

Vehicle Washing Technologies

Handbook AS-554-C

March 1998
Transmittal Letter

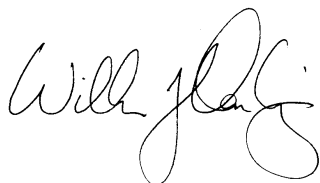
- A. Purpose.** The United States Postal Service is committed to providing our employees and customers with a safe and healthy environment. One way we do this is to meet or exceed all applicable environmental laws and regulations in a cost-effective manner as they relate to vehicle washing operations. Personnel associated with vehicle washing operations are encouraged to incorporate environmental considerations into their business planning processes. We are committed to preventing pollutants from entering stormwater systems and reducing the use of pollutants in our vehicle washing activities.
- B. Disclaimer.** Handbook AS-554-C, *Vehicle Washing Technologies*, is only intended to enhance the internal management of the Postal Service and is not intended to, nor does it, create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by any party against the United States Postal Service. These are not Postal Service regulations; they concern internal procedures and practices that do not affect individual rights and obligations, and they do not create any right to judicial review involving compliance or noncompliance with the procedures established by this handbook.
- C. Contents.** This handbook is a reference document for personnel associated with postal vehicle washing operations. It can be used to assist in the selection of an appropriate vehicle washing technology and in evaluation of available washing processes. Postal Service policy and goals are presented as they relate to vehicle washing technologies and the regulations that affect wash water collection, treatment, and disposal. The three major washing technologies addressed are permanent facility washing equipment; mobile washing equipment; and off-site washing facilities. Also presented are fact sheets on the technologies and procedures to follow in selecting a vehicle washing system. The appendix contains summaries of federal and state wash water permitting requirements.
- D. Revisions.** This handbook will be revised to reflect new technologies, policies, legislation, and regulations.
- E. Distribution.**

 - 1. Initial.** This handbook is being distributed to all area environmental compliance coordinators, district environmental compliance coordinators, purchasing and materials service centers, managers of vehicle maintenance facilities, and material distribution centers (MDCs).
 - 2. Additional Copies.** Organizations not included in the initial distribution or those requiring additional copies should order copies from the material distribution center using Form 7380, *MDC Supply Requisition*. Copies can also be obtained from the web sites at <http://blue.usps.gov/environmental> and <http://www.usps.gov/environ>.

F. Comments and Questions. If you need further clarification of the policies and procedures outlined in this handbook, send your request to:

MANAGER
ENVIRONMENTAL MANAGEMENT POLICY
UNITED STATES POSTAL SERVICE
475 L'ENFANT PLAZA SW
WASHINGTON DC 20260-2810
(202) 268-5595

G. Effective Date. These instructions are effective immediately.



William J. Dowling
Vice President
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How to Use This Handbook



This handbook is a guide for Postal Service personnel who handle vehicle washing operations. It can be used as a tool to assist in the selection of an appropriate vehicle washing technology and in the evaluation of available washing processes. Postal Service policy and goals are presented as they relate to vehicle washing technologies and the regulations that affect wash water collection, treatment, and disposal.

This handbook addresses several important issues pertaining to vehicle washing: the equipment, the processes, and the waste water resulting from vehicle washing. Specifically, the following topics are covered:

- Vehicle washing regulatory requirements.
- Postal Service policy and goals.
- Identification of vehicle washing technologies.
- Comparison of vehicle washing processes.
- Discussion of wash water disposal options.

The following three major vehicle washing technologies are identified in this handbook:

- Permanent facility washing equipment.
- Mobile washing equipment.
- Off-site washing.

Each of these technologies is evaluated based on cost, operation and maintenance, system efficiency, and site requirements. The chapters focus on selection of an appropriate vehicle washing technology and comparison of the various washing processes associated with each technology. Fact sheets, flow charts, and diagrams are provided to assist Postal Service personnel in this selection process. The appendices provide more specific environmental issues for Postal Service personnel to consider in planning a vehicle washing program.

This handbook can be used as a tool to assist in the selection of an appropriate vehicle washing technology and in the evaluation of available washing processes.



1 Introduction



1-1 Background

The Postal Service operates a fleet of over 200,000 vehicles located in towns and cities throughout the United States. These vehicles range in size from passenger sedans to 9-ton tractor-trailers. Long-life vehicles (LLVs) constitute the majority of the overall fleet.

The Postal Service operates a fleet of over 200,000 vehicles, with the majority being LLVs.

Vehicle washing plays a significant role in public image and proper vehicle maintenance for this vast fleet. Most Postal Service facilities wash vehicles at the rate of about twice per month. It is estimated that almost 100 million gallons of water are used each year to accomplish this goal. Considering the volume of vehicle washing activity, Postal Service personnel must be aware of current vehicle washing regulations and policies.

1-2 Regulatory Requirements

Vehicle wash water is considered an industrial wastewater discharge and must meet special conditions imposed by federal, state, and local agencies. If vehicle wash water is allowed to discharge directly into surface water (e.g., streams, lakes, wetlands) or into the same system that drains stormwater, the discharge is subject to federal permit conditions under the National Pollution Discharge Elimination System (NPDES). These regulations, which came into existence as part of the 1987 amendments to the Clean Water Act, require vehicle wash water to be separated from stormwater in its collection, treatment, and discharge. Summaries of federal Environmental Protection Agency (EPA) and state permitting requirements as they relate to vehicle washing are provided in Appendix A.

Vehicle wash water is classified as an industrial wastewater discharge and is subject to federal EPA regulations.

Vehicle washing operations that discharge to surface waters risk Notices of Violation and even fines from regulatory agencies. Under the Clean Water Act, fines can be as high as \$25,000 per day for negligent violations and as high as \$50,000 per day for knowingly violating regulations.

States are conducting inspections of facilities at which vehicles are washed and are assessing violators with fines.



Postal Service policy is to meet all applicable federal, state, and local regulations that apply to discharge of vehicle wash water.

The Postal Service goal of zero discharge means no discharge of vehicle wash water to storm drains or surface waters.

1-3 **Postal Service Policy and Goals**

The Postal Service is committed to preventing pollutants from entering stormwater systems, removing pollutants from runoff, and reducing the use of pollutant materials in its vehicle washing activities. The Postal Service policy is to meet all applicable federal, state, and local regulations that apply to discharge of vehicle wash water.

In meeting its commitment to comply with these regulations, the Postal Service has established a goal of zero discharge of vehicle wash water to stormwater systems. However, discharge of vehicle wash water to sanitary sewer systems is acceptable under the following conditions:

- Approval from the local sewer district or municipality is obtained.
- Vehicle wash water pretreatment requirements are met.



2 Vehicle Washing Technologies



Three major vehicle washing technologies meet Postal Service vehicle washing policies and goals:

- Permanent facility washing equipment.
- Mobile washing equipment.
- Off-site washing.

These technologies and the washing processes associated with each are described in sections 2-1 through 2-3, and their related exhibits provide information relative to estimated washing costs, operation and maintenance (O&M) requirements, system efficiency, and site requirements.

2-1 Permanent Facility Washing Equipment

Permanent facility washing equipment requires the use of an existing on-site wash bay or installation of a new wash bay. The bay should be of adequate size to accommodate the washing equipment and the largest vehicle to be washed. These systems are most appropriate for facilities that wash over 50 vehicles per week and have skilled labor to operate and maintain the equipment. Permanent facility washing equipment is usually operated by facility personnel.

Permanent facility washing equipment can be grouped into the following three categories:

- Manual washing systems.
- Mechanical brush systems.
- Brushless systems.

Permanent facility washing equipment is installed in existing or newly constructed wash bays. They are most appropriate for facilities that wash over 50 vehicles per week.

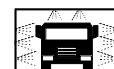
Permanent facility washing processes include:



Manual washing systems



Mechanical brush systems



Brushless systems





Manual washing systems provide a high-quality wash, but are very labor intensive.

2-1.1 Manual Washing Systems

Manual washing systems include one or more of the following elements: dry washing, high-pressure spray unit, water containers, brushes, and hand washing supplies. Vehicles are brought into the wash bay and manually washed by facility personnel. No automated equipment is involved in manual vehicle washing. If high-pressure spray units are used, the equipment is similar to that described in section 2-2.1, High-Pressure Spray Systems.

Washing times for manual washing systems vary according to the equipment used and the condition of the vehicle. Typical washing times are 10 minutes for an LLV and up to 30 minutes for a tractor-trailer. For more information concerning manual washing systems, see Exhibit 2-1.1.



Mechanical brush systems may include drive-through or gantry equipment.

2-1.2 Mechanical Brush Systems

Mechanical brush systems include drive-through or gantry (rollover) equipment that is either automated or manually operated. These systems use friction and detergent to clean vehicle surfaces. Gantry systems can utilize multiple chemical applications that provide superior cleaning of vehicles using a three-brush approach. Although a wide variety of mechanical brush systems is available, most systems are categorized as either one-step or two-step.

One-step brush systems typically include the following wash cycles:

- Detergent application.
- Cleaning with mechanical brushes.
- Final rinsing.

Two-step brush systems typically include the following wash cycles:

- Acid presoak.
- Detergent application.
- Cleaning with mechanical brushes.
- Final rinsing.

In one-step systems, debris is removed from the vehicle using a detergent application and a series of brushes. A final rinse completes the process. In two-step systems, an acid presoak is applied to the vehicle before applying detergent. The acid removes diesel stains and road film and dissolves aluminum oxides. The detergent emulsifies oils, removes materials already loosened by the acid presoak, and neutralizes the acid. As with the one-step system, a final rinse completes the two-step process.

Both one-step and two-step systems require the use of pumps, tanks, control systems, and framework. Pumps are used to add detergent to water before application, to apply the detergent-water mixture to the vehicle, and to apply the final rinse. Tanks are required to store detergent, surge water, and fresh or filtered reclaimed water. When reclaimed water is transferred to holding tanks, a system to prevent algal and bacterial growth and odors in holding tanks may be required. A control system is necessary to activate the wash, control the detergent level, and time the various stages of the wash cycle.

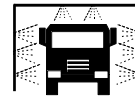
Drive-through mechanical brush systems require a framework consisting of a presoak and/or detergent arch, stationary brush equipment, and a rinse arch. Gantry systems differ from drive-through systems in that they utilize a single rolling arch. For more information concerning mechanical brush systems, see Exhibit 2-1.2.



2-1.3 Brushless Systems

The brushless system is a high-pressure system that avoids touching of the vehicle. Similar to mechanical brush systems, brushless systems may include either drive-through or gantry equipment that is either automated or manually operated. Because brushes are not used as part of the process, brushless systems typically include an acid presoak (two-step approach) to loosen debris, grease, and oil from the vehicle surface. Also, water pressure may be increased during the detergent and rinse applications to further assist in debris removal in the absence of brushes.

Brushless drive-through systems require a framework consisting of the following free-standing arches: an acid presoak applicator arch, a detergent arch, and a high-pressure rinse arch. Brushless gantry systems have a single rolling arch. Like the mechanical brush systems, brushless systems also require the use of control systems, pumps, and tanks. Additional information pertaining to brushless systems is provided in Exhibit 2-1.3.



Brushless systems usually use a “two-step” approach. These systems eliminate physical touching of the vehicle and are, therefore, less complex than brush systems.

