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City of Gainesville's Building Department

Checklist for Residential Swimming Pools

ALL SUBMITTALS FOR CONSTRUCTION PERMITS MUST BE SUBMITTED THROUGH ePLAN REVIEW - PROJECTDOX.

This checklist is for the design, construction and workmanship of a residential swimming pool and shall be in conformity with the requirements of ANSI/APSP/ICC 3—14, ANSI/APSP/ICC 4—12, ANSI/APSP/ICC 5—11, ANSI/APSP/ICC 6—13, and ANSI/APSP/ICC 7—13. See FBC-Residential, Chapter 45 www.floridabuilding.org.

GENERAL REQUIREMENTS:

☐	Permit Application
☐	Residential Swimming Pool Notice of Requirements Form (This document is required to be signed by the contractor and the property owner.)
☐	All drawings must be clear, concise and drawn to scale. "Optional" details that are not used shall be marked void or crossed off. Square footage and dimensions of different areas shall be on plans.
☐	Designer's name and signature on document. If created by a licensed architect or engineer, the official digital signature and electronic seal shall be affixed.
☐	Separate Electrical Permit as applicable

PLANS:

☐	Site-Plan showing existing buildings, structures, and the proposed location of pool / spa / non-portable hot tub on the property with dimensions to all property lines and the dwelling.
☐	If pool falls in the angle of repose of any existing foundations, additional engineering must be provided indicating how the existing foundation will be maintained.
☐	Distance of any glass adjacent to pool edge and distance from walking surface to bottom edge of glass. (As per FBC 2017 sec. 2406.4.5 any glass within 60" of the water's edge and within 60" of the walking surface on the pool side of the glazing shall be tempered)
☐	All accessories to the pool such as ladders, slides, diving boards etc. that are proposed.
☐	Location of existing electrical outlets and fixtures and the proposed receptacle within the pool area.
☐	Location and type of all proposed pool equipment, electric and gas service. If gas provide layout and sizing of gas lines.

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☐	Show details demonstrating compliance with the POOL BARRIER REQUIREMENTS in accordance with the Florida Building Code-Residential, Chapter 45 and the Florida Statute 515.
☐	Site Built/Prefabricated – Engineered Drawings: - Reinforcement, thickness and type concrete, depth limits, details of built in steps, footings on decks, for both pools, spas, and non-portable hot tubs. - Equipotential bonding grid must be shown on pool layout & details as to connection of grid to pool steel. - Piping detail for drains, suction inlet locations, skimmers and re-circulation lines. - Entrapment protection device. (Manufacturer and model) - Back-up vacuum relief device or means. • Approved vacuum release system (manufacturer and model) • Approved vent piping. • Other approved devices or means. - Compliance with ANSI/APSP/ICC 7 - 13 – Determination of the Maximum System Flow Rate. (A Total Dynamic Head Calculation worksheet is one such method)
☐	Above Ground Pools - Manufactured Specifications

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Residential Swimming Pool
Notice of Requirements
Chapter 515 Florida Statutes

_____
Permit #:

SECTION ONE - LOCATION

I (We) acknowledge that a new swimming pool, spa or hot tub will be constructed or installed at the address as indicated below, and hereby affirm that one or more of the following methods will be used to meet the mandatory requirements of Chapter 515, Florida Statutes and the Florida Building Code-Residential 6th Edition (2017) R4501.17.

Address / Location of the ☐Pool ☐Spa ☐Hot Tub: _____

SECTION TWO – PERIMETER BARRIER

The pool/spa/hot tub will be isolated from access by adjacent properties by a barrier and/or enclosure as indicated below: *(please check the box(es) for the method(s) to be used and the contractor and owner must initial in the space to the left)*

____/____ ☐ A perimeter barrier or fence will be provided at least 4 feet high around the pool/spa/hot tub. The barrier and gates will comply with the minimum requirements of the Florida Building Code – Residential 6th Edition (2017) Section R4501.17.1

____/____ ☐ A standard screen enclosure, which meets the requirements of the Florida Building Code – Residential 6th Edition (2017) Section R4501.17.1.11, will be constructed as part of or all of the required perimeter barrier. The enclosure will be installed and inspected prior to the required pool final inspection.

____/____ ☐ A wall or walls of the dwelling will serve as part of the perimeter barrier, Florida Building Code – Residential 6th Edition (2017) Section R4501.17.1.14.

