHALL BE FAMILIAR WITH THE TYPES OF MATERIALS AND PROCESSES AND SHALL DIRECT THE WORK INVOLVED.

C. THE WORKER USED BY ALL SUB-TRADES IN THE PERFORMANCE OF THE SPECIFIED WORK SHALL BE EXPERIENCED IN THEIR RESPECTIVE AREA OF WORK.

D. THE WORK SPECIFIED HEREIN SHALL COMPLY WITH THE PLUMBING CODE OF THE COUNTY OF HAWAII WITH THE REGULATIONS OF THE DEPARTMENT OF HEALTH OF THE STATE OF HAWAII AND ALL GOVERNMENTAL CODES APPLICABLE TO THE WORK.

E. THE WORK SPECIFIED HEREIN SHALL COMPLY WITH THE STANDARDS OF NSPI (NATIONAL SWIMMING POOL INSTITUTE) TO THE EXTENT THAT SAME ARE APPLICABLE TO THE WORK.

F. IN ADDITION TO ALL OTHER EXPRESSLY REQUIRED AND PROVIDED GUARANTEES AND WARRANTIES, ALL PRODUCTS OF THE WORK SPECIFIED HEREIN SHALL HAVE A WARRANTY PERIOD OF ONE YEAR.

1.06 SUBMITTALS

A. BUILDING PERMIT: CONTRACTOR TO OBTAIN ALL NECESSARY WATER FEATURE PERMITS.

B. PRODUCT LITERATURE: PRIOR TO COMMENCEMENT OF ANY WORK, ONE SET OF PRODUCT LITERATURE FOR ALL MANUFACTURED PRODUCTS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. ALL SUBSTITUTIONS OF SPECIFIED PRODUCTS SHALL FIRST BE APPROVED BY OWNER.

C. AS-BUILT DRAWINGS: UPON COMPLETION OF PROJECT, CONTRACTOR SHALL SUBMIT ONE SET OF DRAWINGS SPECIFYING AS-BUILT CONDITION.

1.07 LAWS & REGULATIONS

THE INSTALLATION SHALL COMPLY WITH THE BUILDING CODE OF THE COUNTY OF HAWAII, THE REGULATIONS OF THE DEPARTMENT OF HEALTH OF THE STATE OF HAWAII, NATIONAL STANDARDS AS APPLICABLE AND ALL OTHER APPLICABLE REGULATIONS.

PART 2 - PRODUCTS

2.01 STEEL REINFORCEMENT

A. REINFORCING BAR: CONFORMS TO ASTM A615, DEFORMED STEEL BARS GRADE 60.

B. TIE WIRE: TIE REINFORCING WITH #16 GAUGE, BLACK ANNEALED WIRE.

C. SUPPORT FOR REINFORCEMENTS: SET REINFORCEMENTS ON 3-INCH PRECAST CONCRETE BLOCKS.

2.02 GUNITE/SHOTCRETE

MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.

2.03 CEMENT

PORTLAND CEMENT CONFORMING TO ASTM C150, TYPE I OR II.

2.04 INTERIOR FINISH

BASALT STONE TILE WITH FLAME FINISH. THE FINAL SPECIFICATION SHALL BE APPROVED BY THE ARCHITECT & OWNER.

2.05 PLUMBING MATERIALS

ALL PIPING AND FITTINGS SHALL BE SCHEDULE 40 PVC CONFORMING TO ASTM D1785.

2.06 SWIMMING POOL & SPA EQUIPMENT

A. PUMP: ALL PUMPS SHALL BE PENTAIR OR EQUAL, SELF-PRIMING WITH THERMOPLASTIC BODY, BUNA N O-RINGS, CLOSED IMPELLER AND INTERNAL HIGH TEMPERATURE CUT-OFF WITH STRAINER BASKETS OF A SIZE CAPABLE OF PUMPING ENTIRE POOL VOLUME THROUGH FILTER EVERY SIX HOURS OR TO DEPARTMENT OF HEALTH MINIMUM STANDARDS.

B. FILTER UNIT: ALL FILTER UNITS SHALL BE HIGH RATE SAND FILTERS (TREATED SYSTEMS) OF FIBERGLASS CONSTRUCTION WITH MULTI-PORT VALVE.

C. FITTINGS: HAYWARD, AMERICAN PRODUCTS, PARAGON, PENTAIR POOL PRODUCTS, WATERWAY PLASTICS, OR SWIMQUIP FITTINGS MAY BE SUBMITTED.

1. MAIN DRAIN: THE MAIN DRAINS FOR THE SWIMMING POOL SHALL BE NON-CORROSIVE AND NON-CONDUCTIVE CONSTRUCTION WITH 8" BODY AND ANTI-VORTEX COVER PLATE AND ANSI/ASME A112.19.8M 2008 APPROVED.
2. INLET JET FITTINGS: INLET FITTINGS SHALL BE 1½" "EYEBALL" WITH DIRECTIONAL BALL TYPE NOZZLE OF CYCOLAC CONSTRUCTION.
3. SKIMMER: SKIMMER SHALL BE OF ABS PLASTIC CONSTRUCTION WITH 2" PIPE CONNECTIONS, FLOATING WEIR, REMOVABLE PLASTIC STRAINER BASKET, AND FLOAT VALVE (EQUALIZER).
4. OVERFLOW/WATER MAKE-UP: POOLMISER HOUSING WITH 1" OVERFLOW AND ¾" WATER MAKE-UP FLOAT VALVE (ONE EACH)-OAE.

D. SANITATION/WATER TREATMENT SYSTEMS: SALT CHLORINATOR.

E. FLOW METER: FLOW METER SHALL BE SIZED TO THE SYSTEM PIPE DIAMETER AND SHALL READ THE FLOW RATES IN GALLONS PER MINUTE AND INSTALLED DOWNSTREAM OF THE FILTER AND PER MANUFACTURERS INSTRUCTIONS. FLOWVIS FLOW METER MANUFACTURED BY H2FLOW CONTROLS, INC., 1.5" TO 2.5" (IF REQUIRED).

F. TRUE-UNION BALL VALVES: CPVC JANDY NEVER-LUBE VALVES, DUO-BLOC, TRUE BLUE OR EQUIVALENT.

G. WALL LIGHT AND NICHE: WALL LIGHT SHALL BE LISTED BY THE UNDERWRITERS LABORATORIES WITH LOW-WATER CUT-OFF DEVICES. REFER TO LIGHT CONSULTANT DRAWINGS FOR SPECIFICATION.

2.07 ELECTRICAL MATERIALS (SUPPLIED & INSTALLED BY OTHERS)

A. NO. 8 AWG SOLID COPPER INSULATED GROUNDING WIRE

B. CIRCUIT BREAKERS, ELECTRICAL WIRING, AND GROUND FAULT INTERRUPTERS FROM CIRCUIT PANEL AT EQUIPMENT PAD TO PUMPS, DISCONNECT SWITCHES, CONTROL SYSTEM AND LIGHTS.

C. ALL ELECTRICAL EQUIPMENT TO BE UL APPROVED FOR APPLICATION.

D. BONDING CONDUCTOR FOR REINFORCING STEEL AND OTHER METALLIC EQUIPMENTS IS TO BE #8 AWG SOLID COPPER CONDUCTOR.

E. FOR SPECIFIC DETAILS AND EXCEPTIONS, REFER TO ARTICLE 680, NEC (NATIONAL ELECTRICAL CODE) CURRENT EDITION.

PART 3 - EXECUTION

3.01 INSTALLATION:

LAYOUT: POSITION AND LAYOUT OF POOL BASED ON REFERENCE POINTS PROVIDED BY GENERAL CONTRACTOR.

3.02 EXCAVATION:

ALL SHALL BE DONE IN MANNER THAT WILL HAVE THE POOL SHAPE IN LOAD BEARING MATERIAL OF AT LEAST 1,000 PSI. ANY LOOSE SOIL SHALL BE REMOVED. POOL SHAPE SHALL BE FILLED WITH SHOTCRETE. IF THE OVER-DIG OF A LARGE PORTION, THEN THE WALL MUST BE FORMED - THE FORM REMOVED AFTER THE GUNITE SHOT AND BACK-FILL PUT IN AND TAMPED TO 90% OF ORIGINAL EARTH BACK. ALL INSIDE RADIUS AND SHAPE SHALL BE HAND FORMED AND CONFORM TO DRAWINGS.

3.03 FORM WORK:

WOOD FORMS SHALL BE SET TO DEFINE THE OUTSIDE PERIMETER OF THE POOL. THESE FORMS SHALL BE LEVELED TO THE TOP OF THE CONCRETE, SQUARED TO THE DESIGNATED HORIZONTAL DIMENSIONS AND ANGLES, AND SECURELY STAKED AND BRACED IN PLACE. BOXES SHALL BE FORMED AROUND ALL APPURTENANCES ALLOWING AT LEAST 6" OF CONCRETE COVER. IMMEDIATELY BEFORE PLACING THE CONCRETE, ALL FRAME WORK DIMENSIONS, DEPTH TO SUB-GRADE, AND ESPECIALLY LEVELNESS AND ELEVATION SHALL BE RECHECKED. AFTER THE CONCRETE IS PLACED, ALL FORMS, STAKES AND BRACES, ETC., OF WOOD OF OTHER MATERIALS EXCEPT EXPANDED METAL MESH SHALL BE COMPLETELY REMOVED BEFORE BACKFILLING.

3.04 REINFORCING STEEL:

REINFORCING STEEL SHALL BE TIED SECURELY IN PLACE AND BLOCKED TO THE DESIGNATED CLEARANCE BEFORE THE CONCRETE IS PLACED. REBAR SHALL BE PLACED BEHIND, AROUND AND BELOW LIGHT FIXTURE NICHES, SKIMMERS, AND MAIN DRAINS. SPLICES SHALL BE STAGGERED AND LAPS SHALL NOT BE LESS THAN 30 DIAMETERS OR 24" MINIMUM. ALL REBAR SHALL BE OF A SIZE, AND SHALL BE SPACED AS INDICATED ON THE DRAWINGS, UNLESS OTHERWISE AUTHORIZED BY THE DESIGNER. ALL CROSSING SHALL BE 90% AND AT LEAST EVERY OTHER CROSSING SHALL BE TIED. REBAR SHALL BE FREE OF LOOSE RUST, OIL, MUD OR DIRT. NO REBAR SHALL BE IN CONTACT WITH SUB-GRADE OR FORM WORK, AND ALL REBAR EXCEPT DESIGNATED DOWELS SHALL BE TOTALLY ENCASED IN CONCRETE.

3.05 ROUGH PLUMBING & ELECTRICAL:

BEFORE THE CONCRETE IS PLACED, THE FOLLOWING ROUGH PLUMBING AND ELECTRICAL WORK SHALL BE ACCOMPLISHED AND INSPECTED:

A. LIGHT NICHE: LIGHT NICHE SHALL BE FITTED WITH 1" PVC ELECTRICAL CONDUIT EXTENDING WELL BEYOND SUB-GRADE AND FORM WORK, SHALL BE FIRMLY SECURED AND IN CORRECT LOCATION WITH REBAR AND TIE WIRE.

B. BONDING: ALL LIGHT NICHES SHALL BE ADEQUATELY BONDED TO THE REBAR GROUNDING GRID. BONDING CLAMPS AND WIRES SHALL BE PROVIDED FOR ANY METAL FEATURE WITHIN 10' OF POOL PER NEC SPECIFICATIONS. GROUNDING WIRE SHALL BE FIRMLY SECURED TO THE REBAR GROUNDING GRID AND SHELL EXTEND TOWARD THE EQUIPMENT ENCLOSURE WITH SUFFICIENT UN-SPLICED LENGTH TO REACH THE GROUNDING BUSS IN THE EQUIPMENT CONTROL PANEL.

C. MAIN DRAINS: THE MAIN DRAINS AND OTHER SUCTION (TWO PROVIDED PER SUCTION SOURCE) PIPING SHALL BE INSTALLED USING A MINIMUM NUMBER OF FITTINGS TO A POINT WELL BEYOND POOL PERIMETER AND SHALL BE PRESSURE TESTED BEFORE THE PLACEMENT OF CONCRETE.

D. RETURN PLUMBING: RETURN PIPING SHALL BE SCHEDULE 40 AND INSTALLED WITH A TEE OR 90 DEGREE ELBOW FIRMLY SECURED TO THE REBAR IN THE WALL, TO BE ENCASED IN GUNITE. RETURN FITTINGS, WHERE INDICATED, SHALL BE INSTALLED TO SET FLUSH WITH THE FINISH INTERIOR. WHERE NO FITTING IS REQUIRED, THE RETURN PIPING SHALL BE EXTENDED WELL BEYOND THE POOL PERIMETER, AND ALL FITTINGS AND OPEN ENDS SHALL BE PROTECTED AGAINST THE INTRUSION OF FOREIGN MATERIALS BEFORE GUNITING.

