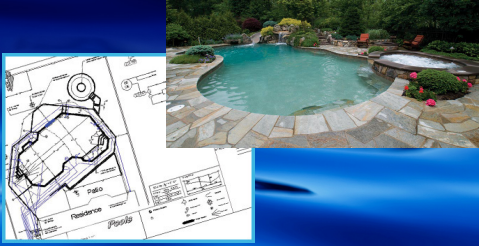


Connecticut Residential Code Requirements for Pools & Spas



Career Development Seminar for Building Officials
Prepared for State DAS / DCS / Office of Education & Data Management
February 2014

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2005 Connecticut State Building Code

2005 Amendment (pending – February 28, 2014)

- 2003 International Building Code
- 2009 International Residential Code**
- 2003 International Existing Building Code
- 2003 International Mechanical Code
- 2003 International Plumbing Code
- 2009 International Energy Conservation Code (*adopted with changes-effective Oct 1, 2011*)
- ICC/ANSI A117.1-2003 Accessible and Usable Buildings and Facilities
- 2011 National Electrical Code (NFPA-70)**



2016 State Building Code?

2012 International Swimming Pool & Spa Code

2012 IBC

2012 IRC

etc



2009 International Residential Code Appendix G - Swimming Pools, Spas and Hot Tubs

- AG 101 - General
- AG 102 - Definitions
- AG 103 - Swimming Pools
- AG 104 - Spas and Hot Tubs
- AG 105 - Barrier Requirements
- AG 106 - Entrapment Protection for Swimming Pool and Spa Suction Outlets
- AG 107 - Abbreviations
- AG 108 - Standards



2009 IRC - Appendix G

AG101 – General

Design & construction...on the lot of 1 & 2-family dwellings



2009 IRC - Appendix G

AG101.2 Pools in Flood Hazard Areas

AG101.2.1 Designated floodways

-Documentation must be submitted which demonstrates construction will not increase flood elevation

AG101.2.2 Pools located where floodways have not been designated. Must provide a floodway analysis.....will not increase flood elevation more than 1 foot...



Pool in flood hazard area



2009 IRC - Appendix G

AG 102 – Definitions

Swimming Pool

Any structure *intended* for swimming or recreational bathing that contains water **over 24 inches** deep. This includes in-ground, above-ground, and on-ground swimming pools, hot tubs and spas.



2009 IRC - Appendix G

AG 102 – Definitions

Residential (*amended*)

Situated on the premises of a detached one- or two-family dwelling or which is accessory to an individual one-family townhouse for the exclusive use of its residents and invited guests.



Townhouse swimming pool



2009 IRC - Appendix G

AG103 – Swimming Pools

AG 103.1 – In-ground Pools

Designed and constructed in conformance with ANSI/NSPI-5 (or ANSI/APSP-5)

Standard for Residential In-Ground Swimming Pools



ANSI/APSP-5

4 Structural Design

4.1 The structural design and materials used shall be in accordance with generally accepted engineering practices and methods.

Compare to:

2003 IBC 3109.9 – Pool structure

The pool structure shall be engineered and designed to withstand the expected forces to which the pool will be subjected.



ANSI/APSP-5

5 Pool Dimensions and Tolerances

- Maximum slope of walls
- Floor slopes
- Diving equipment and minimum water envelope
- Diving platforms



ANSI/APSP-5

6 Entry / Exit

6.1 Required at shallow end if water deeper than 24".

6.1.1 Required at deep end if water depth 5 ft or more.

6.2.1 Treads 10" min., 240 sq in min.

6.2.1.1 If handrail provided, tread can be 8"

6.2.1.1.1 Bottom riser height can vary



ANSI/APSP-5

6 Entry / Exit

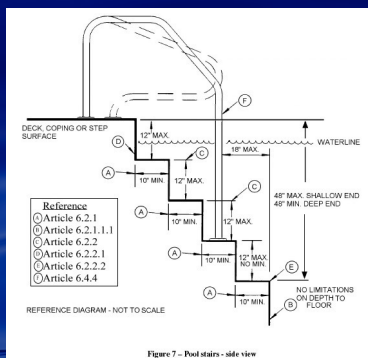
6.2 Riser heights can vary but no exceed 12".

6.2.2.1 Coping to top tread not to exceed 12".

6.2.2.2 When stairs in over 48" deep water, bottom tread must be min. 48" below deck, visually set apart, located outside wall of pool.



