

Carson City Health Department

900 East Long Street

Carson City, Nevada 89706 (775) 887-2190

APPLICATION FOR PERMIT TO CONSTRUCT PUBLIC BATHING PLACE

DRAWINGS REQUIRED: 1] Plot plan showing layout of pool enclosure, equipment room, piping, fresh water line, waste water lines, streets, and structures on adjoining property. 2] Elevations showing section through pool, equipment room and pool enclosure.

Date: _____

Owner: _____ Pool Address: _____

Contractor: _____ Address: _____

This application is for: ☐ New Construction ☐ Modification ☐ Additions

Source of pool water supply: _____ Drinking water supply: _____

Pool will be: ☐ Re-circulating ☐ Flow-through ☐ Fill-draw

Size of Pool: Length: _____ feet. Width: _____ feet. Depth: Min. _____ feet Max. _____ feet

Water surface area: _____ square feet Capacity: _____ gallons

Pool to serve _____ people or _____ units. Supervised by ☐ Lifeguard ☐ Owner

Safety equipment: # _____ of _____ inch ring buoys # _____ body hooks _____ inch diameter lifeline (floats at 5' intervals)

CONSTRUCTION

☐ Reinforced Concrete ☐ Gunit ☐ Steel ☐ Other _____

Scum gutters on ☐ 4 sides ☐ 2 sides ☐ Surface skimmers ☐ Other _____

Number of recess steps _____ or stairway _____ fitted with handrails

Number of ladders at deep end _____ Number of ladders on sides of deep end _____

Walkways made of _____ material with width of _____ feet and a slope of _____ inch per foot

Walkways will drain to _____

Pool enclosed from it's surroundings: ☐ rope ☐ chain ☐ hedge ☐ low fence ☐ high fence ☐ wall.

If fence or wall, it will be made of what material? _____

What provisions have been made for spectators? _____

How will spectators be kept from bathing area? _____

Will there be a lounging or sunbathing area within the pool enclosure? ☐ Yes ☐ No

In relation to the pool, where will the lounging area be? _____

Will dressing rooms and toilet facilities be provided? ☐ Yes ☐ No

Describe the method of venting and heating these rooms. _____

EQUIPMENT

Pool heater type: _____ rated BTU _____ Manufacturer _____

Underwater lamp type: _____ # of units _____ watts _____ Manufacturer _____

Spring board length: _____ feet # of units _____ Manufacturer _____

of units _____ Automatic Surface Skimmer # of units _____ Leaf Skimmer and handle

of units _____ Vacuum Cleaner and accessories # of units _____ Wall Brush

of filter units _____ Type: _____ Size: _____ Area: _____ sq. feet Capacity: _____ gpm

Backwash rate: _____ gpm Manufacturer: _____

Chlorinator feed type: _____ Daily capacity: _____ lbs
Model #: _____ Manufacturer: _____

<u>PIPING:</u>	<u>DIAMETER</u>	<u>LENGTH</u>	<u>MATERIAL</u>
Fresh Water	_____	_____	_____
Main Suction	_____	_____	_____
Skimmer Suction	_____	_____	_____
Inlet Return # _____	_____	_____	_____
Vacuum Line	_____	_____	_____
Backwash Discharge	_____	_____	_____
Backwash Sump to Sewer	_____	_____	_____
Backwash Sight gauge # of units: _____		Loss of Head Gauge # of units: _____	

POOL CONSTRUCTION

The following items (as required by NAC on Bathing Places/Spas) at the _____ pool, located at _____ will be provided by the owner, contractors, sub-contractors, as signed below.

_____ Deck (min. 4' wide, slope ¼" per foot)
_____ Deck Drains
_____ Fence (min. 4' height)
_____ Hose Bibbs
_____ Test Kits (for pH, Chlorine residual, total alkalinity and cyanuric acid, if used)
_____ Sand Trap
_____ First Aid Kit
_____ Blankets (2 or more)
_____ Lifeguard (reference NAC 444.270, Public Bathing Places)
_____ Protective enclosure for equipment (which complies with all the requirements of ventilation, drainage, access opening, equipment clearance storage space, etc. as listed in NAC 444.188 and NAC 444.190, Public Bathing Places)
_____ Pool located where it can be seen by persons employed at the facility. (if not, attendant must be present at pool side).
_____ Other items _____