E. PLUMBING:

1. POOL CONTRACTOR MUST GUARANTEE THAT THE PIPING WILL ALLOW THE CIRCULATION OF THE NECESSARY GPM WITH ALL THE FRICTIONAL LOSSES INVOLVED. ALL SUCTION PIPING TO BE LAID WITH A CONSTANT GRADIENT TO ELIMINATE AIR LOCKS AND LOSS OF PRIME. PIPING TO BE LAID USING GOOD PRACTICES TO ELIMINATE AND REDUCE TO A MINIMUM CHANGES IN DIRECTION OF WATER FLOW THAT INCREASE FRICTIONAL LOSS. ALL VALVES SHALL BE PVC AND LOCATED AS SHOW ON DRAWINGS. ALL PIPING TO BE LABELED SHOWING DIRECTION OF FLOW AND FUNCTION AND ALL VALVES ARE TO BE LABELED.
2. ALL PIPING IS TO BE TESTED TO ENSURE INTEGRITY OF JOINTS AND CONNECTIONS, USING STANDARD PRESSURE TESTING TECHNIQUES, PRIOR TO ENCASEMENT IN SHOTCRETE OR BURIAL.
3. VALVES AND UNIONS SHALL BE PROVIDED AT CONNECTIONS TO EQUIPMENT TO FACILITATE MAINTENANCE OF THE EQUIPMENT.
4. ALL CONNECTIONS BETWEEN DOMESTIC WATER SUPPLY AND POOL EQUIPMENT SHALL BE MADE USING AN APPROVED BACKFLOW PROTECTION DEVICE.

3.06 CONCRETE:

ALL WORKERS PLACING CONCRETE SHALL BE EXPERIENCED IN SIMILAR APPLICATION. EQUIPMENT USED FOR CONCRETE PLACEMENT SHALL BE IN GOOD REPAIR, ADEQUATE AND APPROPRIATE FOR THE JOB. ALL MATERIALS EXHIBITING INADEQUATE HYDRATION, INSUFFICIENT MIXING, FOREIGN MATTER, BALLING, SEPARATION OR LOSS OF INITIAL COHESIVENESS SHALL BE SEPARATED FROM THE "LIVE" MATERIAL AND WASTED. CONCRETE SHALL BE APPLIED AS INDICATED AND SUCH THAT ALL REINFORCING STEEL IS COMPLETELY ENCASED AND ADEQUATELY PROTECTED FROM CORROSION BY THE CONCRETE. UPON COMPLETION OF THE PLACEMENT, THE CONCRETE SHALL BE KEPT WET FOR 7 CONSECUTIVE DAYS BY THE POOL CONTRACTOR.

3.07 SHOTCRETE:

SHOTCRETE SHALL BE CAREFULLY APPLIED UNDER THE MAIN DRAIN, BEHIND THE LIGHT NICHES, AROUND THE SKIMMERS, UP TO THE TOP OF THE BOND BEAM, AND AROUND ALL FITTINGS. SHOTCRETE SHALL BE NOZZLED TO ITS FINAL POSITION NOT SHOVELED OR HAND PACKED. THE IN-PLACE SHOTCRETE SHALL BE FRESNOED TO PLUMB AND TRUE STRAIGHT LINES OR DIMENSIONED RADII AS REQUIRED BY THE DRAWINGS; VOIDS AND DEPRESSED AREAS SHALL BE FLASHED WITH THE NOZZLE, NOT WOOD FLOATED. AFTER THE REQUIRED SHAPES HAVE BEEN FRESNOED, THE ENTIRE EXPOSED GUNITE SURFACE SHALL BE BROOMED WITH A STIFF BRISTLED BRUSH TO ROUGHEN ANY SMOOTH PATCHES, AND ALL SHOTCRETE WASTE SHALL BE CLEANED UP AND DISPOSED OF. UPON COMPLETION OF PLACEMENT, THE SHOTCRETE SHALL BE WETTED DOWN CONTINUALLY FOR 7 CONSECUTIVE DAYS BY THE POOL CONTRACTOR.

3.08 CONCRETE MASONRY:

CONCRETE MASONRY SHALL BE REINFORCED AND ALL CELLS GROUTED U.O.N. ULTIMATE COMPRESSIVE STRENGTH, F'M, SHALL BE 1500 PSI MINIMUM. UNLESS OTHERWISE APPROVED BY THE ENGINEER, MATERIALS SHALL CONFORM TO THE FOLLOWING:
UNITS: OPEN END, ASTM C90-90 TYPE 1, 1900 PSI.
MORTAR: TYPE M OR S CEMENT-LIME MORTAR IN ACCORDANCE WITH UBC TABLE 21-A.
GROUT: MINIMUM COMPREHENSIVE STRENGTH 2000 PSI.

DETAILS OF WORKMANSHIP SHALL BE IN ACCORDANCE WITH UBC CHAPTER 21 AND FOLLOWING:
- RUNNING BOND.
- ROUGHEN CONSTRUCTION SURFACES BEFORE PLACING UNITS.
- CLEANOUTS REQUIRED AT BOTTOM COURSE FOR EACH VERTICAL BAR (32" O.C. MAX) FOR ALL GROUT POURS OVER FIVE FEET IN HEIGHT.
- PROVIDE BOND BEAM UNIT AT HORIZONTAL REINFORCING.
- NO PIPES OR DUCTS SHALL BE EMBEDDED OR CHASED IN BLOCK EXCEPT AS DETAILED ON DRAWINGS.

3.09 PLASTER FINISH:

A. SURFACE PREPARATION:

1. SURFACE SHALL BE CLEAN AND FREE OF ALL DUST AND LOOSE PARTICLES AND OTHER FOREIGN MATTER. ANY OIL, GREASE OR PAINT SHALL BE REMOVED AND THE SURFACE SCRUBBED WITH A DILUTE SOLUTIONS OF TRISODIUM PHOSPHATE FOLLOWED BY AN APPLICATION OF 10% SOLUTION OF MURIATIC ACID FOLLOWING BY A CLEAN WATER RINSE (IF REQUIRED).

B. INSTALLATION:

1. A FINISH COAT OF THE SPECIFIED MARBLE PLASTER SHALL BE APPLIED BY TROWEL TO A THICKNESS OF ½" MINIMUM AND ¾" MAXIMUM UNTO THE ROUGH GUNITE SURFACE OR A PREVIOUSLY APPLIED BROWNCOAT.
2. THE PLASTER SHALL BE FLOATED TO A UNIFORM PLANE AND TROWELED TO A SMOOTH, DENSE IMPERVIOUS SURFACE USING EXTREME CARE TO AVOID STAINS.
3. THE PLASTER SHALL BE ACCURATELY INTERFACED WITH THE FINISH PLANE OF ITEMS INSTALLED BY OTHER TRADES.

C. CURING PLASTER:

1. THE CONTRACTOR SHALL ANTICIPATE THE NEED FOR THE EQUIPMENT REQUIRED FOR CURING OF THE PLASTER AND HAVE IT AVAILABLE ON-SITE.
2. POOL FILLING:
   a. AFTER THE PLASTER HAS SUFFICIENTLY SET AND BEFORE DRYING HAS PROCEEDED TO A DAMAGING POINT, THE PLASTER SHALL BE CURED BY GRADUALLY FILLING THE POOL WITH WATER PREVENTING DAMAGE TO SURFACE DURING THIS PROCESS.
   b. THE FILLING WATER SHALL BE CONTINUOUSLY FLOWED UNTIL POOL IS FULL.
   c. WHEN THE WEATHER IS HOT OR THE FLOW IS SLOW, THE PLASTERED WALLS SHALL BE KEPT CONTINUOUSLY DAMP UNTIL POOL IS FULL.

D. SPECIAL CONDITIONS:

1. PLASTER SHALL NOT BE APPLIED UNDER CONDITIONS WHICH MAY LEAVE DOUBT AS TO THE QUALITY OF THE FINISH, ALLOWING FOR TIME TO PROPERLY FILL, CHEMICALLY BALANCED AND CURE THE NEW PLASTER.

3.10 STONE TILE:

A. SURFACE PREPARATION:

1. THOROUGHLY SOUND THE SURFACE FOR LOOSE CONCRETE.
2. PRESSURE WASH ALL SURFACES.
3. LEVEL ALL LOOSE SURFACES.

B. INSTALLATION:

1. SET TILE WITH LINES AND PLANES TRUE, EVEN, PLUMB AND LEVEL. ALIGN JOINTS. STONE ANY SHARP EDGES.
2. CAREFULLY ESTABLISH AND FOLLOW THE REQUIRED VERTICAL AND HORIZONTAL ELEVATIONS.
3. REMOVE AND RESET ANY TILE THAT IS LOOSE OR RINGS HOLLOW.
4. FINISH WITH GROUT APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
5. UPON COMPLETION, THOROUGHLY CLEAN ALL INSTALLED TILE, REMOVE DEBRIS AND LEAVE THE SITE IN A CLEAN PRESENTABLE CONDITION.

3.11 STONE SUPPORT EQUIPMENT:

ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' INSTRUCTIONS. ALL SERVICEABLE AND ALL CONTROL VALVES SHALL BE READILY ACCESSIBLE. ALL GAUGES SHALL BE LOCATED WHERE THEY CAN EASILY BE READ.

3.12 START-UP & OPERATING INSTRUCTIONS:

POOL CONTRACTOR SHALL START-UP AND OPERATE ALL EQUIPMENT IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE AND MAKE ALL ADJUSTMENTS REQUIRED FOR PROPER OPERATION. INITIAL WATER TREATMENT AND ACHIEVING INITIAL CHEMICAL BALANCE ARE PART OF THIS CONTRACTOR'S RESPONSIBILITY. HE SHALL INSTRUCT OWNER'S REPRESENTATIVE IN THE PROPER CARE, OPERATION, AND MAINTENANCE OF THE POOL AND ALL RELATED EQUIPMENT. IN ADDITION HE SHALL DELIVER TO THE OWNER TWO (2) COMPLETE SETS OF INSTRUCTIONS REGARDING OPERATION AND MAINTENANCE PROCEDURES. CONTRACTOR WILL CLEAN AND MAINTAIN POOL AND CHEMICAL BALANCES FOR 30 DAYS FOLLOWING INITIAL START-UP.

3.13 SPECIAL CONDITIONS:

A. WEATHER CONDITIONS: DO NOT APPLY CONCRETE, PLASTER OR TILE DURING RAIN. PROTECT NEWLY APPLIED FINISHES FROM DIRT THAT MIGHT GET BLOWN ONTO FRESH SURFACES UNTIL THEY HAVE SET OR CURED.

3.14 INSTRUCTIONS:

A QUALIFIED REPRESENTATIVE OF THIS CONTRACTOR SHALL VISIT THE SITE OF WORK AFTER INSTALLATION OF THE EQUIPMENT HAS BEEN COMPLETED, SHALL PUT INTO OPERATION ALL MECHANICAL EQUIPMENT AND SHALL FOR A PERIOD NOT TO EXCEED 8 HOURS, ASSIST AND INSTRUCT THE OWNERS, INCLUDING ON THE PROPER MIXTURE OF CHEMICALS. IF THE EQUIPMENT FAILS TO FUNCTIONS AS INTENDED, THE CONTRACTOR SHALL CORRECT THE MALFUNCTION AND ANY ADDITIONAL TIME OVER 8 HOURS OF INSTRUCTION THAT MAY BE REQUIRED WILL BE AT THE CONTRACTOR'S EXPENSE.

3.15 GUARANTEE:

ALL WORK EXECUTED WITHIN THESE SPECIFICATIONS SHALL BE GUARANTEED TO BE FREE FROM DEFECTS OF MATERIAL AND WORKMANSHIP FOR ONE YEAR FROM DATE OF PLASTER. ALL NORMAL REPAIRS AND REPLACEMENT REQUIRED WITHIN THAT TIME SHALL BE PERFORMED WITHOUT COST TO OWNER.

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SIGNATURE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION (AS DEFINED BY HAWAII ADMIN. RULES, TITLE 16, CHAPTER 115. EXP. 04.30.24

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REVISIONS

No.	Description	Date
1	POOL BARRIERS	01/04/23

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Date: 08/05/2022

Scale:

Sheet Title: SPECIFICATIONS

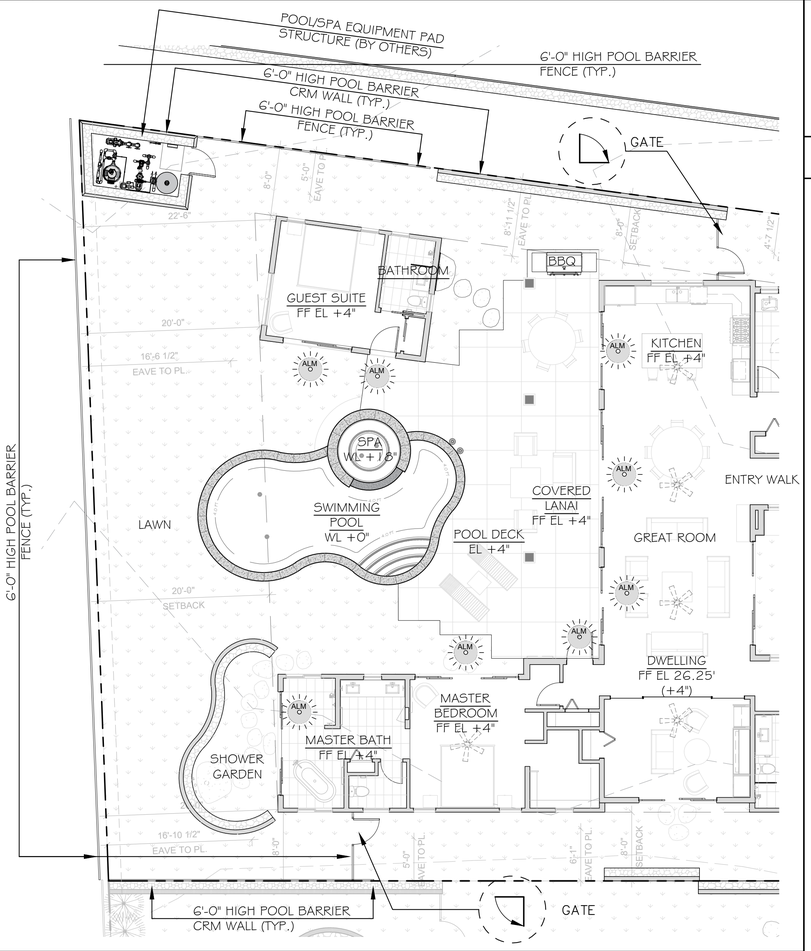
Sheet Number: WF-1.0

PERMIT SET

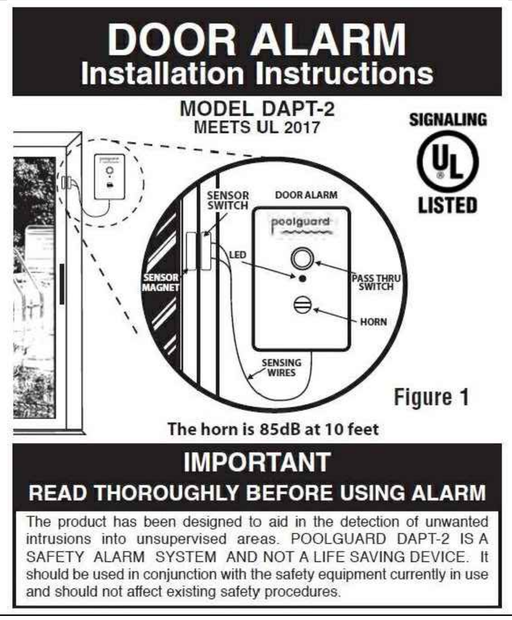
PRINT DATE 1.4.2023

1 SWIMMING POOL AND SPA BARRIER PLAN

SCALE: 1"=10'-0"



DOORS WITH DIRECT ACCESS TO POOL DOOR ALARM



POOL BARRIER NOTES

1. SELF-CLOSING AND SELF-LATCHING GATES WILL BE PROVIDED AT ENTRY POINTS TO POOL AND SPA.
2. A 4-FOOT HIGH FENCE OR GRADE SEPARATION 4 FEET HIGH OR GREATER WILL BE PROVIDED AROUND POOL AND SPA.

