

A black pressure washer nozzle is shown at an angle, spraying a fan of water droplets represented by blue dashed lines. The background features a light blue wavy shape at the top and a solid blue bar at the bottom.

# BMPs

for

## Pressure Washing

and

## Surface Cleaning

# **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 boundaries of Fort Bragg. 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 boundaries of Fort Bragg, who generates wastewater from pressure washing, including:

- Soldiers
- Residents
- Contractors
- Government Civilians

## **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.

Pressure washing is used to clean many things, including:

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

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

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### **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, or off site).
- Always obtain permission from American States Utility Service (ASUS) the owner of Wastewater Collection System Permit # WQCS00029. Contact the COR For ASUS @ (910) 908-4447. 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.

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### **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 to evaporate if they don't contain visible debris or residue, soap, detergent or other cleaning agents, or excessive amounts of any pollutant. 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.

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

### **WASTEWATER DISPOSAL**

**Disposal options for non-hazardous pressure washing wastewater include:**

1. Capture wastewater and dispose of it to Sanitary Sewer if permission is granted by American States Utility Service (ASUS) the owner of Wastewater Collection System Permit # WQCS00029. contact the COR For ASUS @ (910) 908-4447.
2. Capture wastewater and dispose of it by Environmental cleaning Company off the Installation.

### **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. Use of detergents is allowable if they are biodegradable with a pH in the range of 6-9 standard units. In addition, such discharges must soak into the ground and may not flow into the storm drain. 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.

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### 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.

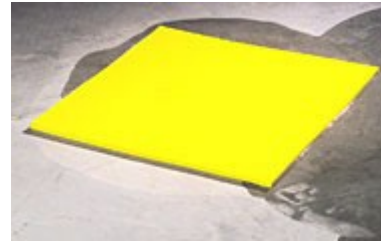


**Storm Drain Covers/Mats** – These devices are placed on top of the storm drain cover grate, creating a quick seal, thus preventing wastewater from entering the storm drain system. Storm drain covers/mats (magnetic vinyl mats, PVC drain covers, polyurethane mats, and others) allow wastewater to accumulate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



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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.



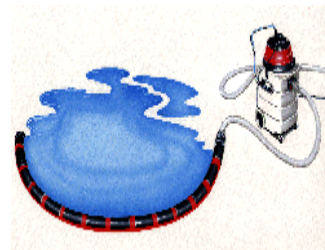
**Containment Pools** – A portable or temporary containment pool is another option which may be used by pressure washers to collect wastewater. Containment pools are easy to assemble, provide an immediate work area, and allow the wastewater to be collected in a manner that will prevent pollutants from 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.



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**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, Fort Bragg is subject to a Municipal Separate Storm Sewer System (MS4) Permit issued to them by the State of North Carolina. The MS4 Permit requires Fort Bragg to implement programs to reduce pollutants in storm water runoff (directly caused by rainfall) and to effectively prohibit non-storm water discharges/illicit discharges.

The discharge of wastewater from pressure washing to the storm drainage system or surface waters is a prohibited illicit discharge. The deliberate dumping/discharge into the stormwater system is illegal under the federal Clean Water Act (CWA).

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!



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### **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 boundaries of Fort Bragg, is **prohibited** by Federal, State laws. Such a discharge is considered an illicit discharge.

#### **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.

#### **Sanitary Sewer**

Disposal of pressure washing wastewater to the sanitary sewer collection system on Fort Bragg must meet the requirements of American States Utility Service (ASUS) (910) 495-1311.

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### **Septic Systems**

Discharges of pressure washing wastewater to a septic system anywhere on Fort Bragg must be approved by the DPW Water Quality Manager at 908-3969. 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 DPW Hazwaste at 396-2141.

### **FOR MORE INFORMATION**

DPW/Environmental Division/Compliance Branch/Water Management Section  
(910) 908-5286/907-5320 or E-mail [usarmy.Bragg.id-readiness.mbx.dpw-stormwater@army.mil](mailto:usarmy.Bragg.id-readiness.mbx.dpw-stormwater@army.mil)

Cleaning Equipment Trade Association (CETA)  
(800) 441-0111  
[www.ceta.org](http://www.ceta.org)

Power Washers of North America (PWNA)  
[www.pwna.org](http://www.pwna.org)

