



Community Partners For Clean Water



SERIES #3: Maintaining Equipment and Vehicles



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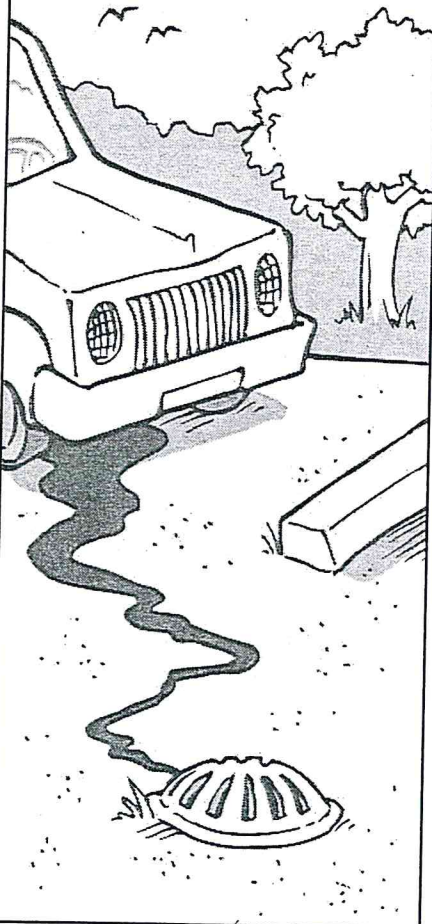
Storing and Maintaining Equipment and Vehicles



Why be concerned?

Dirty or leaking equipment and vehicles can deposit oil, grit, coolants, and other pollutants onto the ground. From there, these pollutants can filter through soils to the ground water table or be washed by stormwater into a lake, river, or stream.

In addition, spills are common during fueling and other maintenance activities. Designing outdoor maintenance areas to completely contain leaks and spills is an important part of protecting water quality.



Eight Steps to Preventing Water Pollution

1 REGULARLY MAINTAIN EQUIPMENT AND VEHICLES

- Keep equipment and vehicles clean and regularly inspect them for leaks. Try to immediately repair and clean up any leaks that are found. Wash equipment and vehicles according to the recommendations in Series #3, Fact Sheet 3.2.

- Maintain and calibrate equipment frequently to ensure that equipment functions properly.

- Drain all the fluids from equipment and vehicles kept in storage. Remove fluids only in paved areas that are designed to contain spills. Recycle or otherwise properly dispose of drained fluids. For more information on where to recycle, please see "Getting Help," at the end of article.

ground. Avoid the use of asphalt, since fuel will cause it to deteriorate.

- If necessary, construct curbs or berms around the perimeter to contain spills and prevent stormwater from washing through the area.

- Connect drains to a dead-end holding area or the sanitary sewer. Drains leading to the sanitary sewer must be fitted with oil/grease/grit separators. Don't allow storage, fueling, or other maintenance areas to drain to any part of the stormwater management system. If you aren't sure where a drain leads, call your local stormwater department or public works department and request that it be dye-tested. Before allowing fluids to drain to the sanitary sewer, call your local wastewater treatment plant and make sure they can be accepted.

2 PERFORM MAINTENANCE ACTIVITIES ONLY IN DESIGNATED AREAS

Maintain equipment and vehicles indoors, if possible. If maintenance activities must take place outdoors, make sure they're performed only in designated areas that are clearly marked and designed to prevent water pollution.

- Equip drains with shutoff valves in case of a spill, regularly inspect these valves to ensure they work, and keep valves closed unless draining unpolluted stormwater. Alternatively, keep rubber mats or temporary plugs on hand to block drain inlets. If plugs are used, employees must be trained in advance on how to use them.

3 PROPERLY DESIGN OUTDOOR STORAGE, FUELING, AND OTHER MAINTENANCE AREAS

- Don't locate outdoor storage or maintenance areas within a floodplain or within 100 feet of any part of the stormwater management system.

- Pave the area with concrete to prevent pollutants from filtering into the

- Cover storage and maintenance areas to keep rainwater from entering and mixing with pollutants. If rainwater accumulates, it will need to be pumped out and disposed of properly. For more information about disposing of accumulated rainwater, see Series #1, Fact Sheet 1.1.