SYMBOL INDEX

ALM — IBC 2018 DIRECT ACCESS DOOR ALARM UL 2017 LISTED

4'-0" HIGH SELF-CLOSING AND LATCHING GATE (TYP. ALL POOL BARRIER GATES)

2018 INTERNATIONAL SWIMMING POOL AND SPA POOL BARRIER CODE SECTION 305

305.1 GENERAL

THE PROVISIONS OF THIS SECTION SHALL APPLY TO THE DESIGN OF BARRIERS FOR RESTRICTING ENTRY INTO AREAS HAVING POOLS AND SPAS. WHERE SPAS OR HOT TUBS ARE EQUIPPED WITH A LOCKABLE SAFETY COVER COMPLYING WITH ASTM F1346 AND SWIMMING POOLS ARE EQUIPPED WITH A POWERED SAFETY COVER THAT COMPLIES WITH ASTM F1346, THE AREAS WHERE THOSE SPAS, HOT TUBS OR POOLS ARE LOCATED SHALL NOT BE REQUIRED TO COMPLY WITH SECTIONS 305.2 THROUGH 305.7.

305.2 OUTDOOR SWIMMING POOLS AND SPAS

OUTDOOR POOLS AND SPAS AND INDOOR SWIMMING POOLS SHALL BE SURROUNDED BY A BARRIER THAT COMPLIES WITH SECTIONS 305.2.1 THROUGH 305.7.

305.2.1 BARRIER HEIGHT AND CLEARANCES

BARRIER HEIGHTS AND CLEARANCES SHALL BE IN ACCORDANCE WITH ALL OF THE FOLLOWING:
THE TOP OF THE BARRIER SHALL BE NOT LESS THAN 48 INCHES (1219 MM) ABOVE GRADE WHERE MEASURED ON THE SIDE OF THE BARRIER THAT FACES AWAY FROM THE POOL OR SPA. SUCH HEIGHT SHALL EXIST AROUND THE ENTIRE PERIMETER OF THE BARRIER AND FOR A DISTANCE OF 3 FEET (914 MM) MEASURED HORIZONTALLY FROM THE OUTSIDE OF THE REQUIRED BARRIER.
THE VERTICAL CLEARANCE BETWEEN GRADE AND THE BOTTOM OF THE BARRIER SHALL NOT EXCEED 2 INCHES (51 MM) FOR GRADE SURFACES THAT ARE NOT SOLID, SUCH AS GRASS OR GRAVEL, WHERE MEASURED ON THE SIDE OF THE BARRIER THAT FACES AWAY FROM THE POOL OR SPA.
THE VERTICAL CLEARANCE BETWEEN A SURFACE BELOW THE BARRIER TO A SOLID SURFACE, SUCH AS CONCRETE, AND THE BOTTOM OF THE REQUIRED BARRIER SHALL NOT EXCEED 4 INCHES (102 MM) WHERE MEASURED ON THE SIDE OF THE REQUIRED BARRIER THAT FACES AWAY FROM THE POOL OR SPA.
WHERE THE TOP OF THE POOL OR SPA STRUCTURE IS ABOVE GRADE, THE BARRIER SHALL BE INSTALLED ON GRADE OR SHALL BE MOUNTED ON TOP OF THE POOL OR SPA STRUCTURE. WHERE THE BARRIER IS MOUNTED ON THE TOP OF THE POOL OR SPA, THE VERTICAL CLEARANCE BETWEEN THE TOP OF THE POOL OR SPA AND THE BOTTOM OF THE BARRIER SHALL NOT EXCEED 4 INCHES (102 MM).

305.2.2 OPENINGS

OPENINGS IN THE BARRIER SHALL NOT ALLOW PASSAGE OF A 4-INCH-DIAMETER (102 MM) SPHERE.

305.2.3 SOLID BARRIER SURFACES

SOLID BARRIERS THAT DO NOT HAVE OPENINGS SHALL NOT CONTAIN INDENTATIONS OR PROTRUSIONS THAT FORM HANDHOLDS AND FOOTHOLDS, EXCEPT FOR NORMAL CONSTRUCTION TOLERANCES AND TOOLED MASONRY JOINTS.

305.2.4 MESH FENCE AS A BARRIER

MESH FENCES, OTHER THAN CHAIN LINK FENCES IN ACCORDANCE WITH SECTION 305.2.7, SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND SHALL COMPLY WITH THE FOLLOWING:
THE BOTTOM OF THE MESH FENCE SHALL BE NOT MORE THAN 1 INCH (25 MM) ABOVE THE DECK OR INSTALLED SURFACE OR GRADE.
THE MAXIMUM VERTICAL CLEARANCE FROM THE BOTTOM OF THE MESH FENCE AND THE SOLID SURFACE SHALL NOT PERMIT THE FENCE TO BE LIFTED MORE THAN 4 INCHES (102 MM) FROM GRADE OR DECKING.
THE FENCE SHALL BE DESIGNED AND CONSTRUCTED SO THAT IT DOES NOT ALLOW PASSAGE OF A 4-INCH (102 MM) SPHERE UNDER ANY MESH PANEL. THE MAXIMUM VERTICAL CLEARANCE FROM THE BOTTOM OF THE MESH FENCE AND THE SOLID SURFACE SHALL BE NOT GREATER THAN 4 INCHES (102 MM) FROM GRADE OR DECKING.
AN ATTACHMENT DEVICE SHALL ATTACH EACH BARRIER SECTION AT A HEIGHT NOT LOWER THAN 45 INCHES (1143 MM) ABOVE GRADE. COMMON ATTACHMENT DEVICES INCLUDE, BUT ARE NOT LIMITED TO, DEVICES THAT PROVIDE THE SECURITY EQUAL TO OR GREATER THAN THAT OF A HOOK-AND-EYE-TYPE LATCH INCORPORATING A SPRING-ACTUATED RETAINING LEVER SUCH AS A SAFETY GATE HOOK.
WHERE A HINGED GATE IS USED WITH A MESH FENCE, THE GATE SHALL COMPLY WITH SECTION 305.3.
PATIO DECK SLEEVES SUCH AS VERTICAL POST RECEPTACLES THAT ARE PLACED INSIDE THE PATIO SURFACE SHALL BE OF A NONCONDUCTIVE MATERIAL.
MESH FENCES SHALL NOT BE INSTALLED ON TOP OF ON-GROUND RESIDENTIAL POOLS.

305.2.5 CLOSELY SPACED HORIZONTAL MEMBERS

WHERE THE BARRIER IS COMPOSED OF HORIZONTAL AND VERTICAL MEMBERS AND THE DISTANCE BETWEEN THE TOPS OF THE HORIZONTAL MEMBERS IS LESS THAN 45 INCHES (1143 MM), THE HORIZONTAL MEMBERS SHALL BE LOCATED ON THE POOL OR SPA SIDE OF THE FENCE. SPACING BETWEEN VERTICAL MEMBERS SHALL NOT EXCEED 1 3/4 INCHES (44 MM) IN WIDTH. WHERE THERE ARE DECORATIVE CUTOUTS WITHIN VERTICAL MEMBERS, SPACING WITHIN THE CUTOUTS SHALL NOT EXCEED 1 3/4 INCHES (44 MM) IN WIDTH.

305.2.6 WIDELY SPACED HORIZONTAL MEMBERS

WHERE THE BARRIER IS COMPOSED OF HORIZONTAL AND VERTICAL MEMBERS AND THE DISTANCE BETWEEN THE TOPS OF THE HORIZONTAL MEMBERS IS 45 INCHES (1143 MM) OR MORE, SPACING BETWEEN VERTICAL MEMBERS SHALL NOT EXCEED 4 INCHES (102 MM). WHERE THERE ARE DECORATIVE CUTOUTS WITHIN VERTICAL MEMBERS, THE INTERIOR WIDTH OF THE CUTOUTS SHALL NOT EXCEED 1 3/4 INCHES (44 MM).

305.2.7 CHAIN LINK DIMENSIONS

THE MAXIMUM OPENING FORMED BY A CHAIN LINK FENCE SHALL BE NOT MORE THAN 1 3/4 INCHES (44 MM). WHERE THE FENCE IS PROVIDED WITH SLATS FASTENED AT THE TOP AND BOTTOM THAT REDUCE THE OPENINGS, SUCH OPENINGS SHALL BE NOT GREATER THAN 1 3/4 INCHES (44 MM).

305.2.8 DIAGONAL MEMBERS

WHERE THE BARRIER IS COMPOSED OF DIAGONAL MEMBERS, THE MAXIMUM OPENING FORMED BY THE DIAGONAL MEMBERS SHALL BE NOT GREATER THAN 1 3/4 INCHES (44 MM). THE ANGLE OF DIAGONAL MEMBERS SHALL BE NOT GREATER THAN 45 DEGREES (0.79 RAD) FROM VERTICAL.

305.2.9 CLEAR ZONE

THERE SHALL BE A CLEAR ZONE OF NOT LESS THAN 36 INCHES (914 MM) BETWEEN THE EXTERIOR OF THE BARRIER AND ANY PERMANENT STRUCTURES OR EQUIPMENT SUCH AS PUMPS, FILTERS AND HEATERS THAT CAN BE USED TO CLIMB THE BARRIER.

305.2.10 POOLSIDE BARRIER SETBACKS

THE POOL OR SPA SIDE OF THE REQUIRED BARRIER SHALL BE NOT LESS THAN 20 INCHES (508 MM) FROM THE WATER'S EDGE.

305.3 GATES

ACCESS GATES SHALL COMPLY WITH THE REQUIREMENTS OF SECTIONS 305.3.1 THROUGH 305.3.3 AND SHALL BE EQUIPPED TO ACCOMMODATE A LOCKING DEVICE. PEDESTRIAN ACCESS GATES SHALL OPEN OUTWARD AWAY FROM THE POOL OR SPA, SHALL BE SELF-CLOSING AND SHALL HAVE A SELF-LATCHING DEVICE.

305.3.1 UTILITY OR SERVICE GATES

GATES NOT INTENDED FOR PEDESTRIAN USE, SUCH AS UTILITY OR SERVICE GATES, SHALL REMAIN LOCKED WHEN NOT IN USE.

305.3.2 DOUBLE OR MULTIPLE GATES

DOUBLE GATES OR MULTIPLE GATES SHALL HAVE NOT FEWER THAN ONE LEAF SECURED IN PLACE AND THE ADJACENT LEAF SHALL BE SECURED WITH A SELFLATCHING DEVICE. THE GATE AND BARRIER SHALL NOT HAVE OPENINGS LARGER THAN 1/2 INCH (12.7 MM) WITHIN 18 INCHES (457 MM) OF THE LATCH RELEASE MECHANISM. THE SELF-LATCHING DEVICE SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 305.3.3.

305.3.3 LATCHES

WHERE THE RELEASE MECHANISM OF THE SELF-LATCHING DEVICE IS LOCATED LESS THAN 54 INCHES (1372 MM) FROM GRADE, THE RELEASE MECHANISM SHALL BE LOCATED ON THE POOL OR SPA SIDE OF THE GATE NOT LESS THAN 3 INCHES (76 MM) BELOW THE TOP OF THE GATE, AND THE GATE AND BARRIER SHALL NOT HAVE OPENINGS GREATER THAN 1/2 INCH (12.7 MM) WITHIN 18 INCHES (457 MM) OF THE RELEASE MECHANISM.

