Swimming Pool Plan Detail

Items to Include in the Plans

Note: This plan detail doesn't yet include additional requirements needed to comply with the new federal law, the *Virginia Graeme Baker Pool and Spa Safety Act*. For guidance, see www.doh.wa.gov/WaterRecRules.

Pool Dimensions and Surfacing Material

- □ Length.
- □ Width.
- □ Shallow water depth.
- □ Deep water depths.
- □ Square feet of surface area of pool that is more than 5 feet deep.
- □ Square feet of surface area of pool that is less than 5 feet deep.
- □ Total pool volume.
- □ Type of pool surfacing material.
- □ Pool color.

Dimensions of Walking Surfaces

- □ Width.
- □ Total square feet of walking surfaces.
- □ All decks, locker rooms, and walkways to and from the pool are sloped to drains.
- □ Surface is non-slip.
- □ Type of surfacing material used.
- □ Materials easy to clean, fast drying, and water-sealed.

Pool Floor and Wall Dimensions

- □ Floor slopes.
- □ Wall dimensions including details on radius of slopes between floor and wall surfaces.
- □ Pool surfaces free from protrusions.
- □ Ledges [generally not allowed in pools (exception found in 246-260-091(3)].

Pool Setbacks

- □ At least 15 feet from accessible roof, balconies, trees, or any object that could allow a person to jump or dive into the pool.

Barrier Protection

- □ Type of barrier provided.
- □ Horizontal and vertical member construction of the barrier.
- □ Maximum openings at the base of the barrier.
- □ Barrier isn't compromised to reduce the minimum barrier height measured from the outside of the barrier (for example, a sloping hill or bench).
- □ At pools **without** lifeguards:
  - o All gates or doors leading into the pool are self-closing and self-latching.
  - o Windows that are accessible to the public and opening to the pool, may not open more than 4 inches (bedroom windows that open need more barrier protection).
  - o Separate locking method used to lock gates and doors when the pool is closed.
  - o Latches are installed on all gates and doors. Use one of the following latch types:
    - Continuously locked.
    - Coded.
    - Made with an 18 inch radius of protection to prevent a person from reaching through the outside of the gate to unlatch the door or gate.
    - Or raised 60 inches or more in height.

- Check Americans with Disabilities Act for latch requirements (see WAC 51-1100) and Fire Code (see 51-54-1000) for additional guidance for emergency exits. For more information, see https://fortress.wa.gov/ga/apps/sbcc/page.aspx?nid=4.

Inlets and Outlets and Make-up Water

- □ Number of inlets.
- □ Location of inlets [when pool is greater than 2500 square feet bottom inlets required].
- □ Designed flow per inlet.
- □ If outlet is an overflow channel, show:
  - Details on the overflow channel design. [General requirements require minimum slope of 0.1 foot/foot of run, if slope is less, hydraulic engineering justification is required].
  - Details of the accompanying balancing tank noting dimensions, valves, pipes, and freshwater makeup method with cross connection protection provided.
  - Design will be sufficient to handle peak design surges and turnover.
  - Design prevents flooding of the overflow system.
  - Design provides an equalizer line or similar protection for the recirculating pump.
  - Controls provided to ensure against flooding and preventing air lock on the pump.
- □ If outlet is a skimmer (pool less than 2500 square feet of surface area) show:
  - Total length of each weir.
  - Total height of each weir.
  - Design can handle from 3 to 5 feet per second across the weirs at normal operating flow.
  - Design of normal operating flow going across the weir (minimum of 60 percent).
  - Equalizer line users have opening to the pool protected with a grate rated through IAPMO or UL to protect against hair entrapment.

Main Drains

- □ Spacing between main drains and a minimum of two separate drains.
- □ There is more then one drain so no single drain becomes the sole source of suction.
- □ Maximum velocity through any one drain pipe shall not exceed 6 feet per second assuming 100 percent of the total recirculation flow at peak flow conditions.
- □ Main drain gratings:
  - Total open area of the grates.
  - Maximum flow potential across the drains does not exceed 1.5 feet per second.
  - Dimensions of the drain grates.
  - Means to secure and fasten the drain grates to the main drain sump.

Fresh Water

- □ Note method for addition of fresh water.
- □ Protections prevent back pressure or back siphonage.
- □ Size of the fresh water makeup in relation to anticipated daily needs.

