

Roberts/McCullors Residence  
787 SW Unity Court  
Fort White FL 32038

3'

5' 4"

6'

9'

6'

3.5'

8'

36'

15'

5' 1"

5'

20' 8"

14' 11"

20' 5"

29' 9"

Existing

MAIN DRAIN

No Footer

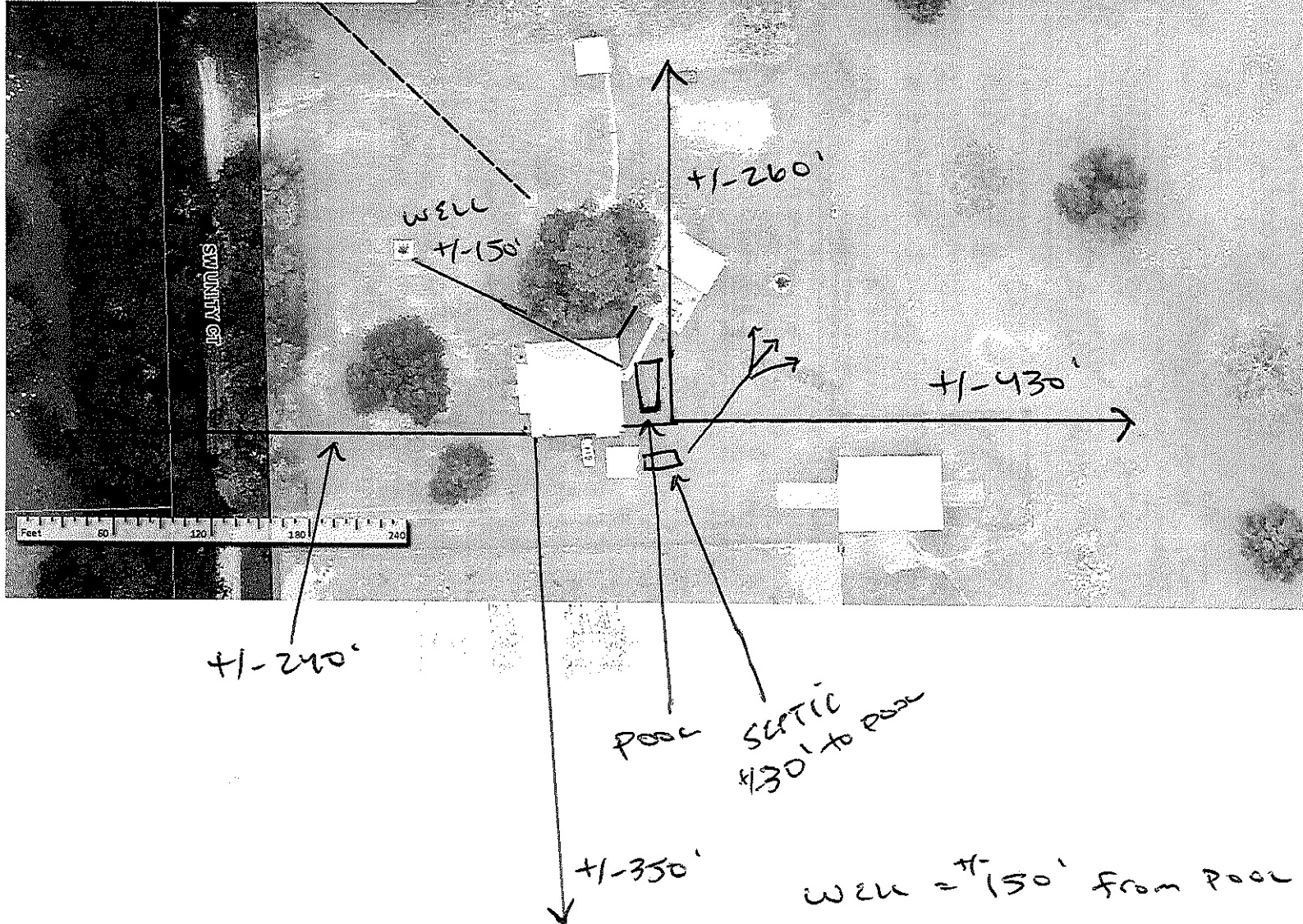
Clean and Clear 150 RP  
Intelliflo VS 3HP  
A CHANNEL (2 PORT) POOL  
Intellichlor IC40  
36" Sheer Descent

522 ft² pool  
95 lin. ft. paver coping  
826 ft² paver decking  
Deck drain as needed  
410 ft² eggrock in planters

18" raised 3' x 4' F. Wall  
12 ft² ivory travertine cap - 12" x 12" is fine  
18 ft² installed cultured stone - material already on site

