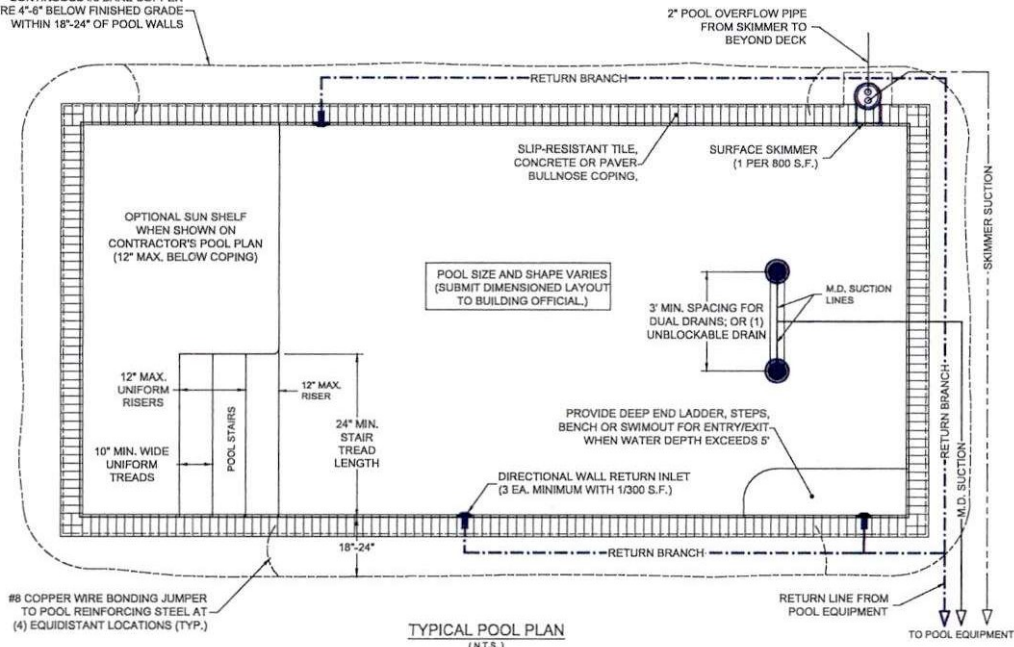


ELECTRIC POWER LINES; OVERHEAD POWER LINES SHALL NOT PASS WITHIN AN AREA EXTENDING A DISTANCE OF 10' HORIZONTALLY AWAY FROM THE INSIDE EDGE OF THE POOL WALLS. UNDERGROUND POWER LINES SHALL BE INSTALLED IN CONDUIT PER NFPA 70 (2020) SECTION 680.11.

CONTINUOUS #8 BARE COPPER WIRE 4"-6" BELOW FINISHED GRADE WITHIN 18"-24" OF POOL WALLS



TYPICAL POOL PLAN (N.T.S.)

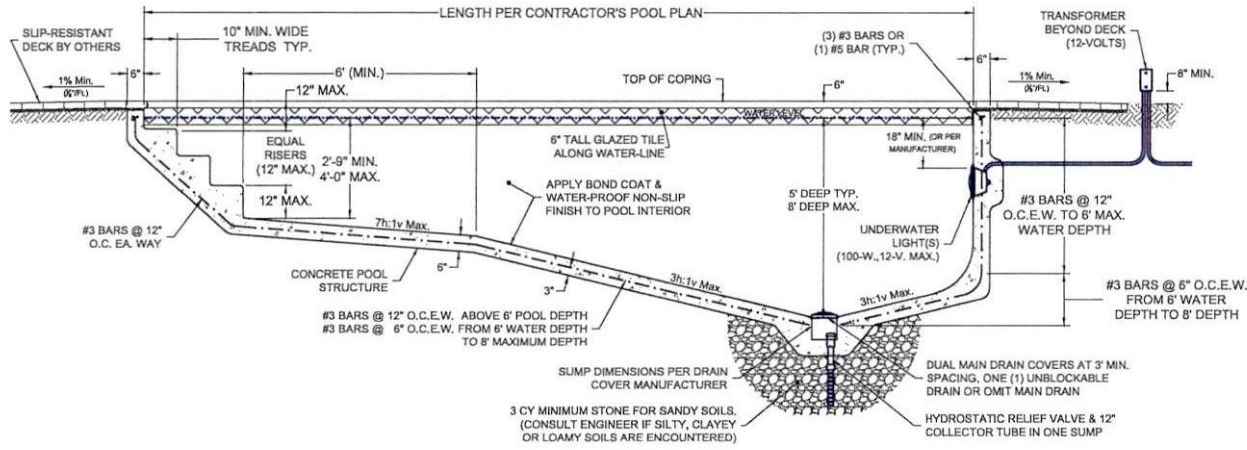
GENERAL NOTES:

- THESE TYPICAL DETAILS ARE APPLICABLE TO IN-GROUND RESIDENTIAL SWIMMING POOLS OF LESS THAN 108,000 GALLONS AND 148 G.P.M. PUMP RATE.
- APPLICABLE CODES: FLORIDA BUILDING CODE, RESIDENTIAL, 8TH EDITION (2023), SECTION R4501 PRIVATE SWIMMING POOLS, ANSI/APSP-3, ANSI/APSP-5, ANSI/APSP-7, & ANSI/APSP/ICC-15.
- SAFETY BARRIERS FOR THE POOL SHALL BE PROVIDED IN ACCORDANCE WITH F.B.C., RESIDENTIAL, SECTION R4501.17.1 TO INCLUDE OR A COMBINATION OF: YARD FENCING, WINDOW AND DOOR ALARMS, SAFETY FENCING, POOL ALARM, AND/OR SCREEN ENCLOSURE WITH CHAIR RAIL. ALL DOOR & GATE LATCHES MOUNTED 54" ABOVE GRADE.
- ALL SUCTION OUTLET FITTING ASSEMBLIES (DRAIN COVERS, FRAMES AND FASTENERS) ARE TO COMPLY WITH ANSI/APSP/ICC-18 (2017) AND ARE TO BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.
- ALL SUCTION OUTLET FITTING ASSEMBLIES MUST INCLUDE THE MANUFACTURER'S SUMP OR FIELD-BUILT SUMP WITH INTERIOR DIMENSIONS PER THE MANUFACTURER'S INSTRUCTIONS.
- CONSTRUCT POOL ON COMPACTED OR UNDISTURBED SOIL WITH A 2,000 P.S.F. MINIMUM BEARING CAPACITY. CONTACT THE ENGINEER SHOULD ANY MARL, MUCK, CLAYEY, ORGANIC OR UNSUITABLE MATERIAL BE ENCOUNTERED IN THE POOL EXCAVATION FOR SOIL CORRECTION RECOMMENDATIONS.
- THE LOCAL GROUND WATER TABLE SHALL BE MAINTAINED BELOW THE POOL STRUCTURE DURING CONSTRUCTION AND ANY TIME THE POOL WATER IS EMPTY FOR MAINTENANCE.
- POOL PIPING SHALL BE SCH. 40 PVC, STAMPED NSF-PW APPROVED. ALL PIPING, VALVES, EQUIPMENT AND MATERIALS USED SHALL CONFORM TO THE F.B.C., PLUMBING.
- CHLORINATING AND/OR DISINFECTANT EQUIPMENT SHALL COMPLY WITH THE LATEST ANSI/NSF-50.
- PUMPS SHALL BE 3 H.P. OR LESS AND COMPLY WITH ANSI/UL 1081. PUMPS EQUAL TO OR EXCEEDING 1 H.P. SHALL BE TWO SPEED MINIMUM WITH THE RECIRCULATION RATE MET A LOW SPEED OF AT LEAST 1/2 THAT OF THE MAXIMUM PUMP SPEED.
- ANY POOL LIGHTING, ALL ELECTRICAL WORK AND EQUIPMENT INSTALLATION MUST BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL COMPLY WITH CHAPTER 27 OF THE FLORIDA BUILDING CODE (8TH ED.) AND N.F.P.A. 70, N.E.C. (2020 EDITION) ARTICLE 680.
- INSTALL A CONTINUOUS #8 BARE COPPER WIRE 4"-6" BELOW THE POOL DECK FINISHED GRADE WITHIN 18"-24" OF POOL WATER BONDED TO POOL REINFORCING STEEL AT (4) UNIFORMLY SPACED LOCATIONS AND BONDED TO ALL METALLIC COMPONENTS INCLUDING LIGHT NICHES, FITTINGS, HANDRAILS, ELECTRICAL EQUIPMENT, PUMPS AND FIXED METAL PARTS WITHIN 5' OF THE POOL WATER.
- HEAT PUMPS SHALL COMPLY WITH THE LATEST UL 559. ELECTRIC HEATERS SHALL COMPLY WITH UL 1261. ANY GAS PIPING SHALL COMPLY WITH F.B.C., FUEL GAS. GAS HEATERS SHALL COMPLY WITH LATEST ANSI-Z21.56.
- ONE MEANS OF EXIT FROM THE SHALLOW AND DEEP END CONSISTING OF A LADDER, BENCH, UNDERWATER SEAT OR SWIM-OUT SHALL BE PROVIDED FOR WATER DEPTH 5' OR GREATER. PROVIDE TWO MEANS OF EXIT FOR POOLS WIDER THAN 36'.
- UNDERWATER SEATS, BENCHES, AND SWIM-OUTS SHALL BE A MAXIMUM OF 20" BELOW THE WATERLINE.
- THIS POOL DOES NOT PROVIDE A MINIMUM DIVING WATER ENVELOPE. NO DIVING OR DIVING EQUIPMENT IS ALLOWED.
- POOL PLUMBING PIPE SIZES SHALL BE PROVIDED BASED ON THE CONTRACTOR'S OR ENGINEER'S ANSI / APSP / ICC COMPLIANCE CALCULATIONS WITH MINIMUM PIPE SIZES PER BELOW:

PUMP RATE (GPM)	RETURN LINES (10'/SEC.)	SUCTION LINES (8'/SEC.)
0 - 51	1 1/2"	1 1/2"
52 - 63	1 3/4"	2"
64 - 84	2"	2"
85 - 104	2"	2 1/2"
105 - 119	2 1/2"	2 1/2"
120 - 148	2 3/4"	3"

STRUCTURAL NOTES:

- CONCRETE MATERIAL TO HAVE 4,000 PSI MINIMUM COMPRESSIVE STRENGTH (F_c) AT 28 DAYS AND WATER/CEMENT RATIO NO GREATER THAN 0.50. CONCRETE MAY BE PNEUMATICALLY APPLIED OR FORMED, POURED AND VIBRATED.
- REINFORCING STEEL TO BE GRADE 40 DEFORMED BARS WITH 2" MINIMUM COVER AND 3" COVER TO EARTH. LAP SPLICE #3 BARS 15" MINIMUM.
- DESIGN CRITERIA: DESIGN BASED ON ALLOWABLE STRESS CRITERIA OF THE FLORIDA BUILDING CODE, 8TH EDITION (2023) WITH THE FOLLOWING LOADS AND ALLOWABLE STRESSES:
 LATERAL SOIL LOAD: 60 psf/ft per ft. depth
 LIVE LOAD: 40 psf
 SOIL BEARING REQUIRED: 2,000 psf
 CONCRETE COMP. STRESS: 1,800 psi (0.45F_c)
 REINFORCING STEEL STRESS: 20,000 psi (Grd. 40)



TYPICAL POOL SECTION (N.T.S.)

TYPICAL DETAILS NOTE:
 THESE STANDARD DETAILS INDICATE TYPICAL BUILDING CODE REQUIREMENTS FOR IN-GROUND FLORIDA PRIVATE SWIMMING POOLS. SWIMMING POOL CONTRACTOR TO PROVIDE THE SITE SPECIFIC POOL PLAN TO THE BUILDING OFFICIAL FOR POOL ELEMENT LOCATIONS, LAYOUT AND DEPTHS.

PREPARED FOR:
FAMILY POOLS
 2175 9th Street,
 Sarasota, Florida 34247
 (941) 345-6672
 (CPC1457329)

PREPARED BY:
CREST ENGINEERING
 of Sarasota, LLC
 3402 Magic Oak Lane, Sarasota, Florida 34232
 Phone: (941) 377-8811
 Email: info@crestfl.com
 Florida Engineering Firm No. 28100

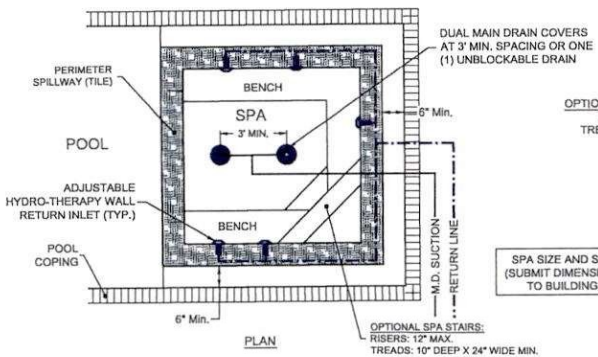
Date: 10-18-2024
 Project No: S0700
 Michael L. Shannon
 License No. 67895



STANDARD DETAILS
TYPICAL IN-GROUND PRIVATE SWIMMING POOL
 MINIMUM RESIDENTIAL/PRIVATE SWIMMING POOL STANDARDS PER FLORIDA BUILDING CODE, 8TH EDITION (2023) SECTIONS 454.2 & R4501, ANSI/APSP/ICC-3 (2014), ANSI/APSP/ICC-5a (2013) & ANSI/APSP/ICC-7 (2020)