2-2 Mobile Washing Equipment

Vehicle washing processes associated with mobile washing technology may include high-pressure spray systems, brush systems, dry washing, or manual washing. During mobile washing, vehicles are typically washed on-site using equipment owned and operated by an independent vehicle washing contractor. Mobile washing equipment is brought to the facility, thus no on-site construction is required.

Wash water collection and treatment methods associated with mobile washing are highly variable. Typical wash water containment systems include storm drain covers, berms, or inflatable mats. Treatment and disposal options may include discharging directly to the sanitary sewer, discharging to the sanitary sewer following pretreatment, or transporting wash water to an approved off-site disposal facility.

The possibility of residual surface contamination left behind following mobile washing should be considered. Residual surface contamination may include any potential stormwater pollutants that settle on the washing site surface that are not collected with the wash waters. These contaminants can enter surface waters through the storm drain system during the next rainfall event. Best Management Practices (BMPs), such as thoroughly cleaning the washing surface after all vehicles have been washed, should be required of the contractor and incorporated as part of the normal operating procedures. Wastewater generated from washing the site surface after vehicles have been cleaned should be collected and disposed of in the same manner as vehicle washing wastewater.

Mobile washing processes include:

 High-pressure spray systems

 Brush systems

 Dry washing

 Manual washing

Mobile washing equipment is brought to the facility by an independent vehicle washing contractor; thus no construction is required. Typical wash water containment systems include storm drain covers, berms, or inflatable mats.



The volume of wash water to be disposed of may be reduced by using a system that allows wash water reuse. If the mobile washing contractor transports the wash water off-site, local weight limitations on transportation vehicles may apply, and therefore total vehicle weight (including wash water) must be considered.



Depending on the type of vehicle to be washed and the amount of debris that needs to be removed, high-pressure spray systems can use any combination of cold water, hot water, or steam with or without detergent or acid-detergent washes.

2-2.1 High-Pressure Spray Systems

Mobile high-pressure spray systems consist of a power supply or generator, a pump to supply pressure, a heating system, an optional cleaning chemical injection system, an optional acid-feed system, a hose, and a wand. Wash water collection systems may include storm drain covers, berms, inflatable mats, pumps, and storage tanks. Most systems allow some level of temperature control and can provide cold water, hot water (approximately 200°F), or steam cleaning options. Units can provide flow rates ranging from 1 to 6 gallons per minute (gpm) and pressures as high as 3,000 pounds per square inch (psi).

Depending on the type of vehicle to be washed and the amount of debris that needs to be removed, these systems can use any combination of cold water, hot water, or steam with or without detergent or acid-detergent washes. To enhance the quality of the wash, vehicles can be brushed to remove debris before the high-pressure water system is used. Washing times for high-pressure spray systems vary according to the equipment used and the condition of the vehicle. Typical washing times are 10 minutes for an LLV and 15 minutes for a tractor-trailer. See Exhibit 2-2.1 for more information on high-pressure spray systems.



Mobile brush systems are only appropriate for washing straight-sided vehicles.

2-2.2 Brush Systems

Mobile brush systems look like forklifts with a single, vertical side brush attachment. These systems are only appropriate for washing straight-sided vehicles. Brush units rely on friction combined with detergent and water to clean the vehicles. Typical washing times are from 3 to 5 minutes for a 45-foot trailer. Most mobile brush cleaners have sufficient water capacity to wash between 3 and 5 trailers; however, systems that incorporate water recycling equipment may wash up to 15 trailers before refilling. See Exhibit 2-2.2 for more information on mobile brush systems.



Dry washing does not require water; thus no wash water is discharged. It is labor intensive and may not be practical for large fleets.

2-2.3 Dry Washing

Dry washing involves the use of a chemical cleaner sprayed or wiped onto the vehicle surface. The chemical may be applied in a thick liquid form or by an aerosol applicator for spray application. Most aerosol applicators are pressurized manually or with a pump. After the chemical cleaner has been applied to the vehicle, it is wiped off using a rag. The rags are then laundered at a regular commercial laundry. An LLV can be cleaned using the dry washing process in approximately 20 minutes.



Due to labor requirements, product costs, and used material disposal requirements, independent washing contractors typically charge more for dry washing than for the other mobile washing processes. Recent increases in the variety of dry washing products and the number of contractors offering dry washing services, however, have led to a reduction in washing costs in many areas to a level more competitive with the other mobile washing alternatives. Dry washing may require occasional augmentation by one of the other wet washing options in order to clean vehicle surfaces that cannot be washed using dry washing processes and to achieve improved wash quality.

The primary advantage of dry washing is that it requires no water and, therefore, involves no discharge of wash water. Regulatory issues regarding water usage and wash water disposal are eliminated. However, few companies use dry washing techniques for washing large vehicles, as long, flat surfaces are more easily cleaned using other methods. Additionally, the chemical propellants may contain chlorofluorocarbons (CFCs), which are stringently regulated by the EPA. Additional information pertaining to dry washing is provided in Exhibit 2-2.3.

2-2.4 Manual Washing

Manual washing is typically accomplished using a source of water, wash buckets, rags, and a cleaning agent. Brushes may also be used on hard-to-clean portions of the vehicle. Towels are usually used to dry the vehicle after rinsing.

Manual washing usually results in the best quality wash. However, like dry washing, manual washing is very labor intensive and may not be practical for washing large fleets. See Exhibit 2-2.4 for more information.

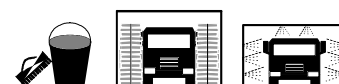


Manual washing provides a high-quality wash, but is labor intensive.

2-3 Off-Site Washing

Off-site washing options include washing at commercial facilities and various manual washing options. Commercial washing facilities may include brush or brushless systems and typically consist of either drive-through or gantry-type equipment. Many facilities provide detailing options such as wax applications, wheel brightening, and interior cleaning. Off-site manual washing options may include hand washing or dry washing by charity groups or various civic organizations.

Off-site washing options include:



Washing at commercial facilities



Manual washing options





Commercial washing processes may include drive-through systems, gantry systems, or self-service washing (typically using high-pressure spray systems) at a commercial washing facility. Washing is conducted off-site at a properly permitted commercial vehicle washing facility that meets the Postal Service zero discharge criteria.



Off-site manual washing options include washing by charity groups or civic organizations.

2-3.1 Commercial Washing Facilities

Commercial washing processes may include drive-through systems, gantry systems, or self-service washing (typically using high-pressure spray systems) at a commercial washing facility. Washing equipment and processes are similar to those described in section 2-1, Permanent Facility Washing Equipment. Hand washing and/or brushing may also be done to enhance the quality of wash.

Under these processes, vehicle washing is conducted off-site at a properly permitted commercial vehicle washing facility that meets the Postal Service zero discharge criteria. When approving washing at a commercial facility, the facility manager should first request certification from the Publicly Owned Treatment Works (POTW) that the commercial washing facility meets its pretreatment requirements. If certification from the POTW cannot be obtained, then the contractor should be requested to certify that applicable pretreatment requirements have been met. See Exhibit 2-3.1a for more information. A sample letter requesting such certification is provided in Exhibit 2-3.1b.

2-3.2 Manual Washing Options

Manual washing options include off-site hand washing or dry washing by charity groups or civic organizations. Hand washing typically involves a water source, wash buckets, rags, and a cleaning agent. Brushes may also be used on hard-to-clean portions of the vehicle. Towels are used to dry the vehicles after rinsing. See section 2-2.3 for a description of dry washing. These washing processes require the organizations to use containment of wash water and disposal methods consistent with Postal Service policy, and for them to follow EPA regulations on the use of CFCs in dry washing. See Exhibit 2-3.2 for more information.

2-4 Fact Sheets

Detailed descriptions of each vehicle washing process defined in this chapter are provided in the “fact sheets” which follow. For each washing process, information is provided pertaining to estimated vehicle washing costs, operation and maintenance requirements, system efficiency, and site requirements. Advantages and disadvantages associated with each washing option are also presented.



Vehicle Washing Technology

Permanent Facility Washing Equipment

Washing Process Evaluated Manual Washing Systems



System Description: Manual washing systems may include high-pressure spray equipment and/or water containers, brushes, and wash rags. Vehicles are brought into the wash bay and manually washed by facility personnel. No automated equipment is involved. If high-pressure spray is required, equipment typically consists of a power supply or generator, a pump to supply pressure, a heating system, an optional cleaning chemical injection system, an optional acid-feed system, a hose, and a wand.

If an existing wash bay can be used that is already connected to the sanitary sewer system and meets pretreatment requirements, the only major expense in manual washing with brushes and rags is the labor.

Dry washing is another manual washing option. See its system description in Exhibit 2-2.3.



Cost: These systems require the use of a covered wash bay. Costs for renovating existing bays or constructing new bays are not included. If a high-pressure spray system is required, units usually cost less than \$10,000, but prices vary widely depending on the volume of washes needed, flow rates, pressure range, and other options required.

Operation and Maintenance: Manual washing systems using brushes and wash rags require little or no equipment operation and maintenance.

If high-pressure spray equipment is used, routine maintenance is required on pumps, heating systems, and chemical injection systems. On-site personnel must be properly trained in the operation of this equipment.

System Efficiency: Depending on the type of vehicle and the amount of dirt that needs to be

removed, these systems use any combination of cold water, hot water, or steam, with no detergent, heavy duty detergent, or acid-detergent washes. When necessary, vehicles are brushed to remove mud and dirt before the high-pressure water system is utilized. Washing times vary depending on the equipment used, how dirty the vehicle is, and how clean the vehicle needs to be. Typical washing times are approximately 10 minutes to wash an LLV and up to 30 minutes to wash a tractor-trailer.

Site Requirements: These systems require use of an existing washing facility or construction of a new washing facility. Sanitary sewer availability and hook-up are required. If dry washing is a manual washing option, a small storage area is required for dry washing products, chemicals, and cloths.

Advantages:

- Manual washing provides the best quality wash of the permanent facility washing options.
- This system has a low equipment cost.
- Manual washing requires minimal equipment operation and maintenance.
- See Exhibit 2-2.3 for dry washing advantages that may apply.

Disadvantages:

- Manual washing with brushes and rags is very labor intensive.
- Manual washing using a high-pressure spray is less labor intensive, but requires additional capital cost and increases O&M requirements.
- Improper use of chemicals could damage a vehicle.
- Health and safety precautions must be used during the application of chemicals.
- See Exhibit 2-2.3 for dry washing disadvantages that may apply.



Vehicle Washing Technology

Permanent Facility Washing Equipment

Washing Process Evaluated Mechanical Brush Systems



System Description: Mechanical brush systems typically include drive-through or gantry (rollover) equipment that can be either automated or manually operated. These systems use friction and detergent to clean vehicle surfaces. Drive-through mechanical brush systems require a framework consisting of a presoak and/or detergent arch, stationary brush equipment, and a rinse arch. Gantry systems have a single rolling arch. Most systems can be categorized as either one-step or two-step systems.

In one-step systems, detergent is applied to the vehicle and the dirt is removed by a series of brushes. A final rinse is also applied. In two-step systems, an acid presoak is applied to the vehicle before applying detergent, activating brushes, and applying rinse water. The acid cuts through diesel stains and road film and serves as an aluminum brightener. The detergent emulsifies oils, acts on the materials already loosened by the acid presoak, and neutralizes the acid.

Pumps must be provided to add detergent to water before application of the detergent-water mixture to the vehicle and for the final rinse. Tanks are required



to hold detergent, surge water, and rinse water. A control system is necessary to activate the wash, control the detergent level, and time the various stages of the washing cycle. When water is reclaimed, a system to prevent algal and bacterial growth and odors in holding tanks may be required.