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4 KEEP SERVICE AREAS CLEAN AND TAKE STEPS TO PREVENT SPILLS

Keep drip pans and absorbent materials readily available, appropriate to the types and quantities of materials that could spill. If possible, buy absorbent materials that can be reused or recycled. Avoid the use of cat litter, since it's relatively unabsorbent (which increases waste) and must be landfilled. For more information about preventing and cleaning up spills, see **Series #1, Fact Sheet 1.2**.

When cleaning floors, take steps to prevent pollutants from entering the storm sewer system. The following three-step process is recommended:

1. Clean up spills with absorbent materials.
2. Sweep the floor regularly.
3. Wet mop and recycle wash water or dispose of it via the sanitary sewer.

5 PREVENT OVERFILLING GAS TANKS

Gasoline and other fuels are extremely toxic and can be highly flammable. Unfortunately, spills are common during fueling activities.

- Make sure that dispensing hoses are equipped with automatic shutoff valves, and that these valves work.
- Post signs instructing fuel pump operators not to overfill gas tanks or leave them unattended while fueling.
- Keep temporary fuel tanks in a bermed, paved area. Design the area to completely contain at least 110% of the tank's total volume.
- Protect the area surrounding the fill pipe for underground gas tanks to prevent any spills that occur from reaching the soil or groundwater.

6 PROPERLY STORE, USE, AND DISPOSE OF MAINTENANCE PRODUCTS

For information about storing maintenance products, see **Series #1, Fact Sheet 1.1**. For information about using and disposing of them, see **Series #7**.

7 COMPLETELY DRAIN AND RECYCLE USED OIL FILTERS

A used oil filter typically contains 1/3 of a quart of oil and sludge, as well as acid and heavy metals. If not properly drained, used filters can leak this contaminated oil into the environment.

Drain used oil filters for at least 24 hours, and then recycle both the oil and filters. If you can't recycle them, filters can be put into the trash provided they're *not*terne-coated. (The EPA classifies oil and transmission filters as nonhazardous as long as they *aren't*terne-coated, and they *are* completely drained.)

8 DISCHARGE EQUIPMENT CONDENSATE AND "BLOWDOWN" TO THE SANITARY SEWER

Air compressors and other equipment sometimes produce small quantities of automatic blowdown water, which contains lubricating oil and other pollutants. Prevent blowdown water from soaking into the ground or running into the storm sewer system. Connect blowdown to the sanitary sewer or, if the compressor has a frequent small bleed, use a drip pan or catchment to collect the water. Oil separator systems are also available for blowdown water.

GETTING HELP

Georgia Environmental Protection Division,
Industrial Wastewater (404) 362-2680

City of Savannah
Water Quality Control (912) 651-6620

Community Partners for
Clean Water (912) 651-1440

For Recycling Information

Georgia Department of
Community Affairs (404) 679-4940

Chatham County
Recycling Hotline (912) 233-2500 ext. 8000



COMMUNITY PARTNERS FOR CLEAN WATER - FACT SHEET NO. 3.2

Washing Equipment and Vehicles

SERIES #3:



Why be concerned?

Washing equipment and vehicles can generate significant amounts of polluted runoff. In addition to detergent, oil, grease, heavy metals, and other pollutants, wash water can contain grease cutters, acids, and other toxic chemicals. Take steps to prevent untreated wash water from soaking into the ground or from entering the stormwater management system.



Minimizing Runoff

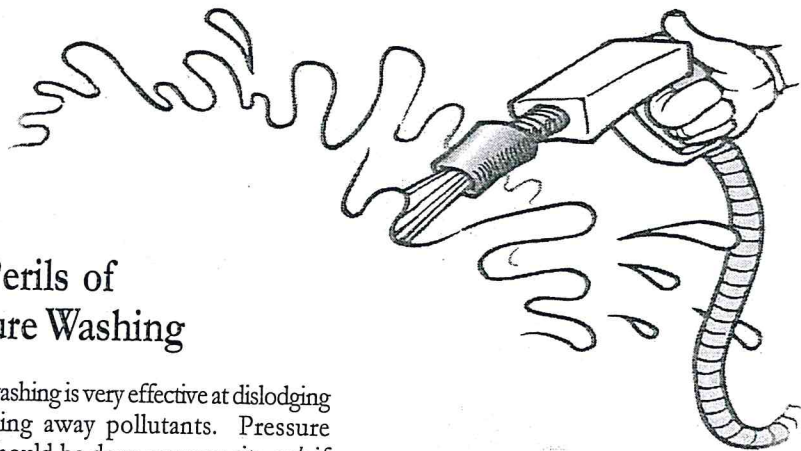
Clean field equipment and vehicles with as little water as possible. For example, remove dirt and grit using wire brushes or other dry methods before applying solvent or water. Be sure to collect the dislodged material and dispose of it properly. To determine proper disposal, call the facility where you expect the material to be taken.

