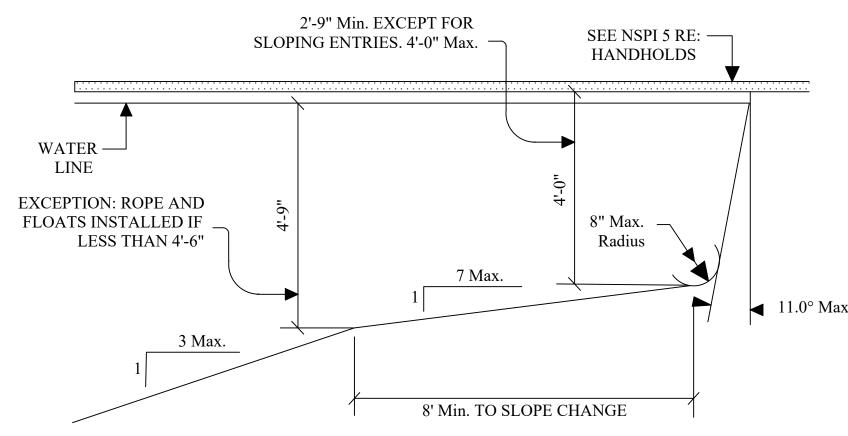
# Pool Plan with Attached Spa - Sample Layout

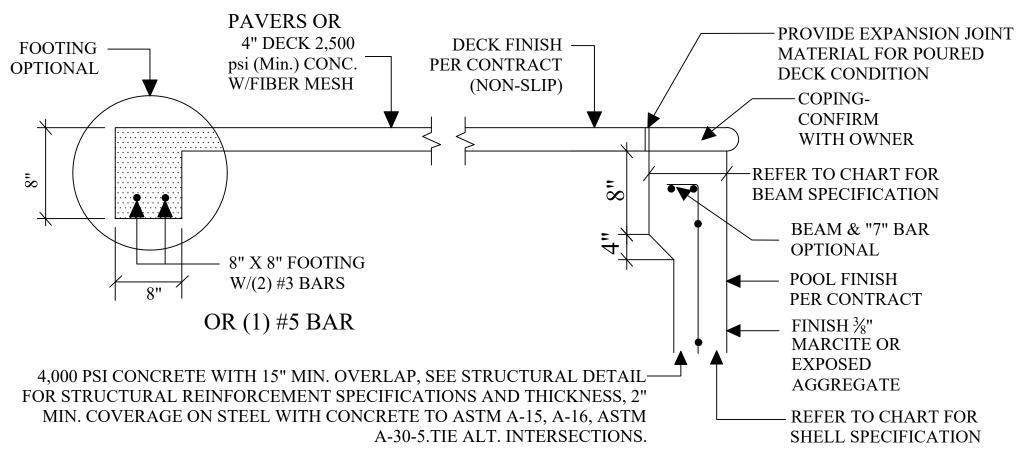
(Refer to Attached Design Plan for Specific Dimensions)



## **Pool Section Detail**

Scale: Not shown to scale

SB836, 6-20-07 FOR BONDING AND GROUNDING SYSTEMS FOR SWIMMING POOLS, THE USE OF AN UNDERGROUND BONDING CONDUCTOR MADE OF #8 AWG. BARE SOLID COPPER WIRE BURIED TO A MINIMUM DEPTH OF 4 INCHES TO 6 INCHES BELOW SUBGRADE, AND 18 TO 24 INCHES FROM INSIDE WALL OF A SWIMMING POOL OR SPA, IS DEEMED A PERMISSIBLE ALTERNATIVE OR EQUIVALENT TO COMPLIANCE WITH s. 680.26(c) OF THE NATIONAL ELECTRICAL CODE.