18 ft<sup>2</sup> installed cultured stone - material already on site

Record Search Search Results Parcel Details GIS Map



## Tools

## MEASURE OUTPUT

double-click or &lt;shift&gt;-click to close polygon

## Current Segment:

234.4 ft &gt; 317.2

0.04 mi &gt; S47d09'39.9E

## Running Length:

2878.27 ft 0.55 mi

## Estimated Perimeter:

3109.7 ft 0.59 mi

## Estimated Area:

436901.32 sqft

0.016 sqmi 10.03 ac

## Traverse Report (show: DD | KML)

p1] 82d39'44.7W, 29d51'51.3N  
 p2] 82d39'44.6W, 29d51'44.9N  
 s1] 648.8 ft > S01d36'42.8E  
 p3] 82d39'37.0W, 29d51'45.0N  
 s2] 674.27 ft > N87d47'11.7E  
 p4] 82d39'37.1W, 29d51'51.4N  
 s3] 643.98 ft > N01d31'45.8W  
 p5] 82d39'44.8W, 29d51'51.3N  
 s4] 676.82 ft > S88d24'45.1W  
 p6] 82d39'42.8W, 29d51'49.7N  
 s5] 234.4 ft > S47d09'39.9E

## &lt;&lt; Reset Measure Tool

DISCLAIMER: All measurements and calculations are approximations and shall not be used in any legal documents.  
 - For Certified maps and dimensions please contact the Property Appraiser's office.

## SAVE MAP IMAGE

## PRINT MAP

## OPTIONS

- ☒ Show Scalebar  
☐ Auto-hide PRINT panel  
☐ Show Zoom IN/OUT menu icons



## ENGINEERING REPORT INDEX SHEET

pursuant to Rule 61G15-23.001(4)(b), F.A.C.

SUPPLEMENTAL INFORMATION TO THE SUBJECT  
RESIDENTIAL POOL/SPA PERMIT APPLICATION meeting  
2020 FBC 7th Ed, Section 454.2 Private Swimming Pools

### SPECIFICALLY:

- WORKSHEET SHOWING COMPLIANCE WITH ANSI 15
- SITE SPECIFIC INFORMATION SHOWING COMPLIANCE WITH ANSI 7
- TDH CALCULATION SUPPORTING ANSI 7 SUCTION OUTLET INFORMATION
- ATTACHED PRODUCT SHEETS WITH INFORMATION SUPPORTING ANSI 7 AND 15 WORK SHEETS

### PROJECT INFORMATION

PROJECT CLIENT: **SOUTHERN ESCAPES**  
PROJECT NAME: **DAVID MCCULLORS & CATHY ROBERTS**  
PROJECT ADDRESS: **787 SW UNITY CT**  
LOT: **M&B**  
AREA:  
City:

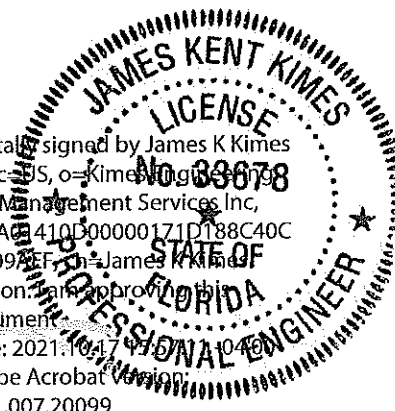
J. Kent Kimes, PE, #33678

Principal Engineer



This item has been electronically Signed and sealed by J. Kent Kimes, PE on date & time stamp shown using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Digital signed by James K Kimes  
DN: c=US, o=Kimes Engineering and Management Services Inc, ou=AC41000000171D188C40C00009AEF, cn=James K Kimes  
Reason: I am approving this document.  
Date: 2021.10.17 11:04:00  
Adobe Acrobat Version: 2021.007.20099



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CLIENT SOUTHERN ESCAPES  
NAME DAVID MCCULLORS & CATHY ROBERTS  
ADDRESS 787 SW UNITY CT  
LOT: M&B  
AREA:

WORKSHEET SHOWING DATA FOR COMPLIANCE WITH ANSI/APSP- 15

**ANSI 15 Filtration**

Volume of Pool Area  SF x Avg Depth  FT = Vol  CF  
Vol in CF x 7.48 gal/CF =  GALLONS

Calculate Maximum Filtration Flow Rate: Pool Volume/ 360 =  GPM [if <13,000 MAY use 36 gpm]

**ANSI 15 Auxiliary Flow**

Calculate Maximum Auxiliary Load Design Flow Rate:

Number of Spa Jets  @ 10 gpm ea. =  GPM

Or Water Feature Flow:

GPM

**ANSI 15 Flow:**

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

Actual Turnover at ANSI 15 Flow  HR

**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:

Pump Flow Rate(s) from Listing: @ Low/Single speed  GPM, & @ High Speed  GPM

Pump Control: Filtration Pump has no auxiliary load: ☒ , time clock to be installed.