305.4 STRUCTURE WALL AS A BARRIER

WHERE A WALL OF A DWELLING OR STRUCTURE SERVES AS PART OF THE BARRIER AND WHERE DOORS OR WINDOWS PROVIDE DIRECT ACCESS TO THE POOL OR SPA THROUGH THAT WALL, ONE OF THE FOLLOWING SHALL BE REQUIRED:
OPERABLE WINDOWS HAVING A SILL HEIGHT OF LESS THAN 48 INCHES (1219 MM) ABOVE THE INDOOR FINISHED FLOOR AND DOORS SHALL HAVE AN ALARM THAT PRODUCES AN AUDIBLE WARNING WHEN THE WINDOW, DOOR OR THEIR SCREENS ARE OPENED. THE ALARM SHALL BE LISTED AND LABELED AS A WATER HAZARD ENTRANCE ALARM IN ACCORDANCE WITH UL 2017. IN DWELLINGS OR STRUCTURES NOT REQUIRED TO BE ACCESSIBLE UNITS, TYPE A UNITS OR TYPE B UNITS, THE OPERABLE PARTS OF THE ALARM DEACTIVATION SWITCHES SHALL BE LOCATED 54 INCHES (1372 MM) OR MORE ABOVE THE FINISHED FLOOR. IN DWELLINGS OR STRUCTURES REQUIRED TO BE ACCESSIBLE UNITS, TYPE A UNITS OR TYPE B UNITS, THE OPERABLE PARTS OF THE ALARM DEACTIVATION SWITCHES SHALL BE LOCATED NOT GREATER THAN 54 INCHES (1372 MM) AND NOT LESS THAN 48 INCHES (1219 MM) ABOVE THE FINISHED FLOOR.
A SAFETY COVER THAT IS LISTED AND LABELED IN ACCORDANCE WITH ASTM F1346 IS INSTALLED FOR THE POOLS AND SPAS.
AN APPROVED MEANS OF PROTECTION, SUCH AS SELF-CLOSING DOORS WITH SELF-LATCHING DEVICES, IS PROVIDED. SUCH MEANS OF PROTECTION SHALL PROVIDE A DEGREE OF PROTECTION THAT IS NOT LESS THAN THE PROTECTION AFFORDED BY ITEM 1 OR 2.

305.5 ONGROUND RESIDENTIAL POOL STRUCTURE AS A BARRIER

AN ONGROUND RESIDENTIAL POOL WALL STRUCTURE OR A BARRIER MOUNTED ON TOP OF AN ONGROUND RESIDENTIAL POOL WALL STRUCTURE SHALL SERVE AS A BARRIER WHERE ALL OF THE FOLLOWING CONDITIONS ARE PRESENT:
WHERE ONLY THE POOL WALL SERVES AS THE BARRIER, THE BOTTOM OF THE WALL IS ON GRADE, THE TOP OF THE WALL IS NOT LESS THAN 48 INCHES (1219 MM) ABOVE GRADE FOR THE ENTIRE PERIMETER OF THE POOL, THE WALL COMPLIES WITH THE REQUIREMENTS OF SECTION 305.2 AND THE POOL MANUFACTURER ALLOWS THE WALL TO SERVE AS A BARRIER.
WHERE A BARRIER IS MOUNTED ON TOP OF THE POOL WALL, THE TOP OF THE BARRIER IS NOT LESS THAN 48 INCHES (1219 MM) ABOVE GRADE FOR THE ENTIRE PERIMETER OF THE POOL, AND THE WALL AND THE BARRIER ON TOP OF THE WALL COMPLY WITH THE REQUIREMENTS OF SECTION 305.2.
LADDERS OR STEPS USED AS MEANS OF ACCESS TO THE POOL ARE CAPABLE OF BEING SECURED, LOCKED OR REMOVED TO PREVENT ACCESS EXCEPT WHERE THE LADDER OR STEPS ARE SURROUNDED BY A BARRIER THAT MEETS THE REQUIREMENTS OF SECTION 305.
OPENINGS CREATED BY THE SECURING, LOCKING OR REMOVAL OF LADDERS AND STEPS DO NOT ALLOW THE PASSAGE OF A 4-INCH (102 MM) DIAMETER SPHERE.
BARRIERS THAT ARE MOUNTED ON TOP OF ONGROUND RESIDENTIAL POOL WALLS ARE INSTALLED IN ACCORDANCE WITH THE POOL MANUFACTURER'S INSTRUCTIONS.

305.6 NATURAL BARRIERS

IN THE CASE WHERE THE POOL OR SPA AREA ABUTS THE EDGE OF A LAKE OR OTHER NATURAL BODY OF WATER, PUBLIC ACCESS IS NOT PERMITTED OR ALLOWED ALONG THE SHORELINE, AND REQUIRED BARRIERS EXTEND TO AND BEYOND THE WATER'S EDGE NOT LESS THAN 18 INCHES (457 MM), A BARRIER IS NOT REQUIRED BETWEEN THE NATURAL BODY OF WATER SHORELINE AND THE POOL OR SPA.

305.7 NATURAL TOPOGRAPHY

NATURAL TOPOGRAPHY THAT PREVENTS DIRECT ACCESS TO THE POOL OR SPA AREA SHALL INCLUDE BUT NOT BE LIMITED TO MOUNTAINS AND NATURAL ROCK FORMATIONS. A NATURAL BARRIER APPROVED BY THE GOVERNING BODY SHALL BE ACCEPTABLE PROVIDED THAT THE DEGREE OF PROTECTION IS NOT LESS THAN THE PROTECTION AFFORDED BY THE REQUIREMENTS OF SECTIONS 305.2 THROUGH 305.5.

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SIGNATURE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION (AS DEFINED BY HAWAII ADMIN. RULES, TITLE 16, CHAPTER 115. EXP. 04.30.24

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REVISIONS

No.	Description	Date
1	POOL BARRIERS	01/04/23

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Thousand Oaks, Ca 91360
PH: 805-494-7704 FAX: 805-494-1226

Date: 08/05/2022

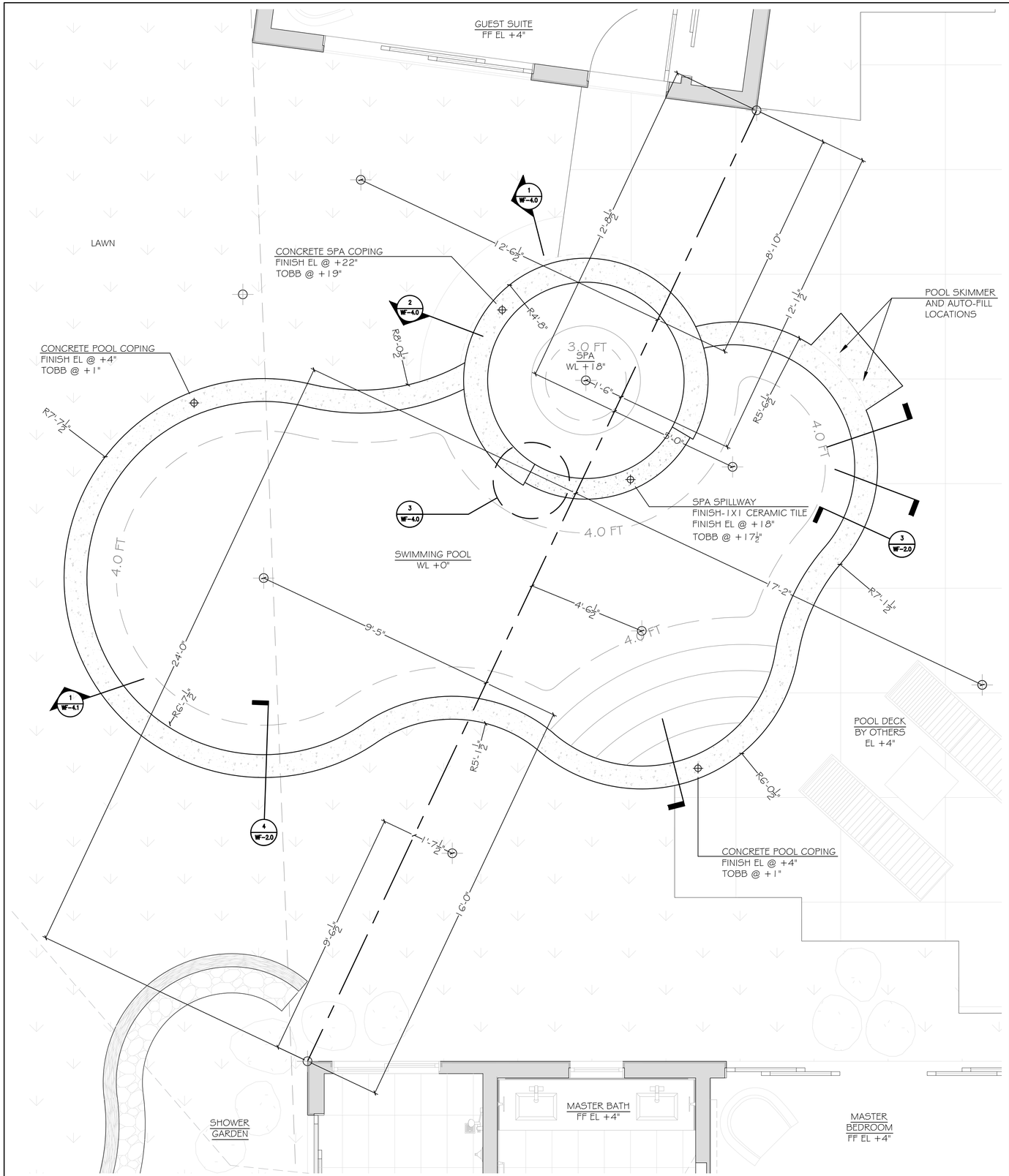
Scale:

Sheet Title: SWIMMING POOL BARRIER PLAN

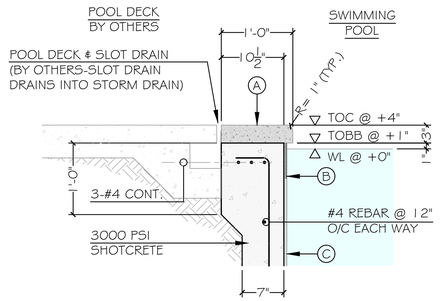
Sheet Number: WF-1.1

PERMIT SET

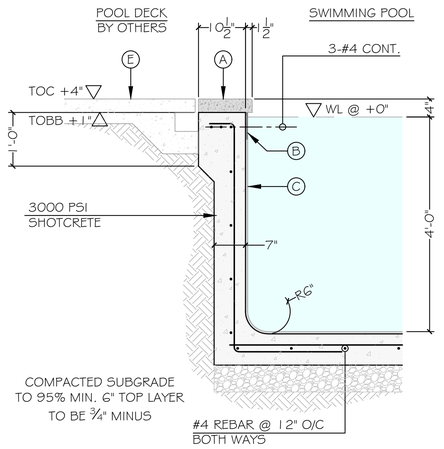
PRINT DATE 1.4.2023



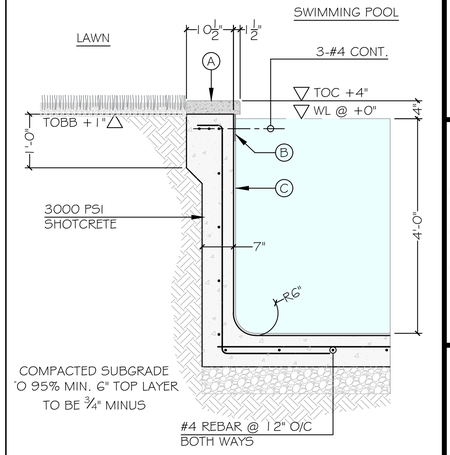
1 SWIMMING POOL AND SPA STRUCTURAL SHELL LAYOUT PLAN — SCALE: ¼"= 1'-0"



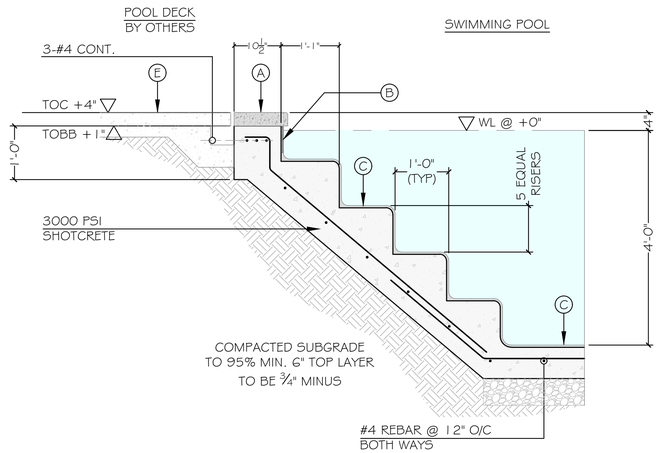
2 POOL BOND BEAM — SCALE: 1"= 1'-0"



3 POOL DECK EDGE — SCALE: ¾"= 1'-0"



4 POOL LAWN EDGE — SCALE: ¾"= 1'-0"



5 POOL STAIR SECTION — SCALE: ¾"= 1'-0"

FINISH SCHEDULE

- (A) 3" THK. x 12" POURED IN PLACE CONCRETE COPING W/ CONTROL JOINTS @ 18" O/C (ROCK SALT FINISH)
- (B) 1X1 CERAMIC TILE (TBD)
- (C) ½" THK. MEDIUM DARK GREY PLASTER FINISH
- (D) STUCCO FINISH (BY OTHERS)
- (E) CONCRETE DECK WITH ROCK SALT FINISH (BY OTHERS)

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REVISIONS

No.	Description	Date
1	POOL BARRIERS	01/04/23

SINGLE FAMILY RESIDENCE
LOT 31 NOHEA, PHASE 1
TMK: (3) 6-8-043:031
Nohea at Mauna Lani, LLC
101 Hodencamp Rd. Suite 200
Thousand Oaks, Ca 91360
PH: 805-494-7704 FAX: 805-494-1226