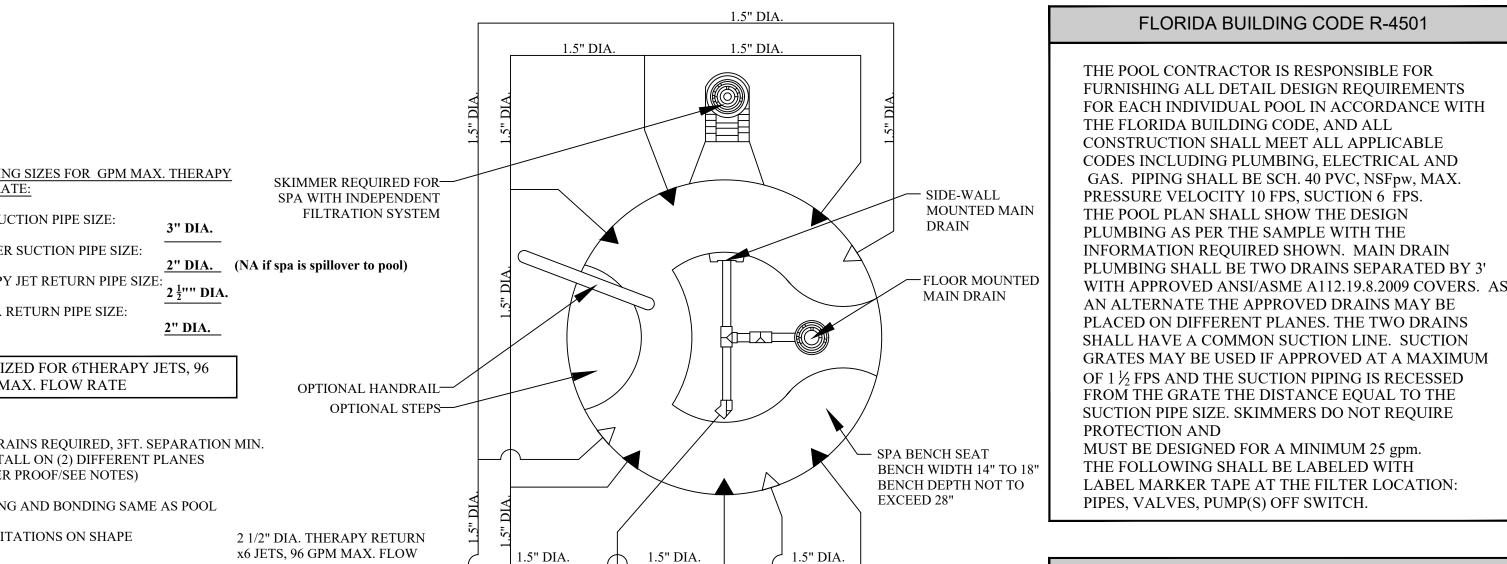


### STRUCTURAL SUBJECT TO SUITABLE SOIL CONDITIONS

Pool/Spa Deck, Beam, Wall, & Floor

Scale: Not shown to scale

COMPLIES WITH 2023 FLORIDA BUILDING CODE, 8TH EDITION



# Spa Plumbing Plan - Sample Layout

3" MIN. STEEL COVERAGE

1.5" DIA.

 $2\frac{1}{2}$ "" DIA.

(Refer to Attached Design Plan for Specific Dimensions)

1.5" DIA.

### SHELL SPECIFICATIONS POOL DEPTH MINIMUM FLOOR MIN. BEAM WALL WALLS **FLOORS** THICKNESS **STRENGTH THICKNESS THICKNESS** #3 REBAR #3 REBAR 4,000 PSI 6" MIN. 6" MIN. 8" MIN. 10" O.C.E.W. 10" O.C.E.W. #4 REBAR #4 REBAR 4,000 PSI 8" MIN. 8" MIN. 10" MIN. 5'-6' 6" O.C.E.W. 6" O.C.E.W. #5 REBAR #5 REBAR 6'-7' 4,000 PSI 10" MIN. 8" MIN. 12" MIN. 6" O.C.E.W. 6" O.C.E.W.

FLORIDA BUILDING CODE R-4501

**ELECTRICAL REQUIREMENTS** 

COMPLY WITH CHAPTER 27, 2023 FLORIDA BUILDING

WITHIN 15' PROTECT BY GFI, TRANSFORMER MIN. 10'

FROM POOL, 8" ABOVE WATER, J BOX 4' FROM POOL,

BRASS TO J BOX OR TRANSFORMER WHICH EVER IS

-WIRING AND BONDING AND ALL ELECTRICAL TO

CODE 8TH EDITION-RESIDENTIAL AND NEC 2020.