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

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  GPM /  gpm/sf =  SF Min Filter Size

See pool plan for filter model or show here:

**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 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.:

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CLIENT SOUTHERN ESCAPES  
 NAME DAVID MCCULLORS & CATHY RO  
 ADDRESS 787 SW UNITY CT  
 Lot: M&B  
 Area:

**SITE SPECIFIC INFORMATION FOR COMPLIANCE WITH ANSI/APSP-7**

**METHOD OF DETERMINING ANSI 7 PUMP FLOW**

Detailed TDH  
 Curve & Calc

X

SUCTION OUTLET FOR:	FILTRATION PUMP
Manufacturer & Model:	PENTAIR INTELLIFLO VS 3HP
Pump Flow from Pump Curve with method indicated:	117 GPM

ANSI/APSP/ICC-7 2013 ADOPTED IN 2020 FBC 7TH ED NO LONGER SIZES BRANCH OR TRUNK SUCTION BASED ON ANSI 7 FLOW

**LISTED SUCTION OUTLET COVER/GRATE- POOL OUTLET**

Number of Suction Outlets:	ONE UNBLOCKABLE	Manufacturer & Model:	A&A CHANNEL (2 PORT)
APPROVED Maximum Outlet Flow (GPM)	Floor:	227 GPM	Wall: 184 GPM
BRANCH DRAIN 6 FPS @ ANSI 15 FLOW	NA (in) -- USE	NA (in)	
TRUNK SUCTION 6 FPS @ ANSI 15 FLOW	2 (in) -- USE	2.5 (in)	

SUCTION OUTLET FOR:	NOT USED
Manufacturer & Model	
Pump Flow from Pump Curve with method indicated:	GPM

ANSI/APSP/ICC-7 2013 ADOPTED IN 2020 FBC 7TH ED NO LONGER SIZES BRANCH OR TRUNK SUCTION BASED ON ANSI 7 FLOW

**LISTED SUCTION OUTLET COVER/GRATE- SPA OUTLETS**

Number of Suction Outlets:		Manufacturer & Model:	
APPROVED Maximum Outlet Flow (GPM)	Floor:	GPM	Wall: GPM
BRANCH DRAIN 6 FPS @ ANSI 15 FLOW	(in) -- USE	(in)	
TRUNK SUCTION 6 FPS @ ANSI 15 FLOW	(in) -- USE	(in)	

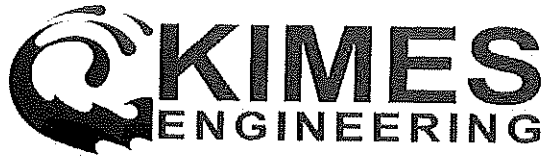
ANSI 15 FLOW= 52 GPM

**MINIMUM CIRCULATION LINES SIZED ON ANSI 15 FLOW PIPE SIZE SUMMARY**

MIN. DRAIN/BRANCH/TRUNK/SKIMMER SUCTION:	2 (in) ANSI 15 Flow @ 6 FPS
FILTRATION RETURNS:	2 (in) ANSI 15 Flow @ 8 FPS
SPA AUX. FLOW	0 GPM
2 <sup>ND</sup> AUX. FLOW	30 GPM
SPA AUXILIARY RETURN:	(in) ANSI 5 Flow @ 8 FPS
2 <sup>ND</sup> AUXILIARY RETURNS:	1.5 (in) ANSI 5 Flow @ 8 FPS
OPTIONAL VACUUM OR SWEEP LINE:	1.5 (in) ANSI 5 Flow @ 8 FPS

NOTES: LINE SIZES DEFINED FOR EFFICIENT OPERATION  
 SUCTION OULET COVER/GRATE MEETS ANSI 7 FLOW  
 FOR POOL USE ONE UNBLOCKABLE A&A CHANNEL (2 PORT) DRAIN. NO BRANCH PIPE REQD.  
 USE 2.5" DRAIN SUCTION LINES TO PUMP

- For Client Use Only -



CLIENT SOUTHERN ESCAPES  
 NAME DAVID MCCULLORS & CATHY ROBE  
 ADDRESS 787 SW UNITY CT  
 LOT: M&B  
 AREA:

	POOL ONLY		
	Suction	Pressure	Equipment
Pipe Size (in.)	2.5"	2"	2"
Pipe Length (100% flow)	20	14	15
#EL fittings	5	5	5
#T Run fittings	2	2	1
#T Branch fittings	1	1	1
Gate Valves	0	0	0
# 3 Way valves	1	1	1

This calculation assumes worst case with 100% suction from drain and none from skimmer.

This calculation is conservative in that it omits the velocity head on the pressure side beyond the first split of return lines.

