CITY OF RAPID CITY

Stormwater Management Plan

APPENDIX E

INFORMATION MATERIAL EXAMPLES

CITY OF RAPID CITY

Engineering Division
300 Sixth Street
Rapid City, SD 57701-2724
Telephone: (605) 394-4154 FAX: (605) 394-6636
http://www.rcgov.com/pubworks/engineering

To Whom It May Concern:

Re: Partnership Solicitation – Rapid City Stormwater Management

Water; we can't live without it. Right now the City of Rapid City needs your help in protecting and cleaning up our drinking water supply as well as recreation waters such as Rapid Creek, Box Elder Creek, Lime Creek, Canyon Lake and the City's other waterways. Our community's water supply is an invaluable resource which requires all of our citizen's efforts to protect it.

We believe that your concern for the economic health and viability of Rapid City makes you a potential strong partner in the City's efforts to protect and clean our water supply.
We believe that your organization's unique concern for our young people's safety and well-being makes you a potential strong partner in the City's efforts to protect and clean our water supply.
We believe that your organization's unique concern for the environment makes you a potential strong partner in the City's efforts to protect and clean our water supply.
We believe that government organizations have a unique interest in clean water which makes you a potential strong partner in the City's efforts to protect and clean our water supply.

You and your organization's members are invited to join **Team Clean Water** by attending a presentation by the City. The presentation date, time, and location are listed below:

Date:
Time:
Location:

Background

Rapid City has applied for a Phase II Stormwater Discharge permit as required by the Federal Clean Water Act. These permits are issued by the South Dakota Department of Environment and Natural Resources (DENR). The Stormwater

Management – Phase II Program Outline includes the following minimum measures to be accomplished under this permit:

1. Public education and outreach.
2. Public participation/involvement.
3. Illicit discharge detection and elimination.
4. Construction site stormwater runoff control.
5. Post-construction stormwater management.
6. Pollution prevention/good housekeeping for municipal operations.

Why become a partner:

Our local water supply is affected by both the public and private sectors. In order to make this effort as successful as it can be the City will need the help of every responsible organization. The City is hoping for input from a broad cross section of Rapid City interests including members from the general public, academia, local engineering and development groups, environmental groups, businesses, and City departments. We believe this is the best way to form a well-rounded and informative public education program. Organizations like yours have a special ability to reach the public as we work together to educate the community and take steps to reduce stormwater pollution.

What's next?

At this time the City is contacting various organizations to urge their participation in this endeavor. We will give informative presentations which outline our goals to protect and clean our water supply as well as ideas and examples of how your organization can help us achieve these goals. We will also be interested in learning what you believe your contributions to this effort might be. We have scheduled the first of four presentations to the various organizations and we urge you to attend. The City would greatly appreciate your input and involvement.

Questions?

You may contact the City of Rapid City Engineering Department at 394-4154 with any questions or comments.

RAPID CITY FERTILIZER PROGRAM

Management Measures for Fertilizer Use

1. Perform a soil test to identify the nutrients present and needed. A majority of the soil in the black hills region does not need additional phosphorus or potassium which most fertilizers contain. Contact the Pennington County Extension Office at 394-2188 for a soil test kit.

2. Fertilize mid to late May, early September and late October with one pound of actual nitrogen per 1,000 square feet. Fertilizing in April causes excess top growth at the expense of root development. Fertilize in high traffic areas in the summer months as needed.

   To calculate a pound of actual nitrogen, divide the percentage of nitrogen listed on the bag into 100. Example: If the lawn food bag says 25-3-3, it means there is 25% nitrogen (N), 3% phosphorus (P), and 3% potassium (K) in that bag. Dividing 25 into 100 equals 4. Therefore it takes 4 pounds of product per 1,000 square feet to put down a pound of nitrogen.

3. Collect grass clippings early in the spring and again in the fall when tree leaves are mixed in. It is not necessary to remove grass clippings the rest of the season if the grass is mowed properly and regularly. By leaving grass clippings on the lawn it receives another pound of actual nitrogen.