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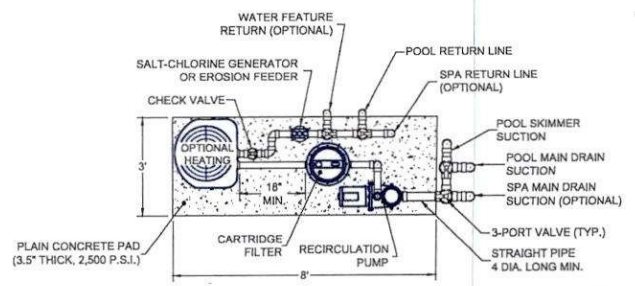
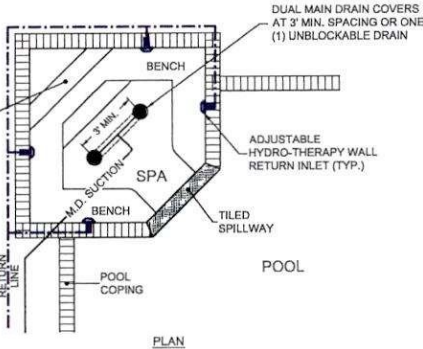
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OPTIONAL SPA STAIRS:
RISERS: 12" MAX.
TREADS: 10" DEEP X
24" WIDE MIN.

SPA SIZE AND SHAPE VARIES
(SUBMIT DIMENSIONED LAYOUT
TO BUILDING OFFICIAL.)

OPTIONAL SPA STAIRS:
RISERS: 12" MAX.
TREADS: 10" DEEP X 24" WIDE MIN.

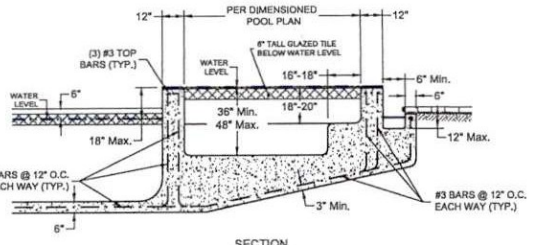


SUCTION AND RETURN PIPE SIZES PER SEPARATE PIPE VELOCITY CALCULATIONS

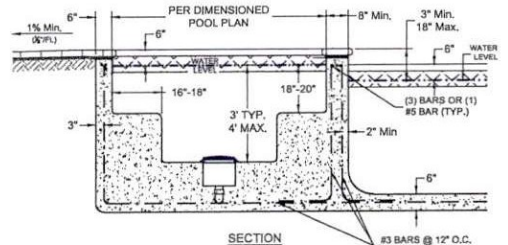
EQUIPMENT NOTES:

1. CHLORINATING AND/OR DISINFECTANT EQUIPMENT SHALL COMPLY WITH THE LATEST ANSISF-50.
2. PUMPS SHALL BE 3 H.P. OR LESS AND COMPLY WITH ANSUL 1081.
3. ANY POOL LIGHTING, ALL ELECTRICAL WORK AND BONDING OF POOL EQUIPMENT, HANDRAILS AND LIGHTS TO THE POOL REINFORCING STEEL SHALL COMPLY WITH CHAPTER 27 OF THE FLORIDA BUILDING CODE AND N.F.P.A. 70 ARTICLE 880 NATIONAL ELECTRIC CODE.
4. HEAT PUMPS SHALL COMPLY WITH THE LATEST UL 569. ELECTRIC HEATERS SHALL COMPLY WITH UL 1261. ANY GAS PIPING SHALL COMPLY WITH F.B.C. FUEL GAS. GAS HEATERS SHALL COMPLY WITH LATEST ANSI-Z21.55.

SINGLE PUMP EQUIPMENT SCHEMATIC (N.T.S.)