Cost: Capital cost for washing equipment and installation ranges from \$40,000 to \$80,000. This cost assumes that an existing wash bay can be used and no new structural facilities must be built. Also, costs for sanitary sewer hookup and pretreatment facilities (if required) are not included.

Operation and Maintenance: Routine maintenance is required on pumps, arches, hoses, circuitry, treatment equipment, and all other mechanical parts and accessories. Two-step systems usually require additional maintenance since more chemicals are used and pumping systems may corrode quickly. On-site personnel must be properly trained in the operation of this equipment.

System Efficiency: Systems are available to provide the quality of wash desired in a relatively short period of time; however, the system complexity increases with the quality of wash required. Systems are adaptable to a wide variety of vehicle sizes. Typical washing times can vary from 1 to 5 minutes, depending on vehicle type and quality of wash needed.

Site Requirements: Permanent facilities require use of an existing wash bay or construction of a new facility. Sanitary sewer availability, pretreatment facilities, and hookups are required.

Advantages:

- Systems are available to provide the quality of wash required.
- Most systems can be adapted to washing vehicles of various sizes.
- This system results in low washing costs per vehicle given sufficient volume.
- This system is less labor intensive due to system automation.

Disadvantages:

- Systems require equipment capital cost.
- Permanent facility washing equipment requires sanitary sewer hookup and must meet pretreatment requirements.
- This system has high O&M costs.
- Permanent installations require training of skilled personnel to operate and maintain them.
- Improper use of chemicals could damage a vehicle and lead to additional maintenance costs.



Vehicle Washing Technology

Permanent Facility Washing Equipment

Washing Process Evaluated Brushless Systems



System Description: Brushless systems may include either drive-through or gantry equipment, which can be either automated or manually operated. Because brushes are not used as part of the process, brushless systems typically include an acid presoak (two-step approach) to loosen dirt, grease, and oil from the vehicle surface and brighten aluminum. Also, water pressure may be increased during the detergent and rinse applications to further assist in dirt removal in the absence of brushes.

Similar to the mechanical brush systems, brushless drive-through systems require a framework consisting of free-standing arches: an acid presoak applicator arch, a detergent arch, and a high-pressure rinse arch. Brushless gantry systems have a single rolling arch.

Pumps must be provided to add the acid to water so that the correct presoak concentration is attained, to mix detergent with water prior to application, to apply the acid and detergent, and to provide the final high-pressure rinse. Tanks are required to hold acid, detergent, and water and to store fresh or filtered



reclaimed water. A control system is necessary to activate the wash, control the detergent level, and time the various stages of the washing cycle. When water is reclaimed, a system to prevent algal and bacterial growth and odors in holding tanks may be required.

Cost: Capital cost for washing equipment and installation ranges from \$30,000 to \$60,000. This cost assumes that an existing wash bay can be used and no new structural facilities must be built. Also, costs for sanitary sewer hookup and pretreatment facilities (if required) are not included.

Operation and Maintenance: Routine maintenance is required on pumps, arches, hoses, circuitry, treatment equipment, and all other mechanical parts and accessories. Two-step systems usually require more maintenance since more chemicals are used and pumping systems may corrode quickly. On-site personnel must be properly trained in the operation of this equipment.

System Efficiency: Systems are available to provide the quality of wash desired in a relatively short period of time; however, the system complexity increases with the quality of wash required. Systems adaptable to a wide variety of vehicle sizes are available. Typical washing times can vary from 1 to 5 minutes, depending on vehicle type and quality of wash.

Site Requirements: Permanent facilities require use of an existing wash bay or construction of a new facility. Sanitary sewer availability, pretreatment facilities, and hookups are required.

Advantages:

- Systems are available to provide the quality of wash required.
- Most systems can be adapted to washing vehicles of various sizes.
- This system results in low washing costs per vehicle given sufficient volume.
- This system is less labor intensive due to system automation.

Disadvantages:

- Systems require equipment capital cost.
- Permanent facility washing equipment requires sanitary sewer hookup and must meet pretreatment requirements.
- This system has high O&M costs.
- Permanent installations require training of skilled personnel to operate and maintain them.
- Improper use of chemicals could damage a vehicle and lead to additional maintenance costs.



Vehicle Washing Technology

Mobile Washing Equipment

Washing Process Evaluated High-Pressure Spray Systems



System Description: Mobile high-pressure spray systems consist of a power supply or generator, a pump to supply pressure, a heating system, an optional cleaning chemical injection system, an optional acid-feed system, a hose, and a wand. Wash water collection systems may include storm drain covers, berms, inflatable mats, pumps, and storage tanks.

Most systems allow some level of temperature control and can provide cold water, hot water (approximately 200°F), or steam cleaning options. Units can provide flow rates ranging from 1 to 6 gpm and pressures as high as 3000 psi. Depending on the type of vehicle and the amount of dirt that needs to be removed, these systems can use any combination of cold water, hot water, or steam with or without detergent or acid-detergent washes. When necessary,

vehicles are brushed to remove mud and dirt before the high-pressure water system is used.



Cost: Washing costs depend on the size, shape, and number of vehicles to be washed. Per vehicle washing costs generally range from \$4.00 to \$10.00.

Operation and Maintenance: Operation and maintenance of mobile high-pressure spray systems are the contractor's responsibility.

System Efficiency: This technique is suitable for all vehicles. It is most effective on LLVs, tractors, and truck cabs when combined with hand brushing to remove road films. High-pressure sprays are most effective when used with detergent and hot water; however, use of detergent and/or hot water is prohibited in mobile washing activities in some parts of the country. Washing times vary depending on the equipment used, how dirty the vehicle is, and how clean the vehicle needs to be. Typical washing times are

approximately 10 minutes for an LLV and 15 minutes for a tractor-trailer.

Site Requirements: When washed by high-pressure spray, vehicles can often be washed where parked. Spray systems utilize all methods of wash water control and collection, including portable mats. The possibility of residual surface contamination left behind following mobile washing should be considered. Residual surface contamination may include any potential stormwater pollutants that settle on the washing site surface that are not collected with the wash water. BMPs, such as thoroughly cleaning the washing surface after all vehicles have been washed, should be required of the contractor and incorporated as part of the normal operating procedures.

Advantages:

- These systems are versatile and can wash most kinds of dirt from most surfaces. The operator can usually adjust temperature, pressure, and cleaning chemicals as appropriate.
- These systems require little or no operation and maintenance costs.
- Vehicles can often be washed where parked.
- Some units incorporate an acid-feed system for removing organics and brightening vehicle surfaces.
- Many systems provide recycling capabilities.

Disadvantages:

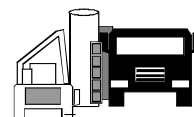
- Washing requires on-site containment of wash water and disposal methods consistent with Postal Service policy.
- High-pressure spray systems require moderate to high contractor labor costs.
- If acid is used, precautions must be taken not to damage or etch nonmetal vehicle areas (e.g., windshield glass).



Vehicle Washing Technology

Mobile Washing Equipment

Washing Process Evaluated Brush Systems



System Description: Mobile brush cleaners look like forklifts with a single, vertical side brush attachment. These systems are only appropriate for washing straight-sided vehicles. Brush units rely on friction combined with detergent and water to clean the vehicles. Mobile brush cleaners usually have sufficient water capacity to wash between 3 and 5 trailers; however, systems that incorporate water recycling equipment may wash up to 15 trailers before refilling.



Cost: Washing costs depend on the size, shape, and number of vehicles to be washed. Per vehicle washing costs generally range from \$3.00 to \$7.00.

Operation and Maintenance: Operation and maintenance of mobile brush systems are the contractor's responsibility.

System Efficiency: This technique provides a high quality wash on long, straight sides. It is mostly economical for fleets with a large number of trailers or vans. Brush systems are most effective when used with detergent and hot water; however, use of detergents and/or hot water is prohibited in mobile washing activities in some parts of the country. Washing times are typically 3 to 5 minutes for a 45-foot trailer.

Site Requirements: This technique is primarily used for washing trailers, some vans, or long, straight-

sided vehicles. Vehicles must be moved to a suitable open area accessible by the mechanical brush. Also, wash water control and collection are often limited to use of dikes, berms, storm drain covers, and vacuums; inflatable mats are not suitable for use with this technique. Partial or total recycling units are available that may reduce or eliminate other wash water control requirements.

The possibility of residual surface contamination left behind following mobile washing should be considered. Residual surface contamination may include any potential stormwater pollutants that settle on the washing site surface that are not collected with the wash waters. BMPs, such as thoroughly cleaning the washing surface after all vehicles have been washed, should be required of the contractor and incorporated as part of the normal operating procedures.

Advantages:

- Washing quality for the surfaces reached is very good.
- Washing is highly automated and quick. This process is far less labor intensive than manual cleaning operations.
- Brush systems have low to moderate contractor labor costs.
- Some units incorporate an acid-feed system for removing organics and brightening vehicle surfaces.
- Many systems provide recycling capabilities.

Disadvantages:

- Mobile brush systems are not very versatile and can only be used effectively on large, flat surfaces (i.e., cannot be used on irregular surfaces).
- These systems require on-site containment of wash water and disposal methods consistent with Postal Service policy.
- A facility must maintain a suitable open area where vehicles can be moved for washing.
- If acid is used, precautions must be taken not to damage or etch nonmetal vehicle areas (e.g., windshield glass).



Vehicle Washing Technology

Mobile Washing Equipment

Washing Process Evaluated Dry Washing



System Description: Dry washing involves the use of a chemical cleaner sprayed or wiped onto the vehicle surface. The chemical may be applied in a thick liquid form or by an aerosol applicator for spray application. Most aerosol applicators are pressurized manually or with a pump. Chemical propellants may contain chlorofluorocarbons (CFCs), which are stringently regulated by the Environmental Protection Agency and should not be used. After the cleaning chemical has been applied to the vehicle, it is wiped off using a rag. The rags are then laundered at a commercial laundry.



Cost: Washing costs depend on the size, shape, and number of vehicles to be washed. Per vehicle washing costs generally range from \$8.00 to \$15.00.

Operation and Maintenance: Operation and maintenance of mobile dry washing are the contractor's responsibility.

System Efficiency: Due to the high labor requirements, this technique is most suitable for small numbers of LLVs and other small vehicles, but may be attractive for larger vehicles or larger fleets in areas with water-use restrictions. Recent increases in the variety of dry washing products and the number of contractors offering dry washing services have led to a reduction in washing costs in many areas to a level

more competitive with the other mobile washing alternatives.

Dry washing may require augmentation by one of the other wet washing options in order to clean vehicle surfaces that cannot be washed using dry washing processes and to achieve a better wash quality. The requirement (if any) and frequency of wet washing depend on the type of dry wash cleaner used and the product removal technique.

Site Requirements: Depending on the climate, vehicles can often be washed where parked. Dry washing would typically be accomplished by a mobile washing contractor.

Advantages:

- Dry washing provides a high quality wash for painted and polished surfaces, removes oxidation from vehicles, and provides a protective wax layer.
- This process requires no water and, therefore, results in no waste discharge other than dirty rags and used containers.
- Dry washing can be used in areas where drought restrictions apply.
- Dry washing has low (if any) equipment costs.
- This process requires no operation and maintenance costs.
- Regulatory issues regarding water use or discharge are eliminated.