Pump Curve PENTAIR INTELLIFLO VS 3HP

Filter: PENTAIR CCRP150, 150SF

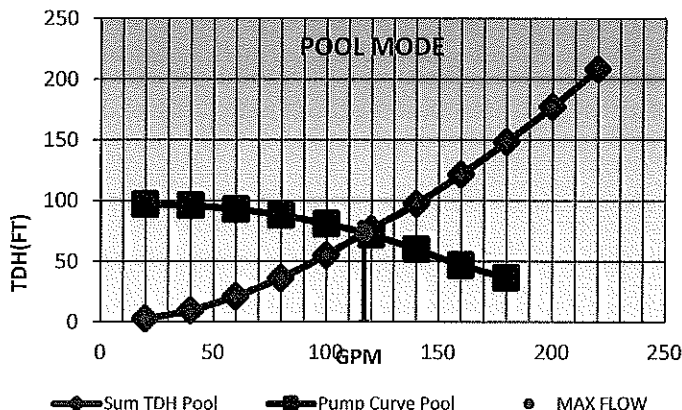
Heater: NA

Return Fittings **3**

Head loss based on Hazen-Williams equation, where  $c=150$

Head Loss per 100 ft  $= 0.2083 (100/c)^{1.852} * q^{1.852} / d_h^{4.8655}$

	DETAILED TDH POOL MODE											
Sum of Pipe Friction	1.9	7.0	14.7	25.1	37.9	53.2	70.8	90.6	112.7	137.0	163.4	
Filter(s)	0.0	0.4	1.7	3.7	6.5	9.3	10.3	12.2	14.1	16.0	17.9	
Return Fitting(s)	0.8	1.5	3.3	5.0	7.4	10.0	11.2	13.1	14.9	16.8	18.7	
Salt System	0.0	0.7	1.4	2.3	3.3	4.3	5.0	5.9	6.7	7.6	8.5	
Heater(s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sum TDH (FT H <sub>2</sub> O)	2.7	9.6	21.1	36.1	55.1	76.8	97.3	121.8	148.5	177.4	208.5	
Flow (GPM)	20	40	60	80	100	120	140	160	180	200	220	



POOL MODE

MAXIMUM: **117 GPM @ 73' TDH**

NO BRANCH PIPE REQD. FOR UNBLOCKABLE DRAINS.

RECOMMENDED MIN. TRUNK SUCTION TO EQUIP:

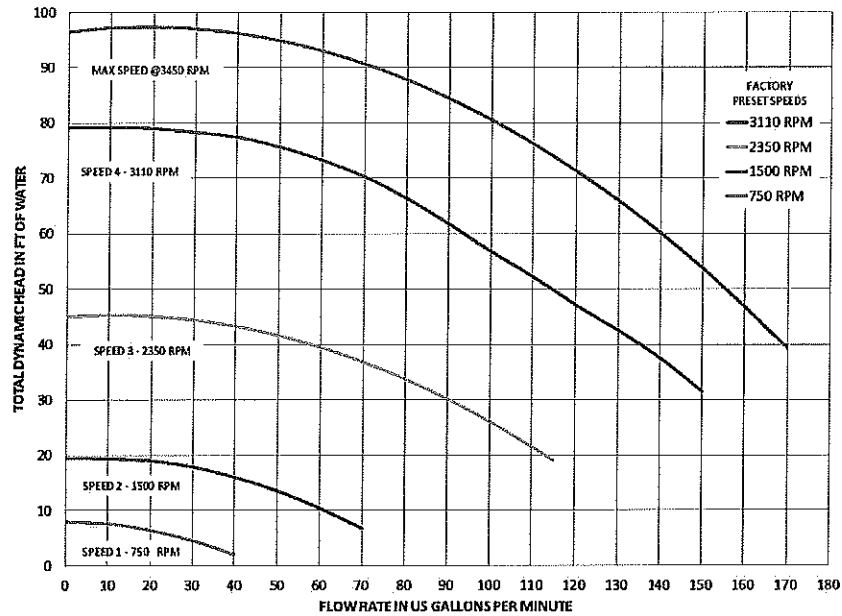
NA (in)

2.5 (in)

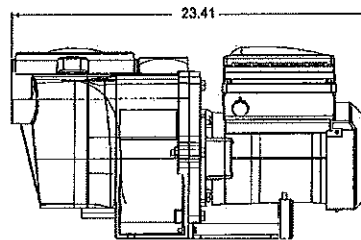
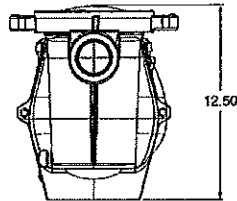
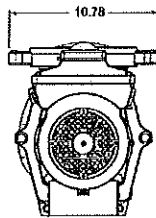
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## INTELLIFLO® VARIABLE SPEED HIGH PERFORMANCE PUMP (CONT'D)