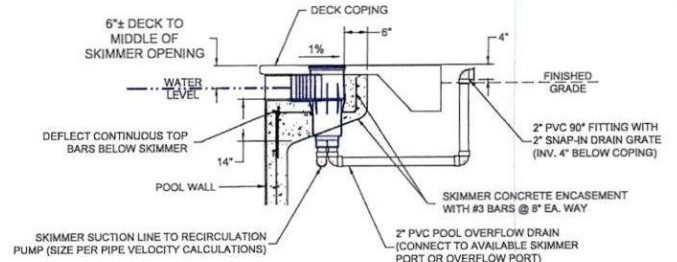
TYPICAL PERIMETER OVERFLOW SPA



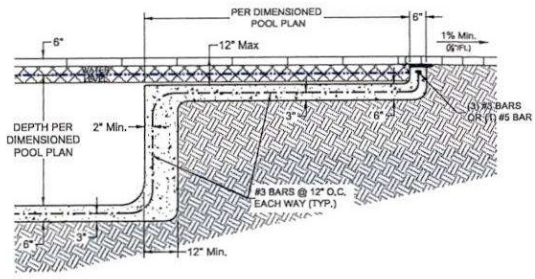
TYPICAL STANDARD SPA

- SPA NOTES:**
1. SPA CONSTRUCTION SHALL CONTAIN NO PROTRUSIONS, EXTENSIONS, MEANS OF ENTANGLEMENT OR OTHER OBSTRUCTION WHICH CAN CAUSE ENTRAPMENT OR INJURY OF USER.
 2. MAXIMUM WATER DEPTH SHALL BE 4'-0" BELOW WATER LEVEL.
 3. MAXIMUM SEAT DEPTH SHALL BE 28" BELOW WATER LEVEL.
 4. STEPS TO HAVE UNIFORM RISER HEIGHTS, 10" MIN. TREAD AND HAVE 240 SQ. IN. SURFACE AREA.
 5. MAXIMUM FLOOR SLOPE SHALL BE 1% (1/8").
 6. POTABLE WATER HOSE BIB WITH VACUUM BREAKER TO BE LOCATED ON THE POOL/SPA DECK.

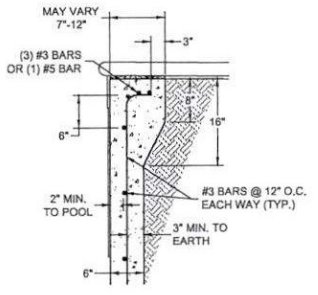
(WHEN SPA IS SHOWN IN CONTRACTORS POOL PLAN)
OPTIONAL SPA DETAILS (N.T.S.)



SKIMMER & POOL OVERFLOW DETAIL (1/2" = 1'-0")



(WHEN A SUN SHELF IS SHOWN IN CONTRACTORS POOL PLAN)
OPTIONAL SUN SHELF DETAIL (3/8" = 1'-0")



OPTIONAL POOL BELL BEAM DETAIL (3/4" = 1'-0")

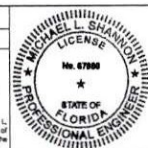
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TYPICAL DETAILS NOTE:
THESE STANDARD DETAILS INDICATE TYPICAL BUILDING CODE REQUIREMENTS FOR IN-GROUND FLORIDA PRIVATE SWIMMING POOLS. SWIMMING POOL CONTRACTOR TO PROVIDE THE SITE SPECIFIC POOL PLAN TO THE BUILDING OFFICIAL FOR POOL ELEMENT LOCATIONS, LAYOUT AND DEPTHS.

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3402 Magic Oak Lane, Sarasota, Florida 34232
Phone: (941) 377-8811
Email: info@crestf.com
Florida Engineering Firm No. 28100

Date: 10-18-2024
Project No: S0700
Michael L. Shannon, P.E.
License No. 67896
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STANDARD DETAILS
TYPICAL IN-GROUND PRIVATE SWIMMING POOL
MINIMUM RESIDENTIAL/PRIVATE SWIMMING POOL STANDARDS PER FLORIDA BUILDING CODE, 8th EDITION (2023) SECTIONS 454.2 & 1450.1, ANSIA/SPRCC-3 (2014), ANSIA/SPRCC-5a (2013) & ANSIA/SPRCC-7 (2020)

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of 2

Pilch Horne Swimming Pool - 784 Dream Island Rd, Ellenton
Private Swimming Pool Code Compliance Calculations
 Florida Building Code Sections 454.2/R4501 (8th Ed.), ANSI/APSP/ICC-5, 7 & 15

May 1, 2024

Pool Data:

Pool Area **885 sf**
 Pool Volume **21,000 gal**
 Skimmer Configuration: **2 ea (1 per 800 Sq Ft.)**
 Main Drain Configuration: **Dual Paramount SDX2 Drains (116 gpm for 2.5" Suction - Floor)**
 Auxiliary Pool Load: **Yes - Pool Skimming & Cleaning**
 Pump Description: **Hayward TriStar VS 950 (2.7 hp)**
 Pump Controls: **On-board controller defaults to low speed in 24 hrs.**
 Pool Heating: **Hayward HP21104T (110k btu/hr heat pump)**
 Heating Efficiency: **4.0-5.8 COP**

Pipe & Fitting Schedule:

Suction Line Piping: 2.5 in 23 lf

Fitting Equivalent Lengths:

Tees **1 ea @ 13 lf = 13 lf**
 Diverter Valves **1 ea @ 22 lf = 22 lf**
 Bends (90) **10 ea @ 9.3 lf = 93 lf**

Total Suction Equivalent Pipe Length 151 lf

Return Line Piping: 2.0 in 38 lf

Fitting Equivalent Lengths:

Tees **1 ea @ 12 lf = 12 lf**
 Diverter Valves **2 ea @ 21 lf = 42 lf**
 Bends (90) **12 ea @ 8.5 lf = 102 lf**