Date: 08/05/2022

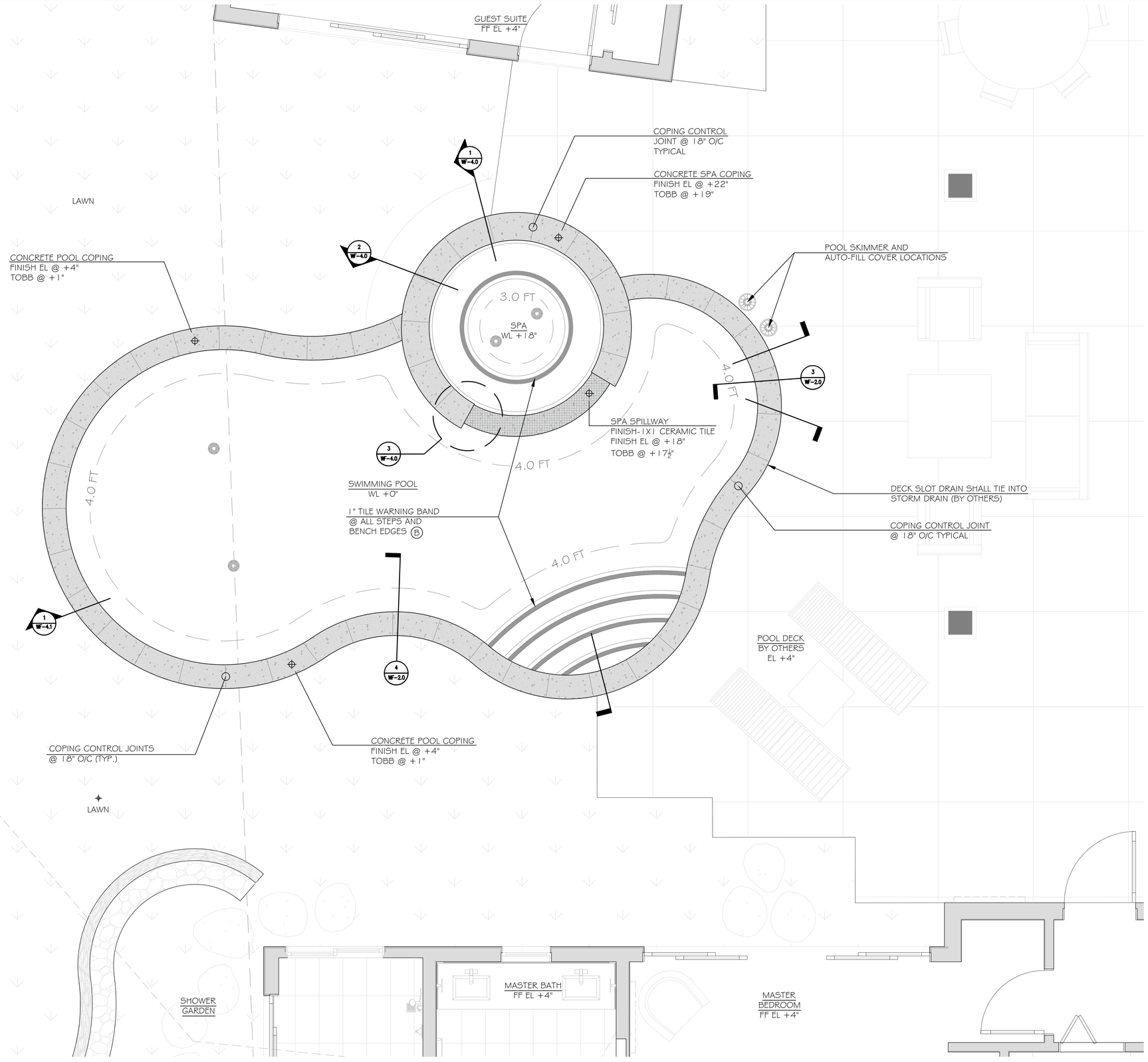
Scale:

Sheet Title: SWIMMING POOL AND SPA STRUCTURAL SHELL PLAN AND DETAILS

Sheet Number: WF-2.0

PERMIT SET

PRINT DATE 1.4.2023



1 SWIMMING POOL AND SPA FINISH PLAN — SCALE: 1/4"= 1'-0"

(A) 3" THK. x 12" POURED IN PLACE CONCRETE COPING W/ CONTROL JOINTS @ 18" O/C (ROCK SALT FINISH)

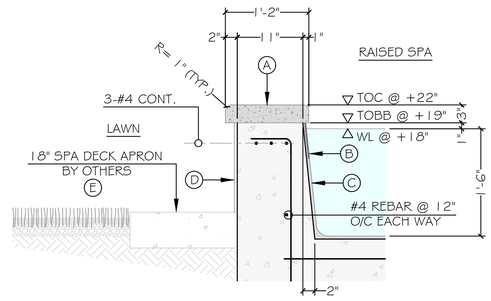
(B) 1X1 CERAMIC TILE (TBD)

(C) ½" THK. MEDIUM DARK GREY PLASTER FINISH

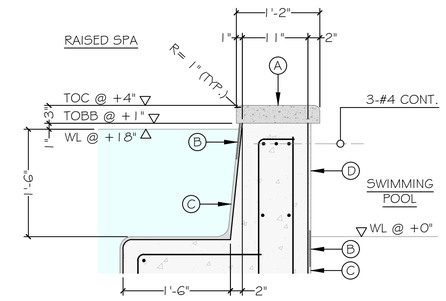
(D) STUCCO FINISH (BY OTHERS)

(E) CONCRETE DECK WITH ROCK SALT FINISH (BY OTHERS)

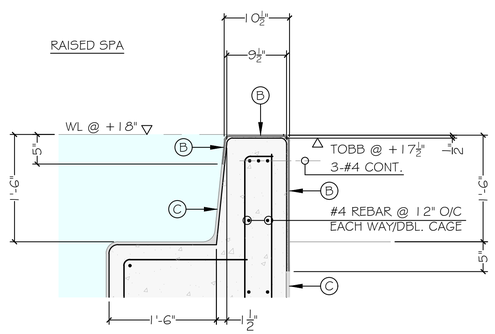
FINISH SCHEDULE



2 SPA BOND BEAM-A — SCALE: 1"= 1'-0"



3 SPA BOND BEAM-B — SCALE: 1"= 1'-0"



4 SPA WEIR BOND BEAM — SCALE: 1"= 1'-0"

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REVISIONS

No.	Description	Date
1	POOL BARRIERS	07/04/2239

SINGLE FAMILY RESIDENCE
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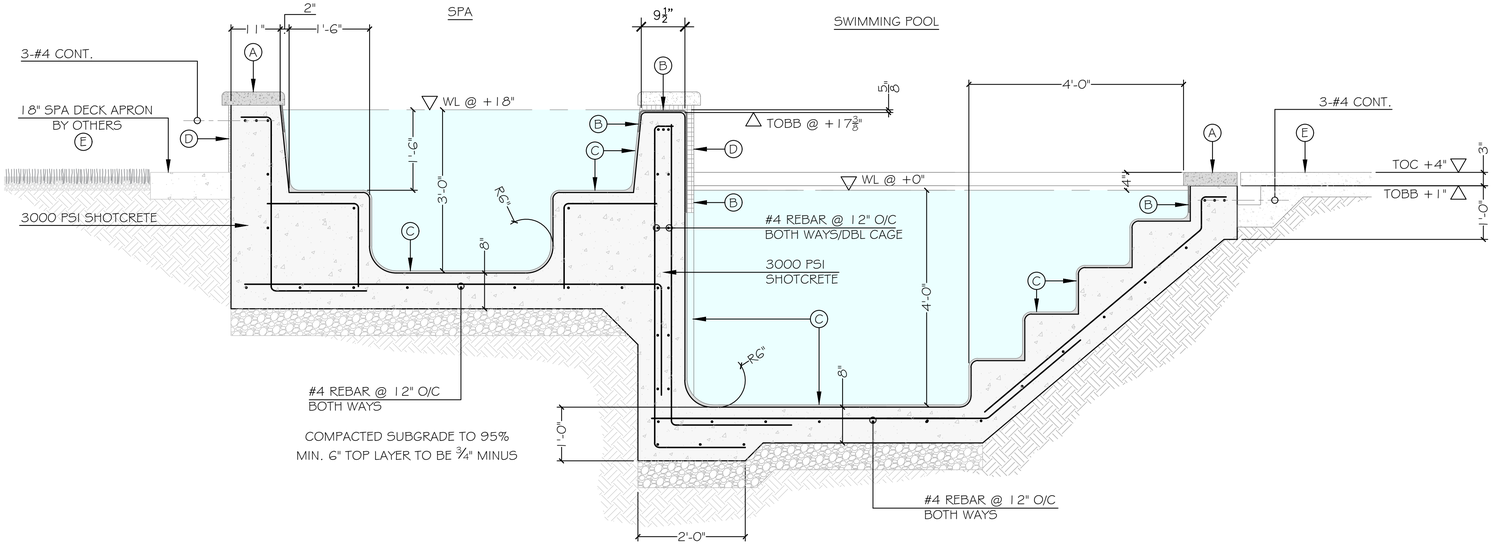
Sheet Title: SWIMMING POOL AND SPA FINISH PLAN AND DETAILS

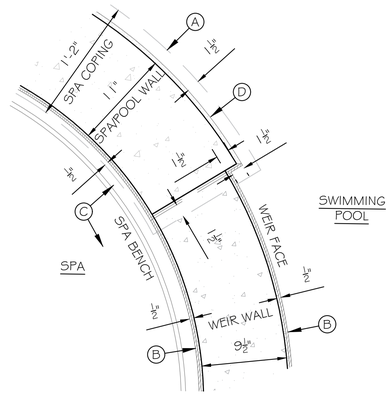
Sheet Number: WF-3.0

PERMIT SET

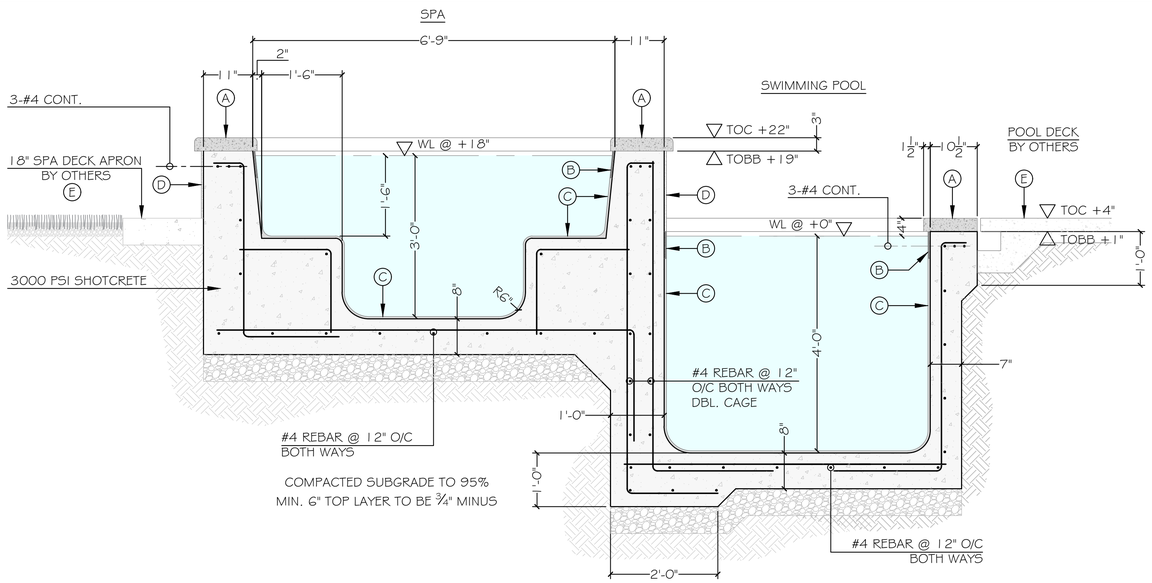
PRINT DATE 1.4.2023



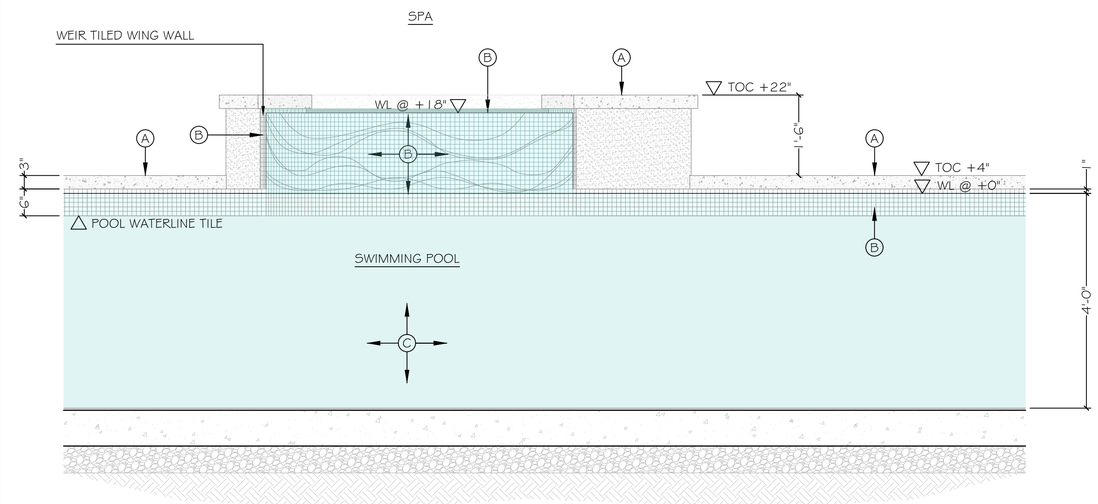
1 SPA & POOL SECTION @ SPILLWAY @ POOL STAIR — SCALE: ¾" = 1'-0"