ANSI/APSP-5



Entry / Exit



Pool
SAFETY

Entry / Exit



Pool
SAFETY

ANSI/APSP-5

6.3 Shallow end detail for beach & sloping entries



Pool
SAFETY

ANSI/APSP-5

- 6.4 Handrails
- 6.5 Pool ladder design & construction
- 6.6 Recessed treads
- 6.7 Underwater seats, benches & swimouts



ANSI/APSP-5

7 Decks

- 7.1 General requirements
- 7.2 Drainage
- 7.3 Concrete decks
- 7.4 Wood decks
- 7.5 Stone, brick, brick pavers, concrete pavers and tile decks
- 7.6 Deck steps



ANSI/APSP-5

8 Materials of construction & finishes

9 Circulations systems components & related equipment

10 Water supply

11 Waste water disposal

12 Chemical feeders & ozone generators

13 Electrical rqmts (adopted NEC)



ANSI/APSP-5

14 Instructions for the circulation system, pressure filters & separation tanks

15 Safety features

Appendix I Entrapment avoidance

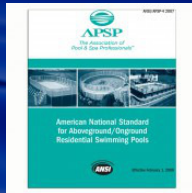


2009 IRC - Appendix G

AG103 – Swimming Pools

AG 103.2 – Above-Ground and On-Ground Pools shall be designed and constructed in conformance with ANSI/NSPI-4 (or ANSI/APSP-4)

*Standard for Aboveground/
Onground Residential
Swimming Pools*



Above-ground



On-ground



ANSI/APSP-4

1 Scope

- 1.1 Design, manufacturing, testing, care & use
- 1.2 For swimming & wading only. No diving boards, slides or other equipment to be added.



ANSI/APSP-4

3 Codes & compliance

- 3.2 Any after market or home-built deck, if allowed by manufacturer, shall comply with local code, including load capacity & fencing.
- 3.3 All decks shall meet local codes & comply with most recent ANSI/APSP-8.



ANSI/APSP-4

6 Pool & component design

Pool manufacturer responsible for structural design & materials

Component manufacturers responsible to ensure components can be protected from damage due to freezing

Vinyl liner manufacturer responsible for brittleness, winterization and thickness



ANSI/APSP-4

7 Instructions & responsibilities

Manufacturers responsible to provide written instruction manuals

7.1.6 Manufacturers shall advise homeowners that the installation must comply with local codes & may require permits for building, electrical, zoning, etc

7.2.3 Must advise that a barrier is necessary

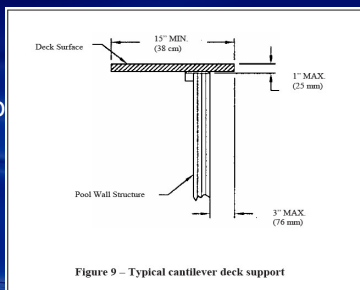
7.3 Installer responsible to follow regulations on setback, barriers, devices, and other conditions



ANSI/APSP-4

10 Raised decks & fencing

- LL 40 PSF
- Slip resistant
- Guards sim. to IRC



ANSI/APSP-4

11.10 Return inlets & suction outlets

References ANSI/APSP-7 2006 for suction entrapment avoidance



2009 IRC - Appendix G

AG103 – Swimming Pools

AG 103.3 – Pools in Flood Hazard Areas. In flood hazard areas established by Table R301.2(1), pools in coastal high hazard areas shall be designed and constructed in conformance with ASCE 24



2009 IRC - Appendix G

AG104 - Spas and Hot Tubs

AG104.1 Permanently installed spas and hot tubs

Designed and constructed in conformance with ANSI/NSPI-3 (*Standard for Permanently Installed Residential Spas*)



2009 IRC – Appendix G

AG104.2 Portable spas and hot **tubs**

Designed and constructed in conformance with ANSI/NSPI-6

(Standard for Residential Portable Spas)



Portable Spas and Tubs

- Important to remember that these are in a category of their own. They are seen more as an appliance and do not have the same requirements as swimming pools.
- Circulation and suction outlets are engineered by manufacturer in accordance with UL 1563 Section 36 (suction openings).
- UL 1563 - Electric Spas, Equipment Assemblies, and Associated Equipment



2009 IRC - Appendix G

AG105 - Barrier Requirements

AG105.1 Application. Controls design to protect against drowning by restricting access.