Signed _____ Date _____
Title _____

INFORMATION REQUIRED FOR SWIMMING POOL/SPA PLAN REVIEW

- ___ 1. Pool surface area _____ sq ft
- ___ 2. Pool volume _____ gallons Pool perimeter _____ feet
- ___ 3. Pump performance curve
- ___ 4. Pump capacity: Filtration cycle _____ gpm _____ tdh
 Backwash cycle _____ gpm _____ tdh
- ___ 5. Manufacturer's rated filter losses during: Filtration cycle _____ psi or _____ feet
 Backwash cycle _____ psi or _____ feet
- ___ 6. Vertical distance from center line of pump to water level in pool _____ feet.
- ___ 7. Vertical distance from center line of pump to level of backwash discharge piping _____ feet.
- ___ 8. Plot plan layout of pool enclosure, equipment room, piping, fresh water line, waste water line, street and structures on adjoining property.
- ___ 9. Elevations showing section through pool (longitudinal and at D-5), equipment room and pool enclosure. (diving boards, ladder, and related appurtenances)
- ___ 10. Plans shall contain a north arrow, be to scale and be signed.
- ___ 11. Steel schedule.
- ___ 12. Four copies each of: plans, pool construction application, and pool construction supplement.
- ___ 13. One copy of pool hydraulic calculations and detailed piping diagram showing all fittings, valves, equipment, and elevations.
- ___ 14. Type of pipe to be used in plumbing and pipe rating. (only National Sanitation Foundation coded pipe approved)
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CALCULATION OF TOTAL DYNAMIC HEAD IN POOL FILTER INSTALLATIONS

Facility: _____

Person preparing this form: _____

NOTE:

- ❖ Nevada Administrative Code, Chapter 444, Public Bathing Places, requires a turnover rate of six (6) hours immediately prior to backwashing the filters (NAC 444.152 and NAC 444.162).
- ❖ To comply, the recirculation system must be designed for less than six (6) hour turnover.
- ❖ Turnover rate for therapy pools – one (1) hour or less.
- ❖ Turnover rate for wading pools – three (3) hours maximum.
- ❖ Nevada Administrative Code, Chapter 444, Public Spas, requires a turnover rate of 30 minutes immediately prior to backwashing the filters (NAC 444.496).
- ❖ To comply, the recirculation system must be designed for less than a 30 minute turnover.

1. Head loss data for all system components are required. Use head loss listed herein or submit manufacturer's engineering specifications.
2. Pump performance curve required (Public Bathing, NAC 444.162).
3. Piping (Public Bathing, NAC 444.160; Spas, NAC 444.482) – Non-toxic corrosion resistant, able to withstand operating procedures. NSF approved piping acceptable. Submit specifications for piping.
4. If multiple pumps and filters are to be used, additional calculations will be required, showing workability of the system.

HYDRAULIC CALCULATIONS – Typical Pool Plan – for completing hydraulic calculations:

S= Strainer Basket
P= Pump
F= Filter
V= Multi-port valves
H= Heater

I. Return Piping – Circuit 1 to 6 (or 1 to 6'):

(Schema: Determine the pressure drops in each section of piping in the parallel circuit. Then add up all pressure drops in the circuit with the greater pressure drop.)

	<u>Linear Feet</u>	<u>Feet of Head Loss</u>
A. From point 1 to 2:		
1. Flow rate = _____ gpm		
2. Piping length _____ " D	_____	
3. Fittings:		
_____ Reducer (s) _____ " D. to _____ " D.	_____	
_____ Ell (s)	_____	
_____ Tee	_____	
4. Total equivalent length	= _____	
5. Total pressure drop 1 to 2		= _____
B. From point 2 to 3 (or 2 to 3'):		
1. Flow rate = _____ gpm		
2. Piping length _____ " D	_____	
3. Fittings:		
_____ Reducer (s) _____ " D. to _____ " D.	_____	
_____ Ell (s)	_____	