The Perils of Pressure Washing

Pressure washing is very effective at dislodging and carrying away pollutants. Pressure washing should be done on your site *only* if you're equipped to capture and properly dispose of all wash water. In addition, use high pressure, low volume water to reduce overspray. Avoid using acids or other harsh cleaning products and detergents that contain phosphates. Often, a high pressure, low volume power wash, without any cleaning agents, is adequate to clean equipment.

Washing: It's An Inside Job

It is against Georgia State and local law to allow wash water to enter the stormwater system without a permit. In view of these requirements and potential threats to the environment, if you can't wash equipment and vehicles indoors, it's best to take them to a commercial washing facility.



The Importance of Designated Wash Areas

If you must wash equipment or vehicles on-site, wash them *only* in clearly marked, designated areas that are designed to properly manage waste water. Post signs that prohibit other maintenance activities and washing with solvents.

Never locate wash areas within a floodplain or within 100 feet of a drinking water well, wetland, lake, stream or any other part of the stormwater management system.

Managing Wash Water

Discharge wash water only to the sanitary sewer, a septic tank, an enclosed holding tank, or a grassy area where the water will be *contained*. Don't allow it to drain off-site via a roadside ditch, storm drain, stream, or any other part of the stormwater management system. (Discharging wash water off-site requires a permit from the Georgia Environmental Protection Division.)

- Before discharging wash water to the sanitary sewer, call your local wastewater treatment plant, and make sure it can be accepted. Certain materials are prohibited due to health and safety risks. In addition, water used to wash muddy trucks or equipment can contain high volumes of sediment, which can clog sewer lines.

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- When producing wash water that can't be discharged to the sanitary sewer, drain the area to an enclosed holding tank. The tank's contents will need to be removed periodically by a licensed waste hauler. While businesses that use a holding tank incur the cost of regular pumpouts, they avoid the risk of environmental cleanups costing thousands of dollars.

- Install an oil/water separator to remove oil and grit from runoff before it's routed to a holding tank or the sanitary sewer. For more information about oil/water separators, see Series #2, Fact Sheet 2.2.

- If you're washing relatively clean vehicles *with water only*, wash water can be diverted to a large grassy area. This will allow it to filter into the ground. *Be aware, however, that with this method, any dislodged pollutants or cleaning products that are used can also filter through to the surficial aquifer.*

Car Washes

- All wash water generated by a commercial car wash must be recycled, drained to a sanitary sewer or septic tank, or contained on-site and disposed of properly.

- Community groups that hold car washes as fundraisers should be aware of where their wash water flows to. Partnering with a reputable commercial car wash would insure that wastewater is properly disposed of. The community group would raise funds while insuring that the local environment is protected.

Alternatives to Engine Cleaning

- Avoid cleaning engines for aesthetic purposes only.

- Instead of cleaning engines to locate oil leaks, try using rags and solvent to clean small portions of the engine.

GETTING HELP

Georgia Environmental Protection Division,
Industrial Wastewater (404) 362-2680

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Community Partners for Clean Water
WATER QUALITY PROTECTION PLAN

SERIES #3 MAINTAINING EQUIPMENT AND VEHICLES
Fact Sheets 3.1 and 3.2

Completing your Water Quality Protection Plan (WQPP):

To create your own "Water Quality Protection Plan," please fill out the following checklist. The "actions" in this checklist correspond directly to recommendations made within this handbook. If you have any questions or would like help completing this form, please contact the Community Partners for Clean Water Program Manager at (912) 651-1440. Send checklists to:

In Chatham County:

Community Partners for Clean Water
Chatham County – Savannah Metropolitan Planning Commission
110 E. State Street
Savannah, GA 31401

