

## Water Recreation and School Programs

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www.kingcounty.gov/health

## Plan Guide for Water Recreation Facilities - Wading Pool 2010

### I. General

- A. Submit at least two sets of plans with the attached *Pool Plan Review Application* and applicable fee to:

**Water Recreation Program**

401 – 5<sup>th</sup> Avenue, Suite 1100

Seattle, WA 98104

206.205.4048

- B. Plans must be approved prior to construction.
- C. Plans must be submitted by the design engineer or architect with their cover letter and must be stamped with their seal and signed. Plans must be drawn to scale in sufficient detail to illustrate construction.
- D. Wading pool design plans must include:
1. One vicinity sketch noting wading pool in relation to the surrounding area and facilities.  
Note the wading pool shall be located to minimize pollution by dust, smoke, soot, and other undesirable substances. Additionally, the wading pool shall be sited to eliminate pollution from surrounding surface drainage. Finally, ensure in the planning of the wading pool site that the pump house, trees and other structures are located fifteen feet or more from the pool
  2. Both plan and cross sectional views of the wading pool. Cross sectional views should provide information on the radius of curvature of the wading pool. The plan view should show dimensional drawings of wading pool bottom and sidewalls. Note on the plans the pool floor slope (not to exceed one foot of drop in twelve feet of run).
  3. Detailed view of the equipment room and equipment within it noting sufficient room is provided to access equipment for proper operation and maintenance.
  4. Indicate the wading pool surface material (white or light in color) that is watertight and non-abrasive under casual contact.
  5. Provide the specifications of required equipment components including filter, disinfecting equipment, etc. Provide for a 3-hour turnover time in the wading pool pump and filter design.
  6. Provide piping schematic showing piping, pipe size, inlets, main drains, overflow channel or skimmers, vacuum fittings and all other appurtenances connected to the wading pool piping system.  
Show for the skimmers (if present) a device to prevent air lock in the recirculation suction line such as an equalizer line.  
Show a minimum of two main drains with opening which do not allow a sphere over ½ inch in diameter to pass.
  7. Details of barrier construction, including gate latch height, fencing material, spacing between fencing members, self closing latch detail, etc.
  8. Details of decking dimensions noting slope, direction, and location of drains.
  9. Provide details on all stairs with non-slip tread finish in contrasting color, handrails per WAC, 7.5 inches or less tread riser height, and a minimum of 10 inches of unobstructed tread depth.
  10. Provide pool depth markings in feet on the horizontal surface of the coping or deck edge, within 18 inches of the water, and a minimum of 4-inch lettering size. These depth markers shall be placed at the maximum and minimum depths and at intervals not to exceed 25 feet.
- E. A Pool Data Form must be filled out and submitted with the plans.
- F. Before opening for business, the following steps must be completed:
1. The construction report and pool data form must be completed and signed, and stamped by the wading pool design architect or engineer. These forms indicate that the wading pool has been constructed according to WAC 246-260, and the approved design.

2. Occupancy and all other permits must be signed off before the opening inspection.
3. An operating permit from Public Health – Seattle & King County must be applied for and obtained.
4. A pre-opening inspection by Public Health – Seattle & King County Staff must be arranged and completed.

**II. Complete the Wading Pool Plan Review Application Form - Available on line at <http://www.kingcounty.gov/healthservices/health/ehs/pools.aspx>.**

**III. Wading Pool Information - All the following applicable information outlined below must be included on plans and/or specifications. Omissions may result in the rejection of the plans and delays in plan review. This is a guideline to the basic requirements of a wading pool facility. Actual requirements are details in the Water Recreation Facility Regulations, Chapter 246-260 WAC Specific Design Characteristics. Specific swimming wading pool design characteristics:**