3 SPA WEIR WALL/TILE DETAIL — SCALE: 1½" = 1'-0"



2 SPA & POOL SECTION — SCALE: ¾" = 1'-0"



4 SPA & POOL ELEVATION @ WEIR WALL — SCALE: ¾" = 1'-0"

- (A) 3" THK. x 12" POURED IN PLACE CONCRETE COPING W/ CONTROL JOINTS @ 18" O/C (ROCK SALT FINISH)
- (B) 1X1 CERAMIC TILE (TBD)
- (C) ½" THK. MEDIUM DARK GREY PLASTER FINISH
- (D) STUCCO FINISH (BY OTHERS)
- (E) CONCRETE DECK WITH ROCK SALT FINISH (BY OTHERS)

FINISH SCHEDULE

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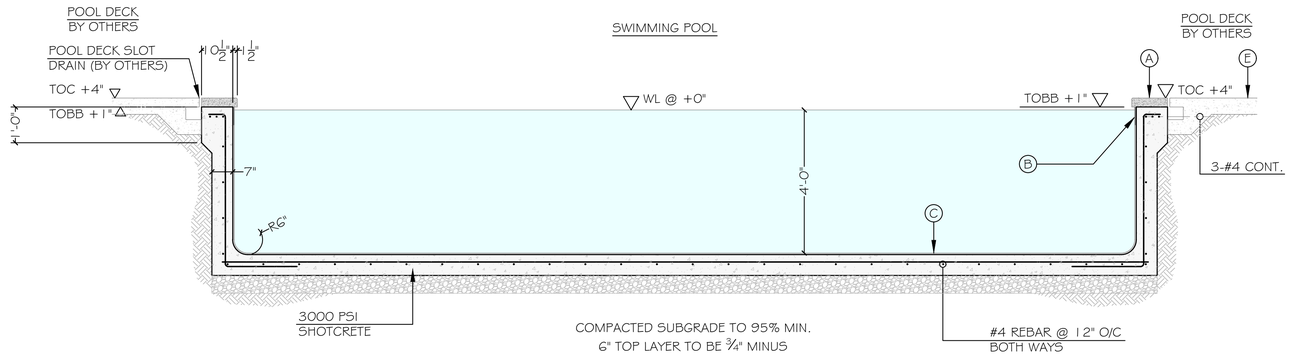
Scale:

Sheet Title: SWIMMING POOL AND SPA SECTIONS

Sheet Number: WF-4.0

PERMIT SET

PRINT DATE 1.4.2023



1 SWIMMING POOL SECTION — SCALE: 1/2"= 1'-0"

- (A) 3" THK. x 12" POURED IN PLACE CONCRETE COPING W/ CONTROL JOINTS @ 18" O/C (ROCK SALT FINISH)
- (B) 1X1 CERAMIC TILE (TBD)
- (C) 1/2" THK. MEDIUM DARK GREY PLASTER FINISH
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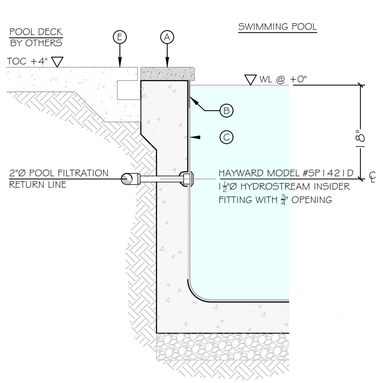
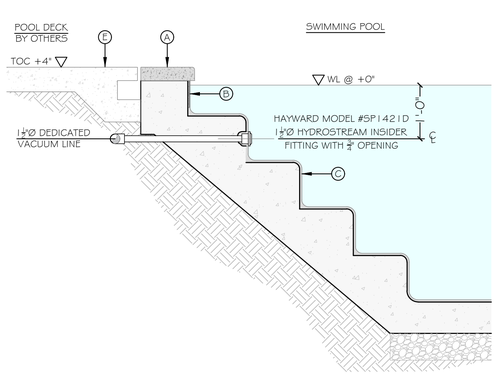
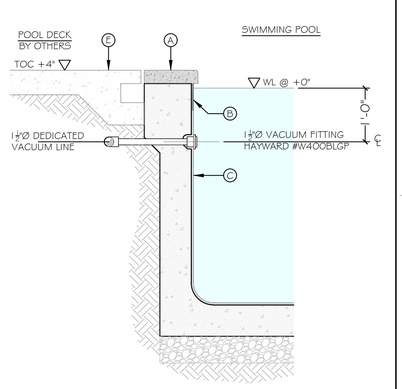
FINISH SCHEDULE



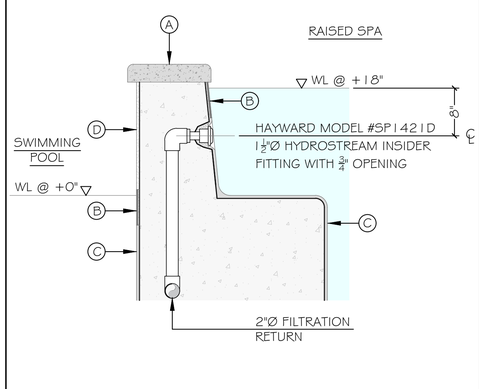
2 POOL WALL INLET JET — SCALE: 3/4"= 1'-0"



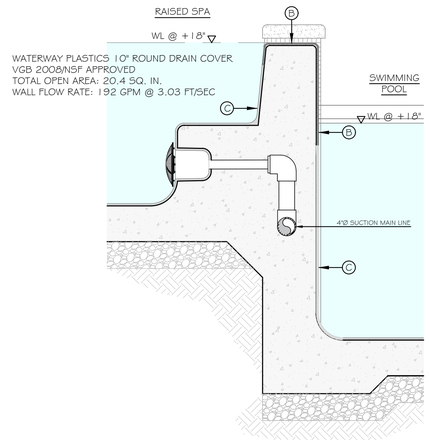
3 POOL STAIR INLET JET — SCALE: 3/4"= 1'-0"



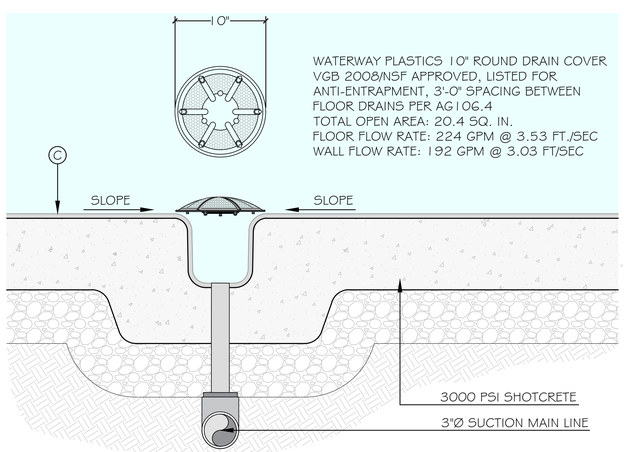
4 POOL VACUUM FITTING — SCALE: 3/4"= 1'-0"



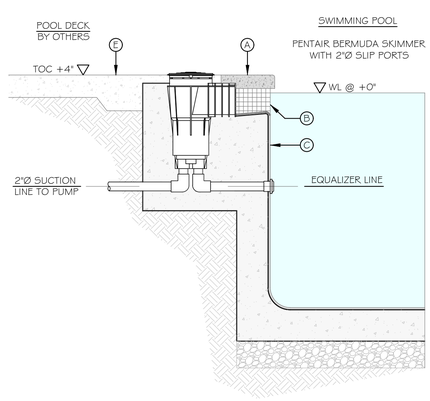
5 SPA WALL INLET JET — SCALE: 3/4"= 1'-0"



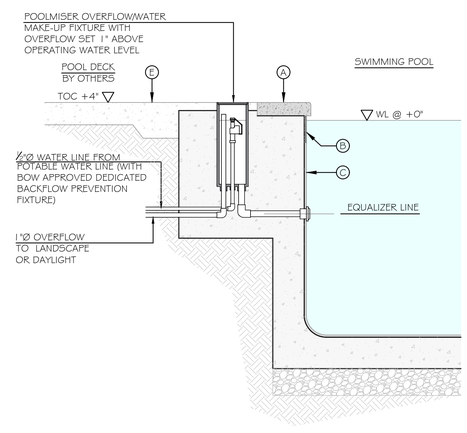
6 SPA WALL DRAIN — SCALE: 3/4"= 1'-0"



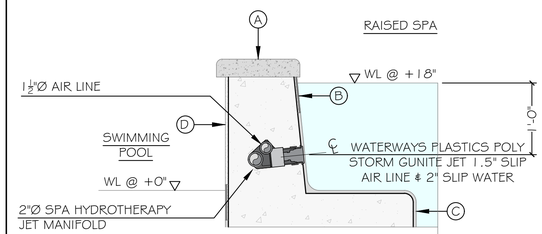
7 POOL & SPA FLOOR DRAIN — SCALE: 1 1/2"= 1'-0"



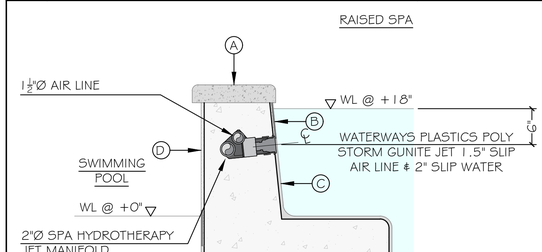
8 POOL SKIMMER — SCALE: 3/4"= 1'-0"



9 POOL WATER LEVEL CONTROL — SCALE: 3/4"= 1'-0"



10 SPA LOWER BACK JET — SCALE: 1"= 1'-0"



11 SPA UPPER BACK JET — SCALE: 1"= 1'-0"

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REVISIONS

No.	Description	Date
1	POOL BARRIERS	01/04/23

SINGLE FAMILY RESIDENCE
LOT 31 NOHEA, PHASE 1
TMK: (3) 6-8-043:031
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Date: 08/05/2022

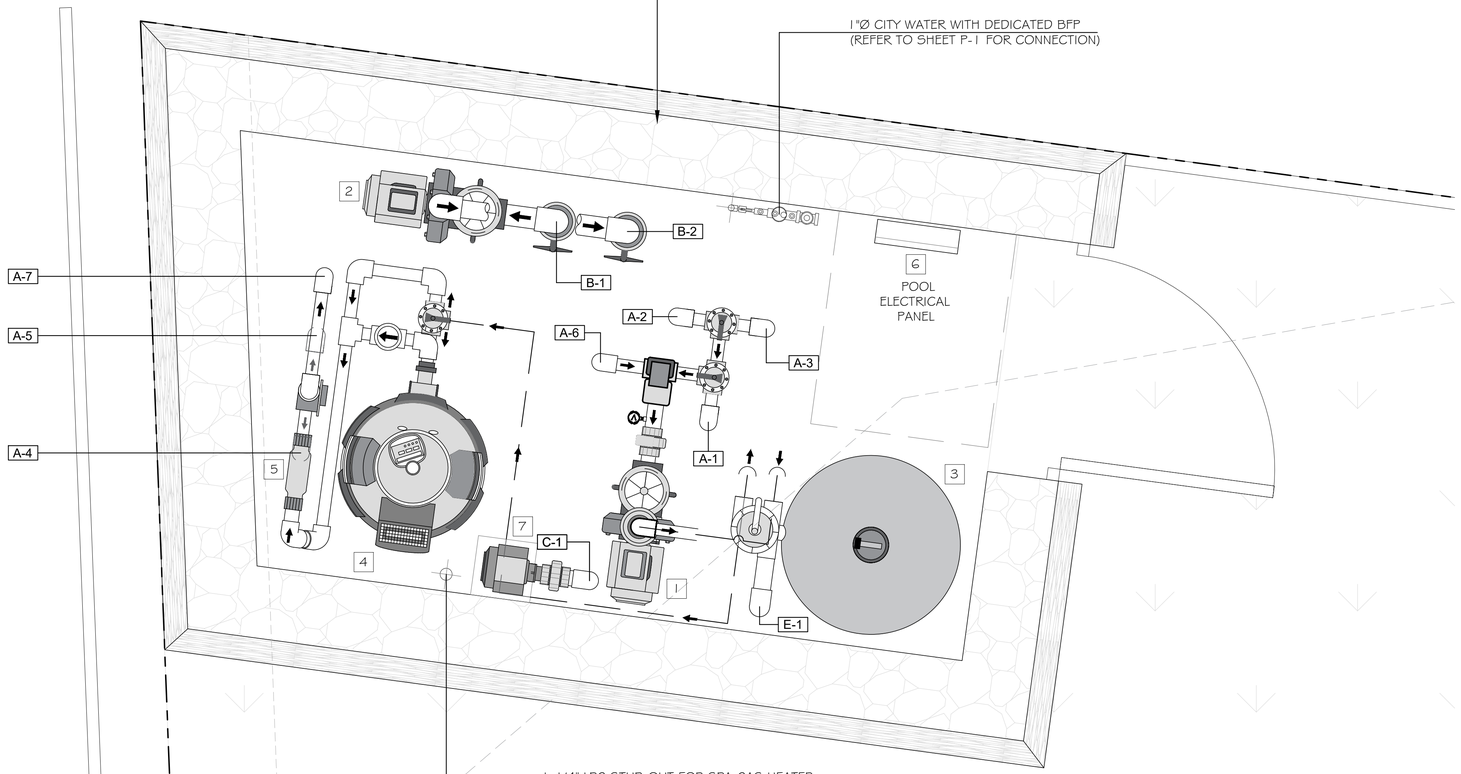
Scale:

Sheet Title: SWIMMING POOL SECTION AND DETAILS

Sheet Number: WF-4.1

PERMIT SET

PRINT DATE 1.4.2023



DRAWING IS DIAGRAMMATIC AND MAY NOT INCLUDE ALL DETAILS AND COMPONENTS REQUIRED FOR A COMPLETE INSTALLATION. POOL AND ELECTRICAL CONTRACTORS SHALL PROVIDE AND INCLUDE ALL COMPONENTS AND INSTALL EQUIPMENTS IN A NEAT AND LOGICAL MANNER FOR A COMPLETE AND OPERABLE SYSTEM WITHIN INTENT OF DIAGRAM. POOL CONTRACTOR SHALL INSTALL EQUIPMENT AND FITTINGS PER MANUFACTURERS INSTRUCTION AND RECOMMENDATIONS AND IN ACCORDANCE TO LOCAL AND NATIONAL CODES.