Disadvantages:

- Dry washing is labor intensive and has a higher product cost (chemicals) than other mobile washing processes.
- Dry washing is a new technology; therefore, information about long-term use is not available.
- Dry washing may not get all portions of the vehicles equally clean and cannot be used to wash undercarriages, engines, and tires.
- Dirty rags must be either laundered or disposed of in an environmentally sound method.
- Volatile air emissions may require additional health and safety measures and air permits.



Vehicle Washing Technology

Mobile Washing Equipment

Washing Process Evaluated Manual Washing



System Description: Manual washing is typically accomplished using a source of water, wash buckets, rags, and a cleaning agent. Brushes may also be used on hard-to-clean portions of the vehicle. Towels are usually used to dry the vehicle after rinsing. Acid rinsing cannot be incorporated into the washing process to remove organics and brighten aluminum.



Cost: Washing costs depend on the size, shape, and number of vehicles to be washed. Per vehicle washing costs generally range from \$4.00 to \$10.00.

Operation and Maintenance: Any operation and maintenance that mobile manual washing may require are the contractor's responsibility.

System Efficiency: This technique is most suitable for small numbers of LLVs and small vehicles due to the high labor requirements. It provides a high quality wash except for missed spots. This technique is most effective when used with detergent and hot water; however, use of detergent and/or hot water is prohibited in mobile washing activities in some parts of the country. An LLV can be washed in approximately 15 minutes.

Site Requirements: Vehicles can often be washed where parked. Wash water control and collection may be accomplished by all methods, including portable mats. The possibility of residual surface contamination left behind following mobile washing should be considered. Residual surface contamination may include any potential stormwater pollutants that settle on the washing site surface that are not collected with the wash waters. BMPs, such as thoroughly cleaning the washing surface after all vehicles have been washed, should be required of the contractor and incorporated as part of the normal operating procedures.

Advantages:

- Manual washing generally provides the best quality wash of the mobile washing options.
- This process has no equipment costs.
- Manual washing requires no operation and maintenance.
- Vehicles can often be washed where parked.

Disadvantages:

- Manual washing is labor intensive and thus can be more costly.
- Lengthy washing times can occur, depending on available labor.
- Manual washing requires on-site containment of wash water and disposal methods consistent with Postal Service policy.
- Manual washing does not allow acid to be used with detergent to brighten aluminum.



Vehicle Washing Technology Off-Site Washing



Washing Process Evaluated Commercial Washing Facilities

System Description: Commercial washing processes may include drive-through systems, gantry systems, or self-service washing (typically using high-pressure spray systems) at a commercial washing facility. Hand washing and/or brushing may also be done to enhance the quality of wash.

Under these processes, vehicle washing is conducted off-site at a properly permitted commercial vehicle washing facility that meets the Postal Service zero discharge criteria. When approving washing at a commercial facility, the facility manager should first request certification from the POTW that the commercial washing facility meets its pretreatment requirements. If certification from the POTW cannot be obtained, then the contractor should be requested to

certify that applicable pretreatment requirements have been met.



Cost: Washing costs depend on the size, shape, and number of vehicles to be washed. Per vehicle washing costs generally range from \$2.00 to \$10.00.

Operation and Maintenance: Operation and maintenance of equipment are the responsibility of the commercial washing facility. When using self-service commercial washing equipment, postal employees must be properly trained in its operation.

System Efficiency: Most commercial facilities are adaptable to various-sized vehicles and provide a

high quality wash in a short period of time; however, time required to transport vehicles to and from the commercial washing facility and to wait for an available washing area could be excessive. Also, many facilities require removal of side view mirrors from LLVs because washing equipment could cause damage. Actual washing times can vary from 1 to 5 minutes depending on vehicle type and quality of wash required.

Site Requirements: This does not apply since washing is done off-site.

Advantages:

- Commercial washing facilities typically provide a high-quality wash.
- Washes are usually highly automated and fast.
- No on-site wash water containment, collection, or treatment is required at Postal Service facilities since the off-site vendor is responsible for wastes.
- There are no equipment or supply costs.
- There is no direct regulatory involvement.

Disadvantages:

- Lost work time results from transporting vehicles to and from the commercial washing facility and from waiting if vendor operations are busy.
- The commercial facility must have disposal methods consistent with Postal Service policy.
- There may be limitations in ability to wash vehicles of very large size.
- Many facilities require removal of side view mirrors from LLVs because washing equipment could cause damage.
- Facilities may not be available within normal routing areas.
- Increased labor costs may be incurred if manual off-site washing facilities are used.

Note: Refer to permanent facility washing equipment fact sheets for other advantages and disadvantages associated with these systems.



Sample Letter Requesting Certification From the POTW That the Commercial Washing Facility Meets Its Pretreatment Requirements



[*date*]

[*POTW facility name and address*]

SUBJECT: Request for Certification That [*Commercial Washing Facility*] Meets All Applicable Pretreatment Requirements

Dear [*name*]:

The U. S. Postal Service [*specify name of post office or facility*] is considering entering into a vehicle washing agreement with [*name of commercial washing facility*] to provide vehicle washing services. The U. S. Postal Service is aware, however, that certain commercial facilities are often required to provide some degree of wash water pretreatment prior to discharging to a wastewater treatment facility.

In keeping with U.S. Postal Service policy to comply with all applicable federal, state, and local regulations, we are requesting certification that [*name of commercial washing facility*] meets all applicable wastewater pretreatment requirements. Your assistance in providing such certification would be greatly appreciated.

Sincerely,

[*your name*]



Vehicle Washing Technology

Off-Site Washing

Washing Process Evaluated Manual Washing Options



System Description: Manual washing options include off-site hand washing by charity groups or civic organizations. Washing would typically involve a water source, wash buckets, rags, and a cleaning agent. Brushes may also be used on hard-to-clean portions of the vehicle. Towels would be used to dry the vehicles after rinsing. These washing processes require the organizations to use containment of wash water and disposal methods consistent with Postal Service policy.

Dry washing is another off-site manual washing option. See its system description in Exhibit 2-2.3.



Cost: Washing costs depend on the size, shape, and number of vehicles to be washed. Per vehicle washing costs generally range from \$3.00 to \$6.00.

Operation and Maintenance: Because this manual washing is accomplished off-site, no operation and maintenance are involved.

System Efficiency: This technique is best suited for small numbers of LLVs and small vehicles due to the

high labor requirements. It provides a high quality wash except for missed spots. Washing times are long (anywhere from 20 to 60 minutes) depending on labor available, nature of operations, and type of vehicle.

Site Requirements: This does not apply since washing is done off-site.

Advantages:

- Manual washing typically provides a high quality wash.
- There is no investment in equipment or supplies.
- There is no direct regulatory involvement.
- See Exhibit 2-2.3 for dry washing advantages that may apply.

Disadvantages:

- Lost work time results from transporting vehicles to and from the wash site, waiting if volunteers are not available, and waiting for the volunteers to wash the vehicle.
- These washing processes require the organizations to use containment of wash water and disposal methods consistent with Postal Service policy.
- If manual washing facilities are used, the labor costs may increase since manual washing is labor intensive.
- Washing services by charity groups or civic organizations are typically not provided on a continual basis or may not be available within normal routing areas.
- See Exhibit 2-2.3 for dry washing disadvantages that may apply.



3 Vehicle Wash Water Disposal Options



There are five options for vehicle wash water disposal:

- Closed-loop water recycling.
- Partial water recycling.
- Discharge to a sanitary sewer system.
- Discharge to the ground (acceptable option under certain conditions).
- Discharge to surface waters (not a recommended option).

The first four options listed above meet the Postal Service policy and goals (see Chapter 1) as acceptable methods of wash water disposal. The fifth option, discharge to surface waters, is not recommended for the following reasons:

- Surface water discharges must be authorized by a National Pollutant Discharge Elimination System (NPDES) permit.
- Discharge to surface waters or stormwater collection systems may require a high degree of treatment and extensive (and costly) monitoring.

The benefits and disadvantages of the four acceptable vehicle wash water disposal options are discussed in the following sections.

3-1 Closed-Loop Water Recycling

A closed-loop system uses recycled water and has zero discharge to surface waters, stormwater collection systems, sanitary sewer systems, and the ground. However, closed-loop water recycling systems generally use chemicals to help remove solids from the waste stream. Systems that use chemicals produce chemical sludge, which must be handled safely and disposed of in a manner that will not cause pollution of state waters. Additionally, if the closed-loop recycling system has a reservoir to store the recycled water for reuse, the reservoir water may need to be discarded periodically as oil, grease, and other pollutants accumulate. This polluted

Acceptable vehicle wash water disposal options include:

- Closed-loop water recycling.
- Partial water recycling.
- Discharge to a sanitary sewer system.

Discharge to the ground may be an acceptable option under certain conditions.

Closed-loop systems use recycled water and eliminate discharge to surface waters, stormwater collection systems, sanitary sewer systems, and the ground.



reservoir water must also be disposed of in an environmentally sound manner.

3-2 **Partial Water Recycling**

In partial water recycling systems, sewer and water costs are reduced by decreasing the volume of wash water discharged and by limiting the amount of fresh water introduced into the washing system.

In partial water recycling systems, recycled water is used in various stages of the washing cycle, but fresh water may be introduced during rinsing or at other stages of the washing cycle. Filtration and settling systems are generally used to reclaim a portion of the wash water. The remaining wash water may be discharged to the sanitary sewer system after meeting pretreatment requirements. Thus, sewer and water costs are reduced by the decrease in the volume of wash water discharged and the limited amount of fresh water, or makeup water, introduced into the washing system.

3-3 **Discharge to a Sanitary Sewer System**

Discharge to the sanitary sewer system is the most common and usually the most practical disposal option in areas where sanitary sewer systems are available.

The third disposal option, discharge to a sanitary sewer system, involves treating discharged water at a treatment facility before release to the environment (rivers, lakes, sea water, or land). Typically, approval must be obtained from the local sewer authority before connection to the municipal sewer system. Many local sewer authorities require some degree of pretreatment to limit pollutant concentrations before accepting the waste stream. These pollutant limits are established to protect water quality of the receiving water body, to prevent operational problems at the sewage treatment plant, and to protect worker health and safety.

3-4 **Discharge to the Ground**

Discharge to the ground surface is the fourth disposal option. Wash water discharged to the ground surface either evaporates or infiltrates into the groundwater system. In many states, discharge of vehicle wash water to the ground is prohibited (see Appendix A of this handbook for a list of state wash water permitting requirements). In states that do allow discharge to the ground, state or local permits as well as pretreatment measures may be required.

It should be noted, however, that for federal entities, including the Postal Service, activities involving infiltration to groundwater are not subject to local and state permit requirements. Further, unless regulated under the Safe Drinking Water Act, federal regulations do not apply to the infiltration or percolation of waters into the ground. Therefore, unless an NPDES permit is explicitly required for discharges to the ground, the Postal Service is not subject to permit requirements. Postal Service policy, however, is to



voluntarily comply with substantive local and state standards without subjecting itself to the procedural requirements of obtaining permits and reporting. With this in mind, discharge to the ground is considered to be an acceptable option under the following conditions:

- A small fleet of vehicles requires a limited number of washes.
- Recycling is not an available option.
- Wash water cannot be discharged to a sanitary sewer system.
- Discharge to the ground is in accordance with the substantive aspects of federal, state, and local regulations.