**Wading Pool Shape:**

- A. Wading Pool Shape: Rectangular\_\_\_\_ Oval \_\_\_\_ Kidney\_\_\_\_ Other\_\_\_\_
- B. Wading Pool Dimensions: Length\_\_\_\_ Width\_\_\_\_ Wading Pool Depth Range: Shallow\_\_\_\_ Deep\_\_\_\_
- C. Total surface area of wading pool \_\_\_\_\_ft<sup>2</sup> (Area <5 ft deep \_\_\_\_; Area >5 feet deep\_\_\_\_ft<sup>2</sup>)
- D. Wading pool capacity \_\_\_\_\_gallons.
- E. Bather Load \_\_\_\_\_people at one time.
- F. Wading pool location is \_\_\_\_\_feet from any pump house, trees of other climbable structures.  
If structures are within 15 feet, list and describe what they are \_\_\_\_\_
- G. Wading pool surface construction material: Painted Concrete \_\_ Plaster \_\_ Fiberglass \_\_ Tile \_\_  
Painted Metal \_\_ Other - please specify\_\_\_\_\_ Wading pool color is \_\_\_\_\_.
- H. Ladders and steps.
  1. Note location, contrasting color, and riser height, tread depth and surface area, and non-slip finish on the plans.

**Wading Pool Decking**

- I. Wading pool decking construction material: \_\_\_\_\_ Type of non-slip finish provided: \_\_\_\_\_
- J. Wading pool deck slope rate\_\_\_\_ /ft for drainage (Min ¼ in./ft, Max ½ in./ft.).
- K. Square feet of deck provided\_\_\_\_\_(for wading pools > or = 1500 square feet).

**Equipment Room**

- L. Show on drawing minimum three-foot working area.
- M. Show any drains, lighting, ventilation, and access limitations.

**Ventilation for Indoor Wading Pools**

- N. Specify how wading pool ventilation is in conformance with ASHRAE standards.

**Restroom, Locker Rooms & Plumbing**

- O. Note location and size of locker room facilities.
- P. Note location and number of plumbing fixtures.
- Q. Note location of drains within facility.
- R. Note drinking fountains (when required).
- S. Note floor finish.
- T. Distance \_\_\_\_\_to the wading pool from the living unit, which is located, the farthest from the wading pool.
- U. #\_\_\_\_of stories in building.

**Lighting**

- V. Specify minimum lighting (30 foot-candles) around wading pool and deck for indoor facilities, and outdoor facilities used after dusk (15 foot-candles).
- W. Specify minimum lighting for locker rooms (20 foot-candles) and equipment room (20 foot-candles).
- Z. Describe protective shielding on lights in locker room and walkway areas.
- AA. Document emergency lighting on indoor wading pool facilities.

## Food Service

- BB. Must be in compliance with requirements.

## Barrier Protection

- CC. Note minimum barrier height on plans.
- DD. Describe barrier construction to include maximum openings and distance between horizontal surfaces.
- EE. Note height to access latches on gates and doorways, and as appropriate continuous locked locks.
- FF. Note gate or door designed to be self-closing, self-latching.
- GG. Note gates of doors lockable for periods of non-use.
- HH. Describe windows opening to wading pool area, and how barrier requirements are to be met.
- II. Describe any gate or exit which serves as a barrier to the wading pool but also has fire department or ADA requirements. Describe your method of meeting all the appropriate building, ADA and water recreation codes.

## Wading Pool Floor Slopes

- JJ. Describe wading pool floor slopes from the shallow depth to the deepest part of the wading pool. Provide the radius of floor to wall curvatures in the wading pool.
- KK. Depth Markings-Specify on plans.

## Recirculation System

- LL. Name of public water system, which is the source water for wading pool \_\_\_\_\_
  - 1. Specify the location where make-up water is introduced into the swimming wading pool and how it is protected from backflow.
- MM. Minimum flow needed to maintain 3-hour turnover is \_\_\_\_\_ gpm.
- NN. Provide appropriate calculations and assumptions to determine pump rates:
  - 1. Pump capacity produces \_\_\_\_\_ gpm.
  - 2. Pump capacity produces \_\_\_\_\_ gpm with filter dirty (just prior to backwash).
  - 3. Is pump above \_\_\_\_\_ or below \_\_\_\_\_ wading pool water level? Specify the feet \_\_\_\_\_.
  - 4. If liquid chlorine pump is above the wading pool water level, is backflow protection specified?
  - 5. Provide pump curves for the pump(s) in wading pool system.
- OO. Line size of recirculation system, inlets, and outlets must be provided on the plans, with locations of all valves to provide for proper maintenance and use of equipment.
  - 1. Number of inlets \_\_\_\_\_. Flow capacity designed for each inlet is \_\_\_\_\_ gpm.
  - 2. Number of outlets \_\_\_\_\_. The maximum pipe flow through suction or valved discharge lines is \_\_\_\_\_ fps (6 fps maximum). Discharge downstream from any valved areas is \_\_\_\_\_ fps (10 fps maximum).
- PP. Main Drains.
  - 1. A minimum of two main drains with a minimum spacing of 6 feet must be specified on the plans.
  - 2. The open area on each main drain is \_\_\_\_\_ inches<sup>2</sup>.
  - 3. The maximum width of opening on main drains is \_\_\_\_\_ inches (maximum of 1/2 inch).
  - 4. The maximum velocity through main drains assuming 100% of maximum pump flow is going through the drains, \_\_\_\_\_ fps (maximum 1.5 fps).
  - 5. Specify net outlet area, must be at least 4 times the area of the discharge pipe at main drain.
- QQ. Overflow System.
  - 1. Type (gutter, skimmer, etc).
    - a. Gutter – show slope and dimensions.
    - b. Skimmer(s) – weir length.