1 SWIMMING POOL & SPA EQUIPMENT LAYOUT

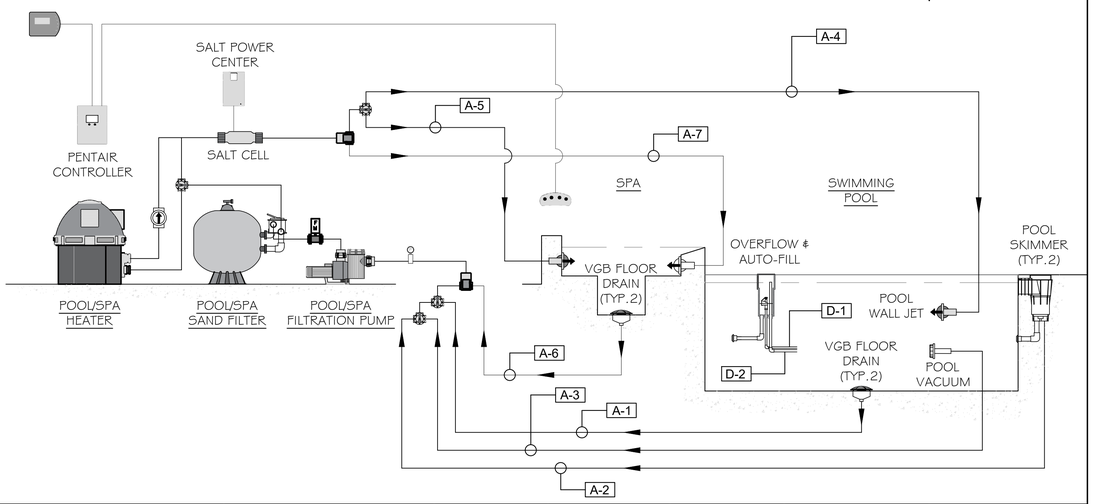
SCALE: 1"= 1'-0"

DESCRIPTION	SWIMMING POOL SYSTEM	SPA SYSTEM (SPA MODE)
POOL SURFACE AREA:	306 SQ. FT.	35 SQ. FT.
POOL VOLUME:	8,843 GALLONS	490 GALLONS
SPA VOLUME:	621 GALLONS	-
TOTAL VOLUME:	9,464 GALLONS	-
FILTER TYPE:	HIGH RATE SAND FILTER	SHARED
FILTRATION RATE:	30 GPM	25 GPM
TURNOVER RATE:	5 HOURS 0 MINUTES	25 MINUTES
BACKWASH RATE:	40 GPM	SHARED SYSTEM
BACKWASH LOAD:	200 GALLONS	SHARED SYSTEM
SANITATION:	SALT CHLORINATION	SHARED SYSTEM
HEATING SOURCE:	GAS HEATER	GAS HEATER

SYSTEM ANALYSIS

ITEM	QTY.	PUMPS
1.	1	SWIMMING POOL/SPA FILTRATION PUMP PENTAIR INTELLIFLO-VS HIGH PERFORMANCE PUMP 3.2 KW/230 VOLT/16 FLA/1 PH/60 HZ.
2.	1	SPA HYDROTHERAPY JET PUMP PENTAIR WHISPERFLO HIGH PERFORMANCE PUMP 1.5 HP/115/208-230 VOLT/1 PHASE/60 HZ./14.8-7.8-7.4 FLA
ITEM	QTY.	FILTERS
3.	1	SWIMMING POOL/SPA SAND FILTER PENTAIR TR-60 HIGH RATE SAND FILTER WITH 3.41 SQ. FT. FILTER MEDIA AREA
ITEM	QTY.	HEAT SOURCE
4.	1	SWIMMING POOL GAS HEATER STA-RITE MAX-E-THERM SR400 WITH 400,000 BTU INPUT-24 VAC/5 AMP
ITEM	QTY.	SANITATION
5.	1	SWIMMING POOL/SPA SALT CHLORINATOR PENTAIR INTELLICHLOR SALT CHLORINATOR MODEL IC-20 WITH UP TO 0.70 LBS./CHLORINE GENERATION EVERY 24 HRS.-15 AMP BRKR
ITEM	QTY.	MISC.
6.	1	SWIMMING POOL AND SPA SHARED SYSTEM CONTROL PENTAIR EASYTOUCH 8 WITH IC-20 SALT CHLORINATOR (PART #520544) MAX. ELECTRICAL CAPACITY: 230 VOLT-150 AMP/10 BREAKER CONTROL: • SPA AIR BLOWER • SPA JET PUMP • SPA LIGHT • POOL LIGHTS INDOOR WALL MOUNT (PART #520549) SPA 4 FUNCTION is4 SIDE REMOTE (PART #521885)
7.	1	SPA HYDROTHERAPY JET AIR BLOWER POLARIS BLOWER, 2 HP/220 VOLT/8 AMPS/1 PH/60 HZ.
8.		FLOW METER FLOW-VIS FLOW METER-NSF CERTIFIED FLOW METER

SWIMMING POOL & SPA EQUIPMENT LIST

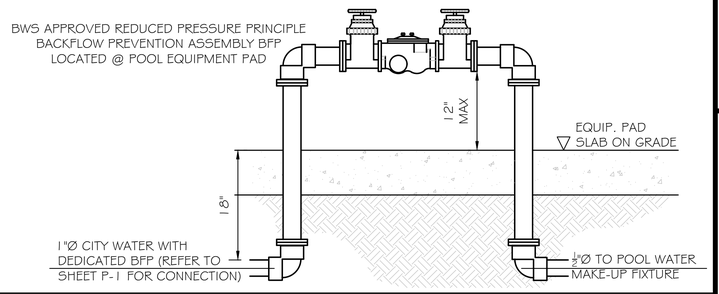


PENTAIR EASYTOUCH INDOOR CONTROL PAD	PENTAIR SPA is4 4 FUNCTION SIDE REMOTE	FLOW-VIS FLOW METER	CHECK VALVE	JANDY VALVE ACTUATOR	JANDY PRO SERIES VALVES	PRESSURE GUAGE

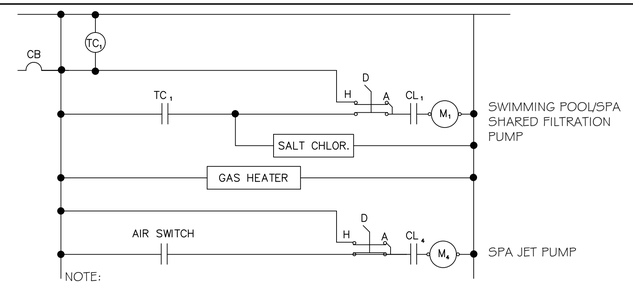
SWIMMING POOL & SPA FILTRATION SYSTEM SCHEMATIC

- A-1 2"Ø POOL FILTRATION FLOOR DRAIN SUCTION
- A-2 2"Ø POOL FILTRATION SKIMMER SUCTION LINE
- A-3 1½"Ø POOL VACUUM LINE
- A-4 2"Ø POOL FILTRATION WALL INLET JET RETURN
- A-5 2"Ø POOL FILTRATION SPA INLET RETURN
- A-6 2"Ø SPA FILTRATION FLOOR DRAIN SUCTION (SPA MODE)
- A-7 2"Ø SPA FILTRATION WALL INLET JET RETURN (SPA MODE)
- B-1 4"Ø SPA HYDROTHERAPY JET WALL DRAIN SUCTION
- B-2 3"Ø SPA HYDROTHERAPY JET RETURN LINE
- C-1 2"Ø SPA HYDROTHERAPY JET AIR BLOWER LINE
- D-1 ½"Ø POOL WATER AUTOFILL
- D-2 1½"Ø POOL OVERFLOW TO AREA DRYWELL
- E-1 2"Ø BACKWASH LINE TO AREA DRYWELL

PIPING LEGEND



DEDICATED POOL BFP ASSEMBLY



NOTE:
POOL AND ELECTRICAL CONTRACTORS SHALL FOLLOW INSTALLATION INSTRUCTIONS FOR ALL POOL/WATER FEATURE EQUIPMENT

MOTOR WIRING DIAGRAM

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Date: 08/05/2022

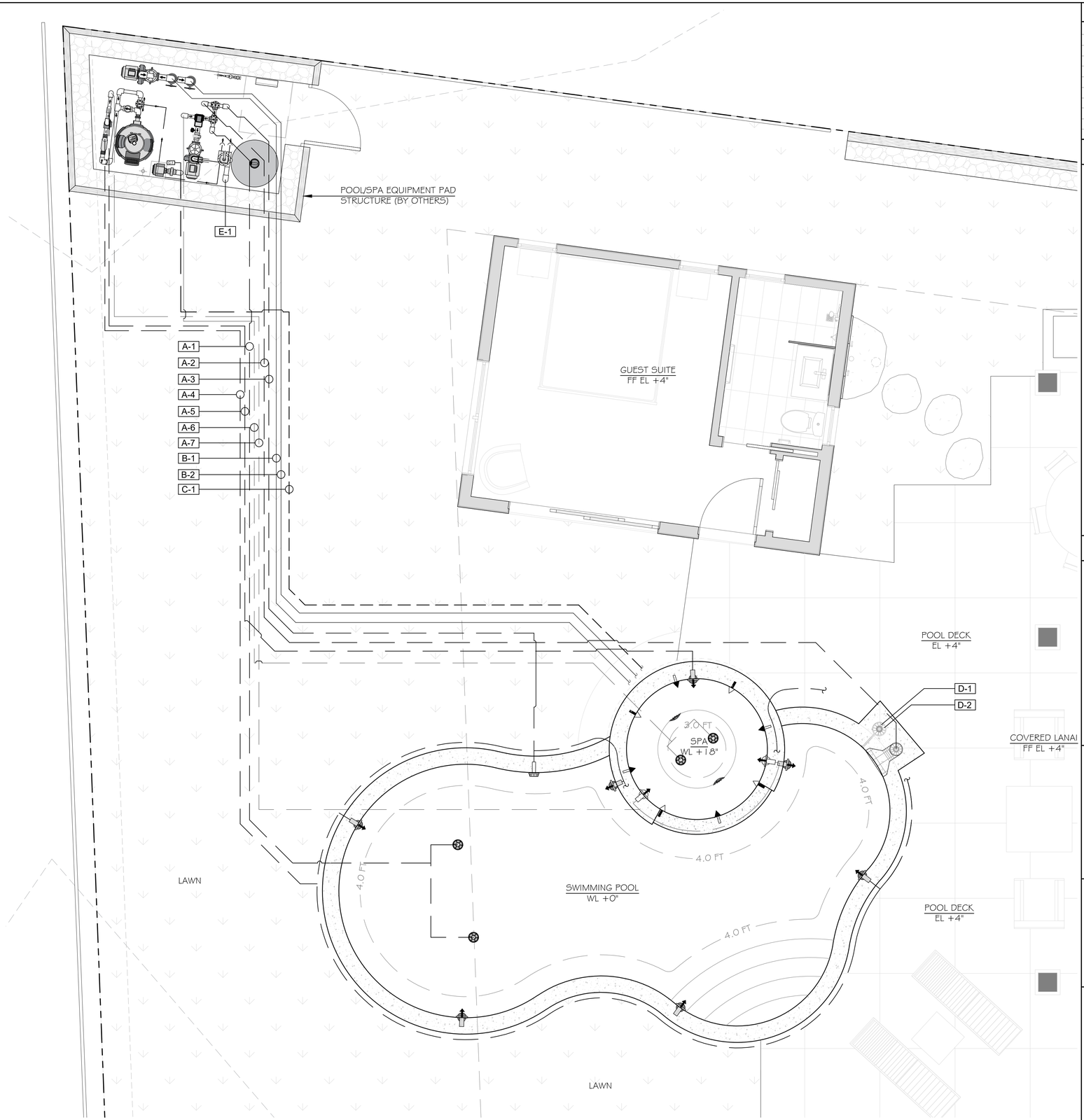
Scale:

Sheet Title: SWIMMING POOL AND SPA EQUIPMENT LAYOUT/LIST AND SYSTEM ANALYSIS

Sheet Number: WF-5.0

PERMIT SET

PRINT DATE 1.4.2023



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FILTRATION RATE:	30 GPM	25 GPM
TURNOVER RATE:	5 HOURS 0 MINUTES	25 MINUTES
BACKWASH RATE:	40 GPM	SHARED SYSTEM
BACKWASH LOAD:	200 GALLONS	SHARED SYSTEM
SANITATION:	SALT CHLORINATION	SHARED SYSTEM
HEATING SOURCE:	GAS HEATER	GAS HEATER