Barriers Required to Prevent Access



41



State Bldg Code Interpretation I-22-12

Question:

Would the installation of a replacement fence for an existing swimming pool that is a required barrier under Section AG105.2 require a building permit? I realize that Section R105.2 would normally exempt most fences from the permit requirement.

Answer:

Yes. Section AG105, of the 2003 International Residential Code portion of the 2005 State Building Code, controls the design of barriers for residential swimming pools, spas and hot tubs in order to provide protection against potential drowning by restricting access to swimming pools, spas and hot tubs. If someone were to use a fence as a "barrier", then Section R105.2, of the above code, would not apply and a building permit would be required for the barrier.



Barrier Requirements – AG 105

AG105.2 Outdoor swimming pool

In-ground, above ground, on ground

Swimming pool, hot tub or spa

Must comply with the following 10 items:



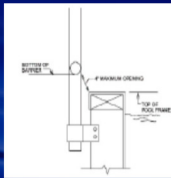
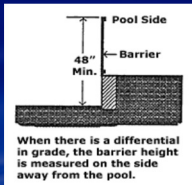
Barrier Rqmts – AG 105.2

1. Height: 48" min. from outside
2" max. opening at bottom (4" above ground)
2. Openings: 4" sphere
3. Solid barriers: No indentations or protrusions



Barrier Rqmts – AG 105.2

1.



Barrier Requirements-AG 105.2

2.



Barrier Requirements-AG 105.2

3.



Barrier Requirements – AG 105.2

3. No protrusions



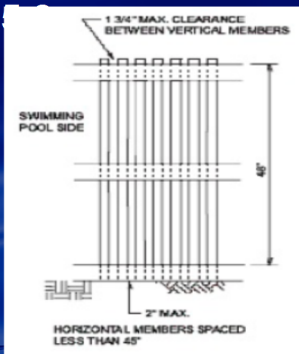
Barrier Requirements –AG105.2

4. Horizontal & vertical members where horizontal members less than 45" apart (top to top):

- Horizontal members on pool side 1-3/4" max. between vertical members
- Decorative cutouts in vert. members, 1-3/4" max. openings



Barrier Requirements – AG105.1



Barrier Requirements – AG105.2

5. Horizontal & vertical members where horizontal members 45" or more apart:

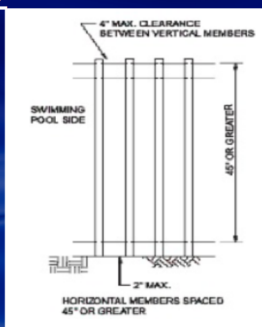
4" max. between vertical members

Decorative cutouts in vert. members, 1-3/4" max. openings



Barrier Requirements – AG105.2

5.



Barrier Requirements – AG 105.2

6. Chain link dimensions

Mesh size 2-1/4" square max.

Slats fastened at top or
bottom, reduce to 1-3/4"

*Doesn't agree with VGB 1406 Model Code language
which states 1-3/4" mesh size*



State Bldg Code Interpretation I-21-08

Question:

"While Section AG105.2 does not address a pool barrier made up only of horizontal members, Section AG105.2, Item #6, does address chain link mesh size of 2-1/4 inches square. Is a pool barrier made up of horizontal members to the height of 48 inches with a 3/4 inch space between the members a code compliant barrier?"

(A photograph is included illustrating the pool barrier composed of horizontal and vertical members with horizontal members not located on the swimming pool side.)

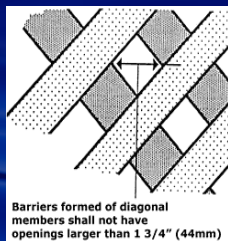
Answer:

Section AG105.2, Item #4 requires the barriers horizontal members, where the distance between the tops of the members is less than 45 inches, to have all horizontal members be located on the swimming pool side of the barrier.



Barrier Requirements – AG 105.2

7. Diagonal members: 1-3/4" maximum openings



Barrier Requirements – AG 105.2

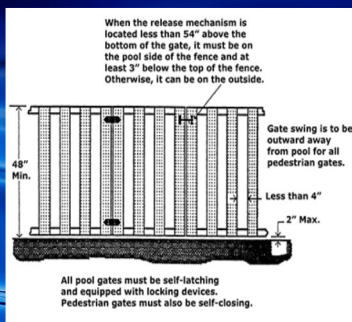
8. Access gates:

- Comply with 1 — 7, plus
- Accommodate a locking device
- Open outward
- Self-closing, Self-latching
- Other gates self-latching
- Release mechanism less than 54" above bottom of gate:
 - Pool side, at least 3" below top of gate,
 - No opening greater than 1/2" within 18"



Barrier Requirements – AG 105.2

8.