Valves, Strainer Basket, and Pump

- □ Identify valve placement in the design.
- □ Flow control from the overflow and the main drain system assures at least 60 percent of the flow comes from the overflow system.
- □ Note design flow of the pump in relation to the overall range of flows with the filter clean and with the filter dirty.
- □ Provide estimated range of flows determined by the design (hydraulic calculations welcome).

Turnover Rate, Filter, Disinfection Equipment, and other Chemical Feeding Equipment

- □ Provide turnover rate.
- □ Turnover rate meets the minimum turnover requirement when filter is dirty.
- □ GPM/SF rate of flow with filter clean and dirty.
- □ Filter and disinfection equipment listed to NSF 50 or equal.
- □ Equipment sized to ensure it meets anticipated peak flows and demands and average demands.
- □ If using cartridge filters, specify an extra set of cartridges.
- □ When recirculation pump is turned off, controls for feeding disinfectant and other chemical feeding equipment for controlling pH also turns off (describe how this is accomplished).
- □ If using supplemental disinfectants, such as ozone, copper/silver, or uV, please contact the office to ensure that they are correctly used.

Mechanical Equipment and Chemical Storage

- □ Adequate space provided for access to equipment for routine maintenance and use.
- □ All gauges and flow meters located so they can be easily read and provide accurate readings.
- □ All chemicals stored in a separate room or according to the manufacturer's requirements.
- □ Mechanical room:
    - o Enclosed.
    - o Locked.
    - o Well ventilated.
    - o Sloped to drain.
    - o Lighted sufficient for equipment maintenance and reading of meters and gauges.

Locker Rooms and Plumbing Fixtures

- □ Plumbing fixtures conform with applicable requirements – toilets, urinals, showers, sinks, and hose bibs, diaper changing stations, drinking fountains, and janitor sinks.
- □ Locker rooms designed to minimize cross traffic from persons in street shoes and those barefoot.
- □ [See fixture requirements General use pools, WAC 246-260-031, Table 031.3, Limited use pools Table 031.4].

Ladders, Steps, and Handrails

- □ Location and placement of ladders.
- □ Location, placement, and dimensions of steps.
- □ Location and placement of handrails.
- □ If pool deck is greater than 12 inches above pool water level, use special consideration.

Mechanical Ventilation

- □ Conforms with ASHRAE standards for indoor pools.
- □ Provides good air patterns in the indoor pool facility to eliminate short circuiting of fresh air to exhaust air.
- □ Provides protection against moisture buildup.
- □ Air pressure in indoor pool facility slightly lower then air pressure in surrounding rooms or areas.
- □ Total air flow and the minimum fresh air component detailed.

Lighting – Outdoor Pools

- □ Pools used after dusk meet minimum lighting conditions of 10 foot candles on the decks and pool surface.
- □ Pool closed before dusk.
    - o Letter from the owner provided.

Lighting - Indoor Pools

- □ Meets minimum standards for indoor pools of 30 foot candles on pool surfaces, 10 foot candles on pool decks.
- □ Lights have protective covers.
- □ The direction of natural light from windows and potential for glare problems from sunlight considered.

Bather Load

- □ Bather load projections calculated in accordance with size of the pool, walking surfaces, plumbing fixtures, surge volume in overflow channel, and balancing tank.

Diving Boards, Platforms, and Starting Blocks

- □ Areas designed for diving, including deck level diving, meets specific pool dimension requirements.
- □ Diving areas plans show sufficient cross sectional and plan view details, including:
  - o Dimensions of the diving boards, platforms, and starting blocks.
  - o Construction plans for the diving boards, platforms, and starting blocks.

Pool Depth Markings

- □ Placement of pool depth markings on pool decking and sidewall.

Safety Line and Marking Line

- □ If there are sudden changes in slope, marked with safety float lines and/or marking lines – or, as preferred, both.

Emergency Equipment

- □ Telephone.
- □ First aid kit.
- □ Blanket.
- □ Pools **without** lifeguards:
  - o Reaching pole.
  - o Life hook.
  - o Throwing buoy.
- □ Pools **with** lifeguards:
  - o Rescue tube or buoy.
  - o Backboard with supporting materials.

For more information, contact the Washington State Department of Health's Water Recreation Program at www.doh.wa.gov/watersafetycontact.