### Dimensions and Performance

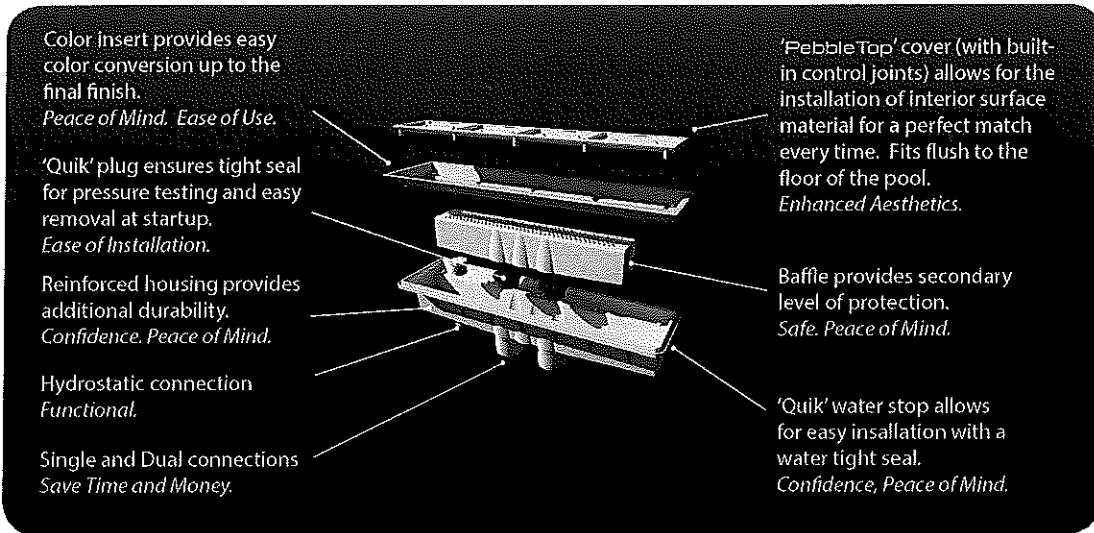


Note: IntelliFlo VS+SVRS minimum speed is 1100 RPM



See page 510 for replacement parts.

## anatomy of the avsc drain



### item numbers

	AVSC Drain (Standard Cover)		AVSC Drain (PebbleTop Cover)		Cover		Inserts
Color	Single	Dual	Single	Dual	PebbleTop	Standard	
White	571840	571903	571444	571508	571831	552892	553799
Gray	571858	571911	571452	571516	571815	552905	553801
Light Gray	571891	571954	571495	571559	571823	562741	562741
Black	571866	571920	571461	571524	571786	556121	561836
Gold	571882	571946	571487	571541	571807	556113	561844
Dark Blue	571874	571938	571479	571532	571794	558803	561852

#### Available Colors

##### Sumps



White Gray Lt. Gray

##### Color Inserts



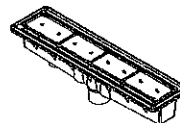
White Gray Lt. Gray Black Gold Dk. Blue

##### PebbleTop & Standard Covers



White Gray Lt. Gray Black Gold Dk. Blue

Rated Flow (Floor Only): 237 (Single) / 237 (Double)  
Rated Flow (Floor Only): 237 (Single) / 237 (Double)



33.22"



8.33" 3.50"



PROUDLY MADE  
IN THE USA

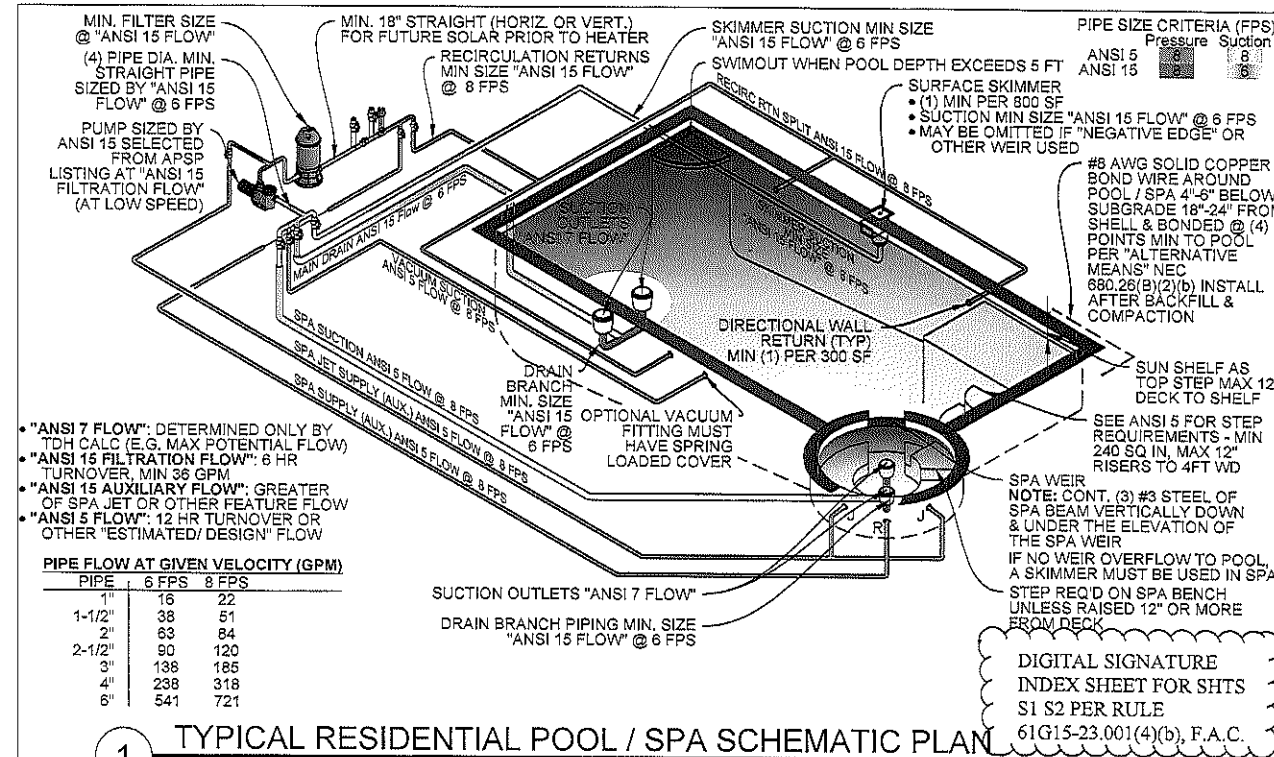
Developed and Manufactured by A&A Manufacturing  
3750 West Indian School Road  
Phoenix, AZ 85019  
800-851-8492 | 602-258-6935 | aamfg.com