Barrier Requirements – AG 105.2

9. Dwelling wall part of barrier

Meeting one of the following:

- 9.1 Powered safety cover per ASTM F1346
- 9.2 Doors accessing pool
 - Audible alarm for door & screen, 30 sec
 - Auto reset
 - Manual deactivation for single opening
 - Deactivation switch min. 54" high
- 9.3 Other means of protection acceptable of protection not less than 9.1 or 9.2



Barrier Requirements – AG 105.2

9.



Power Safety Cover



Pool SAFETY

Barrier Requirements – AG 105.2

10. Above-ground structure is used as barrier or mounted on structure the ladder or steps shall be surrounded by a barrier which meets 105.2, Items 1-9



Pool SAFETY

Barrier Requirements

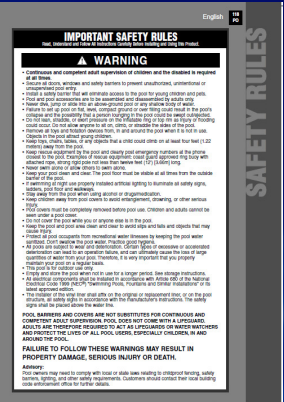


The left photograph shows a rectangular swimming pool with a white fence around it. A blue tarp is on the grass in front of the pool. The right photograph shows a rectangular swimming pool with a white fence around it. A set of stairs leads from the grass into the pool. Two people are sitting in the pool.



Pool is under 48 inches

A photograph of a blue inflatable pool set up on a green lawn in front of a brick house. The pool is rectangular and has a blue ladder on the left side. The house is made of red brick and has a brown door and white windows. There is a small tree and some bushes in front of the house. The pool is under 48 inches high.

[illegible]

Page 2

SAFELY

Barrier Requirements – AG 105

AG 105.3 Indoor Swimming Pools

Walls surrounding an indoor pool shall comply with AG 105.2, Item 9 (wall of dwelling serves as barrier)



Barrier Requirements – AG 105

AG105.4 Prohibited locations

Pool barriers cannot be climbable from other structures, equipment or objects



Barrier Requirements

AG 105.5 Barrier Exceptions.

Spas and hot tubs with safety cover which complies with ASTM F 1346.



State Bldg Code Interpretation I-17-08

Question: Based on the manufacturer's product specification for strength and installation instructions, can deer fencing be used as barrier for a pool?

Answer: A barrier's purpose is to restrict access to swimming pools, spas and hot tubs. The deer fencing product submitted along with the manufacturer's product specification installation instructions does not demonstrate deer fencing as a code compliant barrier.



AG 105.6 - Temporary Enclosure (CT Add)

- Must be in place prior to electrical inspection of any in-ground pool
- Min. 48" high
- 4" sphere rule
- Openings with a positive latching device



AG 105.6 - Temporary Enclosure



AG 105.7 – Pool Alarm (CT Add — CGS 29-265a)

Be on building permit and for substantial alteration

One or more families - residence

Must be installed with pool

50 db alarm when 15 lbs or more enters pool

Exempt: Hot tubs & portable spas





2009 IRC - Appendix G

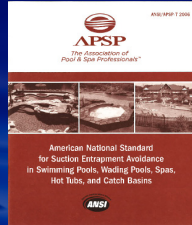
AG106 – Entrapment Protection for Swimming Pool and Spa Suction Outlets

AG106.1 General. Suction outlets shall be designed and installed in accordance with ANSI/APSP-7. (2006)



AG 106 Entrapment Avoidance

106.1 Suction outlets shall be designed and installed in accordance with ANSI/APSP-7.



ANSI/APSP-7 Table of Contents

1. Scope
2. Normative references (to other standards)
3. Definitions
4. General requirements for suction entrapment avoidance systems and components
5. New construction
6. Existing pools and spas
7. Vacuum release systems



Section 1. Scope

- 1.1 General. This standard covers design and performance criteria for circulation systems including components, devices, and related technology installed to protect against entrapment hazards in residential and public swimming pools, wading pools, spas, hot tubs, and catch basins, hereinafter referred to as "pools and spas."



Section 1.2 Alternative Methods

The provisions of this standard are not intended to prevent the use of any alternative material, system, or method of construction, provided any such alternative meets the intent and requirements of this standard and is approved by the authority having jurisdiction.



