

WATER CONSERVATION

In the Village of Inverness, most residences have a septic system for wastewater disposal. One cause of premature septic system failure is excessive water going down the drain into the septic system. Conserving water is one way residents can extend the life of their septic system. For those residents on a municipal system with water meters, water conservation can save money. Here are some tips for water conservation:

1. Test for a leaking toilet by adding food coloring to the tank. If any color appears in the bowl after 30 minutes, your toilet is leaking. Leaking toilets can waste thousands of gallons of water a day. Flush as soon as test is done, since food coloring may stain the tank.
2. Use water-conserving plumbing fixture and water-flow constrictors on sinks and showers. Typically, bathroom facilities constitute nearly 75% of the water used in homes.
3. Run your dishwasher and washing machine only when you have a full load. Be sure to properly set the water level for the size of load you are using.
4. Take short showers instead of a bath. Baths can use 30 to 50 gallons of water. Showers use 5 gallons of water per minute, less if a flow constrictor is installed.
5. Store drinking water in the refrigerator instead of letting the tap run every time you want a glass of cool water. It takes longer to get cool water from your tap than it does to get hot water. Save time and money by storing drinking water in the refrigerator.
6. Make the most of water. Never put water down the drain when there may be another use for it such as watering a plant or garden, or doing housework.
7. Avoid using a garbage disposal. Disposals use a great deal of water and necessitate frequent septic tank pumping. Add your garbage to the trash instead of putting it down the garbage disposal.

RECOMMENDATIONS FOR CHECKING HOMES WITH SEPTIC FAILURES

BASEMENT:

1. The basement is a good place to start. The sump pump must be checked to see that the water is not being pumped into the septic tank. Many older homes had what is known as a by-pass valve and only one sump and pump. The valve was to be turned one way when doing the laundry and back when the wash was completed. Laundry waste water was pumped to the septic tank while washing clothes, but storm water from footing drains would be pumped to the ground surface or to the road ditch at all other times. If the valve was not returned after doing the laundry, storm flow would be pumped to the septic system and failure would result due to excess water. Recommend the installation of a separate sump and pump that discharges to the septic system to handle laundry waste exclusively.
2. The water softener should be checked to determine if backwash recharge brine is being discharged to the seepage field. The salt solution usually does not hurt the septic tank; however, it changes the soil structure and hastens plugging of the pores of the soil. The recharge operation also adds a large liquid flow to the system. Recharge water should not be discharged to the septic field, but to the ground surface away from the seepage field or to a dry well.
3. Humidifiers. Some humidifiers on furnaces are designed without shut-off valves. The amount of water that enters the furnace is supposed to be equivalent to the amount the warmed air will evaporate; however, any excess is discharged to the floor drain and could result in large quantities of clear water being added to the septic system.
4. The laundry sump pump should be checked. It should have a sealed sump pit. The bottom should be intact and tight. Sometimes footing drain water enters the laundry sump pit through cracks and is pumped to the septic tank. This is especially true when the two sumps are adjacent to each other.

HOUSE:

1. The float valves in all toilet tanks should be checked. If any are sticking, they should be repaired or replaced.
2. The water elevation line in the flush tank should be lowered approximately one inch from the top of the overflow pipe.
3. All faucets should be checked for dripping and washers replaced where needed. Even a small drip adds many gallons of excess water over a period of a month.
4. Check for a toilet leak by removing the tank cover and adding food coloring to the water in the tank, preferably at a time when the toilet will be unused for several hours. If the coloring seeps into the bowl, the flush ball needs to be replaced.



LOCAL GOVERNMENT TOPICS

Land
Use



Storm Water Best Management Practices Start at Home

Introduction

Managing storm water runoff is often considered the job of the local government, a subdivision developer, or possibly a homeowners' association. Certainly, good planning and implementation by any or all of these entities is important to a successful community storm water management plan. However, it is also important that individual homeowners understand their role in storm water management and their impact on the larger community.

Recently, more community storm water plans have incorporated the concept of "no net loss" of water from the site. This policy involves keeping and using the rain that falls onto a site *on that site* as much as possible, rather than simply collecting the rain and sending it off site as storm water discharge. One basic starting point for such a plan is for homeowners to reduce runoff from their individual lots. Many simple yet effective methods can be used to help reduce individual runoff.

"We All Live Downstream"

Before considering some methods, or best management practices (BMPs), to reduce home-site runoff, it is important to understand why runoff is a concern. No matter where a person lives, they live in a *watershed*. A watershed is simply an area of land that drains to a specific point of water, whether it is a lake, stream, river, or ocean.