technology

PebbleTop cover is molded exclusively for A&A Manufacturing by ColorMatch Pool Filings U.S. Patent Numbers: 6,209,586 / 6,340,035 / 6,557,588 and other patents pending

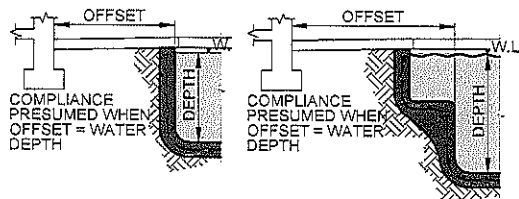




## 1 TYPICAL RESIDENTIAL POOL / SPA SCHEMATIC PLAN

SCALE: N.T.S.

FBC NO LONGER REQUIRES EXCAVATIONS OUT OF THE "ANGLE OF REPOSE PLUS 1 FT". THE CURRENT REQUIREMENT IN 7TH ED (2020) FBC, SECTION 1804.1 STATES THAT "EXCAVATIONS SHALL NOT REMOVE VERTICAL OR LATERAL SUPPORT FROM ANY FOUNDATION." THEREFORE THE FOLLOWING IS REQUIRED:



"ANGLE OF REPOSE" OR SEE CONTRACTOR PLAN

## 2 PROXIMITY TO STRUCTURE

SCALE: N.T.S.

1. WHEN THE POOL DECK DISTANCE IS EQUAL TO OR GREATER THAN WATER DEPTH, NO MITIGATION OF THE SHELL STRUCTURE IS REQUIRED, AND NO SHORING OR FOUNDATION SUPPORT INITIALLY REQUIRED.
2. WHEN THE POOL DECK DISTANCE IS LESS THAN THE WATER DEPTH, THE ENGINEER SHALL PROVIDE A MITIGATION SPECIFICATION, EITHER TO PROTECT THE FOUNDATION DURING EXCAVATION OR STRENGTHEN THE SHELL FROM STRUCTURE LOADS.
3. IF DURING EXCAVATION, SOIL CONDITIONS APPEAR TO LEAD TO LOSS OF FOUNDATION SUPPORT, THE CONTRACTOR SHALL CEASE EXCAVATION AND CONTACT THE ENGINEER FOR MITIGATION SPECIFICATIONS.
4. IF AFTER EXCAVATION THE CONTRACTOR OR INSPECTOR FIND A LOSS OR THREATENED LOSS OF SOIL SUPPORT AT THE FOUNDATION, CONTACT THE ENGINEER FOR A MITIGATION SPECIFICATION.

### NOTES:

- THIS PLAN IS SCHEMATIC & PIPING SHALL BE CONNECTED TO PROVIDE A FUNCTIONING SYSTEM.
- POOL PIPING SHALL HOLD A STATIC WATER AIR PRESSURE NOT LESS THAN 35 PSI FOR 15 MINUTES, PER R4501.12.1.
- POOLS SHALL HAVE PUMPS SELECTED TO PROVIDE MINIMUM 12 HR. TURNOVER & MAXIMUM 6 HOUR TURNOVER.
- DETERMINE PIPE SIZING FROM ATTACHED ANSI WORK SHEETS.
- SPA PIPING DETERMINED FROM ATTACHED WORK SHEETS.
- DUAL MAIN DRAINS SHALL HAVE A MINIMUM SEPARATION OF 3 FT, UNLESS ONE IS LOCATED ON A VERTICAL WALL OR A SINGLE UNBLOCKABLE DRAIN IS USED.
- ALL SUCTION COVERS SHALL MEET ANSI/APSP/CC-16 2017.
- ALL PIPING SHALL BE NSF-PW APPROVED & MEET THE REQUIREMENTS OF 7TH ED. (2020) FBC.
- ELECTRICAL EQUIPMENT, WIRING, & INSTALLATION SHALL CONFORM TO THE NFPA 70-2017 EDITION.
- BONDING OF POOL STEEL & LIGHT TO FOOTING STEEL SHALL BE CONTINUED TO & INCLUDE ALL PUMPS & HEATERS.
- TEMPORARY FENCING SHALL BE INSTALLED & MAINTAINED UNTIL PERMANENT CHILD SAFETY FEATURES ARE INSTALLED.
- THERE SHALL BE A PASSING ELECTRICAL & CHILD SAFETY FINAL INSPECTION PRIOR TO FILLING THE POOL OR SPA WITH WATER.
- POOL SHALL MEET THE APPLICABLE CRITERIA IN ANSI/APSP 3.4, 5.6, 7 & 15 STANDARDS ADOPTED IN 7TH ED. (2020) FBC.
- REGARDLESS OF THE CRITERIA HERE, THE PROJECT SHALL COMPLY WITH ALL SECTIONS OF THE 7TH ED. (2020) FBC - RESIDENTIAL, BUILDING, MECHANICAL, PLUMBING & GAS CODES, AS APPLICABLE RESPECTIVELY & AMENDED.