Section 1.3 Exception

Commercial water parks and their associated suction systems are outside the scope of the standard.

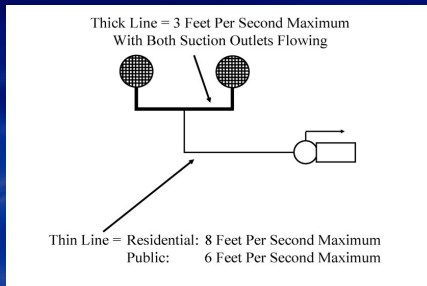


Section 4. General Requirements

- 4.1 Codes
- 4.2 Electrical components
- 4.3 DANGER
- 4.4 Water velocity
- 4.5 Listed suction outlets
ASME/ANSI A112.19.8
- 4.6 Minimum flow rating for each cover/grate
- 4.7 Dual cover/grate separation
- 4.8 Skimmers
- 4.9 Wall vacuum fittings

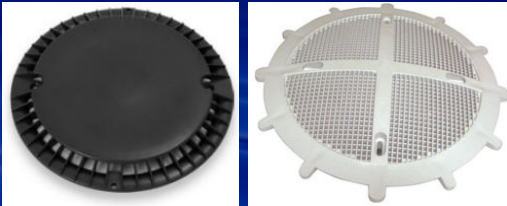


Section 4.4 Water Velocity



Section 4.5 Listed Suction Outlets

Must comply with AMSE/ANSI A112.19.8



Section 4.6 Min. Flow Rating for Each Cover

In dual and multiple submerged suction outlets (drains) each outlet must have the ability to handle 100% of the system's flow rate.

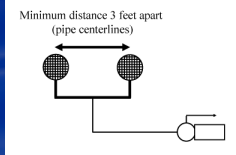
Check maximum flow rate capacity for each cover for submerged outlets (wall and floor).



Section 4.7 Dual Cover/Grate Separation

Separated by a minimum of 3 feet (center to center) of suction pipes, or

Located on two different planes
(bottom/vertical wall) (separate vertical walls)

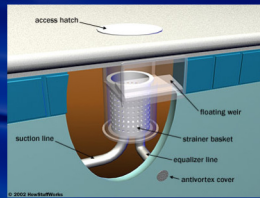
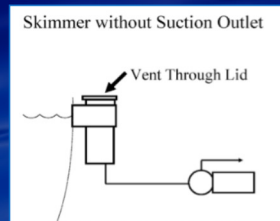


Dual Outlets on Different Planes



Section 4.8 Skimmers

Vented to atmosphere through openings in lid, through a separate vent pipe, or incorporate an equalizer line

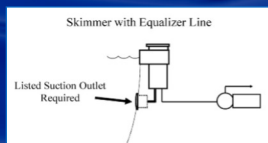


Section 4.8 Skimmers

Section 4.8.1

Equalizer lines, when used, shall be located on the wall with the center no more than 18 inches below the maximum operating level.

Protected by a listed suction outlet cover/grate



Section 4.9 Wall Vacuum Fittings

When used, vacuum cleaner fitting(s) shall be located in an accessible position(s) at least 6 inches and no greater than 18 inches below the water level and the self closing, self latching fitting shall comply with IAPMO SPS 4.

In addition the vacuum piping shall be equipped with a valve to remain in the closed position when not in use.



Section 4.9 Wall Vacuum Fittings



Section 4.9 Wall Vacuum Fittings

When used, vacuum cleaner fitting(s) shall be located in an accessible position(s) at least 6 inches and no greater than 18 inches below the water level and the self closing, self latching fitting shall comply with IAPMO SPS 4.

In addition the vacuum piping shall be equipped with a valve to remain in the closed position when not in use.



Section 5. New Construction

- 5.1 General
- 5.2 Submerged suction outlets are optional
- 5.3 Dual outlets
 - 5.3.2 Dual outlet separation
- 5.4 Three-or-more outlets
- 5.5 Single unblockable suction outlet
- 5.6 Single outlet swim jet system



Section 5. New Construction

- 5.7 Single outlet – alternative suction system
- 5.8 Gravity flow systems
 - 5.8.6 Fully submerged gravity outlet
 - 5.8.7 Partially submerged gravity outlet
- 5.9 Outlet sumps in series
- 5.10 Other means. See 1.2



Suction Outlets (Main Drains)

ICC codes and Pool and Spa Safety Act refers to main drains, but new language is submerged suction outlets



