

OBJECTIVES

- Prevent or reduce polluted discharges associated with maintaining fountains, pools, and similar
 - General Practices
 - Specific Pollutants
 - Other Considerations
- Implement and conduct activities aimed at pollution prevention
 - Training
 - Spill Response and Control
 - Material Storage
 - Special Considerations

DESCRIPTION

Chlorine, algaecides, and other chemicals used to treat swimming pools, fountains, lakes, and so on can harm the environment and pollute waterways if discharged through the storm drain system. Proper maintenance and neutralization practices will aid in pollution prevention practices.

CONSIDERATIONS

Prevent backflow during pool drainage operations to a sanitary sewer by maintaining an "air gap" between the discharge line and the sewer line. Confirm flow rates and special waste requirements (e.g. acid wash) with local wastewater treatment facilities. Discharge flows should be at a low rate, and actual rate limits may be determined by local ordinances.

Certain maintenance activities around waterbodies (such as lake or lagoon that may be recognized as a wetland) may be subject to additional regulations and permitting

Code requirements should be confirmed for pools and fountains located adjacent or near to environmentally sensitive areas.

RECOMMENDATIONS AND PROTOCOLS

For the objectives listed, the following represent further recommendations and protocols for pool and fountain maintenance:

Prevent or reduce polluted discharges associated with maintaining pools and fountains

General Practices

- Reduce fertilizer use around pools, fountains, lakes, etc.
- Pick up and remove landscape waste in and around lakes (or fountains)
- Maintain waste receptacles near relevant waterbodies including pools and fountains
- Dechlorinate water prior to removal if necessary
- Neutralize water and chemicals prior to removal if necessary
- Dechlorinated water can be drained gradually to landscaped areas. If dechlorination cannot be obtained, contact local wastewater treatment facility for approval to drain to sanitary sewer. Test dechlorinated water to ensure removal of chemical
- Do not clean filters on streets or near inlets
- Provide drip pans beneath pipe connections to catch leaks

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- Rinse cartridge filters onto dirt areas and spade filter residue into soil. Properly dispose of contaminated soil if build up is observed
- Do not apply pesticides or herbicides in windy conditions near waterbodies
- Mechanically remove pond scum if necessary using a 60 micron net
- Apply and maintain proper chemical levels for pools, fountains, ponds, lakes, etc.

Specific Pollutants

- Chlorine or chloramine (used as disinfectants) are primary pollutants of concern associated with swimming pools. Following the recommendations outlined in this fact sheet will aid in minimizing the chance of polluting waterways
- Algaecides are primary pollutants of concern associated with fountains, ponds, and lakes.

Other Considerations

- Use chlorine to control algae if necessary in lieu of copper-based algaecides, or alternative products such as sodium bromide
- Manage pH and water hardness to minimize corrosion of copper pipes
Inspect relative areas for signs of illegal dumping
- For lakes and fountains, introducing fish to the system can aid in reducing algae

Implement and conduct activities aimed at pollution prevention

Training

- Refer to BMP Fact Sheet GH-1 regarding training for more information
- Train personnel in proper chemical applications, testing chemical levels, and neutralization of chemicals
- Train employees regarding proper maintenance activities and recommendations outlined in this BMP fact sheet and related fact sheets

Material Storage

- Properly store materials as directed per applicable labels or as required by applicable laws and regulations
- See BMP Fact Sheet GH-13 and GH-21 regarding proper storage of materials for more information

Spill Response and Control

- See BMP fact Sheet GH-10 regarding spill prevention and response for more information
- Neutralize spills if possible
- Keep spill control materials readily available with applicator personnel

Special Considerations

- Feeding of wildlife may contribute to bacteria growth
Erosion control can be improved with vegetative cover or rip rap along banks of lakes
- Dredge with shovels when laying/maintaining pipes for pools, fountains, etc.
- For large lakes, dredge every ten years or as determined by regulatory authorities
- To determine amount to dredge, determine rate of volume loss due to sediments
- When dredging large lakes, use vacuum equipment
- For small lakes, drain lake prior to dredging. Contact relevant entities and regulatory entities for further requirements

DOCUMENTATION

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For pool and fountain maintenance, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to pool and fountain maintenance.
- **Training and Education Log:** Enter a completed training record in the log.
- **Event Record:** Complete an event record if discharged water from pools, fountains, and so on are polluted or contain specific pollutants of concern.
- **Activity Record:** Complete an activity record for appropriate items such as dechlorination of a pool, testing chemical levels, or draining the waterbody.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP
- **Inspection, Event, and Activity Log:** Enter an inspection or activity record for pool and fountain maintenance into the log as outlined within this BMP.

INSPECTIONS AND MEASUREMENTS

Frequency of inspections for pools and fountains are recommended as follows:

- *Regular Inspection:* Conduct a regular inspection of pools, fountains, lakes, and similar structures during appropriate seasons and at a predetermined regular frequency.
- *Rain Event Inspection:* Conduct inspections after major or significant rain events for overflows or damage.

Items that should be inspected, observed, and maintained:

- "Integrity" of water:* check for smells, color of water, and other signs of possible contamination (e.g. bacteria) of irregular chemical levels
- Integrity of structures :* inspect for cracks, leaking points, etc. in swimming pools, fountains, and so on. Repair as applicable.
- Filtering equipment:* inspect connections and equipment for leaks and proper operation. Repair as applicable.
- Sediment build-up:* inspect and measure (if applicable) sediment build-up for appropriate waterbodies such as lakes. Adjust dredging timeframes if necessary.
- General surroundings:* ensure immediate areas are free of debris and trash, and "developed" as intended (e.g. rip rap in place)
- Chemical levels:* ensure proper chemicals are applied and at appropriate levels, adjust levels as necessary

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Documented efforts associated with maintaining pools and fountains can adequately demonstrate an effective program. A lack of polluted discharges or a sound ecosystem demonstrated through documentation such as sample analysis and biological reviews can further aid in establishing an effective program.

SOURCES

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Monroe County, New York Fountain & Pool Maintenance and Lakes, Ponds, and Lagoon Maintenance BMP Summary Sheets at <http://www.monroecounty.gov/>