

BMPs

for

Pressure Washing

and

Surface Cleaning



City of Lawrence

BMPs For Pressure Washing and Surface Cleaning

INTRODUCTION

This booklet describes the requirements for the disposal of waste and wastewater generated by the use of pressure washing equipment when generated within the City of Lawrence. It also provides information on practical methods, known as Best Management Practices (BMPs), which may be used to protect the environment and to comply with regulatory requirements.

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

- contractors that provide a pressure washing service to others
- businesses that use pressure washing equipment as part of their operations or maintenance (such as cleaning heavy equipment)
- homeowners

What is Pressure Washing?

Pressure washing uses mechanical equipment to create a high pressure stream of water, typically ejected from a hand-held wand or nozzle. This jet of water is used for cleaning a wide variety of surfaces and objects. Depending on the application, pressure washing may be conducted with or without heated water or added cleaners.

In recent years, the use of pressure washing equipment has grown substantially. Numerous contractors provide pressure washing as a service to others, businesses purchase their own units to use in their own operations and maintenance, and many homeowners rent units or purchase low cost equipment.

Pressure washing is used to clean many things, including:

- Trucks
- Automobile fleets
- Parking lots
- Building exteriors
- Sidewalks
- Drive-thru lanes
- Heavy equipment
- Roofs
- Restaurant equipment and hood filters
- Graffiti

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

BMPs For Pressure Washing and Surface Cleaning

The Problem

Most pressure washing activities are conducted outside. This often results in the discharge of wastewater to the storm drainage system, unless the equipment operator takes steps to collect and dispose of it legally. Discharge of pressure washing wastewater to the storm drainage system is prohibited because it contains pollutants from the cleaning compounds used and/or from the objects or surfaces being cleaned. Even cleaners labeled “biodegradable” and “non-toxic” may be harmful to aquatic life, especially after cleaning various surfaces (e.g. dumpster areas, parking lots, equipment and more) that contain oils, greases, chemicals, and other substances.

Any substance, including pressure washing wastewater that enters storm drains flows directly into lakes, rivers, and streams. This water is not treated or cleaned to remove pollutants. Pollutants discharged to the storm drainage system harm fish and wildlife and contaminate recreational sites and drinking water supplies.

BEST MANAGEMENT PRACTICES

PLANNING

- Prior to beginning pressure washing activities, determine what collection method you will be using and how you intend to properly dispose of the wastewater generated from each cleaning activity.
- Obtain all necessary permissions and authorizations.
- Identify the specific location where you will be disposing wastewater (e.g. job-site sanitary drain, waste treatment plant).
- Always obtain the property owner’s permission before disposing of wastewater at a job site (i.e. sanitary sewer drain).

SURFACE PRE-CLEANING

Consider using dry methods for surface pre-cleaning, such as using absorbents on small oil spots and sweeping up trash/debris/dirt before wet washing. Pre-cleaning is an activity that may reduce costs and simplify the wastewater disposal process. However, you should also be aware of the costs and requirements associated with disposing of pre-cleaning wastes which may be identified as hazardous waste and require special management. **Note:** it is important to remember, when using dry pre-cleaning methods, be sure to pick up pre-cleaning debris as soon as possible, so the materials do not have a chance to enter the storm drains.

BMPs For Pressure Washing and Surface Cleaning

PRESSURE WASHING

Minimize the amount of water used during pressure washing activities, thus reducing the volume of wastewater that needs to be properly 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 damage paved or coated surfaces.

WASTEWATER COLLECTION

- Identify where all area storm drains are situated.
- Locate property high and low-spots and determine the area where wastewater can be pooled for collection. If a storm drain is located in the collection area, ensure that the path to the drain is blocked or that a cover is tightly sealed over the drain before allowing wastewater to collect in this area.
- Common equipment used for containing and collecting wastewater generated during pressure washing activities include: vacuum pumps, booms/berms, portable containment areas, weighted storm drain covers, inflatable plumber's plugs, oil/water separators, holding tanks, portable sump pumps, hoses, absorbents, and more.
- Avoid mixing non-hazardous wastewater with wastewater known to contain hazardous levels of pollutants. This may increase the volume of waste and require complicated treatment and/or disposal as a hazardous waste, thus increasing disposal costs.
- Place an oil-absorbent mat/pad on top of collected wastewater to help reduce the amount of oil re-deposited on the surface of the collection area.

Once wastewater has been collected and/or discharged to the sanitary sewer system, visible solids remaining in the collection area must be swept up to prevent subsequent discharge to the storm drain. Alternatively, the collection area may be rinsed, provided that any nearby drains are still covered or blocked, and the rinse water is properly discharged to the sanitary sewer.