FIRST EXCEPT WHERE PVC IS APPROVED.

-NO OUTLET OR OVERHEAD POWER WITHIN 10' IF

gallons

THE SPECIFICATIONS PROVIDED ON THIS PLAN ARE FOR SINGLE SKIMMER POOLS. THE ABOVE SHELL SPECIFICATIONS ARE NOT APPLICABLE FOR POOLS EXCEEDING 800 SQ. FT. SPECIFIC DESIGN PLANS

THE STRUCTURAL SPECIFICATIONS PROVIDED SHALL NOT BE SUBSTITUTED DURING BIDDING OR

THE HOMEOWNER IS RESPONSABLE TO PROVIDE ANY SITE INFORMATION NECESSARY TO DESIGN THE POOL (SUCH AS GEOTECNICAL REPORTS, SURVEYS, ARCHITECTURAL PLANS (ETC.)).

ANY EXISTING BUILDING FOUNDATIONS OR STRUCTURES THAT MAY BE EFFECTED BY THE POOL CONSTRUCTION NEED TO BE PROTECTED TO AVOID DAMAGE OR UNDERMINING. ALL SUBSOILS NEED NEED TO BE STABILIZED, COMPACTED AND DEWATERED AS NECESSARY PRIOR TO CONSTRUCTION.

Flow Rate Required For Single Skimmer: 35gpm minimum, 62 gpm maximum Sample Pool Design based on Maximum Flow Rate for Single Skimmer Pool: Pool Volume Calculation: ave depth x 7.481 gal/cf =sq. ft x

POOL SHELL

FOR SPECIFICATIONS

SEE STRUCTURAL DESIGN

NOTCH-OUT FOR CONTINUOUS BEAM

BEND REBAR AROUND SKIMMER

SEE STRUCTURAL DESIGN DETAIL

**DETAIL FOR SPECIFICATIONS** 

Turnover Time in Hours: hours x 60 min/hr =Flow Rate: gallons / minutes = 62GPM (min.)

**Design Parameters for System Flow Rate Calculation for Single Skimmer Pool:** 

Steel at Skimmer Beam Detail

Scale: Not shown to scale

PIPE SIZING CHART (MAXIMUM) FLOW BASED ON HAZEN-WILLIAMS FORMULA FOR STANDARD SIZE SCHEDULE 40 PVC PIPE PRESSURE 6 FPS MAX 10 FPS MAX. VELOCITY VELOCITY RETURN LINE **BRANCH LINE** 62 GPM 146 88 227 138 392 234 PLUMBING SIZE FOR SINGLE SKIMMER POOL (50 GPM MAX.) POOL MAIN SUCTION PIPE SIZE: 2" DIA. POOL SKIMMER SUCTION PIPE SIZE: 2" DIA.  $1\frac{1}{2}$  " DIA. CLEANER/VAC PIPE SIZE:  $1\frac{1}{2}$ " DIA. RETURN PIPE SIZE:

THIS DOCUMENT IS FOR SINGLE

SKIMMER POOL APPLICATIONS ONLY

**BEAM NOTCH-OUT** 

OR CUT-OUT FOR SKIMMER

SKIMMER

1-1/2" DIA. -RETURN FITTING, TYP. PROVIDE ONE RECIRCULATION RETURN FITTING OPPOSITE EACH SKIMMER. EACH RETURN FITTING PROVIDES 20 GPM POOL MIN. GRATE OPEN AREA = FLOW/17.8 FOR VELOCITY 6'/SEC \* MAIN DRAINS AS OF 12-19-08 ANSI/ASME A112.19.8-2007 -CLEANER LINE - RECIRCULATION PUMP RESIDENCE (SHOWN FOR POOL EQUIPMENT (CONFIRM LOCATION) REFERENCE ONLY) EQUIPMENT SHALL NOT EXCEED 100 FT. FROM POOL

Single Skimmer Pool Plumbing Plan - Sample Layout (Refer to Attached Design Plan for Specific Dimensions)

THIS PLAN IS FOR GENERAL CONSTRUCTION OF A SINGLE SKIMMER POOL. THIS PLAN IS NOT TO BE ACCEPTED WITHOUT APPROVAL FROM THE ENGINEE OF RECORD OF THE ATTACHED POOL PLANS

NOTE:

PROVIDED BY THE BUILDER.