4. Fertilizers should not be used directly adjacent to surface water because of the high potential for fertilizer contamination from runoff and drift. An untreated buffer around the surface water will provide a measure of protection.

5. Use slow-release fertilizers on areas where the potential for water contamination is high, such as sandy soils, steep slopes, compacted soils, well head areas, and water body boundaries.

6. Do not apply fertilizers before or during rain due to the strong likelihood of runoff.

7. Calibrate your applicator before applying fertilizer. As equipment ages, annual adjustments may be needed.

8. Use a safe fertilizer mixing and loading area to prevent spills.

RAPID CITY PESTICIDE PROGRAM

Management Measures for Insecticides, Herbicides, and Fungicides

1. Inventory pest problems and previous pest control measures.

2. Evaluate the soil and physical characteristics of the site including mixing, loading, and storage areas for potential leaching or runoff of pesticides. If leaching or runoff is found to occur, steps should be taken to prevent further contamination.

3. Use integrated pest management (IPM) strategies that

    - Apply pesticides only when an economic or public benefit will be achieved.
    - Apply pesticides efficiently and at times when runoff losses are least likely.

4. When pesticide applications are necessary and a choice of registered materials exists, consider the persistence, toxicity, runoff potential, and leaching potential of products in making a selection. It is encouraged to use the most environmentally benign pesticide products. The Pennington County Extension Service (394-2188) can assist in this selection process.

5. Periodically calibrate pesticide application equipment.

6. Use safe mixing and loading practices such as a solid pad for mixing and loading and anti-backflow devices.

7. Users must apply pesticides in accordance with the requirements on the label of each pesticide product. Label instructions include the following: allowable use rates; whether the pesticide is classified as "restricted use" for application only by certified and trained applicators; safe handling, storage, and disposal requirements.

SEE ATTACHED CHECKLIST TO USE WITH THIS PROGRAM

PESTICIDE PROGRAM CHECKLIST

1. **Inventory current and historical pest problems, growing patterns, and use of pesticides for each area.**

   The purpose of this procedure is to assist the grower in evaluating the potential for water contamination at the site and to determine IPM strategies which may be applied to the operation.
   - *Information on soil types.* Different soils can have very different susceptibility to either runoff or leaching losses of applied pesticides.
   - *The exact square footage of each area.* This information can be used to check application rates.
   - *Records on past pest problems, pesticide use, and other information for each area.* By keeping these records, the grower can evaluate options for pest management such as plant rotation and alternative pesticides.

2. **Evaluate the soil and physical characteristics (mixing, loading, storage) of the site for the potential of leaching and/or runoff of pesticides.**

   The most important types of features for evaluation include:
   - *Sinkholes, drainage wells, abandoned wells, and karst topography which allows direct access to ground water.* These allow surface water carrying sediment, bacteria, and pesticides to quickly enter and contaminate the ground water.
   - *Proximity to surface water.* Pesticides should not be used directly adjacent to surface water because of the high potential for pesticide contamination from runoff and drift. An untreated buffer around the surface water will provide a measure of protection.
   - *Runoff potential.* Steeper slopes and areas with no growth increase the runoff potential. Greater amounts of organic matter and clay increase the ability of the soil to bind the pesticide.
   - *Aerial drift.* Pesticides sprayed in windy conditions will cause unnecessary aerial drift. Untreated buffer zones can minimize harmful aerial drift.
   - *Soils with poor adsorptive capacity.* Low organic matter (<1%) and clay content reduces the ability of the soil to bind applied pesticides and prevent them from leaching through to ground water.
   - *Highly permeable soils.* Often soils with poor adsorptive capacity also have high sand contents which allow water to percolate rapidly through them. This allows any pesticides present to move quickly downward before they are degraded by the more abundant microbes in the surface horizons.
   - *Wellhead protection areas.* Wells should have a 100-foot buffer in which no pesticides or fertilizers are applied. The buffer minimizes the risk of chemicals leaching into the ground water immediately adjacent.

