

- ① 14' x 28' pool-spa / \$55,000
- ② 8" x 8" footer
- ③ pool alarm to meet code

Equipotential Bonding Grid as per NEC 680-26 (Code)  
Note - Pool shall be wired as per NEC and all metal within 5' of pool shall be bonded.

Note - Angle of repose of existing foundation shall not be disturbed by pool excavation without engineering.

8x8 MONO FOOTINGS WITH CONCRETE SLAB  
3 MONO FOOTINGS WITH CONCRETE SLAB

18" raised spa w/ 6" x 6" tile exterior



# Gall Residence

3-4-20 revision

X

Fun State Pools  
CONTRACTOR

Owner: Paola Gall  
Address: 14158 SW Tustenuggee Ave.

SITE SPECIFIC INFORMATION FOR COMPLIANCE WITH ANSI/APSP-7

METHOD OF DETERMINING ANSI 7 PUMP FLOW

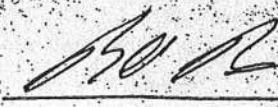
Max Flow from Pump Curve ☐ Simplified TDH ☒ Detailed TDH ☐  
Pump Curve Attached ☐ Curve & Calc ☒ Curve & Calc

SUCTION OUTLET FOR: FILTRATION PUMP  
Manufacturer & Model: Pentair VS4 SVRS  
Pump Flow from Pump Curve with method indicated:  GPM  
Maximum Pump Flow for sizing Branch Pipe & Suction based on number of Suction Outlets used:  GPM  
Minimum Branch Pipe Size given flow at 6 FPS:  INCH  
LISTED SUCTION OUTLET COVER/GRATE- POOL OUTLET  
Number of Suction Outlets: 1 Manufacturer & Model: CMP 25506-320-000  
APPROVED Maximum Outlet Flow (GPM) Floor flow:  Wall flow:   
TRUNK/SUCTION PIPE SIZING- ANSI 7 FLOW  
Minimum Trunk Pipe Size given flow @ 8 FPS  Inch Pipe

SUCTION OUTLET FOR: SPA  
Manufacturer & Model: 1 CMP 25506-320-000  
Pump Flow from Pump Curve with method indicated:  GPM  
Maximum Pump Flow for sizing Branch Pipe & Suction based on number of Suction Outlets used:  GPM  
Minimum Branch Pipe Size given flow at 6 FPS:  INCH  
LISTED SUCTION OUTLET COVER/GRATE- SPA OUTLETS  
Number of Suction Outlets:  Manufacturer & Model:   
APPROVED Maximum Outlet Flow (GPM) Floor flow:  Wall flow:  GPM  
TRUNK/SUCTION PIPE SIZING- ANSI 7 FLOW  
Minimum Trunk Pipe Size given flow @ 8 FPS  Inch Pipe

ANSI 15 FLOW=	GPM	PIPE SIZE "INCH"
OTHER PIPE SIZE SUMMARY		
		FULL FLOW
		SPLIT FLOW
SKIMMER SUCTION- ANSI 15 FLOW @ 6 FPS:		73.19
FILTRATION RETURN SIDE- ANSI 15 FLOW @ 8 FPS:		73.19
AUXILIARY RETURN SIDE- ANSI 5 FLOW @ 10 FPS:		MIN 1.5"
2 <sup>ND</sup> AUXILIARY RETURN SIDE- ANSI 5 FLOW @ 10 FPS:		MIN 1.5"
OPTIONAL VACUUM OR SWEEP LINE- ANSI 5 FLOW @ 8 FPS:		TYP 1-1/2

NOTES:

CONTRACTOR SIGNATURE:  DATE: 3/23/21

Fun State Pools  
CONTRACTOR

Worksheet showing data for compliance with ANSI/APSP-15

Owner: Paola Gall =

Address: 14158 Tustenuggee Ave Lot: 7

**ANSI 15 Filtration Flow**

Volume of Pool Area 392 x Avg Depth 4.5 = Vol in CF

Area: 1764

Vol in CF x 7.48 gal/CF = 13,195 GALLONS

Calculate Maximum Filtration Flow Rate: Pool Volume/ 360 =

36.65 GPM [if <13,000 MAY use 36 gpm]  
MAY USE LESS THAN THIS MAXIMUM  
IF AT LEAST ANSI 5 12 HR TURNOVER

**ANSI 15 Auxiliary Flow**

Calculate Maximum Auxiliary Load Design Flow Rate:

Number Spa Jets X 7 to 15 GPM =

GPM

Or Water Feature Flow:

GPM

**ANSI 15 Flow**

**ANSI 15 Flow:**

ACTUAL TURNOVER AT ANSI 15 FLOW = 8 HR

GPM [maximum ANSI 15 Filtration Flow, minimum 12 hour turnover]

IF LESS THAN 12 HR MEETS ANSI 5

**PUMP FROM APSP LISTING**

Select a pump with Curve A (pools <17,000 gal) or Curve C (pools >17,000 gal) flow equal to or less than ANSI 15 Filtration Flow. May select a multi speed pump with flows acceptable for the ANSI 15 Auxiliary Flow, with acceptable Curve A or C listed flows. Curve A or C flows listed have no relationship or requirement related to ANSI 15 Auxiliary Flow.