### SPECIAL SPA REQUIREMENTS

-MAXIMUM WATER DEPTH 4', MAXIMUM SEAT DEPTH 28", MAX.

-FLOOR SLOPE 1:12 -STEPS: MIN. TREAD 10" X 12", 7" MIN. RISER, 12" MAX. RISER EXCEPT THE BOTTOM STEP MAY BE 14" IF IT IS THE SEAT. INTERMEDIATE TREADS AND RISERS TO

BE UNIFORM. IF THE SPA IS OPERATED INTERMITTENTLY IT SHALL HAVE A ONE HOUR TURNOVER, IF CONTINUOUS A SIX HOUR TURNOVER. -MAXIMUM TEMPERATURE 104 DEGREES.

MEET LOCAL CODE IF GREATER.

-MEET ANSI/NSPI ARTICLE XVII, SAFETY INSTRUCTION/SAFETY SIGNS. -PRESSURE TEST PIPING AT 35 PSI FOR 15 MINUTES OR

### GENERAL DESIGN REQUIREMENTS

-DESIGN, CONSTRUCTION AND WORKMANSHIP SHALL BE IN CONFORMITY WITH THE REQUIREMENTS OF APSP/ICC 3, APSP/ICC 4, APSP/ICC AND APSP/ICC 6 AND APSP/ICC 7 BASED ON THE

POOL TYPE. -SEE NSPI FOR DIVING WATER ENVELOPES.

-SLIDES SHALL MEET THE MANUFACTURE'S INSTALLATION REQUIREMENTS.

-ALL POOLS WHETHER PUBLIC OR PRIVATE SHALL BE PROVIDED WITH A LADDER OR STEPS IN THE SHALLOV END WHERE THE WATER DEPTH EXCEEDS 24 INCHES (61 MM). IN PRIVATE POOLS WHERE WATER DEPTH EXCEED FEET (1524 MM) THERE SHALL BE LADDERS, STAIRS OR UNDERWATER BENCHES/ SWIM-OUTS IN THE DEEP END. WHERE MANUFACTURED DIVING EQUIPMENT IS TO BE USED, BENCHES OR SWIM-OUTS SHALL BE RECESSED OR LOCATED IN A CORNER

-CIRCULATION SYSTEMS, COMPONENTS AND EOUIPMENT SHALL COMPLY WITH NSF 50. -THE MAXIMUM TURNOVER RATE IS 12 HOURS. -FILTERS SHALL HAVE AN AIR RELEASE AND

PRESSURE GAGE -PUMPS 3 HP AND LESS SHALL MEET ANSI/UL1081 CORROSION RESISTANT WITH STRAINER AND MEET THE REQUIRED FLOW.

-SURFACE SKIMMERS SHALL MEET NSF 50 AND THERE SHALL BE ONE FOR EVERY 800 SQUARE FEET

OF SURFACE AREA APPROVED MANUFACUTRED INLET FITTNGS FOR THE RETURN OF RECIRCULATED POOL WATER SHALL BE PROVIDED ON THE BASIS OF AT LEAST ONE PER 300 SQUARE FEET (28 m2) OF SURFACE AREA. SUCH INLET FITTINGS SHALL BE DESIGNED AND CONSTRUCTED TO INSURE AN ADEQUATE SEAL TO THE POOL STRUCTURE

SEALING FOR PRESSURE TESTING OF THE POOL CIRCULATION PIPING. WHEN MORE THAN ONE INLET IS REQUIRED, THE SHORTEST DISTANCE BETWEEN ANY TWO REQUIRED INLETS SHALL BE AT LEAST 10 FEET (3048 MM) -HEATER SHALL MEET ANSI-Z21.56 OR UL 1261 OR

AND SHALL INCORPORATE A CONVENIENT MEANS OF

-DISINFECTANT EQUIPMENT SHALL COMPLY WITH NSF 50.