Area or performance cluster policy may prohibit this option or limit its application through the adoption of BMPs.



4 Special Considerations



4-1 Economical and Geographical Issues

Several economical and geographical considerations could influence the selection of a vehicle washing method. These considerations include:

- Contractor availability.
- Climate.
- Drought restrictions.
- Type of debris required to be removed from vehicle surfaces.

One economical consideration is contractor availability. In some rural locations, contractors that provide mobile washing services may not be available. Similarly, off-site commercial washing may not be practical in some locations (see section 4-2).

In regard to climate, the practicality of using mobile washing options in areas that experience intense or prolonged subfreezing temperatures must be considered. In areas that are periodically subject to water restrictions under drought conditions, partial or closed-loop recycling systems should be considered.

The type of debris required to be removed from vehicle surfaces is another geographical consideration. For example, dry washing methods are not particularly effective in areas where vehicle surfaces are exposed to clay. Also, brushless systems are typically not as effective as other washing systems where heavy accumulations of clay or other soils on vehicles are common.



4-2 Small Fleet Considerations

Small fleet operators have special concerns that often limit the number of available vehicle washing and wash water disposal options.

The total number of vehicle washes taking place at many rural area post offices may be limited due to the small number of vehicles in service. In these instances, permanent facility washing equipment is not feasible, mobile washing contractors may not be operating within a reasonable distance, and off-site washing facilities may not be available. For these facilities, the following suggestions are made:

- Discharge to a sanitary sewer system when possible. The local sewer utility can identify the closest sanitary sewer to a postal facility.
- Consider contacting other regional post offices and entering into a joint agreement with the nearest mobile washing equipment contractor.
- If a sanitary sewer system is not available and a joint mobile washing agreement is not practical, consider discharge to a landscaped, grassy ground surface or denuded area where the wash water can soak into the ground or evaporate. This can only be done in locations where federal and state regulations allow discharge to the ground and percolation (see Appendix A of this handbook). Consider that wash water may adversely affect landscaping. Additionally, wash water must generally be discharged at least 100 feet from a wellhead. The amount of soaps and detergents used should be minimal.

Regardless of the method used to wash vehicles, discharge to surface waters or stormwater collection systems is not allowed without a permit.



5 Selecting an Appropriate Vehicle Washing Technology



Chapter 2 identified the major vehicle washing technologies along with the washing processes associated with each major technology. Below is a summary of the identified vehicle washing technologies and washing processes:

Permanent Facility Washing Equipment	Mobile Washing Equipment	Off-Site Washing
Manual washing systems	High-pressure spray systems	Commercial washing facilities
Mechanical brush systems	Brush systems	Manual washing options
Brushless systems	Dry washing	
	Manual washing	

In selecting an appropriate vehicle washing technology for a specific facility, several factors should be considered, including fleet size, site constraints, sanitary sewer availability, environmental requirements, personnel availability and commitments, availability of washing contractors, and cost. With these factors in mind, areas and performance clusters may already have determined the direction on how to wash vehicles at certain facilities in the form of overall policy directives. If such directives have not been made, this chapter can be used to identify key items to consider as part of the selection process. The flow chart shown in Exhibit 5 is a step-by-step guide to the decision-making process for selecting an appropriate vehicle washing technology.

The flow chart provided in Exhibit 5 is a step-by-step guide to the decision-making process for selecting an appropriate vehicle washing technology.



5-1 Permanent Facility Washing Equipment

The initial step is to consider installation of permanent facility washing equipment.

The initial step, as shown in the flow chart, is to consider installation of permanent facility washing equipment. In order for permanent facility washing equipment to be a viable technology, several site requirements and fleet washing issues must be addressed. The flow chart provides a systematic process for determining the feasibility of using permanent facility washing equipment by addressing specific questions, including the following:

- a. Is sufficient space available for a permanent washing facility?
- b. Is a permanent washing system warranted for the number of washes required?
- c. Is a sanitary sewer hookup available, and can POTW pretreatment requirements be met?
- d. Is a “no discharge” total recycling system a viable consideration?
- e. Can skilled facility personnel be committed to system operation and maintenance?

Permanent facility washing equipment requires sufficient space for a wash bay, sanitary sewer availability, and a commitment to training personnel in the skills needed to operate and maintain equipment.

If the response to any of these questions is “no,” then permanent washing equipment is not a viable option, and mobile or off-site washing should be considered. If, however, the response to each of these questions is “yes,” then permanent washing equipment may be a viable option. Before choosing permanent washing equipment, the per vehicle washing costs for permanent facility washing should be determined and compared to washing costs associated with mobile and off-site washing. Per vehicle washing costs for mobile and off-site washing are provided in their related exhibits in Chapter 2.

5-2 Mobile Washing Equipment

Mobile washing systems require that wash water be collected on-site without discharge to stormwater collection systems or other surface water systems and be appropriately disposed of.

If permanent washing equipment is found not to be a viable option, then mobile washing by an independent mobile washing contractor should be considered. The questions to consider for mobile washing equipment are listed below:

- a. Are qualified mobile washing contractors available?
- b. Can wash water be collected on-site without discharge to stormwater collection systems or other surface water systems?
- c. Is a sanitary sewer hookup available, and can POTW pretreatment requirements be met?



- d. Does the contractor have a permit for off-site disposal of wash water (if necessary), provide drivers and transportation qualified to meet EPA standards, and otherwise comply with Postal Service policy?
- e. Is dry washing a viable option? Dry washing is generally considered a viable option if dry washing methods are practical for the fleet size and configuration; and if contractors providing dry washing services are locally available.

Depending on the responses to these questions, the flow chart either eliminates mobile washing as a viable technology or directs the user to further evaluate mobile washing versus permanent facility washing equipment or off-site washing options.

5-3 **Off-Site Washing**

If neither permanent facility washing equipment nor mobile washing is found to be a viable option, then off-site washing should be considered. The key issues to consider before selecting an off-site vehicle washing facility include washing costs, the time involved in transporting Postal Service vehicles to and from the facility, and the requirement for a local off-site facility to meet Postal Service wash water disposal policy. The following issues must be addressed when considering off-site washing:

- a. Are off-site commercial facilities available?
- b. Do the commercial facilities treat and dispose of wash water in an acceptable manner?
- c. Can Postal Service personnel or contracted labor be committed to transporting Postal Service vehicles to an off-site location?

Procedures for further evaluation of mobile washing and off-site washing are discussed in the following section.

Before selecting one of the off-site washing options, consider the time involved in transporting Postal Service vehicles to and from the facility.

5-4 **Comparative Evaluation of Vehicle Washing Options**

This section, in combination with Appendix B, provides a method for evaluating the various washing processes available under mobile washing and off-site washing technologies. A comparative analysis of the washing processes is based on three overall evaluation categories: cost, system efficiency, and site requirements.

Mobile washing and off-site washing options are evaluated based on cost, system efficiency, and site requirements.



Due to the variability in the evaluation factors, no hard and fast rules can be written regarding which washing process is most appropriate for a particular site location.

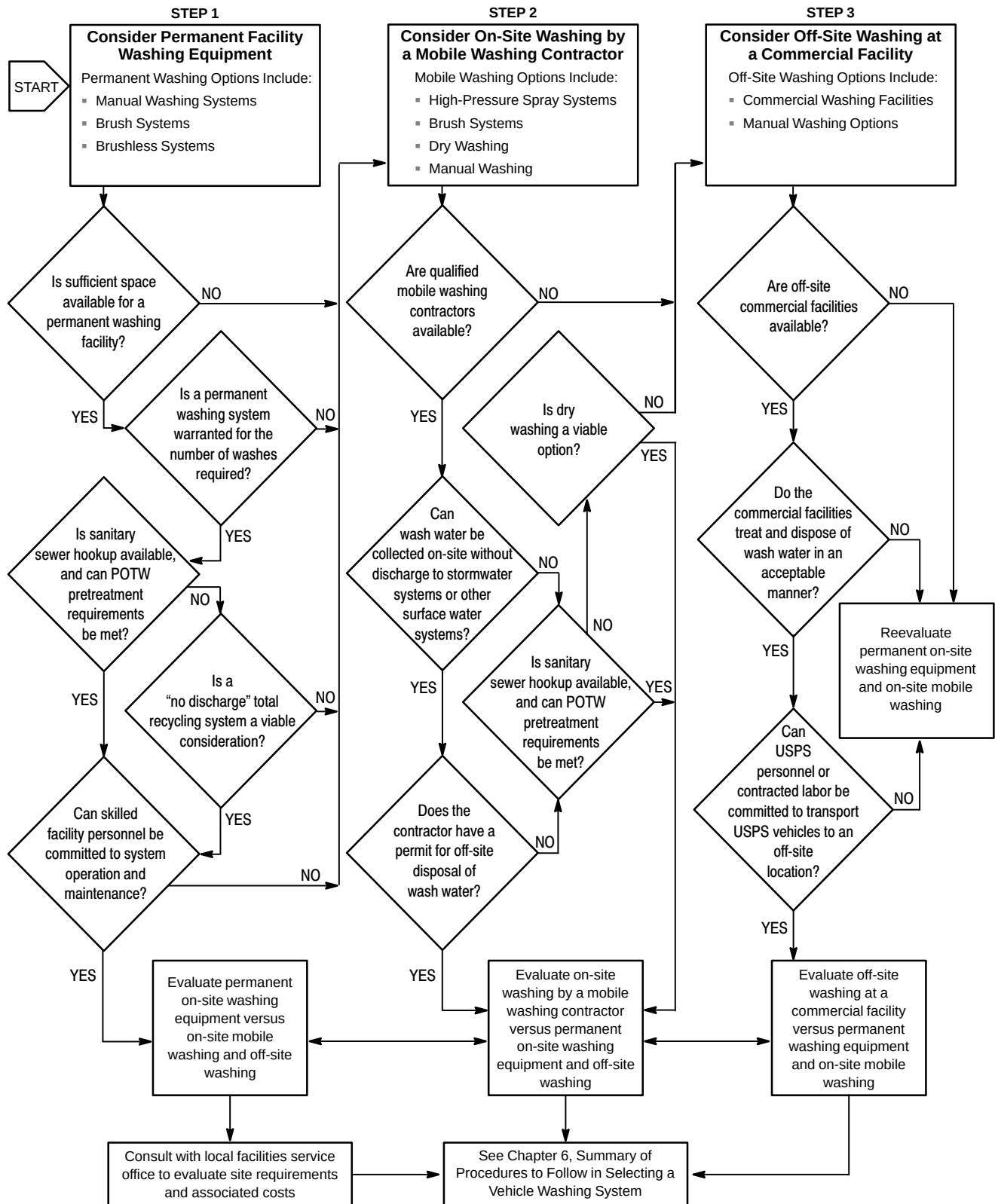
Below is a list of the specific factors to consider in evaluating the various vehicle washing processes:

- Estimated per vehicle washing cost.
- Quality of wash.
- Speed of wash.
- Ability to wash vehicles of various sizes.
- Potential to damage vehicles.
- Space availability.
- Drought restrictions.
- Pretreatment requirements.
- System hookup requirements.
- Permitting and approval of disposal methods.

The variability of these factors means that no hard and fast rules can be written regarding which washing process is most appropriate for a particular site location. This assessment provides a starting point for facilities in search of viable and appropriate washing options. Appendix B summarizes the comparative analyses.