Watersheds vary in size from quite small to very large. For example, each small creek or lake in Illinois has a certain area of land that drains into it, and that watershed area may not be very large in acreage. However, the Mississippi

River also has a certain area that drains into it, which covers several states and millions of acres. All watersheds are interrelated since smaller ones feed into the larger ones that ultimately drain into the ocean.

Activities in the smaller watersheds ultimately impact on the larger watersheds. Although homeowners may not think about it, their individual actions affect everyone "downstream" in the watershed. And, the fact of the matter is that we all live downstream from someone else.

Homeowners should take time to discover what local watershed they live in, who impacts them from upstream, and who they impact downstream. Local Soil and Water Conservation District (SWCD) offices can provide that information. Many communities have watershed management committees that address local issues.

What Is Storm Water Runoff?

Storm water runoff can affect the quantity and quality of water that must be handled somewhere downstream. Excess runoff can contribute to flooding. Contaminated runoff can damage water, making it unfit for human consumption and wildlife habitat. Both situations can be costly to correct. Prevention is more effective and efficient.

Storm water runoff is the rain and melting snow that flows off streets, rooftops, lawns, parking lots, open fields, and any other exposed area. The runoff carries with it whatever can be dislodged from the various sites, such as salt, soil, leaves, pesticides, fertilizers, oil, gasoline, and any other materials present on the surface. These materials are washed off a wide geographic area

rather than originating from one point. That makes preventing contamination more important as well as more difficult.

As land is developed, much of the surface is paved or roofed, creating more runoff potential. Usually, storm sewers are used to carry the resulting runoff to nearby waterways. The water from developed areas often contains contaminants. Even on lawns or other open areas, water that is not absorbed can runoff into the street or parking lot and then into the storm sewers.

Storm sewers are a system of underground pipes that have surface drains or inlets designed to gather storm water. Many people think that storm-sewer water is treated in a sewage treatment plant just like water from sanitary sewers. But in most communities, that is not the case. Storm water usually receives no treatment before entering local waterways.

Some communities are incorporating more natural drainage systems and increased on-site water infiltration to help reduce the quantity of runoff and improve its quality. Also, the increased use of conservation design for housing developments helps reduce storm water runoff by incorporating more open space.

Start at Home

Reducing the quantity and improving the quality of storm water runoff in a community can start with individual homeowners.

Some storm water BMPs can be implemented when first planning and building the home and designing the landscape. Others can be incorporated into day-to-day activities.

Construction phase BMPs:

- ◆ Consider alternatives to concrete- or asphalt-paved surfaces. If you have a choice, consider more porous surfaces such as brick, gravel, wood chips, stone slab, or geo-textile materials. If areas must be paved, keep it to a minimum and direct runoff onto grassy areas, not onto areas that drain to storm sewers.
- ◆ Design and construct the landscape topography to facilitate water holding and infiltration. For example, use low areas for "rain gardens," terrace to slow water runoff, construct small wetlands, or incorporate subsurface water holding areas.
- ◆ Use natural plantings in the landscape that are deeper-rooted than turfgrass and thus allow for more water infiltration.

- ◆ If near a water source, plant buffer strips of natural vegetation and woody plants to slow runoff.
- ◆ Mulch and plant exposed soil as soon as possible after construction. Use sediment barriers when necessary.
- ◆ Avoid excessive soil compaction and disturbance to the lot.
- ◆ Avoid hooking downspouts directly into the storm-water sewer system or onto paved surfaces.

Day-to-Day BMPs:

- ◆ Avoid overuse of pesticides and fertilizers—use only the amount needed and apply only when necessary.
- ◆ Apply fertilizer and pesticides only onto target areas. Don't spread fertilizer onto paved surfaces that drain to the storm sewer.
- ◆ Follow recommended watering practices. Avoid excess watering and don't sprinkle water onto paved or other areas that drain into the storm sewer.
- ◆ Avoid compacting yard and garden soils because compaction impedes water infiltration.
- ◆ Avoid unnecessary pesticide, fertilizer, or water use by using plants adapted to the local area.
- ◆ Clean up hazardous material spills properly and don't wash waste into the storm sewer.
- ◆ Store oil, gasoline, antifreeze, and other automotive products properly. Keep these substances tightly sealed and avoid leaky containers.
- ◆ Clean up oil or other vehicle fluid drippings. Do not store used vehicle parts on areas that drain to the storm sewer.
- ◆ Wash vehicles at a commercial car wash or on a non-paved surface to avoid drainage to the storm sewer.
- ◆ Avoid allowing pet waste to be dumped or washed into the storm sewer. Properly bury or flush the waste down a toilet into the sanitary sewer system for treatment. Reduce or avoid areas of concentrated pet waste.
- ◆ Mulch grass clippings and leave these on the lawn for natural fertility or use the clippings for composting.
- ◆ Keep grass clippings and leaves from washing into the storm sewer.
- ◆ Drain downspouts onto grassy areas. Collect water from downspouts for use around the home.