All other coastal counties

Community Partners for Clean Water
Non-Point Source Program
Environmental Protection Division, Coastal District
One Conservation Way
Brunswick, GA 31520-8687

Directions for Completing this Checklist:

1. For each action, check the appropriate box in the Assessment column (Not Applicable, Always, or Needs Improvement).
2. Next, check the corresponding box in the Action Plan column (Plan to Continue or Plan to Improve).
3. For every current *and* proposed action, indicate who will do it and when.
4. If possible, provide additional information about both current and proposed activities in the space preceded by the word "Action(s)." If insufficient space has been provided, please feel free to attach extra pages.
5. Detach the checklist from this handbook and return it to Community Partners for Clean Streams.

Example:

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- | | | | | | | | |
|--|---|---|--|---------------------------------|---|---|---|
| 1. Steps are taken to minimize the amount of potentially polluting materials and wastes kept in storage. | <table border="0" style="width: 100%;"><tr><td><input type="checkbox"/> Not Applicable</td><td></td></tr><tr><td><input type="checkbox"/> Always</td><td>▶ <input type="checkbox"/> Plan to Continue</td></tr><tr><td><input checked="" type="checkbox"/> Needs Improvement</td><td>▶ <input checked="" type="checkbox"/> Plan to Improve</td></tr></table> | <input type="checkbox"/> Not Applicable | | <input type="checkbox"/> Always | ▶ <input type="checkbox"/> Plan to Continue | <input checked="" type="checkbox"/> Needs Improvement | ▶ <input checked="" type="checkbox"/> Plan to Improve |
| <input type="checkbox"/> Not Applicable | | | | | | | |
| <input type="checkbox"/> Always | ▶ <input type="checkbox"/> Plan to Continue | | | | | | |
| <input checked="" type="checkbox"/> Needs Improvement | ▶ <input checked="" type="checkbox"/> Plan to Improve | | | | | | |

Who: Purchasing Dept./Facilities Manager

Schedule: As applicable

Action(s): Deicing chemicals will be purchased in smaller quantities and stored in water-proof, leak-proof containers.

Note: To become a "Community Partner for Clean Water," *all* checklists that apply to your business must be filled out and returned. To obtain a listing of all program handbooks/checklists or to obtain copies, please contact the Community Partners Program Manager.

Maintaining Equipment and Vehicles: Water Quality Protection Plan
(Series #3: Fact Sheets 3.1 and 3.2)

	ASSESSMENT	ACTION PLAN
1. The least hazardous products and procedures are identified and used, whenever possible.	<input type="checkbox"/> Not Applicable <input type="checkbox"/> Always <input type="checkbox"/> Needs Improvement	<input type="checkbox"/> Plan to Continue <input type="checkbox"/> Plan to Improve
	Who: _____ Schedule: _____	
Action(s): _____		
	<input type="checkbox"/> Requires ongoing education/commitment	
2. Vehicles and equipment are regularly inspected for leaks; any leaks that are found are repaired immediately.	<input type="checkbox"/> Not Applicable <input type="checkbox"/> Always <input type="checkbox"/> Needs Improvement	<input type="checkbox"/> Plan to Continue <input type="checkbox"/> Plan to Improve
	Who: _____ Schedule: _____	
Action(s): _____		
	<input type="checkbox"/> Requires ongoing education/commitment	
3. Washing and other maintenance activities are performed <i>only</i> in designated areas that drain to a sanitary sewer, septic tank, or enclosed holding area.	<input type="checkbox"/> Not Applicable <input type="checkbox"/> Always <input type="checkbox"/> Needs Improvement	<input type="checkbox"/> Plan to Continue <input type="checkbox"/> Plan to Improve
	Who: _____ Schedule: _____	
Action(s): _____		
	<input type="checkbox"/> Requires ongoing education/commitment	
4. Fueling, washing, and other maintenance areas are covered, paved and designated to contain wash water and/or spills.	<input type="checkbox"/> Not Applicable <input type="checkbox"/> Always <input type="checkbox"/> Needs Improvement	<input type="checkbox"/> Plan to Continue <input type="checkbox"/> Plan to Improve
	Who: _____ Schedule: _____	
Action(s): _____		
	<input type="checkbox"/> Requires ongoing education/commitment	
5. Service areas are kept clean, and absorbent materials are readily available to contain spills.	<input type="checkbox"/> Not Applicable <input type="checkbox"/> Always <input type="checkbox"/> Needs Improvement	<input type="checkbox"/> Plan to Continue <input type="checkbox"/> Plan to Improve
	Who: _____ Schedule: _____	
Action(s): _____		
	<input type="checkbox"/> Requires ongoing education/commitment	

