Best Management Practices for Pressure Washing and Mobile Cleaning

Lawrence
KANSAS

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Cleaning practices affect our local streams.

Many businesses and residents may not realize how their cleaning practices can affect our local streams, lakes, or rivers with pollution. This guide provides general Best Management Practices (BMPs) and requirements for commercial and residential mobile cleaning or pressure washing operations to help protect the environment and ensure compliance with regulatory requirements.

These requirements and BMPs apply to anyone within the City of Lawrence who generates wastewater from pressure washing and mobile cleaning operations, including:

- Contractors that provide a mobile cleaning service
- Businesses that use pressure washing equipment as part of their operations or maintenance (such as cleaning vehicles, heavy equipment, or parking areas)
- Residents

What is mobile cleaning?

Mobile cleaning includes power/pressure washing, steam cleaning, and any other method of mobile cosmetic cleaning, of vehicles, equipment, or other surfaces.

Pressure washing uses mechanical equipment to create a high-pressure stream of water, typically ejected from a hand-held wand or nozzle. Depending on the application, pressure washing may be conducted with or without heated water or added cleaners.

Mobile cleaning operations are used to clean a variety of surfaces and objects, including:

- Vehicles and equipment
- Carpet and upholstery
- Food service facilities and equipment
- Swimming pools and spas
- Exterior surfaces (parking lots, sidewalks, drive-thru lanes)
- Building exteriors and roofs
- Graffiti

Pressure washing equipment is also used for stripping paint or for preparing and treating other types of surfaces.

How can cleaning cause pollution?

Most pressure washing activities occur outdoors, with wastewater flowing over the ground and directly into the storm drainage system. Unless the equipment operator takes steps to collect and properly dispose of the wastewater, pollutants from cleaning compounds or from the objects or surfaces being cleaned, can enter streams, lakes, and rivers via the storm drainage system. **<u>This water is not treated or cleaned to remove pollutants.</u>**

Pollutants discharged to the storm drainage system harm fish and wildlife and contaminate recreational sites and drinking water supplies. Even cleaners labeled “biodegradable” and “non-toxic” may be harmful to aquatic life, especially after cleaning various surfaces that contain oils, greases, chemicals, and other substances.

Common Pollutants from Mobile Cleaning Activities:

Cleaning Activity	Common Pollutants
Surface cleaning	Heavy metals (copper, lead, zinc) Oils and grease Trash
Carpets & upholstery	Carpet fibers, cleaning chemicals and solvents
Vehicles & equipment	Heavy metals (copper, lead, nickel, zinc) Oil and grease Antifreeze Cleaning chemicals and solvents Acids and alkalis
Food service industry	Food waste Fats, oils, and grease Cleaning chemicals, disinfectants, and pesticides
Pools and spas	Copper and chlorine Solids from filter backwash
Water softeners	Brine (chlorides, calcium, magnesium)

BEST MANAGEMENT PRACTICES (BMPs)

BMPs are standard practices and methods to treat or prevent pollutants from entering the stormwater system. **Discharge of pressure washing wastewater, or any release other than uncontaminated stormwater into the storm drainage system, is prohibited by City Code.** BMPs must be used to prevent pollutants from entering the stormwater system.

Planning

Prior to beginning pressure washing activities:

- Confirm if pressure washing is necessary. Use dry cleaning methods (brooms, wire brushes, vacuums, etc.) instead of pressure washing whenever possible.
- Locate high and low spots in the washing area to determine where wastewater will be pooled for collection.
- Identify any storm drain inlets in the cleaning and collection areas and determine what controls you will use to prevent wastewater from entering each storm drain.
- Determine what method you will use to collect wastewater from each cleaning activity.
- Obtain all necessary permissions and authorizations. Always obtain the property owner's permission before disposing of wastewater at a job site (i.e. sanitary sewer drain).
- Identify the specific location where you will dispose of the wastewater (e.g. jobsite sanitary drain, waste treatment plant).

Equipment commonly used to contain and collect wastewater from pressure washing includes:

- vacuum pumps,
- booms/berms,
- portable containment areas,
- storm drain covers,
- oil/water separators,
- holding tanks,
- portable sump pumps,
- hoses,
- absorbents, and more.

Surface Pre-Cleaning

Perform pre-cleaning of surfaces using **dry methods**. Use absorbents on small areas of oil or grease, and vacuum or sweep up trash, debris, or sediment prior to wet washing. Properly dispose of pre-cleaning waste. Note that some wastes may be identified as hazardous waste and will require special management.

Always clean up spills with dry methods, rather than rinsing down areas.

Pressure Washing

- Before using detergents or other chemicals, try using only plain, high-pressure water to see if cleaning with water alone is adequate.
- Aim to use only the minimum amount of water and detergents necessary to complete the work. Minimizing the amount of water used during pressure washing activities reduces the volume of wastewater that will need to be disposed.
- Avoid using cleaning products that contain hazardous substances (e.g., hydrofluoric acid, muriatic acid, sodium hydroxide, bleach, etc.) that can turn wastewater into hazardous waste. Acidic, caustic, and detergent cleaners may also damage paved or coated surfaces.

Wastewater Collection

- Sweep or vacuum up any visible solids left in the collection area to prevent later discharge to the storm drain.
- Minimal residual amounts of wastewater that cannot be collected and that will not reach storm drains may be left on paved surfaces and allowed to evaporate. Wastewater with high pollutant concentrations, including cleaning compounds, must be completely collected and may not be left to evaporate.