- ◆ Do not discharge sump-pump water onto paved surfaces that drain to the storm sewer.
- ◆ Mulch and seed bare soil as soon as possible to prevent the soil from eroding into the storm sewer.

Many of these best management practices may seem rather simple or small, but the cumulative effect throughout an entire watershed can significantly contribute to improved storm water management.

Further Reading

57 Ways to Protect Your Home Environment. 1996. University of Illinois Extension.

HomeACRE Manual: Homestead Assessment for Community and Residential Environs. 1997. University of Illinois Extension.

Lake Notes Fact Sheet Series. Illinois EPA, Lake and Watershed Unit, PO Box 19276, Springfield, IL 62794

Watershed Protection Techniques (periodical). Center for Watershed Protection, 8391 Main St., Ellicott City, MD 21043.

Water Quality Fact Sheet Series. University of Wisconsin Extension, Rm. 170, 630 W. Mifflin, Madison, WI 53703.

References

Carl DuPoldt and Carolyn Johnson. 1997. "Storm Water Management" in *HomeACRE Manual: Homestead Assessment for Community and Residential Environs*. University of Illinois Extension.

University of Wisconsin Extension. *Cleaning Up Stormwater Runoff*.

This material written by:

John Church, Extension Educator, Natural Resources Management, University of Illinois

Reviewed by:

Gerrit Knaap, Associate Professor, Urban and Regional Planning, University of Illinois College of Fine and Applied Arts

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Ten Ways Homeowners Can Improve the Quality of Stormwater Runoff

1. Cover piles of soil, sand or mulch to stop them from being transported in stormwater. Plant grass where soil is exposed.



2. Sweep your sidewalks and driveways rather than hosing them down.

3. Put leaves and grass clippings in the compost, on the garden as mulch, or mow back into the lawn to recycle nutrients.

4. Divert roof water to lawns or gardens where it can safely soak in.



5. Keep pesticides, oil, leaves and other pollutants off streets and out of storm drains.

6. Keep cars tuned up and repair leaks - better yet, walk.

7. Wash your vehicle on grass or over gravel. Use as little detergent as you can and pour any left over soapy water onto the lawn.

8. Dispose of household hazardous waste according to the label directions.

9. Clean up pet waste - bury it or flush it down the toilet.

10. Never dump anything down storm drains! Water from these drains flows untreated to the river.



Environmental Guidelines for Draining Your Swimming Pool

Your swimming pool is filled with chlorinated water. Chlorinated water discharged directly to surface waters (wetlands, lakes, streams, and rivers), roadways or storm sewers has an



adverse impact on local water quality. High concentrations of chlorine, as are present in swimming pools, are toxic to wildlife and fish. Appropriate preparations should be made prior to draining down a pool during pool winterizing. It is recommended that one of the following measures be used:

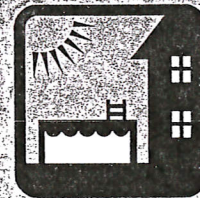
➔ De-chlorinate the water in the pool prior to draining. This can be done through mechanical or chemical means. These types of products are readily available at local stores.

Or,

➔ Drain the pool over a period of several days across your lawn using the following additional guidelines:

1) Allow pool water to sit at least 2 days while receiving a reasonable amount of sunlight, and without further addition of chlorine or bromine. It is recommended that the chlorine level be tested after 2 days to ensure that safe levels are met (below 0.1 mg/l).

2) Pool discharge should be directed across your lawn, not down your driveway or into nearby storm sewer inlets. Our storm sewer system leads directly to wetlands, streams, lakes or rivers.



These recommendations are based on guidance from the Illinois Environmental Protection Agency. Visit www.epa.state.il.us/water for additional information.

You may also contact the Village of Inverness at (847) 358-7740.

Please do your part to help promote cleaner wetlands, streams, lakes and rivers.

Thank you.