6. Gasoline dispensing hoses are equipped with automatic shutoff valves, and these valves are in working condition.

- ☐ Not Applicable
☐ Always ► ☐ Plan to Continue
☐ Needs Improvement ► ☐ Plan to Improve

Who: _____

Schedule: _____

Action(s): _____

☐ Requires ongoing education/commitment

7. Vehicle maintenance areas are located away from storm drains and ditches.

- ☐ Not Applicable
☐ Always ► ☐ Plan to Continue
☐ Needs Improvement ► ☐ Plan to Improve

Who: _____

Schedule: _____

Action(s): _____

☐ Requires ongoing education/commitment

8. Steps are taken to prevent and contain spills (e.g., trays are placed under open containers and the spouts of liquid storage containers).

- ☐ Not Applicable
☐ Always ► ☐ Plan to Continue
☐ Needs Improvement ► ☐ Plan to Improve

Who: _____

Schedule: _____

Action(s): _____

☐ Requires ongoing education/commitment

9. Fluids are completely drained from equipment and vehicles kept in long-term storage.

- ☐ Not Applicable
☐ Always ► ☐ Plan to Continue
☐ Needs Improvement ► ☐ Plan to Improve

Who: _____

Schedule: _____

Action(s): _____

☐ Requires ongoing education/commitment

10. Oil filters are completely drained and recycled. All used oil is recycled.

- ☐ Not Applicable
☐ Always ► ☐ Plan to Continue
☐ Needs Improvement ► ☐ Plan to Improve

Who: _____

Schedule: _____

Action(s): _____

☐ Requires ongoing education/commitment

-
11. Vehicle/equipment storage areas are designed to contain leaks and spills. If storage areas aren't covered, any rainwater that accumulates is disposed of properly.

☐ Not Applicable

☐ Always

☐ Needs Improvement

▶ ☐ Plan to Continue

▶ ☐ Plan to Improve

Who: _____

Schedule: _____

Action(s): _____

☐ Requires ongoing education/commitment.

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12. Wash water from car wash is recycled, drained to a sanitary sewer or septic tank, or contained on site and disposed of properly.

☐ Not Applicable

☐ Always

☐ Needs Improvement

▶ ☐ Plan to Continue

▶ ☐ Plan to Improve

Who: _____

Schedule: _____

Action(s): _____

☐ Requires ongoing education/commitment

Additional Comments:

MOBILE VEHICLE CLEANING & MAINTENANCE

DISCHARGE INTO THE STORM DRAIN, ACCIDENTAL OR NOT,
CAN LEAD TO ENFORCEMENT ACTIONS, WHICH CAN INCLUDE FINES.

These best management practices will help you **prevent polluted water and other materials from flowing into the street, gutter and storm drain.**

WASH WATER DISPOSAL



✓ Wash in contained area that has been bermed up to contain the wash water.

- ✓ When washing items contaminated by hazardous materials, wash water should be collected and hauled off-site for proper disposal.
- ✓ Wash in customers wash bay or pump wastewater to the wash bays' pretreatment system.



Engine cleaning must be performed at a facility that has the equipment to properly process the contaminated wash water runoff.

HAZARDOUS WASTE SPILL CLEAN-UP & DISPOSAL



✓ Stop the source of the spill immediately. Locate the nearest storm drain and ensure nothing can enter or be discharged into it.

✓ Use tarps and drip pans to prevent spills.

- ✓ If a spill occurs, use an absorbent material such as kitty litter or absorbent pads.
- ✓ Clean up the excess. Properly dispose of absorbent material used to clean up spills - contact an approved hauler for assistance/disposal. Sweep work area thoroughly after cleaning.
- ✓ Keep toxics out of the trash by disposing of them properly, this includes absorbent materials used to clean up toxic waste spills. Toxic materials may include used motor oil and oil filters, antifreeze, batteries and gasoline. Make sure to maintain hauling records for all hazardous waste.