Flow Chart for Selecting an Appropriate Vehicle Washing Technology



6 Summary of Procedures to Follow in Selecting a Vehicle Washing System



As discussed in Chapter 5, direction on how to wash vehicles at certain facilities may already be made in the form of overall policy directives at the performance cluster or area level. If such directives have not been made, this chapter provides a step-by-step summary of the procedures to follow when selecting an appropriate vehicle washing system. Each step in the selection process is listed below with a brief explanation of items to consider before proceeding to the next step. These procedures are again presented in a flow chart diagram provided at the end of this chapter (see Exhibit 6).

Step 1. Review available vehicle washing technologies and processes and applicable regulatory requirements.

Vehicle washing technologies and processes are identified in Chapter 2, and the related exhibits provide detailed washing process information, including system descriptions, cost information, operation and maintenance requirements, system efficiency, and site requirements. Regulatory information is introduced in Chapter 1, with summaries of state-by-state regulations included in Appendix A.

Step 2. Use Exhibit 5 to select an appropriate vehicle washing technology(ies).

A flow chart is provided in Exhibit 5 to assist in the selection of an appropriate vehicle washing technology. The primary focus of the flow chart is to determine if permanent facility washing equipment is a viable option. After an appropriate technology is determined, the subsequent steps should be followed to further evaluate washing alternatives.



Step 3a. If permanent facility washing equipment appears to be a viable option, consult with the facilities service office to evaluate site requirements and associated costs.

The facilities service office (FSO) can evaluate the site requirements and costs associated with installation of permanent facility washing equipment. Items for the FSO to consider include space availability, sanitary sewer availability, utility connections, pretreatment requirements, and cost of the equipment necessary to provide the quantity and quality of wash required.

Step 3b. If permanent facility washing equipment does not appear to be a viable option, consult with appropriate area and district environmental compliance coordinators as well as purchasing and materials service centers to obtain information concerning vehicle washing options, contractor lists, and purchasing procedures.

The decision between selecting a mobile washing contractor or washing vehicles off-site will likely be determined based on relative cost and contractor and facility availability. The related fact sheets provided in Chapter 2 can assist in this evaluation.

Step 4a. If annual vehicle washing costs are anticipated to exceed \$2,500, contact the area purchasing and materials service center (PMSC) to prepare a solicitation package.

Purchasing procedures require that annual washing contracts exceeding the \$2,500 limit must be obtained through the area PMSC. The PMSC handles the preparation of a solicitation package, evaluation of proposals, and selection of a contractor.

Step 4b. If annual vehicle washing costs are less than \$2,500, prepare an information package that includes the supplier questionnaire and applicable vehicle washing specifications.

A supplier questionnaire is provided in Appendix C. Vehicle washing suppliers should complete this questionnaire and return the information requested. Also, information packages should include applicable vehicle washing specifications (see the DECC for sample vehicle washing specifications).



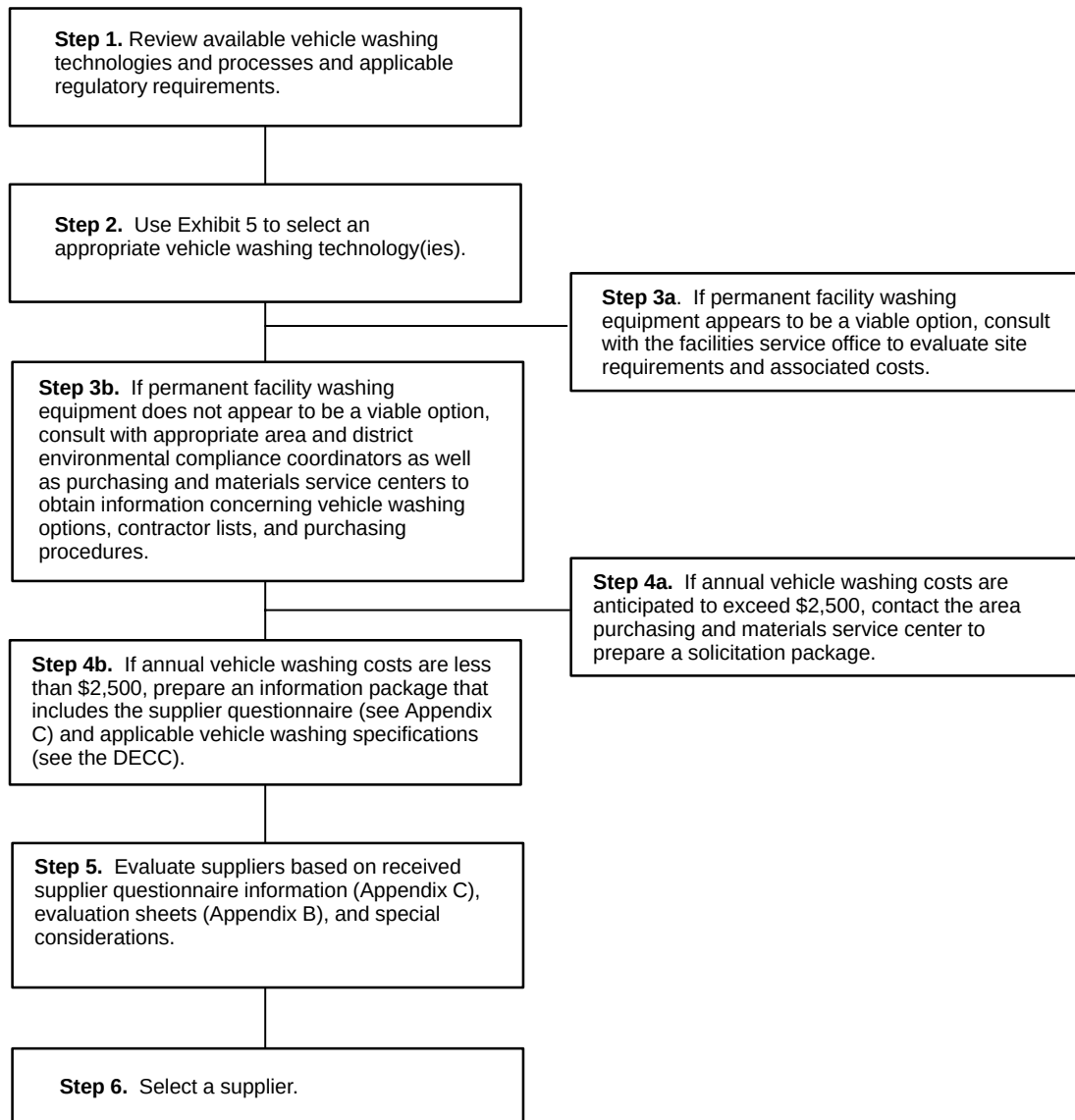
Step 5. Evaluate suppliers based on received questionnaire information, evaluation sheets, and special considerations.

The supplier questionnaire (Appendix C) is described in Step 4b above. Information provided on this questionnaire can be used in conjunction with the evaluation sheets provided in Appendix B to make the evaluation. Special considerations may include supplier references, supplier experience and known performance, possible discount washing rates, or other distinguishing factors.

Step 6. Select a supplier.

Exhibit 6

Procedures to Follow in Selecting a Vehicle Washing System



A Summaries of Federal EPA Region and State Wash Water Permitting Requirements



Description

This appendix describes in detail some federal EPA regional offices and each state's waste wash water permitting requirements. Only those EPA regions in which a state has not been given NPDES authority or does not have authority to provide permits to federal facilities have been included. In this appendix you can look up the requirements for the state(s) in which you operate and find the agency contact(s) who can provide more detailed information. The state summaries follow summaries of the federal EPA regional offices.

Exhibits A-1 through A-10, located at the end of this appendix, illustrate state-by-state permitting status relative to delegated authority to regulate surface water discharges. For states not delegated authority to regulate surface water discharges or not authorized to provide permits to federal facilities, the maps indicate the EPA regional office having jurisdiction. Information related to rinse water discharge requirements and groundwater percolation of vehicle wash water is provided for states delegated authority to regulate surface water discharges.

Notes

1. For federal facilities, including the Postal Service, activities involving infiltration or percolation of vehicle wash water to the ground are not subject to local and state permit requirements. Further, federal regulations do not apply to the infiltration or percolation of waters into the ground. Therefore, unless an NPDES permit is explicitly required for discharges to the ground, or unless percolation is otherwise prohibited under the Safe Drinking Water Act, the Postal Service is not subject to the permit requirements contained in this appendix. Postal Service policy, however, is to voluntarily comply with substantive local and state standards without subjecting itself to the procedural requirements of obtaining permits and reporting.
2. The regulatory information provided in this appendix reflects permitting status and requirements in place at the time of the survey. Revisions to these regulations are taking place, and caution should be used when using the information contained herein. More current regu-



latory status can be obtained by contacting the appropriate federal, state, or local agencies having permitting authority in your area.

3. The NPDES permitting process for facilities located in the Commonwealth of Puerto Rico and the U.S. Virgin Islands is administered by EPA Region 2. The NPDES permitting process for facilities located within the District of Columbia and for federal facilities located in Delaware is administered by EPA Region 3.

Sources

1. The information in this appendix was adapted from the *Vehicle Washing Compliance Manual*, American Trucking Associations, 1995 and updated in 1996.
2. This information was supplemented by personal contacts with representatives from EPA regions and state agencies listed herein.



Federal EPA Region 1 Wash Water Permitting Requirements

Region 1 administers NPDES permits for nondelegated states including Maine, Massachusetts, and New Hampshire. Region 1 also administers NPDES permits for federal facilities located in Vermont.

Permitting

Surface Water Discharge: An individual NPDES permit is required for all waste wash water discharges, but providing permits for waste wash water discharges has not been a high priority. A permit is not required for construction of closed-loop recycling systems for wastewater used in washing the exterior of vehicles if less than 5 acres of land are disturbed in the construction process. (If 5 or more acres are disturbed, a stormwater discharge permit for construction activities must be obtained.) A permit may be required for maintenance of a closed-loop system if the effluent from purging the system discharges to surface waters.

Percolation: Discharges to dry wells are regulated under the Underground Injection Control Program. Discharges to groundwater are not regulated by the federal EPA.

Rinse Water: The region does not distinguish between rinse water and waste wash water.

Action

Consider connecting to the municipal sanitary sewer system (a pretreatment permit may be required), or obtain an individual NPDES permit for discharge to surface waters.

Contact

JERRY POTAMIS
US EPA REGION 1
JOHN F KENNEDY BUILDING
BOSTON MA 02203

Tel: (617) 565-3438
Fax: (617) 565-4940



Federal EPA Region 2 Wash Water Permitting Requirements

Region 2 administers NPDES permits for nondelegated states including the Commonwealth of Puerto Rico and the U.S. Virgin Islands.

Permitting

Surface Water Discharge: An individual NPDES permit is required for all waste wash water discharges. A permit is not required for construction of closed-loop recycling systems for wastewater used in washing the exterior of vehicles if less than 5 acres of land are disturbed in the construction process. (If 5 or more acres are disturbed, a stormwater discharge permit for construction activities must be obtained.) A permit may be required for maintenance of a closed-loop system if the effluent from purging the system discharges to surface waters.

Percolation: Discharges to dry wells are regulated under the Underground Injection Control Program. Discharges to groundwater are not regulated by the federal EPA.

Rinse Water: The region does not distinguish between rinse water and waste wash water.