SEE INFORMATION ATTACHED TO THIS PERMIT PACKAGE FOR SITE SPECIFIC DETAILS SHOWING ANSI 7 & 15 AND FBC COMPLIANCE

**NOTE TO REVIEWER:**  
DETAILED TDH CALCULATIONS ARE REQUIRED TO DETERMINE ANSI 7-SUCTION ENTRAPMENT COMPLIANCE

COMPLIES WITH  
7TH ED. (2020) FBC,  
ALL VOLUMES

THIS DOCUMENT VALID ONLY 12 MONTHS FROM DATE SIGNED



**KIMES ENGINEERING**  
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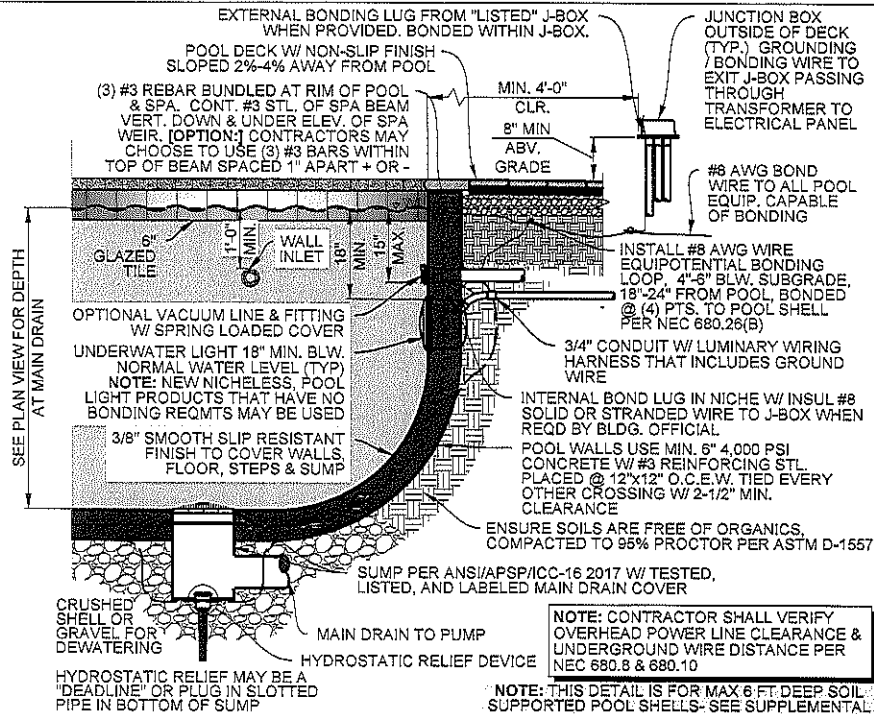
REV. DATE DESCRIPTION  
PROJ. NO.: KE\_RSTD  
DWG BY: MCM  
CHK BY: JKK  
VERSION: 01-Jan-21 21-Dec-20

787 SW UNITY CR  
SOUTHERN ESCAPES

TYPICAL PLAN & SECTIONS  
FOR RESIDENTIAL POOL/SPA

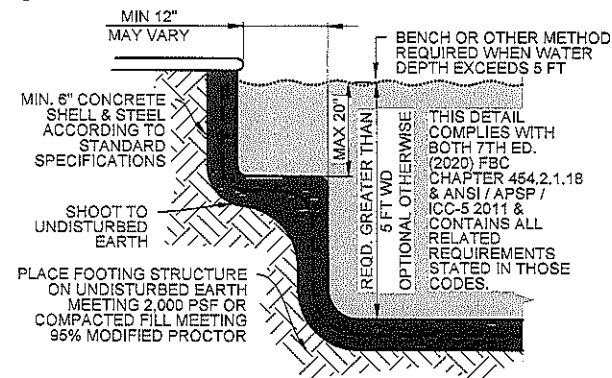
SHEET  
**S1**

SHEET 1 OF 2



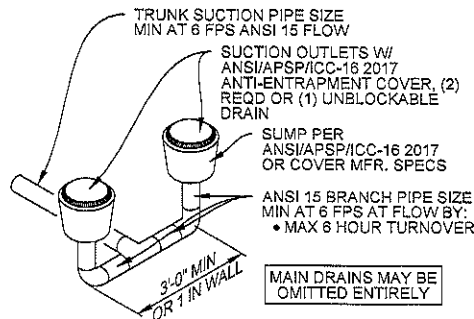
# 1 POOL DEEP END SECTION

SCALE: N.T.S.