## Treatment System

- RR. Pump & Strainer.
  - 1. Specify location of pump strainer on plans.
  - 2. Specify any valving needed to isolate strainer for routine maintenance.
  - 3. If pump is above wading pool water level, specify the self-priming capability.
- SS. Filter.
  - 1. Type: DE \_\_\_\_\_, Sand \_\_\_\_\_, Cartridge \_\_\_\_\_, Other (specify) \_\_\_\_\_. Must be NSF approved.
  - 2. Number of filters used is \_\_\_\_\_.
  - 3. Minimum application rate with filter dirty is \_\_\_\_\_ g/sf.
  - 4. Maximum filter application rate with filter clean is \_\_\_\_\_ g/sf.

5. Air Relief.
  - a. Must note on plans.
  - b. When using a separation tank with a DE filter, instruction must be provided to warn operator to release air prior to opening.
6. Gauges.
  - a. Must be noted on the plans.
  - b. Two gauges must be provided to measure differential pressure across the filter.
7. Flowmeter.
  - a. Note location on plans.
  - b. Note range of flowmeter.

TT. Disinfection.

1. Type: Chlorine \_\_\_\_; Bromine \_\_\_\_; Other (specify) \_\_\_\_\_.
2. Type of material used: Gas \_\_\_\_; Liquid \_\_\_\_; Solid \_\_\_\_.
3. Note type of feeding equipment to be installed. Must be NSF approved for liquid or solid feeders.
4. Maximum number of pounds of disinfectant feeding system can add per day is \_\_\_\_ pounds/day.
5. Gas Chlorine.
  - a. Note prevailing wind direction in relation to the wading pool facility, include air intake structures for the buildings and surrounding area.
  - b. Gas Chlorine storage – Specify separate sealed room, door opening must open to out-of-doors, provide sign on door.
  - c. Ventilation – Must have mechanical exhaust at one air change per minute, with remote or door activated switch to turn on fan; must have means to exhaust from floor of room; must have means for make-up air to room across breathing zone of operator; must have screened chlorinator vent.
  - d. Note type of breathing protection.
  - e. Must have vacuum injection chlorine systems, with vacuum-actuated cylinder regulators, integral backflow and antisiphon protection at the injector.
  - f. Must have taring scales, means for automatic shutoff when wading pool flow is interrupted, means to store cylinders securely, valve-stem cylinder wrench on cylinders.
  - g. The Size cylinders used are \_\_\_\_\_ pounds.
6. Chemical feeders for pH control.
  - a. Required on wading pools 50,000 gals or more.
  - b. Required if feeding caustic soda or CO<sub>2</sub>.
  - c. Attach specification on the feeding equipment.

UU. Heaters – Gas.

1. Pilot light must be readily accessible.
2. Specify installation in accordance with NEC and UMC.

VV. Chemical Storage.

1. Provide information on placement of chemicals.
2. Must be in conjunction with manufacturer's recommendations.

WW. Testing Equipment.

1. Provide information on type of equipment provided for testing wading pool water chemistry.

## Safety – Signage and Equipment

XX. Note on plans equipment provided must include:

1. Phone or other emergency medical service response means.
2. First aid kit.
3. Two blankets.
4. Life hook.
5. Throwing buoy, heaving jug or lime.
6. Signs, note provisions for signage in conformance with regulation. Provide copy of proposed language.
7. Foot baths are prohibited.
8. Backboard (where required).
9. Rescue tube or buoy (where required).
10. Lifeguard chairs (where required).