3. **Use IPM strategies to minimize the amount of pesticides applied,** including:
    - *Scout areas for pest problems.* The Pennington County Extension Service can provide information on scouting.
    - *Determine the economic and public benefit.* The expected value of the area and the anticipated losses caused by the pest are estimated against the benefit of pesticide application.
    - *Use varieties of plants resistant to pests.* Resistant varieties usually require fewer pesticide applications.
    - *Foster biological controls.* Identifying the pest properly and recognizing beneficial insects is key. If spray is necessary, select a pesticide which is the most specific to the pest and least toxic to non-target species. Natural enemies can be introduced and their habitats preserved.
    - *Use of efficient application methods, e.g., spot spraying and banding of pesticides.* Often pest problems occur primarily in one portion of the area, allowing for targeted pesticide application. Banding may provide protection of the area without the entire area being sprayed.

4. **When pesticide applications are necessary and a choice of material exists, consider the persistence, toxicity, and runoff and leaching potential of products along with other factors, including current label requirements, in making a selection.**

   The leaching potential for many pesticides has been estimated in several ways and are in general agreement with each other. One example is the PLP, or Pesticide Leaching Potential, which is an index of persistence and leaching characteristics of each chemical.

   Users must apply pesticides in accordance with the instructions on the label of each pesticide product and, when required, must be trained and certified in the proper use of the pesticide.

5. **Use only the recommended amount of pesticide for the problem you or a professional have identified and determined to merit pesticide application.**

6. **Recalibrate and repair application equipment, including chemigation equipment, at least each spray season. Use anti-backflow devices on hoses used for filling tank mixtures and on chemigation systems.**

   Calibration of pesticide spray equipment at least once each spray season is critical to ensuring that proper application rates are maintained.

   As replacement equipment is needed, purchase new, more precise application equipment.

7. **Solid pad for mixing and loading pesticides.**

CITY OF RAPID CITY

Engineering Services
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Dear Concerned Citizen:

HELP SAVE RAPID CREEK!!!

Water; we can't live without it and we need your help to save it. Right now the City of Rapid City needs your help in protecting our drinking water supply as well as cleaning up Rapid City's recreation waters such as Rapid Creek, Box Elder Creek, Lime Creek, Canyon Lake and other waterways. Our community's water supply is an invaluable resource and it requires all of our citizen's efforts to protect it.

We believe that your organization has a unique opportunity to greatly influence your customer's understanding of the effects of pollutants on our natural water sources. This can be accomplished by getting storm water information to your customers in any creative way you can think of. We also hope that bringing these potential pollution problems to your attention may help to re-shape some of your everyday business activities which may inadvertently introduce pollutants into a waterway or the storm sewer system.

We have attached some information for your use in spreading the "**Save Rapid Creek**" word. We have many more informational items available for your use which can be distributed such as booklets, stickers, and bookmarks to name a few. All of these items remind us to take care of our storm water in order to preserve this beautiful setting in which we all live.

The City of Rapid City is also holding two public presentations on the Phase II Storm Water Program and the effects of pollutants in our storm water. These presentations will be on **Thursday February 23rd and Tuesday March 7th from 6:30pm to 8pm**. The presentations will be held in the council chambers meeting room on the second floor of the CSAC building located at 300 Sixth Street. This will be a great opportunity to learn about storm water and our efforts to keep it clean for Rapid City's future.

Please contact me at the City of Rapid City Engineering Services Department at 394-4154 with any questions or comments if you are interested in helping with this important effort. Whether you are willing to simply hang a poster in your window or do something more extensive, we appreciate any effort you are willing to give.

Stormwater Pollution Reporting and Hotline

It is unlawful to discharge to any natural outlet within the city, or in any area under the jurisdiction of the city, any wastewaters except where suitable treatment has been provided in accordance with this chapter. No person shall discharge or cause to be discharged any wastewaters to the wastewater system not in conformance with the national prohibited discharge standards, which may cause interference with the operation or performance of the wastewater facilities, or which may pass through the wastewater facilities. See the City Code of Ordinances at the bottom for more information restricting discharges.

The best practice for stopping these unlawful discharges is to report them immediately with a complete description of the activity including what, where, and who is committing the act.