____/____ ☐ The structure is an aboveground swimming pool and will comply with the minimum requirements of the Florida Building Code – Residential 6th Edition (2017) Section R4501.17.1.10

SECTION THREE – DWELLING ACCESS

The occupants of the dwelling will be protected from access to the pool/spa/hot tub with one or more of the following: *(please check the box(es) for the method(s) to be used and the contractor and owner must initial in the space to the left)*

____/____ ☐ The perimeter barrier complies with the requirements of the Florida Building Code – Residential 6th Edition (2017) Section R4501.17.1.12 and access directly from the interior of the dwelling is not provided.

____/____ ☐ The doors and windows providing direct access from the home to the pool/spa/hot tub will be equipped with an exit alarm, complying with UL 2017, in compliance with the Florida Building Code – Residential 6th Edition (2017) Section R4501.17.1.9(1) and includes exceptions allowed within this section.

____/____ ☐ Doors not provided with alarms and having direct access from the home to the pool will be equipped with a self-closing, self-latching device with positive mechanical latching/locking installed a minimum of 54", Florida Building Code – Residential 6th Edition (2017) Section R4501.17.1.9(2).

____/____ ☐ A mesh safety barrier will be provided meeting the requirements of the Florida Building Code – Residential 6th Edition (2017) Section R4501.17 and Section R4501.17.1.15.

____/____ ☐ A swimming pool alarm that, when placed in a pool, sounds an alarm upon detection of an accidental or unauthorized entrance into the water will be provided. The pool alarm will meet and be independently certified to ASTM Standard F2208, titled "Standard Safety Specification for Residential Pool Alarms," which includes surface motion, pressure, sonar, laser, and infrared alarms.

____/____ ☐ A swimming pool safety pool cover complying with ASTM F1346 will be provided.

SECTION FOUR - ACKNOWLEDGEMENT

I (We) understand in order to pass final inspection and receive a certificate of completion, the pool must meet all of the requirements indicated above at the time of final inspection, or when the pool is completed for contract purposes.

I, the property owner, understand a person who fails to equip a new residential swimming pool, hot tub, or spa with the required pool safety feature(s) as required **RESIDENTIAL SWIMMING POOL SAFETY ACT** commits a misdemeanor of the second degree, punishable as provided in s. 775.082 or s. 775.083.

CONTRACTOR'S SIGNATURE & DATE	OWNER'S SIGNATURE & DATE
CONTRACTOR'S NAME (PLEASE PRINT)	OWNER'S NAME (PLEASE PRINT)

Simplified Total Dynamic Head (TDH) Calculation Worksheet

CALCULATIONS MUST BE PER ANSI/APSP/ICC 7–13 & FBC-R R4501.6

The Contractor is responsible the accuracy of the Worksheet

Determine Maximum System Flow Rate

Minimum Flow Rate Required: 35gpm per skimmer (required: 1 skimmer per 800 sq ft of surf. area)

1. Calculate Pool Volume _____X _____ X 7.48 (gal./cubic foot) = _____
   (Surface Area) (Avg Depth) (Volume in Gallons)
2. Determine preferred Turnover Time in Hours: _____ X 60 (min / hour) =_____
   (Hours) (Turnover in min)
3. Determine Max Flow Rate _____ / _____ + _____ = _____
   (Volume in Gallons) (Turnover in Min) (Pool Flow Rate) (System Flow Rate)
4. Spa Jets: _____ X _____ GPM per jet = _____ flow rate
   (No of Jets) (Jet Flow) (Total Jet Flow Rate)

(For Single Pump pool/spa combo, use the higher of No. 3 or No. 4 in the following calculations for the pool & Spa)

Determine Pipe Sizes:

Branch Piping to be _____ inch to keep velocity @ 6 fps max. at _____ gpm Maximum System Flow Rate

Suction Piping to be _____ inch to keep velocity @ 8 fps max. at _____ gpm Maximum System Flow Rate

Return Piping to be _____ inch to keep velocity @ 10 fps max. at _____ gpm Maximum System Flow Rate

Determine Simplified TDH:

1. Distance from pool, to pump in Ft:_____
2. Friction loss (in suction pipe) in _____ inch pipe per 1 t. @ gpm = _____(from pipe flow/friction loss chart)
3. Friction loss (in return pipe) in _____ inch pipe per 1 t. @ gpm = _____(from pipe flow/friction loss chart)
4. _____ X _____ = _____
   (Length of Suction Pipe) (Ft of head/1 ft of Pipe) (TDH Suction Pipe)
5. _____ X _____ = _____
   (Length of Suction Pipe) (Ft of head/1 ft of Pipe) (TDH Suction Pipe)

