RESIDENTIAL POOL AND SPA MAINTENANCE

Best Management Practices for the Environment

Proper pool and spa maintenance protects the environment and saves money in operating costs. Pool and spa maintenance chemicals if allowed to enter surface waters and storm drains cause damage to aquatic ecosystems — there is no treatment of water discharged through the storm drain system, it flows straight into our streams, lakes or the ocean.

Several kinds of activities associated with pool and spa maintenance are of concern:

1. Filter cleaning or backwash **2. Acid washing** **3. Algae control** **4. Draining**

None of the first three listed activities should ever be allowed to discharge to the street, storm drains, drainage channels, local streams, or canyons — it is illegal to do so under the Federal Clean Water Act and also under local ordinances.

» FILTER CLEANING OR BACKWASH

There are three types of filters commonly used in pool and spa systems: diatomaceous earth (DE) filters, sand filters, and cartridge filters. All of these filters require periodic backwashing or rinsing and cleaning.

- Filter backwash water and cartridge rinse water must be discharged either to a landscaped area where it will soak into the ground, to the sanitary sewer system, or to a drywell specifically constructed for that purpose in accordance with your local plumbing code.
- Spent diatomaceous earth media should be bagged and placed in the trash—diatomaceous earth is an irritant to eyes and respiratory system so care should be taken in handling it. It is not advisable to discharge diatomaceous earth backwash to a septic system because the DE solids may clog the leach field or seepage pit.

» ACID WASHING

Acid washing must be done in a manner that is safe for people and not harmful to the environment. If waste water from acid washing is to be discharged to the sanitary sewer through a legal sewer connection, it must first be adjusted to a pH above 6.0 in order to avoid upset to the sanitary sewer system. Acid wash water should not be discharged to septic systems and must be discharged to the sanitary sewer or pumped and hauled away for legal disposal.

» ALGAE CONTROL

Avoid use of copper-based algaecides. Copper is toxic to fish even at low levels that are not harmful to people and it does not dissipate like chlorine does. So control algae with chlorine or other alternatives. Also, for pool or spa systems with copper piping, the pH and hardness of the water should be managed in order to minimize corrosion of copper pipes—this will not only protect the piping but prevent dissolved copper from harming our aquatic ecosystems.

» DRAINING

A properly maintained swimming pool rarely requires draining. Use of a floating cover will minimize evaporation from both pools and spas and reduce the buildup of mineral salts due to excessive evaporation and water replacement. Salt build-up and excessive chlorine use can

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be reduced by using pool conditioner. This will minimize the need for draining and save in water charges and heating costs.

Draining a pool can be dangerous in areas with shallow groundwater levels (note that groundwater levels may rise in the spring after a season of consistent rain). The hydrostatic pressure of shallow groundwater can heave an empty pool upward and cause tremendous damage — for this reason some pools are designed with safety devices to prevent accidental draining.

Drain spas and pools only when necessary for repairs or when there is a water quality problem that can not be corrected by other means, in some cases only a partial draining may be required to balance water quality. If sufficient level property is available, pool or spa drainage may be used for irrigation, but be sure water discharged to landscape does not cross property lines or produce runoff that causes erosion or flooding. Discharge flow rates should be low, e.g., through a garden hose. The rate of water flow and method of discharge must be controlled in a manner to avoid property damage and adverse environmental impacts.

Local ordinances will determine whether pools and spas should be drained to the sanitary sewer or to a storm drain.

- Local codes may require swimming pool water being drained to the sanitary sewer to discharge through a three-inch P-trap legally installed and permitted through the Building & Safety Department.
- If a sanitary sewer connection is not available and the pool water must be discharged to the storm drain system, local ordinance may require that a permitted connection is required, i.e., the practice of discharging pool water to the street and allowing it to flow along the gutter until it enters a catch basin is considered to be a nuisance and is prohibited by some local agencies.
- Local cities or the County should be contacted before a saltwater pool is drained to either the sanitary sewer or storm drain system. These flows can contain excessive mineral concentrations that may cause water quality violations.
- Do not drain a spa or pool into a septic system— this will upset the septic system and is against building, health and safety codes.
- If a legal sanitary sewer connection is not available and pool drainage must be discharged to the storm drain system, it should only be done under the following conditions:
  - Obtain permits as required
  - The water has been dechlorinated by allowing the pool or spa to sit without adding any chemicals for a period of three to five days, or by aeration and/or the addition of sodium thiosulfate. Water that has been hyperchlorinated, either for algae control or to deal with a fecal accident, should not be discharged to the storm drain system even after dechlorination
  - Residual chlorine or bromine must be less than 0.1 mg/L and the water should not contain any detergents, wastes, algaecides or cyanuric acid in excess of 50 ppm, including salts from saltwater pools
  - The pH is between 7–8 — test to be sure
  - The water is clear
  - Flow is controlled to avoid resuspension of sediments

Finally, conserve water and protect your property by correcting leaks or service problems as soon as possible, especially if there is sudden loss of water. Don't waste water and energy by letting it leak away.

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