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. Note: It may be necessary to sweep, or rinse and collect the wastewater from the area, to avoid leaving behind visible residue that will be washed into the storm drain at a later time.

BMPs For Pressure Washing and Surface Cleaning

Wastewater with high pollutant concentrations, including wastewater that contains cleaning compounds, must be completely collected and may not be left to evaporate.

WASTEWATER DISPOSAL

All wastewater discharged into the sanitary sewer must meet the requirements of the City of Lawrence Code, and often includes obtaining pre-approval prior to disposal.

Sewer Disposal Options

Disposal options for non-hazardous pressure washing wastewater include:

- Collecting and discharging wastewater into the sanitary sewer via the sanitary sewer clean-out or sanitary sewer drain at the point of generation (job site). This activity must be conducted in accordance with the City of Lawrence Code, Chapter XIX, Articles 5, Sewer Use Regulations and Article 6, Pretreatment Regulations and may require some form of pretreatment, depending on the nature of the wastewater. In addition, this disposal method must be approved by the property owner(s) prior to discharge.
- 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 discharged or directed onto vegetated or graveled areas **only** when the wastewater does not create a nuisance condition or does not contain food waste or contaminants (i.e. solvents, cleaners, oils, metals, etc.) that may constitute a hazardous waste. In addition, such discharges must soak into the ground and may not flow into the storm drain. Make sure to obtain permission from the property owner prior to discharging or diverting wastewater to vegetated or graveled areas.

If you are diverting wastewater to landscaped areas, 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. In addition, minimize the use of water to avoid wastewater overflowing from these areas. **Note:** Repeated discharges to landscaped areas may result in an accumulation of contaminants, thus damaging vegetation and increasing contaminant levels in the soil.

WASTEWATER TREATMENT

BMPs For Pressure Washing and Surface Cleaning

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:

The following are examples of devices that may be used to contain and collect wastewater during pressure washing activities. The collection devices described below are not endorsed and are only provided as a reference tool. In addition, there may be other containment devices available, which are not listed.

Note: When working with electrical equipment in wet environments, it is important to understand and comply with applicable health/safety and electrical codes, as well as utilize appropriate safety equipment (e.g. Ground Fault Interrupters, etc.).

Berms – Berms may be used to prevent wastewater from entering a storm drain by placing a protective barrier around the storm drain inlet, thus 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 and/or a large amount of wastewater is generated.

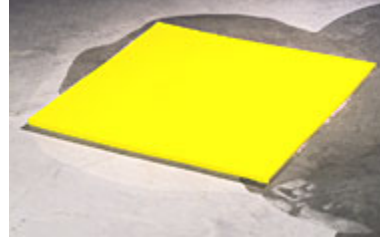


Storm Drain Covers/Mats – These devices are placed on top of the storm drain cover grate, creating a quick seal, thus preventing wastewater from entering the storm drain system. Storm drain covers/mats (magnetic vinyl mats, PVC drain covers, polyurethane mats, and others) allow wastewater to accumulate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



BMPs For Pressure Washing and Surface Cleaning

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.



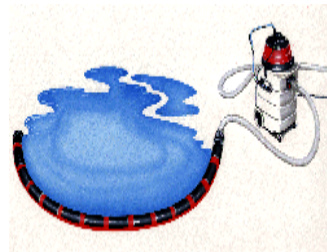
Containment Pools – A portable or temporary containment pool is another option which may be used by pressure washers to collect wastewater. Containment pools are easy to assemble, provide an immediate work area, and allow the wastewater to be collected in a manner that will prevent pollutants from entering the storm drains. Containment pools vary in size and material, and hold anything from a shopping cart to a truck and trailer.



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 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.



BMPs For Pressure Washing and Surface Cleaning

Inflatable Pipe Plug – Inflatable pipe plugs prevent wastewater from entering a storm drain system by blocking the pipe leading from the drain inlet. Unlike the storm drain mats/covers that block storm drain grates, the inflatable pipe plug is inserted into the storm drain pipe and uses the inlet structure beneath the grate to collect the wastewater. Once inserted, the plug is inflated to make a snug fit. Once the wastewater has been contained, it can be collected and properly disposed by using a portable pump device (e.g. sump pump, vacuum pump, etc.). **Note:** Inflatable pipe plugs should only be used in storm drains on private property. They are not authorized to be used in public storm drain inlets or pipes.