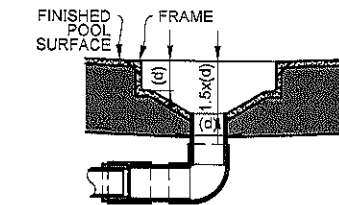
# 3 BENCH SECTION

SCALE: N.T.S.



# 4 BRANCH PIPING

SCALE: N.T.S.



SPECIFIED PVC PIPE SIZE (d)  
MIN. SUMP DEPTH 1.5x(d)  
MIN. LEDGE DEPTH (d)  
FOR FIELD BUILT SUMPS SEE PRODUCT INSTALLATION INSTRUCTIONS

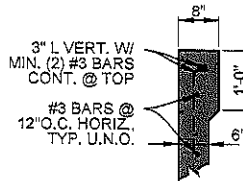
# DRAIN COVERS & SUMPS a.k.a. SUCTION OUTLET FITTING ASSEMBLIES (SOFA)

- FOLLOW THE PRODUCT SPECIFICATIONS AND/OR INSTALLATION INSTRUCTIONS FOR MIN./MAX. SUMP DIMENSIONS, DRAIN COVER/GRATE, AND FRAME FASTENING MEETING MFR'S SOFA CERTIFICATION.
- **DO NOT USE POWER TOOLS TO INSTALL FASTENERS**
- FIELD MODIFICATIONS TO ANY SOFA NOT AUTHORIZED BY MFR INSTALLATION INSTRUCTIONS SHALL VOID THE SOFA CERTIFICATION
- HAND CHECK COVER/GRATE SNUGGNESS TO SUMP/FRAME AFTER INSTALLATION
- SOFA COMPONENTS HELD IN PLACE BY INTERIOR FINISH OF THE POOL SHALL BE FREE OF DETERIORATION AND VOIDS



NOTES:  
• APPROVED PRODUCT SPECIFICATION MAY DIFFER FROM FIELD BUILT SUMPS SHOWN ON THIS PAGE

- ADDITIONAL STRUCTURAL NOTES:**
- USE MINIMUM ASTM A818 GRADE 40 STEEL
  - LAP #3 BARS MINIMUM 16"
  - LAP #5 BARS MINIMUM 25"
  - 8" SHELL THICKNESS AND 2-1/2" CONCRETE COVERAGE ARE MINIMUMS
  - USE 4,000 PSI CONCRETE
  - CONTRACTOR / OWNER REQUIRED TO:
    - CONTACT ENGINEER IF POOL NOT PLACED ON UNDISTURBED AND DE-WATERED EARTH THAT CAN MEET 2,000 PSF BEARING CAPACITY.
    - WHEN BURIED DEBRIS IS ENCOUNTERED OR QUESTIONABLE CONDITIONS ARE INDICATED AT THE WORK SITE PRIOR / DURING CONSTRUCTION, A SUBSURFACE CONSULTANT SHALL CONDUCT BORINGS IN THE AREA OF THE POOL TO CONFIRM SOIL BEARING CAPACITY, CLEAR OF BURIED DEBRIS, & VERIFYING GROUND WATER LEVEL
    - ALL MODIFIED SOILS & EARTH FILL UNDER PERSPECTIVE POOL AREA SHALL MEET A SOIL DENSITY AND COMPACTION MINIMUM OF 95% MODIFIED PROCTOR WITHOUT SETTLEMENT.



# 5 POOL BEAM 8"x12" OPTION

SCALE: N.T.S.

NOTE: THIS DETAIL IS FOR MAX 6 FT DEEP SOIL SUPPORTED POOL SHELLS- SEE SUPPLEMENTAL SPECIFICATIONS FOR DEEPER STRUCTURES, LOAD SURCHARGE STRUCTURES, OR APPURTENANT STRUCTURES

COMPLIES WITH  
7TH ED. (2020) FBC,  
ALL VOLUMES

THIS DOCUMENT VALID ONLY Y 12 MONTHS FROM DATE SIGNED

SEE DIGITAL  
SIGNATURE ON  
INDEX SHT S1

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C.A. 27189

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DWG BY: MCM  
CHK BY: JKK  
DRAWING: 01-Jan-21  
VERSION: 21-Dec-20

787 SW UNITY OR  
SOUTHERN ESCAPES

TYPICAL SECTIONS  
FOR RESIDENTIAL POOL/SPA

SHEET  
**S2**  
SHEET 2 OF 2