The ABCs of Stormwater

Stormwater resulting from rain and snow is an important source of fresh water that feeds our streams, rivers, lakes and underground aquifers. As a water source, stormwater run-off must be clean and in good supply to protect our drinking water supplies and preserve streams and lakes for human recreation and wildlife habitat.

Stormwater is a Major Water Source

Water is a non-renewable degradable resource. We must treat it very carefully. Stormwater — precipitation from rain and snow — is our major source of water. Stormwater management is important since it critically affects our water quality and supply, as well as recreational activities like swimming and fishing and a broad range of ecological areas.

Only about one percent of the water on earth is fresh water and available to support life. There is no new natural source — fresh water is constantly recycled.

How we use land directly affects the way stormwater flows, its total amount of run-off (volume) and its increased speed (rate) in reaching our waterways. Under undisturbed conditions, over half of precipitation infiltrates the soil and only about ten percent runs off the surface. The infiltrated water both recharges underground aquifers and slowly enters streams, maintaining their flow during dry weather. Natural vegetation acts like a sponge, a filter, and a water recycling system. It

- allows precipitation to slowly infiltrate into the soil;
- slows the flows of run-off;
- filters and treats the run-off; and
- recycles a portion of the precipitation to the atmosphere through evapotranspiration.

Many Developments Reduce Stormwater Quality

The addition of impervious surfaces like roads, pavement and buildings reduces the area where stormwater can soak into the soils to replenish water supplies. Soil compaction and the removal of vegetation also reduce this important recharge function. More water runs off more rapidly and less water recharges underground aquifers. This increase in run-off may

- Cause more erosion, eating away the banks of rivers and streams;
- Cause more damaging and more frequent flood events;
- Wash more pollutants into the stream since stormwater runoff increases volume and speed from paved surfaces across land and picks up all sorts of contaminants — litter, pesticides, fertilizer, pet wastes, petroleum products, and road salts — which can cause fish kills, force beach closing and degrade recreational areas; and
- Reduce the recharge to aquifers used as potable water supplies as well as the vital base flow of streams during periods of low precipitation.

The impervious surfaces also cause problems with our lakes, rivers and oceans. Less water infiltration means more water flowing on the surface. Roadways and storm sewers act like superhighways for stormwater, speeding its flow.