Total Return Equivalent Pipe Length 194 lf



Michael L Shannon
 Digitally signed by Michael L Shannon
 Date: 2024.05.01 09:16:34 -04'00'

Michael L. Shannon, P.E.
 License No. 67896

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System Total Dynamic Head Curve (Feet of water):

Flow (GPM)	Static Head	Inlet Loss	Suction Pipe Loss	Return Pipe Loss	Main Drain Loss	Filter Loss	Heater Loss	Total Dynamic Head
20	4	0.2	0.5	1.5	0.1	0.6	1	7.9
40	4	0.9	1.8	5.4	0.3	1.4	3	16.7
60	4	2.0	3.8	11.3	0.5	2.5	7	31.1
80	4	3.6	6.4	19.3	1.0	5.1	12	51.4
100	4	5.5	9.8	29.2	1.5	8.0	17	74.9
120	4	7.8	13.7	40.9	2.0	12.7	25	106.1

Design Filtration Flow Rate: **46 gpm (< 360 min. turnover per ANSI/APSP/ICC-15)**
 Maximum Flow Rate: **100 gpm (Per system head curve vs. pump performance curve below)**
 Turnover Frequency **7.6 hrs (O.K. < 12 hrs)**

Required Pipe Sizes at Maximum Flow For ANSI/APSP/ICC-5 & F.B.C. Compliance:

Main Drain Suction Line **2.5 " dia = 6.7 ft/sec (O.K. <= 8 ft/sec)**
 Skimmer Suction Line **2.0 " dia = 5.8 ft/sec (O.K. <= 8 ft/sec @ 60% Flow)**
 Return Line: **2.0 " dia = 9.7 ft/sec (O.K. <= 10 ft/sec - FBC R4501.6.3)**
 Return Branch Lines: **1.5 " dia = 9.1 ft/sec (O.K. <= 10 ft/sec - FBC R4501.6.3)**

Check Pipe Velocities at Design Flow Rate For ANSI / APSP / ICC-15 Compliance:

Suction Line: **2.5 " dia = 3.1 ft/sec (O.K. <= 6 ft/sec)**
 Return Line: **2.0 " dia = 4.5 ft/sec (O.K. <= 8 ft/sec)**
 Return Branch Lines: **1.5 " dia = 4.2 ft/sec (O.K. <= 8 ft/sec)**