The information for a complaint can be submitted via email to Code Enforcement using the complaint form at:
http://www.rcgov.org/attorney/codeenforcement/complaint_form.pdf

The complaint form can be submitted to Code Enforcement using the email addresses at: http://www.rcgov.org/attorney/codeenforcement/code_enforcement_homepage.htm

Please call the numbers listed below if you witness any discharge of illicit materials into our storm sewer system or waterways. These illicit materials include construction byproducts and debris, paint, yard waste, oil, trash, and any other pollutant that does not belong in our creeks or lakes.

Contacts to report unlawful discharges to stormwater system:

1. City of Rapid City - Code Enforcement: 7:30 a.m. to 4:00 p.m. (605) 355-3465
2. City of Rapid City - Engineering Services: 7:30 a.m. to 4:00 p.m. (605) 394-4154
3. Rapid City Police Department: after hours posted above (605) 394-4131

CITY OF RAPID CITY, SOUTH DAKOTA
CODE OF ORDINANCES: Internet: http://www.amlegal.com

13.08.050 Disposal of wastewater to storm sewers or natural outlet prohibited.
It is unlawful to discharge to any natural outlet within the city or in any area under the jurisdiction of the city any wastewaters except where suitable treatment has been provided in accordance with this chapter.

13.08.240 Materials prohibited in sewers.

A. No person shall discharge or cause to be discharged any wastewaters to the wastewater system not in conformance with the national prohibited discharge standards, which may cause interference with the operation or performance of the wastewater facilities, or which may pass through the wastewater facilities. Wastewaters prohibited from discharge to the wastewater system under this section shall include those wastewaters:

1. Containing pollutants which create a fire or explosion hazard in the wastewater facilities, including but not limited to, wastestreams with a closed-cup flashpoint of less than 140°F (60°C), or any pollutant that may create a health or safety hazard in the wastewater system;

2. That are corrosive or that have a pH lower than 5;

3. Containing solid or viscous pollutants in amounts that will obstruct the flow in the wastewater system;

4. Containing materials that could potentially interfere with the operation of the wastewater treatment facilities;

5. With temperatures above 150°F (65°C), or which cause the wastewater entering the wastewater treatment facilities to exceed 104°F (40°C);

6. Containing radioactive wastes or isotopes in concentrations that exceed limits established by state and federal regulations;

7. Containing petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass-through;

8. Containing pollutants which result in the presence of toxic gases, vapors or fumes within the wastewater facilities that may cause acute worker health and safety problems;

9. Containing any trucked or hauled pollutants, except at discharge points designated by the Public Works Director or his or her designee.

B. Unless specific limits have been established through the application of categorical pretreatment standards or categorical pretreatment standards modified by the combined wastestream formula, no person shall discharge or cause to be discharged any wastewaters containing the following chemicals with a daily maximum in excess of the local limits stated:

Pollutant	Concentration mg/l
Arsenic (As)	0.047
Cadmium (Cd)	0.0310
Chromium (Hexavalent)	0.054
Total Chromium	0.487
Copper (Cu)	0.718
Lead (Pb)	0.346
Mercury (Hg)	0.0002
Nickel (Ni)	0.510
Oil and grease (O & G)	105
Selenium (Se)	0.092
Silver (Ag)	1.2660
Zinc (Zn)	5.307

C. These local limits do not apply to specific chemical constituents contained in an industrial user's wastewaters when limits for the chemical constituent are set by categorical pretreatment standards. Categorical industrial users shall meet the more stringent of the local limits, applicable categorical standards, or, for a combined wastestream, the limits calculated in a manner prescribed by EPA.