-PRESSURE TEST PIPING AT 35 PSI FOR 15 MINUTES OR MEET LOCAL CODE IF GREATER.

-RESIDENTIAL SWIMMING BARRIER REQUIREMENTS TO MEET SECTONS 4501.17

-WASTE DISPOSAL TO COMPLY WITH SECTION 454.2.10 R403.10 (MANDATORY)

POOLS & PERMANENT SPA ENERGY CONSUMPTION - THE ENERGY CONSUMPTION OF POOLS AND PERMANENT SPAS SHALL BE IN ACCORDANCE WITH SECTIONS R403.10 THROUGH R403.10.5.

IT HAS BEEN CERTIFIED THAT THESE DESIGN REOUIREMENTS ARE IN COMPLIANCE WITH THE 2023 FLORIDA BUILDING CODE 8TH EDITION, R4501, ANSI/APSP/ICC 3, ANSI/APSP/ICC 4, ANSI/APSP/ICC 5, AND ANSI/APSP/ICC 6 AND ANSI/APSP/ICC 7, ANSI/APSP/ICC 14 ANSI/APSP/ICC 15.

### PIPE SIZING AND TDH REQUIREMENTS

REFER TO ATTACHED SIMPLIFIED TOTAL DYNAMIC HEAD WORKSHEET (STDH) FOR MAXIMUM SYSTEM FLOW RATE CALCULATIONS BASED ON ANSI-/ASP-7 SPECIFICATIONS.

### PLEASE NOTE:

THE PARAMETERS SET FOR THIS POOL ARE BASED ON THE MANUFACTURES SPECIFICATIONS FOR A SINGLE SKIMMER POOL WITH A 2" DIAMETER PORT. MAXIMUM SYSTEM FLOW RATE (MSFR) FOR A SINGLE SKIMMER POOL IS 62 GPM.

THE MAXIMUM FLOW OF THE VARIABLE SPEED PUMP CAN NOT BE DETERMINED WITHOUT CALCULATING THE TOTAL DYNAMIC HEAD (TDH) FOR THE SYSTEM WHICH IS BASED ON THE POOL DIMENSIONS PROVIDED BY THE CLIENT.

THE TOTAL FLOW RATE OF THE SYSTEM IS CALCULATED BY THE POOL VOLUME DIVIDED BY THE TURNOVER RATE OR THE MAXIMUM FLOW OF THE DESIGN FITTINGS

ONCE THE MSFR IS DETERMINED, PIPES CAN BE SIZED BASED ON THE MAXIMUM VELOCITY REQUIREMENTS. FRICTION LOSS IN THE PIPES, FILTER AND HEATER ARE CALCULATED TO DETERMINE THE TDH.

THE TDH WILL BE TRANSLATED ON THE VARIABLE SPEED PUMP CURVE TO DETERMINE THE MAXIMUM PUMP FLOW A THE MSFR. IF THE MAXIMUM PUMP FLOW EXCEEDS THE MSFR. THE PIPES WILL BE UPSIZED TO ACCOMMODATE THE PUMP FLOW. (REFER TO ATTACHED STDH WORKSHEET TO CONFIRM PIPE SIZES).

THE FLOW RATE OF THE VARIABLE SPEED PUMP WILL BE PROGRAMMED NOT TO EXCEED THE MSFR FOR A SINGLE SKIMMER POOL OR THE FLOW RATE BASED ON THE TDH CALCULATIONS.

PIPE SIZES ARE BASED ON THE MSFR CALCULATED BY THE ENGINEER OF RECORD (EOR) AND IN COMPLIANCE WITH ALI CODE REQUIREMENTS. NO OTHER DOCUMENTS MAY BE USED TO OBTAIN A PERMIT THAT ARE NOT APPROVED BY THE EOR.



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FL IDENTIAL IGN PLAN

This item has been and sealed by Sam

A. LIBER electronically signed liberatore PE using a Digital Signature and date. Printed copies of this document are no considered signed and sealed and the verified on anv

Samuel A \_iberatore 2024.10.29 08:24:36 -04'00'

SAMUEL A. LIBERATORE, P.E. #55740

DATE SCALE 10-28-2024 As Shown