Action

Consider connecting to the municipal sanitary sewer system (a pretreatment permit may be required), or obtain an individual NPDES permit for discharge to surface waters.

Contact

PHIL SWEENEY
US EPA REGION 2
WATER PROGRAMS BRANCH
290 BROADWAY
NEW YORK NY 10007

Tel: (212) 637-3873
Fax: (212) 637-3887



Federal EPA Region 3 Wash Water Permitting Requirements

Region 3 administers NPDES permits for nondelegated states including the District of Columbia and federal facilities in Delaware.

Permitting

Surface Water Discharge: An individual NPDES permit is required for all waste wash water discharges. A permit is not required for construction of closed-loop recycling systems for wastewater used in washing the exterior of vehicles if less than 5 acres of land are disturbed in the construction process. (If 5 or more acres are disturbed, a stormwater discharge permit for construction activities must be obtained.) A permit may be required for maintenance of a closed-loop system if the effluent from purging the system discharges to surface waters.

Percolation: Discharges to dry wells are regulated under the Underground Injection Control Program. Discharges to groundwater are not regulated by the federal EPA.

Rinse Water: The region does not distinguish between rinse water and waste wash water.

Action

Consider connecting to the municipal sanitary sewer system (a pretreatment permit may be required), or obtain an individual NPDES permit for discharge to surface waters.

Contact

ELAINE HARBOLD
US EPA REGION 3
MARYLAND DC BRANCH (3WT13)
WATER PROTECTION DIVISION
841 CHESTNUT BUILDING
PHILADELPHIA PA 19107

Tel: (215) 566-5744

Fax: (215) 566-2301



Federal EPA Region 4 Wash Water Permitting Requirements

Region 4 administers NPDES permits for nondelegated states including Florida.

Permitting

Surface Water Discharge: An individual NPDES permit is required for all waste wash water discharges. A permit is not required for construction of closed-loop recycling systems for wastewater used in washing the exterior of vehicles if less than 5 acres of land are disturbed in the construction process. (If 5 or more acres are disturbed, a stormwater discharge permit for construction activities must be obtained.) A permit may be required for maintenance of a closed-loop system if the effluent from purging the system discharges to surface waters.

Percolation: Discharges to dry wells are regulated under the Underground Injection Control Program. Discharges to groundwater are not regulated by the federal EPA.

Rinse Water: The region does not distinguish between rinse water and waste wash water.

Action

Consider connecting to the municipal sanitary sewer system (a pretreatment permit may be required), or obtain an individual NPDES permit for discharge to surface waters.

Contact

FLOYD WELLBORN
US EPA REGION 4
WATER MANAGEMENT DIVISION
61 FORSYTH STREET
ATLANTA GA 30303-3014

Tel: (404) 562-9296
Fax: (404) 562-8692



Federal EPA Region 6 Wash Water Permitting Requirements

Region 6 administers NPDES permits for the nondelegated states of New Mexico and Texas.

Permitting

Surface Water Discharge: An individual NPDES permit is required for all waste wash water discharges. Small, intermittent washing operations are not a high priority for the region, therefore responses to permit applications may take a long time.

A permit is not required for construction of closed-loop recycling systems for wastewater used in washing the exterior of vehicles if less than 5 acres of land are disturbed in the construction process. (If 5 or more acres are disturbed, a stormwater discharge permit for construction activities must be obtained.) A permit may be required for maintenance of a closed-loop system if the effluent from purging the system discharges to surface waters.

Percolation: Discharges of waste wash water to dry wells are regulated under the Underground Injection Control Program. Discharges of waste wash water to groundwater are not regulated by the federal EPA. However, if wash water pollutants leave the site either in the wash water or are carried off later in stormwater, an NPDES permit is required. Therefore, wash water that percolates into the ground should be managed in a manner that prevents the pollutants in the wash water from entering stormwater. For example, where possible, facilities should not wash vehicles during storm events or when the ground is saturated. Biodegradable detergents should be used to wash vehicles.

Rinse Water: The region does not distinguish between rinse water and waste wash water.

Action

Consider connecting to the municipal sanitary sewer system (a pretreatment permit may be required), or obtain an individual NPDES permit for discharge to surface waters. Vehicle washing operations that allow waste wash water to percolate should not wash during storm events or when the ground is saturated and should use biodegradable detergents.

Contact

BRIAN BURGESS
INDUSTRIAL PERMITS SECTION
NPDES PERMITS BRANCH
WATER QUALITY PROTECTION DIVISION
US EPA REGION 6
1445 ROSS AVENUE
DALLAS TX 75202-2733

Tel: (214) 665-7534
Fax: (214) 665-2191



Federal EPA Region 9 Wash Water Permitting Requirements

Region 9 administers NPDES permits for the nondelegated state of Arizona.

Permitting

Surface Water Discharge: An individual NPDES permit is required for all waste wash water discharges to surface waters. A permit is not required for construction of closed-loop recycling systems for wastewater used in washing the exterior of vehicles if less than 5 acres of land are disturbed in the construction process. (If 5 or more acres are disturbed, a stormwater discharge permit for construction activities must be obtained.) A permit may be required for maintenance of a closed-loop system if the effluent from purging the system discharges to surface waters.

Percolation: Discharges to dry wells are regulated under the Underground Injection Control Program. Discharges to groundwater are not regulated by the federal EPA.

Rinse Water: The region does not distinguish between rinse water and waste wash water.

Action

Consider connecting to the municipal sanitary sewer system (a pretreatment permit may be required), or obtain an individual NPDES permit for discharge to surface waters.

Contact

EUGENE BROMLEY
ENVIRONMENTAL ENGINEER
WATER MANAGEMENT DIVISION
US EPA REGION 9
75 HAWTHORNE STREET
SAN FRANCISCO CA 94105

Tel: (415) 744-2125 Ext 1906
Fax: (415) 744-1235 Attn W-5



Federal EPA Region 10 Wash Water Permitting Requirements

Region 10 administers NPDES permits for the nondelegated state of Idaho and for federal facilities within the state of Washington.

Permitting

Surface Water Discharge: An individual NPDES permit application should be submitted for all waste wash water discharges. A permit will be issued based on site-specific conditions and the priority of the discharge. Insignificant dischargers may not receive permits, but instead will be sent a "minor letter," recommending certain procedures such as discharging to the sanitary sewer.

A permit is not required for construction of closed-loop recycling systems for wastewater used in washing the exterior of vehicles if less than 5 acres of land are disturbed in the construction process. (If 5 or more acres are disturbed, a stormwater discharge permit for construction activities must be obtained.) A permit may be required for maintenance of a closed-loop system if the effluent from purging the system discharges to surface waters.

Percolation: Discharges of waste wash water to dry wells are regulated under the Underground Injection Control Program. Discharges to groundwater are not regulated by the federal EPA.

Rinse Water: The region does not distinguish between rinse water and waste wash water.

Action

Consider connecting to the municipal sanitary sewer system (a pretreatment permit may be required), or obtain an individual NPDES permit for discharge to surface waters.

Contact

BILL CHAMBERLAIN
MAIL STOP OW-130
US EPA REGION 10
1200 6TH AVENUE
SEATTLE WA 98101

Tel: (206) 553-8515
Fax: (206) 553-1280



Alabama Wash Water Permitting Requirements

Permitting	Permitting Authority: Alabama is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: Alabama's general permits ALG140000 (activities exposed to stormwater) and ALG990000 (activities not exposed to stormwater) cover discharges from vehicle and equipment washing operations. The permits do not cover discharges from washing tank trailer interiors or rail tank cars. In addition, they are presently being revised so that they will not cover vehicle washing operations that use solvents. Such operations will be required to obtain an individual NPDES permit. Individual NPDES permit applications are typically not obtained because of their more stringent permit requirements and significant costs of compliance. The general permits contain discharge limits for pH, oil and grease, phosphate, and total suspended solids. Grab samples of the waste wash water must be collected once a month, and wash water flow rates must be measured once a week. Few facilities qualify for permit ALG990000. Most facilities are granted ALG140000 permits. A permit is not required for closed-loop recycling systems with no discharge. Percolation: Unless specifically authorized by a permit, the discharge of pollutants to groundwater is prohibited. Typically, the state requires the facility to obtain a surface water discharge permit because there is potential for pollutants to reach waters of the state. Groundwater monitoring may be required, depending on the threat of contamination. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	Vehicle washing operations that discharge to surface waters must apply for coverage under permit ALG140000. Vehicle washing operations where waste wash water discharge is not leaving the site must contact the state to determine if any additional permits are required. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.
Contact	JAMES COLES INDUSTRIAL WATER DIVISION BRANCH 1751 CONGRESSMAN WL DICKINSON DRIVE MONTGOMERY AL 36109-2608 Tel: (334) 271-7943 Fax: (334) 279-3051



Alaska Wash Water Permitting Requirements

Permitting

Permitting Authority: Alaska is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual NPDES or state permit is required for discharges to surface waters. The state recommends directing waste wash water to a sanitary sewer system or recycling wash water. The state environmental agency does not require a facility to obtain a permit to construct or operate closed-loop wash water recycling systems.

Percolation: Percolation is allowed but a groundwater permit may be required on a case-by-case basis, depending on the type of washing, the frequency of washes, and the number of vehicles washed. Such permits have extensive monitoring requirements that may be expensive. Regulators report that most vehicle washing operations discharge to a sanitary sewer system. Groundwater is regulated as waters of the state.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations discharging to surface waters should contact the Alaska Department of Environmental Conservation for a discharge permit. Vehicle washing operations that percolate waste wash water should contact the Alaska Department of Environmental Conservation to determine site-specific permit requirements. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.

Contact

KENWYN GEORGE (SURFACE WATERS)
WASTEWATER PROGRAM COORDINATOR
CENTRAL OFFICE

ROBERT DOLAN (PERCOLATION)
ENVIRONMENTAL ENGINEER
SOUTHCENTRAL REGIONAL OFFICE

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
410 EAST WILLOUGHBY AVE SUITE 105
JUNEAU AK 99801-1795

Tel: (907) 465-5337 (General Number)
(907) 465-5313 (Kenwyn George)
(907) 269-7565 (Robert Dolan)
(907) 465-5337 (Robert Goff)
Fax: (907) 279-3051
(907) 465-5274 (Robert Goff)



Arizona Wash Water Permitting Requirements

Permitting

Permitting Authority: Arizona is not a delegated state. The NPDES permitting process is regulated by the regional EPA office having jurisdiction (see Exhibit A-2).

Surface Water Discharge: (See also Federal EPA Region 9 discussion.) All waste wash water dischargers to surface waters must obtain an individual NPDES permit from Federal EPA Region 9 and may need an Aquifer Protection Permit (APP) from the state.

A permit is not required for closed-loop recycling systems if they do not discharge. The state does not require a permit to construct or operate the treatment system. However, local government requirements may apply.

Percolation: Fixed washing facilities need an APP from the state. Mobile washing operations need to complete the APP application, but may not be required to obtain a permit. Instead, the Arizona Department of Environmental Quality will write a letter outlining practices the facility must follow in order to avoid the need for a permit. Such practices may include using biodegradable detergent, not exceeding 2,000 gallons per day of discharge water, not washing more frequently than every 14 days, or only washing exterior surfaces.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations discharging to surface waters should contact the Federal EPA Region 9 regarding an individual NPDES permit and the state regarding an APP. All vehicle washing operations that percolate waste wash water should complete an APP application. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.