(Ord. 5113, 2005: Ord. 3662, 2001; Ord. 3410, 1998; Ord. 3230, 1995; Ord. 2982 (part), 1992: Ord. 2939 (part), 1992: Ord. 2915, 1991: Ord. 2875 (part), 1991: prior code § 30-163)

13.08.250 Action resulting from deposit of deleterious materials.
If any wastewaters are discharged to the wastewater facilities which, in the judgment of the Director, may contain materials or have characteristics which will have a deleterious effect upon the wastewater facilities or which may create safety, health or environmental hazards, the Director may:

A. Reject the wastes;

B. Require pretreatment to an acceptable condition for discharge to the wastewater facilities;

C. Require control over the quantities and rates of discharge;

D. Require payment to cover the added cost of handling and treating the wastes not covered by charges under other provisions of this chapter;

E. The Director, or his or her designee, shall have the authority to establish additional discharge requirements as necessary for the protection of the wastewater facilities.

Stormwater Runoff and Me:

What can I do to help protect Rapid Creek from pollution?

Residents of Rapid City can have an enormous impact on the quality of our creeks by:

- keeping vehicles maintained so they do not leak,
- closely following application rates for pesticides and fertilizers,
- properly disposing of household wastes and recyclables,
- watching for unusual discharges from storm drainage swales and piping during dry weather conditions,
- using compost and other good reclamation practices to prevent water and wind erosion from barren soil areas.

The Rapid City Department of Public Works operates the following programs to assist residents when disposing of waste materials:

- weekly collection of household trash and recyclables,
- annual cleanup week (generally the last full week of April),
- City residents paying for garbage collection, recycling and disposal are allowed to dump one pickup load of garbage free each month at the landfill. Just present your most recent water bill stub to the scale attendant to take advantage of this benefit. The scale attendant will check the stub for solid waste charges and stamp it to validate use.
- a special waste handlers guidance sheet, which gives residents a variety of contacts and options for disposing of white goods, paint, waste oil and other hazardous household wastes,
- Adopt-A-Creek program (coordinated by Weed and Seed Program) for volunteer groups to help keep our creeks and drainages free from litter,
- a yard waste composting facility. Leaves, grass clippings, trees and garden waste area ground together and composted into an organic rich soil amendment. Compost greatly improves the water use and retention in all soils and improves microbial health resulting in quick growth and healthy vegetation. There is no cost to drop yard waste off at the landfill's yard waste compost facility.

Please contact Rapid City Solid Waste Operations or the City Stormwater Program with questions or assistance on other special waste disposal options.

Stormwater Pollution Solutions

Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets

Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies

Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

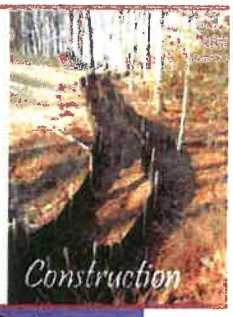
Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

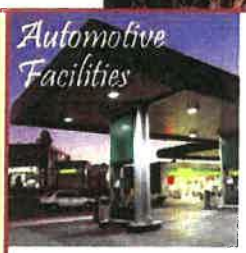
Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.



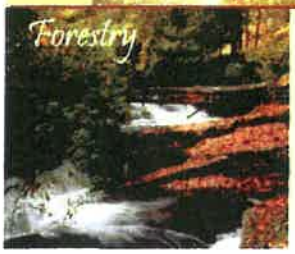
Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.



Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.



Improperly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.

Your son or daughter has learned about stormwater pollution and how it can negatively affect Rapid City's beautiful natural environment.

A stormwater pollution presentation was performed at his or her school by the Rapid City Public Works Department Stormwater Pollution Prevention Program.

Take a minute to ask your son or daughter what they learned and how everyone can help keep our beautiful creeks and lakes clean and healthy.

If you have any questions about the presentation or the Stormwater Pollution Prevention Program please feel free to call Mary Bosworth at 394-4154.

CITY OF RAPID CITY

Public Works Department

What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?

