



Bowling Green, KY Stormwater Best Management Practices

July 2010

Residential Pollution Prevention		RHP-04 Landscape Irrigation and Lawn Watering
No Symbol		
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Description		<p>Prevent or reduce the discharge of pollutants from sprinklers and landscaping water in order to protect natural streams and creeks. Runoff is reduced by decreasing the flow rate, applying water in a more controlled manner, and by closely monitoring sprinklers.</p>
Design		<p>During dry summer months in the Bowling Green area, it is not unusual to go a few weeks without rainfall. Many homes and businesses determine that watering lawns and other vegetation is a necessity. In addition to lawns and trees, water is needed for golf courses, flower and vegetable gardens, nurseries and landscaped parking lot islands.</p> <p>Pollution occurs when landscaping water produces runoff to the storm drainage system. Typical pollutants include herbicides, pesticides, fertilizers, pet/animal waste and mulch. In addition, most watering is done with chlorinated utility water. Chlorinated water must not be discharged to Bowling Green's natural creeks, streams, because it kills aquatic life. Runoff from several over watered lawns will kill fish and other aquatic organisms in a small creek. Over watering is more likely to occur during the dry summer periods, which is when streams have lower flows and the chlorine dosages have more effect.</p> <p>Due to federal mandates, the City of Bowling Green adopted the Stormwater Ordinance to prohibit all discharges of chemicals, manmade materials and soils (see RHP-01, Non-Stormwater Discharges to Storm Drains) into streets, ditches, storm drains, and natural streams. This prohibition includes chlorinated water, any soil or mulch, chemicals such as fertilizers and pesticides, and nutrients such as fertilizer and lime. In addition to being toxic, these substances also change the pH and turbidity of natural streams and creeks. Damage from toxic materials is not necessarily immediate but can take months or years to accumulate.</p>



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Guidelines	<ul style="list-style-type: none">➤ Avoid discharging water onto impermeable surfaces such as paved driveways, roads and parking lots. Direct water onto soil and lawns by using a correctly sized sprinkler with the right spray pattern.➤ Lower the flow rate and increase watering time as necessary to avoid discharging water to the stormwater drainage system. Excess water damages the lawn or landscaped area by washing away the nutrients and soil.➤ Monitor watering activities and correct as necessary. Stop watering as soon as runoff leaves the landscaped area, which indicates saturated conditions.➤ Do not leave watering sprinkling activities unattended. Watering will be effective for a few hours, but the ground usually becomes saturated by nightfall. Afterwards, the sprinklers become ineffective and most of the chlorinated water goes directly to the stormwater drainage system.➤ Use herbicides, pesticides and fertilizers in accordance with manufacturer's instructions. Excessive use of these hazardous materials can be toxic to vegetation and wildlife in and near natural streams and creeks. Herbicides and pesticides should be applied after rainfall or watering occurs, and a dry period of a few days is expected. Fertilizer and lime may be applied prior to light watering.➤ Construct a small berm, depression area or curb on the lower side of landscaped areas. Minor grading modifications will allow excess water to collect and soak into the soil, instead of being wasted in the storm drains. Use native trees and shrubs when possible; native vegetation is usually more resistant to drought than ornamental trees.➤ If possible, avoid using chlorinated water for landscaping. Use rain barrels, cisterns, ponds or other methods for capturing stormwater. Or, allow chlorinated water to stand in an open container for a day or so, prior to being used for landscaping irrigation. Chlorine naturally escapes from chlorinated water as a gas, at a rate that is subject to temperature, sunshine and wind conditions. A simple swimming pool test kit can be used to detect chlorine. Once the dechlorination time has been established, further use of the chlorine test kit is usually not needed.
Maintenance	<ul style="list-style-type: none">➤ Monitor watering operations closely. Adjust watering rates and patterns to avoid runoff to storm drainage systems, curb inlets, ditches, natural creeks and streams, ponds, wetlands, etc. Repair damaged or incorrectly installed sprinklers. Repair leaking hoses and valves.
Limitations	<ul style="list-style-type: none">➤ Extra effort and attention is required to monitor landscape watering. Sprinklers and other equipment should have the correct size and configuration to accomplish the intended purpose without excessive watering.➤ Berms, curbs or other grading modifications will require additional space for ponding water. Berms and grading modifications may affect the symmetry of landscape designs in very minor ways.
Related BMPs	<p>Other topics and aspects of landscape irrigation and lawn watering are included in these related BMPs:</p> <ul style="list-style-type: none">➤ GHP-14 Employee / Subcontractor Training➤ GHP-15 Pesticides, Herbicides, and Fertilizer Use➤ EPP-10 Mulching➤ RHP-01 Non-Stormwater Discharges to Storm Drains