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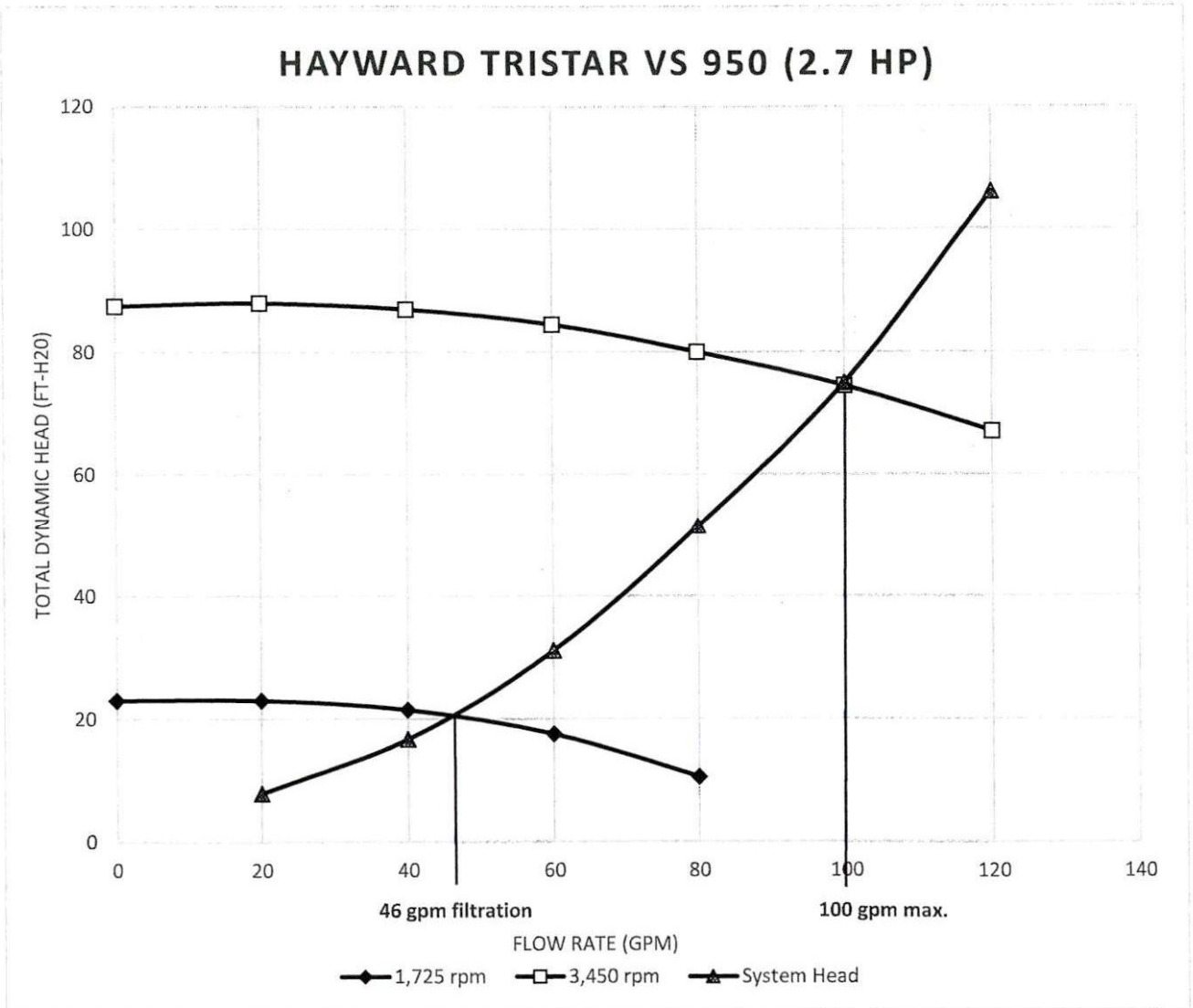
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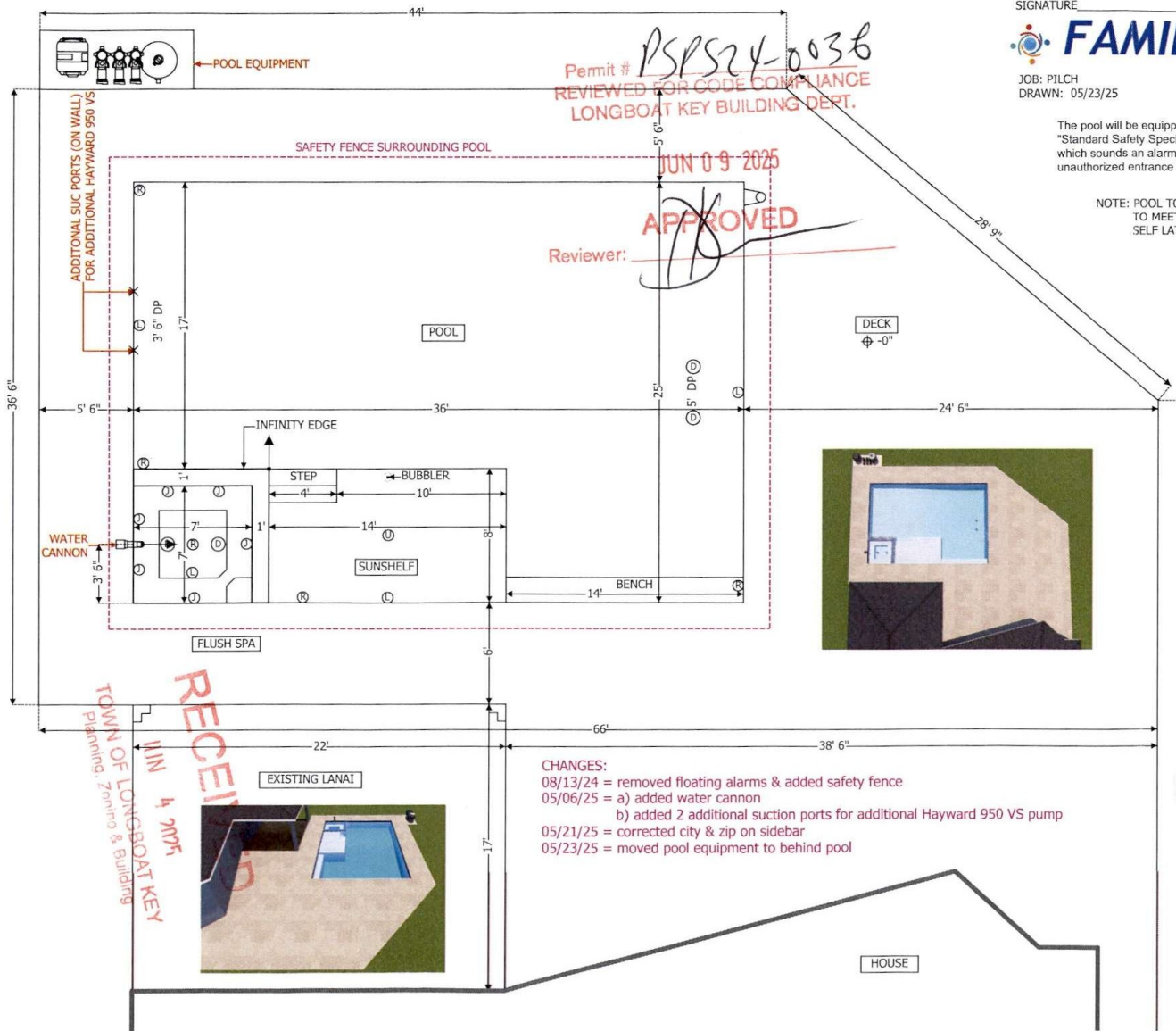
ANSI / APSP / ICC-15 Filter Compliance:

Filter Description: **Cartridge Filter**
Minimum Filter Area: **150 sf** (< 0.375 GPM/SF For Cartridge Filters)
Backwash Valve: N/A - Cartridge Filters

System Head vs. Pump Performance Curves:



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SIGNATURE _____ DATE _____



JOB: PILCH
DRAWN: 05/23/25

The pool will be equipped with a device certified to ASTM F2208 "Standard Safety Specifications for Residential Pool Alarms" which sounds an alarm upon detection of an accidental or unauthorized entrance into water.

NOTE: POOL TO BE SURROUNDED BY FENCE TO MEET SAFETY REQUIREMENTS INCLUDING SELF LATCHING DOOR WITH 54" HT LATCH

#8 AWG BOND WIRE 4" - 6" BELOW SUBGRADE 18" - 24" FROM POOL BONDED @ 4 POINTS TO POOL SHELL NEC 680.26(B)(2)(B)

Symbol Name

- (J) Jet
- (L) LED Light
- (R) Return
- (D) SDX Drain
- (A) Skimmer
- (U) Umbrella Nitch

Permit # **PSPS24-0038**
REVIEWED FOR CODE COMPLIANCE
LONGBOAT KEY BUILDING DEPT.

JUN 09 2025

APPROVED

Reviewer: _____

CHANGES:
08/13/24 = removed floating alarms & added safety fence
05/06/25 = a) added water cannon
 b) added 2 additional suction ports for additional Hayward 950 VS pump
05/21/25 = corrected city & zip on sidebar
05/23/25 = moved pool equipment to behind pool

CUSTOMER INFO
CUSTOMER NAME: PILCH, JOE & HORNE, NEAL
ADDRESS: 784 DREAM ISLAND RD
CITY/STATE/ZIP: LONGBOAT KEY, FL 34228
PHONE: _____ FAX: _____
CELL: _____
EMAIL: _____

POOL
LENGTH: 36' SQFT: 836
WIDTH: 17' - 25' PERIMETER: 122'
DEPTH: 3' 6" - 5' LIGHTS: 3 LED
RETURNS: 5 DRAINS: 2 SDX
INTERIOR MATL: STONESCAPES POOL BEAM: 6"
NOTES: _____

SPA
LENGTH: 7' ID SQFT: 49
WIDTH: 7' ID PERIMETER: 28'
DEPTH: 3' LIGHTS: 1 LED
RETURNS: 6 JETS DRAINS: 2 SDX
RAISED HEIGHT: 6" SPILLWAY: INFINITY EDGE
INTERIOR MATL: STONESCAPES SPA BEAM: 10"
NOTES: _____

PLUMBING
RETURNS: 5 SKIMMERS: 1
VAC LINES: N/A MAIN DRAINS: SDX
CLEANING SYSTEM: N/A
WATER FEATURES: BUBBLER
NOTES: _____

DECK
DECK TYPE: TRAVERTINE ELEVATION: -4" HOUSE
TOTAL DECK SQFT: 1873 PERIMETER: _____
RAISED BEAM: N/A MATERIAL: _____
NOTES: SAFETY FENCE
EXISTING LANAI = 374 SQFT

EQUIPMENT
POOL PUMP: (2) HAYWARD 950 VS
FILTRATION: CRTG FILTER SIZE: #150
TIMER: YES CHLORINATOR: SALT
HEATER: HAYWARD HEAT PRO 110,000 BTU HEAT PUMP
NOTES: (1) WATER CANNON



ADDRESS: 2175 9th ST
CITY/STATE/ZIP: SARASOTA, FL 34237
PHONE: (941) 780-8437 FAX: (941) 378-2002
EMAIL: rissler@gmail.com
DESIGNER: CHARLES RISSLER
ALTERNATE CONTACT: EARL RISSLER
LICENSE #: CPC1457329

SCALE: 1/8" = 1'-0"
REF: AMATO

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