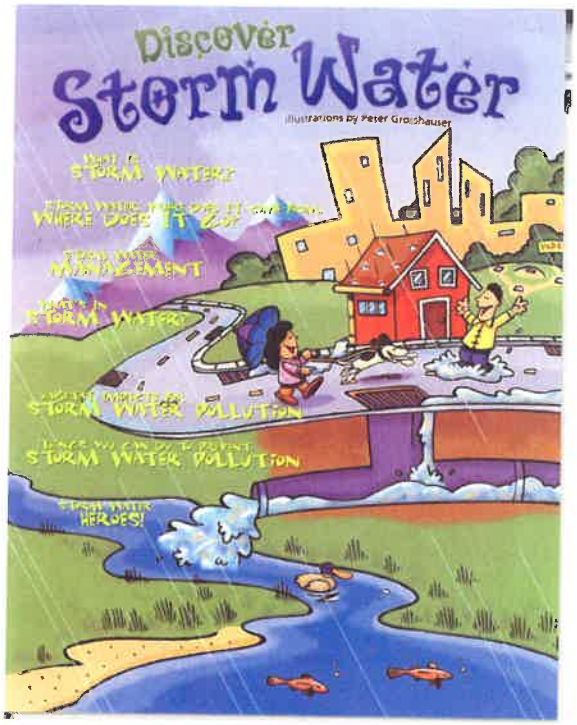
Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.

Available Stormwater Informational Items


Discover
Storm Water
Illustrations by Peter Grosshauser
STORM WATER?
WHERE DOES IT GO?
MANAGEMENT
STORM WATER
STORM WATER POLLUTION
STORM WATER POLLUTION
HEROES!

Stormwater Pollution Prevention for Automotive Services

This fact sheet provides information and Best Management Practices (BMPs) that are recommended for Automotive Services.

Potential Pollutant Sources

The following activities are potential sources of pollution from automotive services:

- Dumpster area
- Equipment cleaning
- Grease handling and disposal
- Vehicle cleaning

Pollutants Include, but are not limited to:

- Heavy Metals (copper, zinc, lead)
- Oil and grease
- Toxic Chemicals (cleaners, disinfectants)
- Trash and Litter

Pollution Prevention

The following are effective pollution prevention activities:

- Properly dispose of hazardous waste,
- Reduce storm water flow across parking lots and redirect flow away from storm drains,
- Reduce the use of water to clean parking lots by using dry methods (sweeping),
- Wash vehicles near pervious areas (grass),
- Recycle and reuse waste products, and
- Provide employee training for good house-keeping practices.

Best Management Practices

The US Environmental Protection Agency (USEPA) definition of a BMP is a technique, process, activity, or structure used to reduce the pollutant content of a stormwater discharge. BMPs include simple, nonstructural methods, such as good housekeeping and preventive maintenance. BMPs may include sophisticated, structural modifications, such as sediment basins.

Recommended BMPs

General

⇒ Contain wash water. Do not dispose of in the gutter or street.
⇒ Maintain good housekeeping practices on the site.

Auto Parts Cleaning

⇒ Scrape parts with wire brush or bake rather than use liquid cleaners.
⇒ Arrange drip pans and drying racks so that fluids are directed back into sink or holding tank.
⇒ Do not wash parts in a parking lot or street.

Hazardous Waste

⇒ Store all materials under cover with spill containment.
⇒ Recycle motor oil, oil filters, antifreeze and other fluids, tires and metal filings.
⇒ Contact a licensed hazardous waste hauler and remove wastes periodically from site.

Grinding and Polishing

⇒ Keep bin under lathe or grinder to capture metal filings.
⇒ Recycle uncontaminated metal filings.

Spill Clean Up

⇒ Develop and maintain a spill response plan.
⇒ Have a supply of spill clean up materials
⇒ Spot clean leaks and drips daily
⇒ Use dry methods when cleaning up spills.
⇒ Keep spills from entering storm drains.
⇒ Notify the Department of Environment and Natural Resources and the local fire depart-ment of hazardous waste spills.

Stormwater Pollution Prevention for Gasoline Stations

This fact sheet provides information and Best Management Practices (BMPs) that are recommended for Gasoline Stations.

