

End of the Line

The facts on storm water for salvage yards

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End of the line. Or is it? Salvage yards may be the end of the line for the useful life of a vehicle, but it's just the beginning of processes that are regulated under the federal Clean Water Act's Amendments of 1987.

The National Pollutant Discharge Elimination System (NPDES) permitting rule addresses the protection of water, surface and ground water. It regulates facilities that have storm water discharges associated with industrial activities.

Salvage yards (hereafter referred to as "yards") are classified under Standard Industrial Classification Codes (SIC) #5015—Used Motor Vehicle Parts and under SIC 5093—Scrap and Waste Materials and are within the list of SICs required to comply with the storm water pollution prevention part of the rule and will be required to prepare Storm Water Pollution Prevention Plans (SWPPP).

Kansas has not yet developed equivalent federal storm water requirements, but is requiring industries covered by this rule to file Notice of Intent (NOI) forms if they have not done so. To obtain copies of this form, call the Pollution Prevention Institute at 800-578-8898 or Kansas Department of Health and Environment (KDHE) at 785-296-5557.

To comply with this act and the permit, yards will eventually be required to prepare Storm Water Pollution Prevention Plans and retain them on site. In these plans, yards must identify operational, source control, erosion and sediment control and, if necessary, treatment or best management practices (BMPs) to control storm water runoff containing pollutants from their facilities.

Pollutant sources

Storm water can become contaminated with pollutants from engines, transmissions, radiators, batteries, brake and power steering systems and differential gears that contain fluids. Leachate from previously contaminated soil and the erosion of soil from yards are also considered pollutants. Activities that can generate pollutants include:

- Dismantling and crushing vehicles
- Draining and transferring vehicle fluids
- Maintaining vehicles and equipment
- Parts cleaning (steam, water, and solvents)
- Storage of fluids, used parts, solid wastes (fluff), oil contaminated scrap parts and incoming wrecked vehicles.

Waste waters from other operations at yards, for example high pressure washers, must be sent to the sanitary sewer (with approval from local sewer authorities), recycled or treated on-site in accordance with regulations for

process waters, or tested for hazardous constituents and disposed of accordingly. Bathroom wastes must be sent to an approved lagoon or on-site septic system, if city sewers are not available.

Identify your pollutants

What kind of pollutants are expected in storm water runoff from yards? The following lists the most common pollutants from vehicle recycling yards and the damages they may cause in creeks and rivers:

Oil and Grease — Oils contain high levels of organic compounds, and heavy metal contamination from engine operation. High levels cause filming on the water surface, restricting oxygen availability to water organisms and fish, and contribute to high BOD levels.

BOD — This is a measure of pollutants with biological oxygen demand. These compounds are biodegradable in water, such as ethylene glycol (which is poisonous to animals and humans), brake fluids and alcohols. The process of their biochemical breakdown uses up the available oxygen in the water. Low oxygen levels can suffocate fish and other aquatic organisms that help maintain the ecosystem for fish survival.

Suspended solids — Runoff such as dirt, sand, clay and sediment contain particulate materials that affect the turbidity of water. Increased turbidity decreases the amount of light available to aquatic plants and can be responsible for sharp increases in microbial populations that deplete available oxygen, causing fish kills.

Heavy metals — These can include lead from gasoline and batteries, chromium contaminated engine oils, and copper or lead in antifreeze solutions. Heavy metals can be toxic to aquatic organisms and tend to bio-accumulate in the food chain, causing health problems for wildlife and humans that consume organisms or fish from waters contaminated with these compounds.

pH — pH is a measure of alkalinity or acidity such as that caused by battery acid or strong cleaning compounds such as ammonia. Polluted runoff can change the pH levels in streams and lakes and be responsible for upsetting stream ecosystems and fish kills.

SWPPPs are composed of BMPs that prevent or reduce the pollution of surface waters by storm water runoff from yards.



Pollution prevention — salvage yards

The first step in controlling pollutants in yard storm water is to determine what kinds of pollutants are present at your yard and what types of BMPs are already in place.

Make a clean SWPPP

The following guideline is provided to help you develop and implement your SWPPP and is divided into five phases:

Planning and Organization Phase

- ❑ Put together a pollution prevention team. A pollution prevention team of one or more individuals must be designated as responsible for developing and carrying out the SWPPP.
- ❑ Build on existing environmental management plans such as SPCC-Spill Prevention Control and Countermeasure program for on-site bulk oil management.

Assessment Phase

- ❑ Develop a site map that shows where storm water leaves your yard, shows drainage paths, identifies pollutant sources (activity sites) and nearby bodies of water that would receive storm water from your site.
- ❑ Prepare a complete inventory of materials on your site that includes a list of materials exposed to storm water in the past three years and a description of materials currently on site, their location, type of storage facility, management practices and any existing structural or nonstructural control measures in place to control storm water runoff or contact. Structural controls are physical containment systems; nonstructural controls are operational practices to reduce spills or leaks.
- ❑ Identify spills and leaks that have occurred in the last three years.
- ❑ Identify nonstorm water discharges such as air conditioner condensate or sanitary wastes.
- ❑ Identify existing storm water sampling results (if any).
- ❑ Provide a site evaluation summary to be used as the foundation for the rest of the SWPPP. It should include a description of high risk activities for storm water contamination and the type of pollutant associated with that activity.

Best Management Plans Selection and Planning Design Phase

- ❑ Identify BMPs based on a common sense approach to improving basic housekeeping methods.
- ❑ Establish a preventative maintenance program with recommended operation and maintenance practices to keep machinery and processes running smoothly and efficiently to avoid spills, leaks or hazardous situations.

- ❑ Set up an inspection and sampling schedule to check all best management practices (BMP) to make sure they are working properly to prevent pollution of the runoff. Inspections are included as a nonstructural BMP to verify the SWPPP are working.
- ❑ Spill Prevention and Cleanup plans should be developed to handle emergencies that could lead to storm water contamination. Employees should know who will be involved in the cleanup, how to perform the cleanup, identify safety issues and who to notify in case of a spill, and how to dispose of used cleanup materials.
- ❑ Identify sediment and erosion control measures.
- ❑ Describe specific methods to control pollution of storm water from your yard.

Implementation Phase of SWPPP

- ❑ Develop a schedule to put controls and BMPs into practice.
- ❑ Train employees in spill prevention and response, good housekeeping, material management and handling practices and designate individuals responsible for each part of the SWPPP.

Evaluation Phase

- ❑ Perform annual site evaluations to determine if SWPPPs are effective, noting and revising controls that are in-effective at protecting storm water.
- ❑ Record and maintain records of spills, leaks, inspections, and maintenance activities. If spills and leaks have occurred, records should note date and time of event, weather conditions, cause of spill and resulting environmental problems.
- ❑ Make revisions to your SWPPP when controls are found to be ineffective or when changes in the facilities construction, operation or maintenance activities could affect storm water.
- ❑ Inspect streams downstream of where your storm water enters during and after a rainstorm. If you see pollution, find the source and correct it if you can.

A highly recommended document for businesses to use in preparing their SWPPP is the EPA guidance document, *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices*, document # EPA 832-R-92-006 September 1992. It's available free by calling: 800-490-9198 or 202-260-7786.



The Small Business Environmental Assistance Program's (SBEAP) mission is to help Kansas small businesses comply with clean air regulations. SBEAP operates through a consortium of the University of Kansas, Kansas State University and Wichita State University. This fact sheet was published by Kansas State University's Pollution Prevention Institute. For more information, call 800-578-8898 or send e-mail to SBEAP@ksu.edu. The University of Kansas, Kansas State University and Wichita State University are EEO/AA providers.