Flow and Friction Loss Per Foot

(Schedule 40 pvc Pipe)

Velocity - Feet Per Second						
Pipe Size	6 FPS		8 FPS		10 FPS	
1.5"	37 gpm	0.08'	50 gpm	.14'	62 gpm	.21'
2"	62gpm	0.06'	82 gpm	.10"	103 gpm	.16'
2.5"	88 gpm	0.05'	117 gpm	.08'	148 gpm	.13'
3"	136 gpm	0.04'	181 gpm	.07'	227 gpm	.10'

TDH in Piping_____

Filter loss in TDH (from filter data sheet)_____

Heater loss in TDH (from heater data sheet)_____

Total all other loss_____

Total Dynamic Head (TDH)_____

Selected Pump and Main Drain Cover:

Pump selection _____ using pump curve for TDH & System Flow Rate
(Pump model and size in HP)

Main Drain Cover_____ (System Flow Rate must not exceed approved cover flow rates)
(Pump model and size in HP)

Notes: Minimum system flow based on minimum flow per skimmer of 35 gpm.

Determine the Number and Type of Required In-floor Suction Outlets:

(Check all that apply)

☐ ⊙ ← 3' → ⊙ _____ suction outlets @ _____gpm max. flow (see note 2)

☐ ⊙ ⊙ ⊙ _____ suction outlets @ _____gpm max. flow (see note 3)

☐ ▭ _____ channel drain @ _____gpm w/ _____ports (see note 4)

TDH Calculation Options

(For each Pump)

Check one

☐ Simplified Total Dynamic Head (STDH)
Complete STDH Worksheet – Fill in all blanks

☐ Total Dynamic Head (TDH)
Complete Program or other calcs. Fill in required blanks on worksheet & attach calculations

☐ Maximum Flow Capacity
of the new or replacement pump

Notes:

1. If a variable speed pump is used, use the max pump low in calculations
2. For side wall drains, use appropriate side wall drain flow as published by manufacturer
3. Insert manufacturer's name and approved maximum flow
4. See installation instructions for number of ports to be used
5. In-Floor suction outlet cover/grate must conform to most recent edition of ASME/ANSI A112.19.8 and be embossed with that edition approval
6. Pump, Filter and Heater make and model cannot change, and equipment location cannot be move closer the pool without submitting a revised plan and TDH calculation worksheet for approval

Velocity - Feet Per Second						
Pipe Size	6 FPS		8 FPS		10 FPS	
1.5"	37 gpm	0.08'	50 gpm	.14'	62 gpm	.21'
2"	62 gpm	0.06'	82 gpm	.10"	103 gpm	.16'
2.5"	88 gpm	0.05'	117 gpm	.08'	148 gpm	.13'
3"	136 gpm	0.04'	181 gpm	.07'	227 gpm	.10'
4"	234 gpm	0.03'	313 gpm	.05'	392 gpm	.07'
6"	534 gpm	0.02'	712 gpm	.03'		

ANSI/APSP/ICC Worksheet

Swimming Pool Energy Efficiency Compliance Information

Note: These Requirements Apply ONLY to the **Filtration Pump**

Maximum Filtration Flow Rate Calcutlations

Pool Water Voume_____÷ 360 =_____ gpm = filtration flow rate

Is there an Auxiliary load on the filtration pump? Yes___ NO____

If so, what is the auxiliary flow rate _____gpm

Maximum Flow Rate _____gpm (maximum auxiliary pool loads or the filtration flow rate, whichever is greater.

The pool filtration flow rate shall not be greater than the rate needed to turn over the pool water volume in 6 hours or 36 gpm whichever is greater. This means that for pools of less than 13000 gallons, the pump shall be sized to have a flow rate of 36 gpm or less.

Suction Pipe size @ 6 fps _____inch

Return Pipe size @ 8 FPS _____inch

Filter Factors: (Cartridge .375) or (D.E 2) or (Sand 15)

_____÷ _____=_____
(flow rate) (filter factor) (minimum filter size)

Filter Make/Size _____

Backwash valve? Yes_____ No_____ (if yes, must be 2 inch min)

Pump Selection from APSP database on Curve **A (less than 17000 gallons)** or **C (greater than 17000 gallons)** (circle one)

Model_____

Flow Rate (low speed)_____gpm @ _____rpm

Flow Rate (high speed) _____gpm @ ____ rpm (not required if no auxiliary load on filtration pump

Pump Controls

Standard time clock / 2 speed time clock _____or other _____

Heater Model _____

Notes: suction piping in front of pump inlet must be 4 pipe diameters in length. Must have 18" of straight pipe after the filter for solar.