Wastewater Disposal

Sewer Disposal Options

Disposal options for non-hazardous pressure washing wastewater include collecting and discharging wastewater into the sanitary sewer via a sanitary sewer drain or clean-out. Any discharge into the sanitary sewer system must comply with City Code Chapter 19, Article 6. Sanitary Sewer Use and Pretreatment Regulations and may require some form of pretreatment, depending on the nature of the wastewater.

Obtain permission from the property owner for any type of discharge to the sanitary sewer and make sure wastewater meets City of Lawrence Code requirements prior to seeking the property owner's permission.

Land Disposal

- Wastewater may be collected and directed onto vegetated or graveled areas only if the wastewater does not create a nuisance and does not contain food waste or contaminants (i.e., solvents, cleaners, oils, metals, etc.) that may constitute hazardous waste. You must obtain permission from the property owner prior to discharging or diverting wastewater to privately-owned areas.
- Such discharges must soak into the ground and may not flow into the storm drain. Minimize water usage to avoid wastewater overflowing from these areas.
- Repeated discharges to vegetated areas may result in an accumulation of contaminants, causing damage to vegetation and increasing contaminant levels in the soil. Avoid damage to plants and soil by minimizing or eliminating the use of soaps, detergents, and chemicals.
- Filter out any solids that would be visible on the ground after discharge.

Never dispose of washwater into a street, storm drain, drainage ditch, or stream.

Wastewater Treatment

If you operate or are considering using a wastewater recycling or pretreatment unit (e.g. oil/water separator), make sure you understand the waste streams that are generated. Identify proper disposal methods for these wastes and consider disposal costs before starting a job. Some units, especially those that separate oil from water, may generate hazardous waste (e.g. waste oil) and require special storage and handling practices.

Consider contracting with a company that can provide appropriate treatment and disposal of your wastes. This may save you time and money associated with purchasing, permitting, and using your own wastewater treatment equipment. In some cases, you may be able to reduce the liability that comes with the generation and disposal of hazardous waste.

Ways to Collect Wastewater

Berms – Berms prevent wastewater from entering a storm drain by placing a protective barrier around the storm drain inlet, allowing the wastewater to pool up around the storm drain prior to proper collection and disposal.

This type of containment may be less effective or ineffective when the storm drain is located at the bottom of a slope or when a large amount of wastewater is generated.

Storm Drain Covers/Mats – These devices are placed on top of a storm drain grate, creating a quick seal and preventing wastewater from entering the storm drain system. Storm drain covers/mats (magnetic vinyl mats, PVC drain covers, polyurethane mats, and others) allow wastewater to accumulate on top of it until the pressure washing activity is complete and the wastewater can be collected for proper disposal.

Storm drain covers/mats are frequently used along with a vacuum device (e.g. sump pump, wet/dry vacuum, and vacuum pump) that diverts wastewater into the sanitary sewer system.

Containment Pools – Containment pools provide a permanent or temporary work area that allows wastewater to be contained and collected for proper disposal. Containment pools must be large enough to easily hold all washwater and spray from the largest job that will be performed there.

Vacuums/Pumps – Devices such as wet/dry vacuums, sump pumps, and vacuum pumps may be used to collect wastewater after pressure washing. Vacuum devices typically have an extension (vacuum boom) which allows the wastewater to be collected efficiently.

In addition, many vacuum devices are designed with a second hose (e.g. garden hose) that can run from the pump to the sanitary sewer or a truck/trailer mounted holding tank, depending on disposal method.

Vacuum Boom – Vacuum booms are an attachment for the vacuum device. The boom typically rests flush on the ground and draws in wastewater through small holes on the bottom of the boom. In addition, different variations of vacuum booms are available for areas with steep slopes or rough terrain.

Washwater Recovery Systems
Some pressure washing equipment includes a washwater recovery system that collects wastewater simultaneously during the process.

Collected wastewater can be directed via a hose to a holding tank or directly to a sanitary sewer drain for disposal.

REGULATIONS

Stormwater is regulated at the federal, state, and city-level. Lawrence City Code Chapter 9, Article 11 prohibits anyone from releasing or causing to be released into the storm drainage system any discharge that is not composed entirely of uncontaminated stormwater, with few exceptions. Section 9-1102(C)(4) specifically prohibits mobile cosmetic cleaning operations from discharging to the storm drainage system.

The City's Municipal Storm Sewer System (MS4) permit, issued by the Kansas Department of Health and Environment, covers all stormwater discharged from the City's storm sewer system into local rivers and streams. Under this permit, the City is required to implement and enforce BMPs to reduce the discharge of pollutants from its storm system to the "Maximum Extent Practicable." Common stormwater pollutants include litter, yard waste, lawn chemicals, pet waste, wastewater, oil, petroleum products, cleaning products, paint products, hazardous waste, and sediment or waste from construction sites.

FOR MORE INFORMATION

City of Lawrence Municipal Services & Operations Regulatory & Environmental Services	(785) 832-7800 stormwater@lawrenceks.gov
Kansas Department of Health and Environment (KDHE)	(785) 842-4600 – District Office
Environmental Protection Agency Region 7	EPA.gov To report a spill/release: (913) 218-0991 (Region 7) (800) 424-8802 (National Response Center)
Power Washers of North America (PWNA)	PWNA.org

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