Section 5.2 Submerged Outlets Optional

Pools without main drains

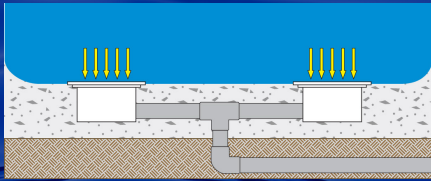
Skimmers or overflow systems must provide for 100 % of required system flow



Section 5.3 Dual Outlets

Listed outlets

Tee feeding from common line between the suction outlets shall be located approximately midway between the outlets

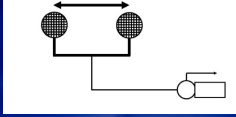


Dual Outlets

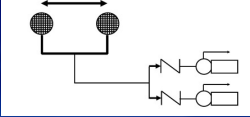


Section 5.3 Dual Outlets

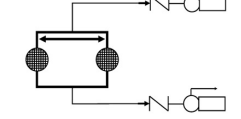
Minimum distance 3 feet apart
(pipe centerlines)



Minimum distance 3 feet apart
(pipe centerlines)



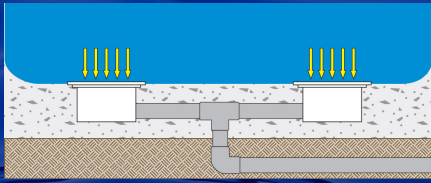
Minimum distance 3 feet apart
(pipe centerlines)



Section 5.3 Dual Outlets

5.3.1

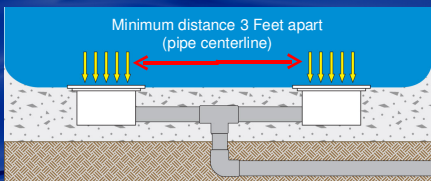
Flow rating of each cover/grate shall be at least equal to the system's maximum flow rate



Section 5.3 Dual Outlets

5.3.2 Dual outlet separation

Minimum of 3 feet measured from center to center of the suction pipe. Or located on separate planes.



Section 5.3 Dual Outlets

5.3.2 Dual outlet separation

Minimum of 3 foot of separation measured center to center of the suction pipes

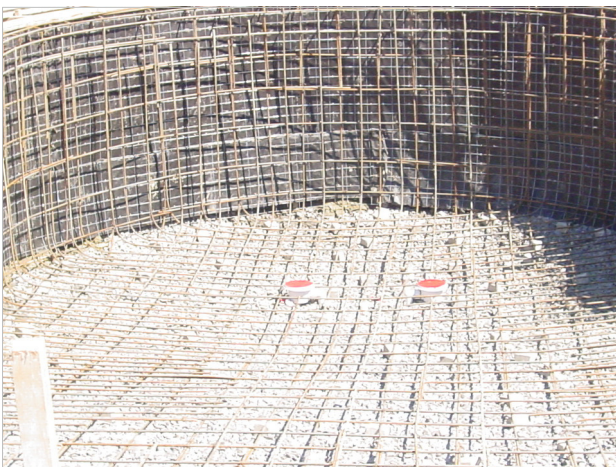


Section 5.3 Dual Outlets

5.3.2 Dual outlet separation

Can be on different planes

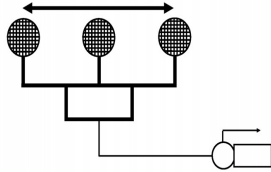




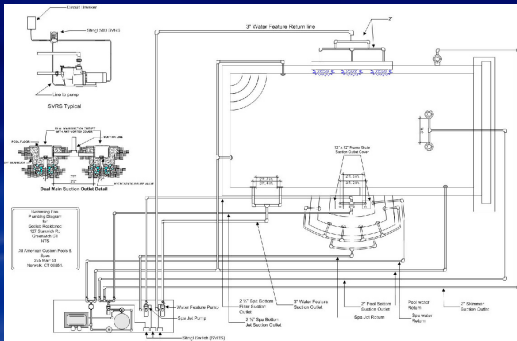
Section 5.4 Three or More Outlets

Three-or-More Outlets in Parallel to Single Pump

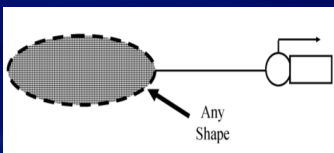
Minimum distance 3 feet between outermost outlets
(pipe centerlines)