Potential Pollutant Sources

The following activities are potential sources of pollution from gas stations:

- Fueling Areas
- Dumpster Area
- Air Supply Area

Pollutants Include, but are not limited to:

- Heavy Metals (copper, zinc, and lead)
- Hydrocarbons (oil and grease)
- Toxic Chemicals (benzene, toluene)
- Trash and Litter

Pollution Prevention

The following are effective pollution prevention activities:

- Use non-toxic cleaning substances,
- Reduce storm water flow across parking lots and redirect flow away from storm drains,
- Reduce the use of water to clean parking lots by using dry methods (sweeping), and
- Provide employee training for good housekeeping practices.

Best Management Practices

The US Environmental Protection Agency (USEPA) definition of a BMP is a technique, process, activity, or structure used to reduce the pollutant content of a stormwater discharge. BMPs include simple, nonstructural methods, such as good housekeeping and preventive maintenance. BMPs may also include sophisticated, structural modifications, such as the installation of sediment basins.

Recommended BMPs

General

⇒ Contain wash water. Do not dispose of in the gutter or street.
⇒ Inspect for and clean leaks and drips routinely.
⇒ Label drains with the facility boundary to indicate whether they flow to a grease trap, sewer or storm drain.
⇒ Maintain good housekeeping practices on the site.

Fueling Area

⇒ Use dry clean up methods to maintain fuel dispensing areas.
⇒ Position roof downspouts to direct water away from the fueling area.
⇒ Slope pavement near fueling areas to prevent ponding.
⇒ Install protective guards around tanks and piping to prevent spills.

Dumpster Area

⇒ Use water tight receptacles and keep lid closed.
⇒ Grade the area to prevent run on of storm-water.
⇒ Install a roof over the area
⇒ Install low containment berms around the area.
⇒ Empty dumpsters frequently.

Spill Clean Up

⇒ Develop and maintain a spill response plan.
⇒ Have a supply of spill clean up materials
⇒ Spot clean leaks and drips daily
⇒ Use very little water when cleaning up leaks or spills.
⇒ Keep spills from entering the street and storm drains.

Stormwater Pollution Prevention for Restaurants

This fact sheet provides information and Best Management Practices (BMPs) that are recommended for Restaurants.

Potential Pollutant Sources

The following activities are potential sources of pollution from restaurants:

- Dumpster area
- Equipment cleaning
- Grease handling and disposal
- Landscaping and grounds maintenance

Pollutants Include, but are not limited to:

- Bacteria
- Organic material (food wastes)
- Trash
- Oil and grease
- Toxic Chemicals (cleaners, disinfectants)

Pollution Prevention

The following are effective pollution prevention activities:

- Use non-toxic cleaning substances,
- Reduce storm water flow across parking lots and redirect flow away from storm drains,
- Reduce the use of water to clean parking lots by using dry methods (sweeping),
- Recycle and reuse waste products, and
- Provide employee training for good house-keeping practices.

Best Management Practices

The US Environmental Protection Agency (USEPA) definition of a BMP is a technique, process, activity, or structure used to reduce the pollutant content of a stormwater discharge. BMPs include simple, nonstructural methods, such as good housekeeping and preventive maintenance. BMPs may include sophisticated, structural modifications, such as sediment basins.

Recommended BMPs

General

⇒ Contain wash water. Do not dispose of in the gutter or street.
⇒ Maintain grounds.
⇒ Maintain good housekeeping practices on the site.

Equipment Cleaning

⇒ Clean mats, filters and garbage cans in a sink or floor drain connected to the sewer with an oil and water separator. Pour all wash water in the mop sink. Do not wash in parking lot or on sidewalk.

Dumpster Area

⇒ Use water tight receptacles and keep lid closed.
⇒ Bag and seal food waste before putting it in dumpster.
⇒ Clean up areas where leaking containers or bags spilled food wastes.
⇒ Grade the area to prevent run on of stormwater or Install low containment berms around the area.
⇒ Install a roof over the area
⇒ Empty dumpsters frequently.

Grease Handling and Disposal

⇒ Recycle grease and oil.
⇒ Clean grease trap regularly.

Spill Clean Up

⇒ Develop and maintain a spill response plan.
⇒ Have a supply of spill clean up materials
⇒ Spot clean leaks and drips daily
⇒ Use very little water when cleaning up spills.
⇒ Keep spills from entering storm drains.