Pump Make & Model:

Pentair VS+SVAS

Pump Flow Rate(s) from Listing: @ Low/Single speed

11 GPM, & @ High Speed

Pump Control: Filtration Pump has no auxiliary load:

N/A, time clock to be installed. 73 GPM

Filtration Pump with auxiliary load: Control for low speed default w/in 24 hrs:

Pentair VS+SVAS  
self contained  
programming  
Make/model

**Size filter on "FILTRATION Flow."**

Filter Rates: Cartridge= 0.375 gpm/sf; Sand= 15 gpm/sf; DE= 2 gpm/sf

Filter size: ANSI 15 Flow

36.65 GPM / 0.375 gpm/sf = 98 SF Min Filter Size

[see pool plan for filter model or show here:

Star Rite PLM 150]

**ANSI 7 Flow** see Site Specific Information Sheet

**ANSI 5 Flow:** Depending on the pipe, use any of the ANSI 15 Filtration, or ANSI 15 flows or the flow at 60 ft TDH on the selected pump curve for the ANSI 5 Flow.

See flow vs velocity vs pipe size on Standard Engineering.

See summary of pipe sizes on ANSI 7 Site Specific Information Sheet

**HEATER MODEL:**

GAS HEATER EFFICIENCY RATING:

HEAT PUMP EFFICIENCY C.O.P.:

with no pilot light [min 78%]  
[min 4.0]

CONTRACTOR SIGNATURE:

[Signature]

DATE: 3/23/21

ANSI/APSP-7 2006 Specifies three methods for determining the maximum system flow rate. The following simplified TDH calculation is one of the methods specified.

## Simplified Total Dynamic Head (TDH) Calculation Worksheet

### Determine Maximum System Flow Rate:

Minimum Flow Rate Required: 35 gpm Per Skimmer (Required: 1 skimmer per 800 sf of surf. area)

1. Calculate Pool Volume:  $\frac{392}{(\text{Surf. Area})} \times \frac{4.5}{(\text{Avg. Depth})} \times 7.48 (\text{gal./cubic foot}) = \frac{13,195}{(\text{Vol. in gal.})}$
2. Determine preferred Turnover Time in hours:  $\frac{8}{(\text{Hours})} \times 60 (\text{min. / hr.}) = \frac{480}{(\text{Turnover in Min.})}$
3. Determine Max Flow Rate:  $\frac{13,195}{(\text{Vol. in gal.})} / \frac{480}{(\text{Turnover Mins.})} = \frac{27.49}{(\text{Pool Flow Rate})} = \frac{27.49}{(\text{Feature Flow Rate})} = \frac{27.49}{(\text{System Flow Rate})}$
4. Spa Jets:  $\frac{\quad}{(\text{No. of Jets})} \times \frac{\quad}{(\text{Jet Flow})} \text{ gpm per jet} = \frac{\quad}{(\text{Total Jet Flow Rate})} \text{ flow rate.}$

(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

Trunk Piping to be  2" inch to keep velocity @ 8 fps max. at  82 gpm Maximum System Flow Rate

Return Piping to be  2" inch to keep velocity @ 10 fps max. at  103 gpm Maximum System Flow Rate

### Determine Simplified TDH:

1. Distance from pool to pump in feet:  10'
2. Friction loss (in suction pipe) in  2" inch pipe per 1 ft. @  82 gpm =  .10 (from pipe flow/friction loss)
3. Friction loss (in return pipe) in  2" inch pipe per 1 ft. @  103 gpm =  .16 (from pipe flow/friction loss)
4.  $\frac{10'}{(\text{Length of Suct. Pipe})} \times \frac{1.0}{(\text{Ft of head/1 ft of Pipe})} = \frac{1.0}{(\text{TDH Suct. Pipe})}$
5.  $\frac{10'}{(\text{Length of Return Pipe})} \times \frac{1.6}{(\text{Ft of head/1 ft of Pipe})} = \frac{1.6}{(\text{TDH Return Pipe})}$

TDH in Piping:  2.6

Filter loss in TDH (from filter data sheet):  7

Heater loss in TDH (from heater data sheet):  7.48

Total all other loss:  20.08

Total Dynamic Head (TDH):  37.16

### Selected Pump and Main Drain Cover:

Pump selection  VSI SURS PONTAIR  
011017  
(Pump model and size in Horsepower)

using pump curve for TDH & System Flow Rate

Main Drain Cover  CMP  
25506-320-000  
(Make and Model)

(System Flow Rate must not exceed approved cover flow rates)

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

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

Check all that apply.

- ☐ ☒ 3'-0" ☐ 2  suction outlets @  gpm max. flow (see note 2)
- ☐ ☒ ☐ 3  suction outlets @  gpm max. flow (see note 3)
- ☒  1-32"  CMP 25506-320-000 channel drain @  175 gpm w/  2/2 ports (see note 4)