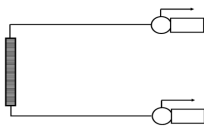
Plan Drawing for Permit



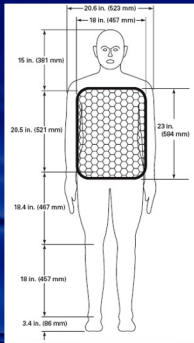
Section 5.5 Single Unblockable Suction Outlet



Single Unblockable Channel Outlet to Two Pumps



Section 5.5 Single Unblockable Suction Outlet



Section 5.6 Single Outlet Swim Jet System



Section 5.7

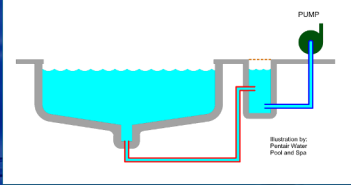
Single Outlet – Alternative Suction System

Single outlet alternative suction systems consist of a single listed suction outlet cover/grate utilizing a venturi-driven system for circulating water. Such systems shall be tested and listed by a nationally recognized testing laboratory as conforming to the most recent edition of ASME/ANSI A112.19.17 and ASTM F 2387-04.



Section 5.8 Gravity Flow Systems

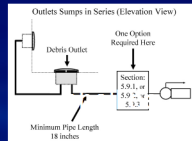
- Flow from a pool or spa to a vented reservoir may be partially or fully submerged
- 5.8.6 Fully submerged gravity outlet
- 5.8.7 Partially submerged gravity outlet



Section 5.9 Outlet Sumps in Series

Must have listed suction outlet covers/ grates

Between outlet and pump there one of the listed options:



Section 7 Vacuum Release Systems

NOTE: All vacuum release systems shall be tested on a single suction outlet with a listed safety cover in place. These devices/systems are not considered "backup" systems as there is no known suction vacuum release system that will completely protect against four of the five known hazards and presenting vacuum release systems as "backup" systems would promote a false sense of security among the users of these devices/systems.



2009 IRC Appendix G

AG 107 Abbreviations (new)

APSP - Association of Pool and Spa Professionals

ASCE – American Society of Civil Engineers



2009 IRC Appendix G

AG 108 Standards (new)

ANSI/APSP-7-06 Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs and Catch Basins

ASCE/SEI-24-05 Flood Resistant Design and Construction



ANSI/NSPI (APSP) Standards



Resources

Northeast Spa & Pool Association – NESPA

www.nespspool.org

609-689-9111

Association of Pool & Spa Professionals

www.apsp.org

Consumer Product Safety Commission

Virginia Graeme Baker Pool & Spa Safety Act

www.poolsafely.gov



Electrical

E4203.1 Swimming pools- receptacle outlets location: Receptacles shall not be located less than six feet from the inside wall of any pool or other body of water specifically identified in each of the following sections: NEC 680.22, 680.34, 680.43, 680.62, 680.71



Electrical

E4203.1.3 Swimming pools-GFCI protection: All 15 and 20 amp, 125 or 240 v, single phase outlets supplying pool pump motors require GFCI protection whether supplied by a receptacle and cord connection or hard wired to the branch circuit outlet.



Electrical

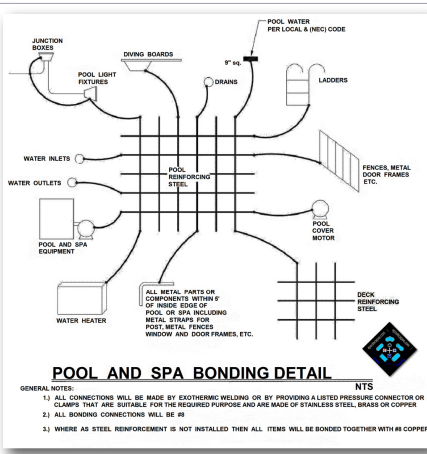
E4204.2 Swimming pools- bonded parts: At least one #8 AWG copper conductor must be secured within or under the pool perimeter surface.



Electrical

E4204.3 Swimming pools- pool water: The pool water shall be intentionally bonded by means of a conductive surface area not less than 9 square inches installed in contact with the pool water. This bond shall be permitted to consist of parts that are required to be bonded in Section E4204.2.





Equipotential Bonding

Connecting various pool components together with bare copper wire to make them the same potential.

The purpose of equipotential bonding is to equalize the pressure (or voltage) around the pool so your body doesn't create the circuit between areas of differing potential which would result in getting shocked.