SYSTEM ANALYSIS

- A-1 2"Ø POOL FILTRATION FLOOR DRAIN SUCTION
- A-2 2"Ø POOL FILTRATION SKIMMER SUCTION LINE
- A-3 1½"Ø POOL VACUUM LINE
- A-4 2"Ø POOL FILTRATION WALL INLET JET RETURN
- A-5 2"Ø POOL FILTRATION SPA INLET RETURN
- A-6 2"Ø SPA FILTRATION FLOOR DRAIN SUCTION (SPA MODE)
- A-7 2"Ø SPA FILTRATION WALL INLET JET RETURN (SPA MODE)
- B-1 4"Ø SPA HYDROTHERAPY JET WALL DRAIN SUCTION
- B-2 3"Ø SPA HYDROTHERAPY JET RETURN LINE
- C-1 2"Ø SPA HYDROTHERAPY JET AIR BLOWER LINE
- D-1 ½"Ø POOL WATER AUTOFILL
- D-2 1½"Ø POOL OVERFLOW TO AREA DRYWELL
- E-1 2"Ø BACKWASH LINE TO AREA DRYWELL

PIPING LEGEND

FLOOR WALL

WATERWAY PLASTICS 10" ROUND
DRAIN COVER
VGB 2008/NSF APPROVED
TOTAL OPEN AREA: 20.4 SQ. IN.
FLOOR FLOW RATE: 224 GPM @ 3.53 FT./SEC
WALL FLOW RATE: 192 GPM @ 3.03 FT/SEC

POOL INLET JET

PENTAIR BERMUDA SKIMMER

SPA INLET JET

POOL VACUUM

SPA UPPER BACK
HYDROTHERAPY JET

POOL AUTO-FILL AND
OVERFLOW FITTING

SPA LOWER BACK
HYDROTHERAPY JET

FITTING SYMBOL KEY

CHRIS WILSON
LICENSED PROFESSIONAL ENGINEER
No. 14056-S
HAWAII, U.S.A.

SIGNATURE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION (AS DEFINED BY HAWAII ADMIN. RULES, TITLE 16, CHAPTER 115. EXP. 04.30.24

Kolohe Design LLC
2413 SOLOMONS PLACE
ST PAUL, TEXAS 75098
phone: 808-620-0806
e-mail: im@koloheidesign.com

REVISIONS		
No.	Description	Date
1	POOL BARRIERS	01/04/23

SINGLE FAMILY RESIDENCE
LOT 31 NOHEA, PHASE 1
TMK: (3) 6-8-043:031
Nohea at Mauna Lani, LLC
101 Hodencamp Rd. Suite 200
Thousand Oaks, Ca 91360
PH: 805-494-7704 FAX: 805-494-1226

Date: 08/05/2022

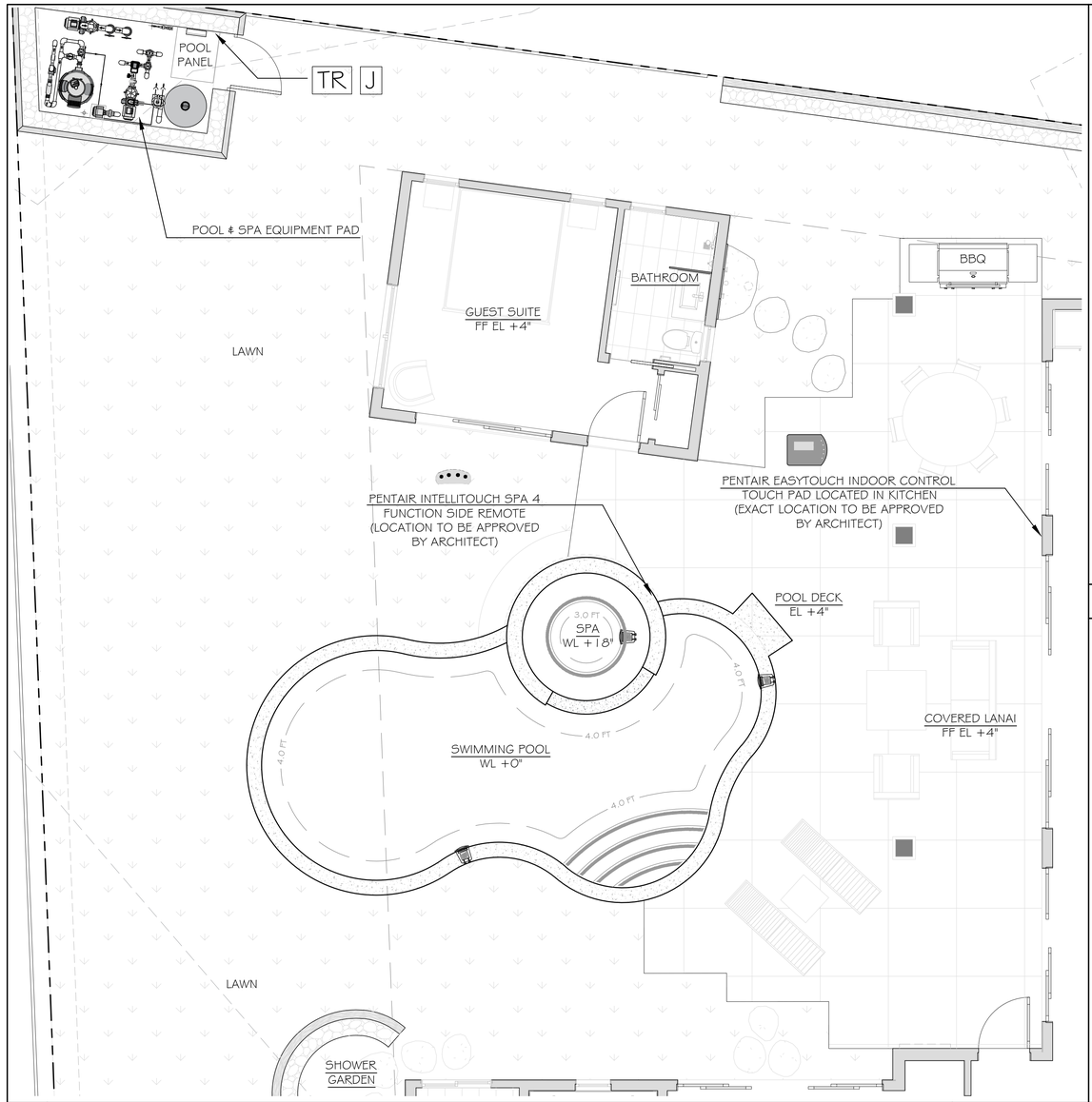
Scale:

Sheet Title: SWIMMING POOL AND SPA PIPING/FITTING PLAN

Sheet Number: WF-5.1

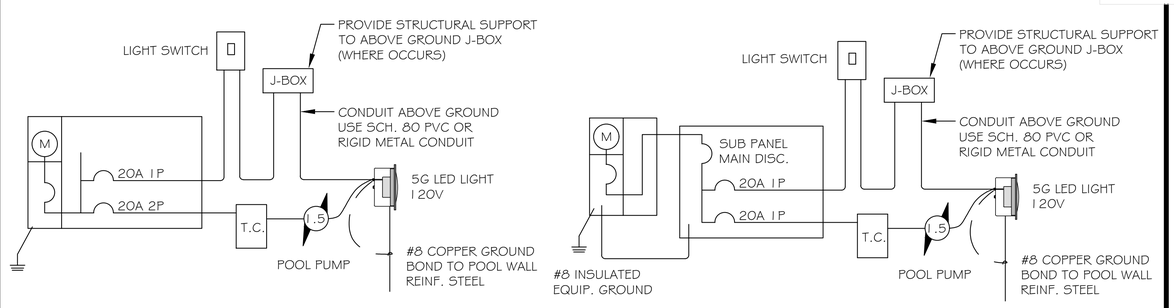
PERMIT SET

PRINT DATE 1.4.2023



1 POOL/SPA UNDERWATER LIGHTING PLAN

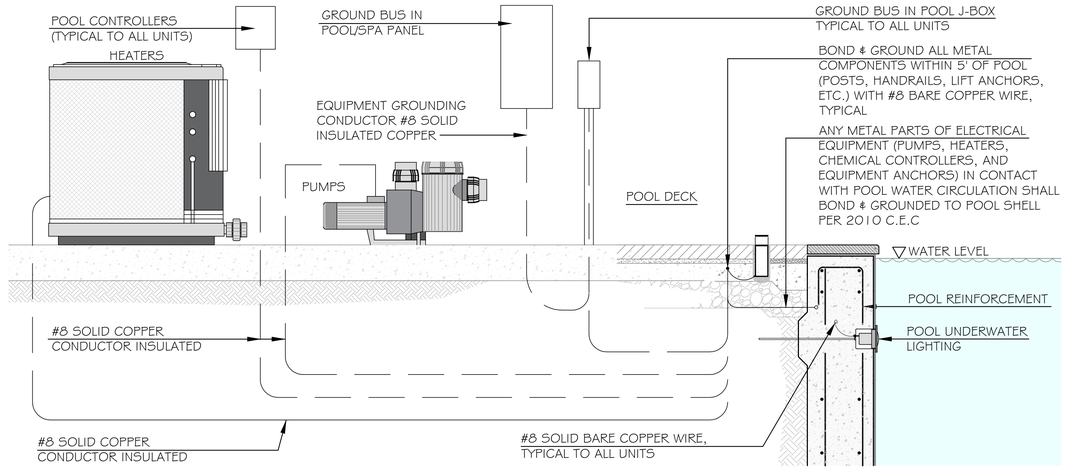
SCALE: 3/4"= 1'-0"



WITHOUT SUB PANEL

WITH SUB PANEL

UNDERWATER LIGHTING DIAGRAM



POOL & SPA EQUIPOTENTIAL BONDING/GROUNDING

PENTAIR INTELLIBRITE 5G
LED WHITE SPA LIGHT
12 VOLT

J
LIGHTING
JUNCTION BOX

PENTAIR EASYTOUCH
INDOOR CONTROL
TOUCH PAD

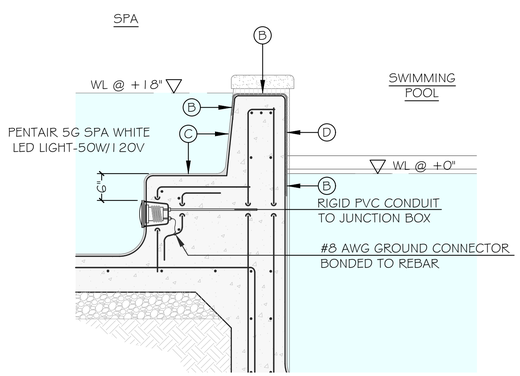
TR
LIGHTING LOW
VOLTAGE
TRANSFORMER

PENTAIR INTELLITOUCH
SPA 4 FUNCTION SIDE
REMOTE

ELECTRICAL SYMBOL KEY

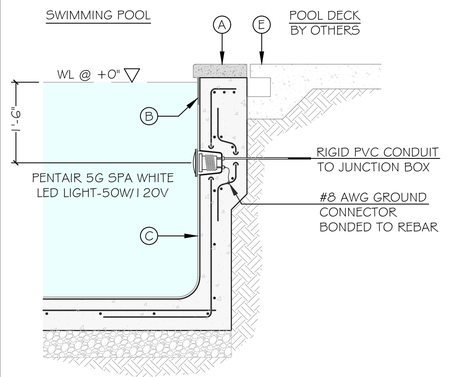
2 SPA LIGHT

SCALE: 3/4"= 1'-0"



3 POOL LIGHT

SCALE: 3/4"= 1'-0"



ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF HAWAII COUNTY AND N.E.C. ART. 680.
2. ALL ELECTRICAL EQUIPMENT SHALL COMPLY WITH N.E.C.
3. ALL ELECTRICAL EQUIPMENT SHALL BE U.L. APPROVED.
4. BONDING AND GROUNDING OF ALL EQUIPMENT TO REINFORCING STEEL SHALL BE WITH A.W.S. #8 INSULATED COPPER CONDUCTOR.
5. NO ELECTRICAL ATTACHMENTS OR RECEPTACLES SHALL BE WITHIN 10'-0" OF POOL.
6. OVERHEAD WIRING SHALL NOT BE INSTALLED WITHIN 10'-0" OF POOL.
7. UNDERWATER LIGHTS SHALL BE INSTALLED WITH ADEQUATE CORD LENGTH TO ALLOW LIGHT TO BE REMOVED FROM NICHE AND SET ON DECK FOR BULB REPLACEMENT.
8. PENTAIR IN-HOUSE CONTROL PANEL LOCATION TO BE INDOOR AND DETERMINED BY GENERAL CONTRACTOR/OWNER AND (4) 22 GAUGE MIN., STANDARD WIRES TO BE RUN BY ELECTRICIAN FROM THAT LOCATION TO MASTER PANEL IN PUMP ROOM.
9. ELECTRICAL CONTRACTOR TO PROVIDE ALL CONDUITS REQUIRED FOR ALL ELECTRICAL WORK RELATED TO SWIMMING POOL.
10. POOL AND ELECTRICAL CONTRACTORS SHALL FOLLOW INSTALLATION INSTRUCTIONS FOR ALL POOL EQUIPMENT.

CHRIS WILSON
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PH: 805-494-7704 FAX: 805-494-1226

Date: 08/05/2022

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Sheet Number: WF-6.0

PERMIT SET