_____
Date

_____
Contractors Signature

_____
Print Name

_____
Certification Number

_____
Telephone Number

Swimming Pool Specifications for:

Owner:_____

Address_____

City, State, Zip_____

_____

_____

_____

_____

Total Head In Feet Conversion Chart

Inches Mercury (Vacuum Gauge)

PSI	0	2	4	6	8	10	12	14	16	18
0	0	2.3	4.5	6.8	9	11.3	13.6	15.8	18.1	20.3
1	2.3	4.6	5.8	9.1	11.4	13.6	15.9	18.1	20.4	22.7
2	4.6	6.9	6.1	11.4	13.7	15.9	18.2	20.4	22.7	25
3	6.9	9.2	11.5	13.7	16	18.2	20.5	22.8	25	27.3
4	9.2	11.5	13.8	16	18.3	20.5	22.8	25.1	27.3	29.6
5	11.5	13.8	16.1	18.3	20.6	22.8	25.1	27.4	29.6	31.9
6	13.9	16.1	18.4	20.6	22.9	25.2	27.4	29.7	31.9	34.2
7	16.2	18.4	20.7	23	25.2	27.5	29.7	32	34.3	36.5
8	18.5	20.7	23	25.3	27.5	29.8	32	34.4	36.6	38.8
9	20.8	23.1	25.3	27.6	29.8	32.1	34.3	36.6	38.9	41.1
10	23.1	25.4	27.6	29.9	32.1	34.4	36.7	38.9	41.2	43.4
11	25.4	27.7	29.9	32.2	34.5	36.7	39	41.2	43.5	45.8
12	27.7	30	32.2	34.5	36.8	39	41.3	43.5	45.8	48.1
13	30	32.3	34.5	36.8	39.1	41.3	43.6	45.9	48.1	50.4
14	32.3	34.6	36.9	39.1	41.4	43.6	45.9	48.2	50.4	52.7
15	34.6	36.9	39.2	41.4	43.7	45.9	48.2	50.5	52.7	55
16	37	39.2	41.5	43.7	46	48.3	50.5	52.8	55	57.3
17	39.3	41.5	43.8	46.1	48.3	50.6	52.8	55.1	57.4	59.6
18	41.6	43.8	46.1	48.4	50.6	52.9	55.1	57.4	59.7	61.9
19	43.9	46.2	48.4	50.7	52.9	55.2	57.4	59.7	62	64.2
20	46.2	48.5	50.7	53	55.2	57.5	59.8	62	64.3	66.5
21	48.5	50.8	53	55.3	57.6	59.8	62.1	64.3	66.6	58.9
22	50.8	53.1	55.3	57.6	59.9	62.1	64.4	66.6	68.9	71.2
23	53.1	55.4	57.7	59.9	62.2	64.4	66.7	69	71.2	73.5
24	55.4	57.7	60	62.5	64.5	66.7	69	71.3	73.5	75.8
25	57.8	60	62.3	64.5	66.8	69.1	71.3	73.6	75.8	78
26	60.1	62.3	64.6	66.8	69.1	71.4	73.6	75.9	78.1	80.4
27	62.4	64.6	66.9	69.2	71.4	73.7	75.9	78.2	90.5	82.7
28	64.7	66.9	69.2	71.5	73.7	76	78.2	80.5	82.8	85
29	67	69.3	71.5	73.8	76	78.3	80.5	82.8	85.1	87.3
30	69.3	71.6	73.8	76.1	78.3	80.6	82.9	85.1	87.4	89.6
31	71.6	73.9	76.1	78.4	80.7	82.9	85.2	87.4	89.7	92
32	73.9	76.2	78.4	80.7	83.1	85.2	87.5	89.7	92	94.3
33	76.2	78.5	80.7	83	85.3	87.5	89.8	92	94.3	96.6
34	78.5	80.8	83.1	85.3	87.6	89.8	92.1	94.4	96.6	98.9
35	80.9	83.1	85.4	87.6	89.9	92.2	94.4	96.7	98.9	101.2

* NOTE: FIELD TDH MUST BE EQUAL TO OR HIGHER THAN THE CALCULATED TDH.

** GAGES TO BE INSTALLED AT THE TIME OF FINAL INSPECTION FOR VERIFICATION.