This is done by creating a "bonding grid"



Questions?

Thank You!



Supplemental Material on Swimming Pool Flow Rates and Velocity



Velocity and Flow Rate Review



Velocity and Rate of Flow

Velocity is stated in feet per second (fps)

Rate of flow is stated in gallons per minute
(gpm)

The quantity of water traveling through the
circulation system is referred to as the
gallons per minute and the speed (velocity)
of the water is calculated in feet per second.



Velocity and Rate of Flow

GPM is increased or decreased by horse power of pump

FPS is increased or decreased by the size of the piping and/or open area water is flowing through



Velocity and Rate of Flow

Recommended maximum velocity:

6 fps public pools/8 fps residential pools*

3 fps in branch piping during normal operation; 6 fps in branch suction piping when one of a pair is blocked*

Do not exceed these recommended maximums—

- Risk of suction entrapment
- Would erode pipe and fittings

* ANSI/APSP-7 Standard for Suction Entrapment Avoidance



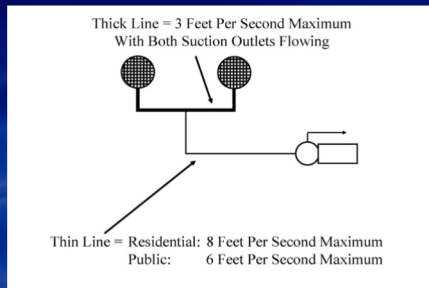
Velocity and Rate of Flow

The open area of a main drain cover will vary from manufacturer to manufacturer, but will be listed in the specifications for each cover.

Each cover will also list the maximum gallons safely permitted through the cover



Water Velocity



Maximum System Flow Rate

The maximum system flow rate shall be determined by one of the following:

- ◆ TDH calculation for the circulation system of each pump; or
- ◆ Simplified TDH calculation (see definition); or
- ◆ The maximum flow capacity of the new or replacement pump,

which shall be limited by the criteria of the maximum velocity requirements



The Calculations

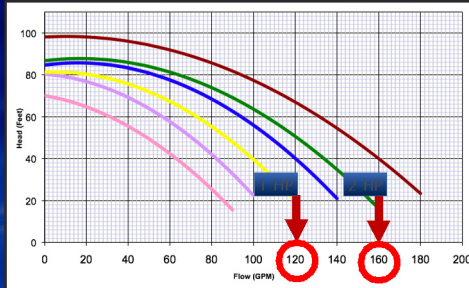
Total dynamic head (TDH): The sum of all resistances in a complete operating system (pipe, fittings, valves, filter, heater, etc.)

Simplified TDH calculation: A method of determining the maximum system flow rate using hydraulic calculations based on the lowest possible total dynamic head (TDH) for a circulation system. For example, using the shortest distance between the pool and the pump, omitting the calculations for fittings/valves, and using the best performance ratings for filters and heaters.



Maximum System Flow

Using Maximum Pump Flow is Most Conservative



Pool
SAFETY

The Process for the Contractor

- 1) Determine the pool (spa) volume in gallons.
- 2) Determine the required (or desired) flow rate in gpm.
- 3) Size piping based on achieving the specified flow rate and velocities
- 4) Calculate the Resistance in the system (TDH)
- 5) Select pump using pump curve to deliver the specified flow rate

Pool
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Verify velocity with plans submittal

Builder specifies flow rate & pipe size with plans submittal.

Chart shows pipe size required per flow rate specified.

Pipe Size	6 fps (branch)	8 fps (trunk)	10 fps (return)
Sch. 40 PVC	GPM	GPM	GPM
1½ in.	38	51	64
2 in.	63	84	105
2½ in.	90	119	149

Pool
SAFETY

Verify Covers With Plans and/or Inspection

Permit application can include the Manufacturer, make and model of the drain covers, including the flow ratings.

You may require the covers to be on site at one of the inspection phases. They will have the following language embossed on them or permanently marked in a location that is visible when installed.



Verify Covers With Plans and/or Inspection

Confirm:

ASME A112.19.8 2007

Flow rating "X GPM" appropriate,

Designed for location (floor/wall)

Life: "X Years", and

Manufacturer and Model.



Verify Drain Placement With Plans & Inspection

Drain placement details should be shown on the permit application drawings.

Field inspection; measuring for distance between suction pipe centers or observing placement on different planes.

Field inspection; for field fabricated sumps, measure from top of pool shell floor to top of suction pipe.