Regulations

To improve the quality of water we fish and swim in, not to mention drink, Federal and State regulations prohibit discharges of pollutants to water bodies without a permit. Because of these regulations, the City of Lawrence is subject to a Municipal Separate Storm Sewer System (MS4) Permit issued to them by the State of Kansas. The MS4 Permit requires the City of Lawrence to implement programs to reduce pollutants in storm water runoff (directly caused by rainfall) and to effectively prohibit non-storm water discharges.

As required by the MS4 Permit, the City of Lawrence has adopted a Storm Water Ordinance that prohibits non-storm water discharges. The discharge of wastewater from pressure washing to the storm drainage system or surface waters is prohibited by this ordinance.

However, preventing discharge to the storm drainage system is only part of the story. Improper discharges to the sanitary sewer, septic tanks, or land can also cause environmental harm, damage equipment and facilities, and violate regulations.

Pressure Washing as Part of the Solution

Pressure washing is an activity that can help improve the quality of our waters when done properly. By cleaning (pressure washing) surfaces (e.g. equipment, parking lots, sidewalks, buildings, etc.), collecting the wastes (water and/or debris), and properly disposing of the wastes, there is less chance of pollutants ending up in our waterways. It is through education, proper collection and disposal that pressure washing can have a positive impact on the environment!

BMPs For Pressure Washing and Surface Cleaning

DISPOSAL REQUIREMENTS AND PROHIBITIONS

Proper disposal of pressure washing wastewater, in compliance with environmental regulations, depends on the nature of the pollutants in it. It is the responsibility of the generator to determine the proper collection and disposal method for wastewater created by pressure washing. To avoid unanticipated costs, delays, and violations, this determination should always be made prior to starting any job.

All disposal methods are subject to requirements, restrictions, and prohibitions, and are outlined below.

Storm Drains

Discharging pressure washing wastewater into any natural body of water or any storm drainage system, which includes storm drains, roadside ditches, gutters, and drainage channels, within the City of Lawrence, is **prohibited** by Federal, State, and local laws.

Evaporation

Pressure washing wastewater that contains visible debris or residue, soap, detergent or other cleaning agents, or excessive amounts of any pollutant, may not be left on paved surfaces to evaporate, because the residue will eventually be discharged to the storm drain.

Land Disposal

- Wastewater disposal to land must not create a nuisance condition, flow into the storm drain, or contaminate soil with hazardous waste.
- Wastewater containing garbage, food wastes, or visible trash may not be discharged to land.
- Any wastewater disposal to land must have the approval of the property owner.

Sanitary Sewer

Disposal of pressure washing wastewater to the sanitary sewer collection system within the city limits of Lawrence, KS must meet the requirements of the City of Lawrence Code, Chapter XIX, Article 5, Sewer Use.

Residential customers are required to comply with the discharge requirements of the City of Lawrence Code, Chapter XIX, Articles 5 and 6. Using the BMPs described in this document will help residential users comply with the City of Lawrence requirements.

BMPs For Pressure Washing and Surface Cleaning

Septic Systems

Discharges of pressure washing wastewater to a septic system anywhere within Douglas County must be approved by the Lawrence/Douglas County Health Department at (785) 843-3060. Discharges that contain hazardous waste, have the potential to harm septic systems, or are likely to contaminate groundwater, **will not** be approved.

Hazardous Waste

Beware of pressure washing surfaces that contain lead-based paint, or areas with freestanding liquids (e.g. oil, solvents, antifreeze, etc.). Pressure washing these types of surfaces may generate hazardous waste (e.g. lead-based paint chips, oil/grease, hydrofluoric acid, muriatic acid, etc.). Generating hazardous waste may dramatically increase your operating costs and limit your disposal options. For more information on hazardous waste determination call the Kansas Department of Health and Environment at (785) 296-1600.

FOR MORE INFORMATION

City of Lawrence - Municipal Services & Operations
(785) 832-7800

Kansas Department of Health and Environment
(785) 842-4600 District Office
(785) 296-1600 Bureau of Waste Management – Hazardous Waste

Lawrence / Douglas County Health Department
(785) 843-3060

Cleaning Equipment Trade Association (CETA)
(800) 441-0111
www.ceta.org

Power Washers of North America (PWNA)
www.pwna.org

Disclaimer:

BMPs For Pressure Washing and Surface Cleaning

The information presented in this document is intended for guidance purposes only and is not all-inclusive. The information provided may be of value as an educational or reference tool. However, we do not endorse any content or product that may be noted in this booklet. Please note that laws and regulations are subject to change. It is recommended that the applicable codes and statutes be reviewed to verify which requirements pertain to your business. Although the material contained in this booklet will be routinely updated, it may not reflect recent changes in the various laws and regulations.

Special thanks to the Sacramento Stormwater Quality Partnership.