Linear Feet **Feet of Head Loss**

_____ Tee			
4. Total equivalent length	=	_____	
5. Total pressure drop 2 to 3			= _____
C. From point 3 to 4 (or 3' to 4'):			
1. Flow rate = _____ gpm			
2. Piping length _____" D		_____	
3. Fittings:			
_____ Reducer (s) _____ " D. to _____ " D.		_____	
_____ Ell (s)		_____	
_____ Tee		_____	
4. Total equivalent length	=	_____	
5. Total pressure drop 3 to 4			= _____
D. From point 4 to 5 (or 4' to 5'):			
1. Flow rate = _____ gpm			
2. Piping length _____" D		_____	
3. Fittings:			
_____ Reducer (s) _____ " D. to _____ " D.		_____	
_____ Ell (s)		_____	
_____ Tee		_____	
4. Total equivalent length	=	_____	
5. Total pressure drop 4 to 5			= _____
E. From point 5 to 6 (or 5' to 6'):			
1. Flow rate = _____ gpm			
2. Piping length _____" D		_____	
3. Fittings:			
_____ Reducer (s) _____ " D. to _____ " D.		_____	
_____ Ell (s)		_____	
_____ Tee		_____	
_____ Crifice, pressure drop across			_____
4. Total equivalent length	=	_____	
5. Total pressure drop 5 to 6			= _____
F. Return piping pressure drop:			
(A5+B5+C5+D5+E5=)			= _____

II. Suction Piping – Circuit a to e (or a' to e, or b to e):

(Schema: *Determine the pressure drops in each section of piping in the parallel circuit, then add up all pressure drops in the circuit with the greatest pressure drop.*)

Linear Feet Feet of Head Loss

A. From point a to c: (Skimmer #1)

1. Flow rate = _____ gpm
2. Piping length _____ " D _____
3. Fittings:
_____ Skimmer, pressure drop in _____
_____ Reducer (s) _____ " D. to _____ " D. _____
_____ Ell (s) _____
_____ Tee _____
4. Total equivalent length = _____
5. Total pressure drop a to c = _____

B. From point b to c: (Main Drain)

1. Flow rate = _____ gpm
2. Piping length _____ " D _____
3. Fittings:
_____ Main drain grate, pressure drop in _____
_____ Reducer (s) _____ " D. to _____ " D. _____
_____ Ell (s) _____
_____ Tee _____
4. Total equivalent length = _____
5. Total pressure drop b to c = _____

C. From point c to d: (Piping)

1. Flow rate = _____ gpm
2. Piping length _____ " D _____
3. Fittings:
_____ Reducer (s) _____ " D. to _____ " D. _____
_____ Ell (s) _____
_____ Tee _____
4. Total equivalent length = _____
5. Total pressure drop c to d = _____

D. From point a' to d: (Skimmer #2)

1. Flow rate = _____ gpm
2. Piping length _____ " D _____
3. Fittings:
_____ Skimmer, pressure drop in _____
_____ Reducer (s) _____ " D. to _____ " D. _____
_____ Ell (s) _____
_____ Tee _____
4. Total equivalent length = _____

Linear Feet Feet of Head Loss

5. Total pressure drop a' to d = _____

E. From point d to e: (Piping)

1. Flow rate = _____ gpm

2. Piping length _____" D _____

3. Fittings:

_____ Reducer (s) _____ " D. to _____ " D. _____

_____ Ell (s) _____

_____ Tee _____

4. Total equivalent length = _____

5. Total pressure drop d to e = _____

F. Suction piping pressure drop:

[(A5+C5+E5) or (B5+C5+E5) or (D5+E5)=] = _____

III. Pump Room Piping – Circuit e to i:

1. Flow rate = _____ gpm

2. Piping length _____" D _____

3. Fittings:

_____ Reducer (s) (at suction side of pump) _____

s _____ Strainer _____

p _____ Enlarger (s) (at discharge side of pump) _____

v _____ Multi-port valve (s) _____

_____ Gate valve (s) _____

_____ Reducer (s) (at multi-port or filter) _____

f&h _____ Filter (s) & heater _____

_____ Enlarger (s) (at multi-port or filter) _____

_____ Ell (s) _____

_____ Tee _____

4. Total equivalent length = _____

5. Total pressure drop e to i = _____

6. Suction lift (vertical distance from C/L of pump to
water level. Use minus if pump is below water level) = _____

IV. Total Dead Load:

(If+ IIf +III5+III6 =) = _____

V. Flow rate at above TDH (from pump curve) = _____ gpm.

I, _____, certify that the above measurements have been performed and recorded accurately.

(PRINTED NAME)

(SIGNATURE)

(DATE)