Contact

BILL ENGSTROM
SUPERVISOR INDUSTRIAL AND DRY WELL UNIT
WATER QUALITY DIVISION
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
3033 NORTH CENTRAL AVENUE
PHOENIX AZ 85012

Tel: (602) 207-4696

Fax: (602) 207-4674



Arkansas Wash Water Permitting Requirements

Permitting

Permitting Authority: Arkansas is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: All waste wash water dischargers to surface waters must obtain an NPDES permit. The state has a general permit (AR750000, reissued July 1994) for direct discharge of vehicle waste wash water to surface waters. Mobile vendors who wash vehicles at your facility are required to obtain this permit to cover their washing operations. The state has been informing unpermitted mobile washing vendors that their operations are illegal.

The Arkansas Department of Pollution Control does not require a permit for closed-loop recycling systems with no discharge.

Percolation: Groundwater is considered a water of the state. Discharge of waste wash water that might harm groundwater is prohibited. A permit is not required for discharges of waste wash water that have no possibility of harming groundwater. Each facility should describe its washing operations and the volume and frequency of waste wash water discharged to Bruce Kirkpatrick at the State Permits Branch of the Arkansas Department of Pollution Control. It seems unlikely to regulators that small, intermittent washing operations would pose a threat to groundwater and would require a permit.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations that discharge to surface waters must obtain an NPDES permit. Vehicle washing operations that discharge to the ground should contact Bruce Kirkpatrick at the Arkansas Department of Pollution Control to determine if they require a groundwater permit. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.

Contact

BERNIE FINCH (SURFACE WATERS)
NPDES STAFF ENGINEER
NPDES BRANCH

KEITH BROWN (PERCOLATION)
MANAGER OF STATE PERMITS BRANCH

ARKANSAS DEPARTMENT OF POLLUTION CONTROL
PO BOX 8913
LITTLE ROCK AR 72219

Tel: (501) 682-0744 (Bernie Finch and Bruce Kirkpatrick)
Fax: (501) 682-0653 (Bernie Finch and Bruce Kirkpatrick)



California Wash Water Permitting Requirements

Permitting	Permitting Authority: California is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: An individual NPDES permit is required for discharges of waste wash water to surface waters. Permit requirements depend on effluent quality. Individual NPDES permits require that the wash water be treated appropriately before it is discharged. Currently, facilities should discharge to a sanitary sewer where possible or install a closed-loop recycling system. The Regional Water Boards do not require a permit for the construction or operation of a closed-loop recycling system. Percolation: The Regional Water Boards recommend discharging to the sanitary sewer system, if possible. A state waste discharge permit is required for discharges to land. Rinse Water: The state does not distinguish between rinse water and waste wash water.																										
Action	Vehicle washing operations that discharge to surface waters must obtain an individual NPDES permit. Consider installing a closed-loop recycling system or discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.																										
Contact	<table> <tr> <th data-bbox="505 1136 732 1171">Region</th><th data-bbox="760 1136 927 1171">Phone Number</th></tr> <tr> <td data-bbox="505 1171 732 1199">North Coast</td><td data-bbox="760 1171 927 1199">(707) 576-2220</td></tr> <tr> <td data-bbox="505 1199 732 1226">San Francisco Bay</td><td data-bbox="760 1199 927 1226">(510) 286-1255</td></tr> <tr> <td data-bbox="505 1226 732 1253">Central Coast</td><td data-bbox="760 1226 927 1253">(805) 549-3147</td></tr> <tr> <td data-bbox="505 1253 732 1281">Los Angeles</td><td data-bbox="760 1253 927 1281">(213) 266-7500</td></tr> <tr> <td data-bbox="505 1281 732 1308">Central Valley</td><td data-bbox="760 1281 927 1308">(916) 224-4845 (Redding)</td></tr> <tr> <td data-bbox="505 1308 732 1335"></td><td data-bbox="760 1308 927 1335">(916) 255-3000 (Sacramento)</td></tr> <tr> <td data-bbox="505 1335 732 1362"></td><td data-bbox="760 1335 927 1362">(209) 445-5116 (Fresno)</td></tr> <tr> <td data-bbox="505 1362 732 1390">Lahontan</td><td data-bbox="760 1362 927 1390">(916) 542-5400 (South Lake Tahoe)</td></tr> <tr> <td data-bbox="505 1390 732 1417"></td><td data-bbox="760 1390 927 1417">(619) 241-6583 (Victorville)</td></tr> <tr> <td data-bbox="505 1417 732 1444">Colorado River Basin</td><td data-bbox="760 1417 927 1444">(619) 346-7491</td></tr> <tr> <td data-bbox="505 1444 732 1472">Santa Ana</td><td data-bbox="760 1444 927 1472">(909) 782-4130</td></tr> <tr> <td data-bbox="505 1472 732 1499">San Diego</td><td data-bbox="760 1472 927 1499">(619) 467-2952</td></tr> </table>	Region	Phone Number	North Coast	(707) 576-2220	San Francisco Bay	(510) 286-1255	Central Coast	(805) 549-3147	Los Angeles	(213) 266-7500	Central Valley	(916) 224-4845 (Redding)		(916) 255-3000 (Sacramento)		(209) 445-5116 (Fresno)	Lahontan	(916) 542-5400 (South Lake Tahoe)		(619) 241-6583 (Victorville)	Colorado River Basin	(619) 346-7491	Santa Ana	(909) 782-4130	San Diego	(619) 467-2952
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San Diego	(619) 467-2952																										



Colorado Wash Water Permitting Requirements

Permitting

Permitting Authority: Colorado is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: Colorado's general permit COG-600000 authorizes the discharge to surface waters of waste wash water produced by washing the exterior of trucks, cars, airplanes, and boats in dry dock. The permit application requires, among other requirements, a description of the washing operation and chemical analysis of the water to be discharged.

The permit requires facilities to measure the flow rate of runoff and the pH once a week and to observe the discharge for the presence of oil or an oil sheen. Once a month, a sample of the waste wash water must be collected and analyzed for total BTEX (benzene, ethylbenzene, toluene, and xylenes), total suspended solids, and total phosphorus.

Facilities that consistently discharge 5 gallons per minute or less for a total of one hour or 300 gallons a day will be exempted from the monitoring requirements if the state finds the discharge contains negligible amounts of pollution.

The Colorado Department of Health does not require a permit to construct or operate a closed-loop recycling system for collecting waste wash waters used to wash vehicle exteriors.

Percolation: A vehicle washing operation discharging waste wash water to a lined evaporation lagoon where the liner of the lagoon delays seepage to 10-6 cm/sec does not require a state permit, but a certificate of designation must be obtained from the local government. A vehicle washing operation discharging to an unlined lagoon or septic system requires a groundwater discharge permit, which involves a hydrogeologic investigation and monitoring. Percolation of wastewater through dirt, grass, or gravel is considered land application and also requires a groundwater discharge permit.

Rinse Water: The state does not distinguish between rinse water and waste wash water at present. However, general permit COG-600000 may distinguish between rinse water and waste wash water in terms of permit requirements. Rinse water would be defined as the discharge from washing vehicle exteriors and would have limits on volume and flow.



Colorado Wash Water Permitting Requirements (continued)

Action

Vehicle washing operations discharging to surface waters should contact the Colorado Department of Health for permit requirements. Vehicle washing operations discharging to groundwater should obtain a groundwater discharge permit or obtain a certificate of designation for their lined lagoon. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.

Contacts

TOM BOYCE (SURFACE WATERS)
ENGINEERING TECHNICIAN

MICHAEL LIUZZI (GROUNDWATER)
GEOLOGIST GROUNDWATER UNIT

COLORADO DEPARTMENT OF HEALTH
WATER QUALITY CONTROL DIVISION
4300 CHERRY CREEK DRIVE SOUTH
DENVER CO 80222-1530

Tel: (303) 692-3593 (Tom Boyce)
(303) 692-3588 (Michael Luzzi)
Fax: (303) 782-0390



Connecticut Wash Water Permitting Requirements

Permitting

Permitting Authority: Connecticut is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: The state does not allow the discharge of waste wash water to waters of the state. Washing operations must obtain a “vehicle wash general permit”; these permits require washing to be performed indoors, the waste wash water to be treated by a 1,000-gallon grit separator, and waste wash water to be discharged to the sanitary sewer system. The state has allowed some mobile washing over wash pads if the waste wash water is collected and transported to a sanitary sewer.

A permit is not required for closed-loop recycling systems. However, most recycling systems do need to dispose of the wash water periodically when it becomes too contaminated to recycle. If the facility has a vehicle wash general permit, that permit would cover the disposal of the wash water.

Percolation: Groundwater is considered water of the state. See surface water discharge requirements above.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations must apply for a vehicle wash general permit.

Contact

ART MAUGER
SUPERVISING SANITARY ENGINEER
PERMITTING ENFORCEMENT AND REMEDIATION DIVISION
BUREAU OF WATER MANAGEMENT
CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD CT 06106-5127

Tel: (860) 424-3018
Fax: (860) 424-4074



Delaware Wash Water Permitting Requirements

Permitting	Permitting Authority: Delaware is a delegated state but is not authorized to regulate NPDES permits for federal facilities. The permitting process for federal facilities is administered by EPA Region 3. Surface Water Discharge: (See also Federal EPA Region 3 discussion.) An individual NPDES permit is required for discharges to surface waters. The state recommends directing waste wash water to a sanitary sewer system. A permit is required to construct or operate a closed-loop recycling system. However, self-contained, mobile, closed-loop recycling systems that do not discharge to surface waters or groundwaters do not need a permit. Percolation: An underground injection control permit is required for discharges of waste wash water to the ground. Depending on the type of washing, these permits may contain more or less burdensome requirements. For example, a settling pond would be required for wastewaters from washing vehicle exteriors. Undercarriage washing is discouraged. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact EPA Region 3 to determine site-specific permit requirements.
Contact	PAUL JANIGA (SURFACE WATERS) ENVIRONMENTAL ENGINEER SURFACE WATERS DISCHARGES SECTION BRUCE PATRICK (PERCOLATION) PROGRAM MANAGER GROUNDWATER DISCHARGES SECTION DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL 89 KINGS HIGHWAY PO BOX 1401 DOVER DE 19903 Tel: (302) 739-5731 (Paul Janiga) (302) 739-4761 (Bruce Patrick) Fax: (302) 739-3491 (302) 739-2296 (Water Supply Section)



Florida Wash Water Permitting Requirements

Permitting	Permitting Authority: Florida is not a delegated state. The NPDES permitting process is regulated by EPA Region 4. Surface Water Discharge: (See also Federal EPA Region 4 discussion.) Facilities that discharge wash waters to surface waters must apply for an individual NPDES permit. However, few permits are granted because very few washing operations can demonstrate that they will be able to meet water quality standards. Facilities with closed-loop recycling permits require an authorization to operate. These recycling permits prohibit discharges to surface waters or groundwaters. Percolation: Vehicle washing operations are required to apply for either a recycling permit or an industrial wastewater permit. Passenger vehicle and/or light truck washing operations may qualify for an exemption from obtaining an industrial wastewater permit if they meet certain minimum criteria. These criteria can be obtained from Florida Department of Environmental Protection District Offices. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact local Department of Environmental Protection District Offices to determine site-specific permit requirements.
Contact	FRED NOBLE PROFESSIONAL ENGINEER II INDUSTRIAL WASTE SECTION FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION TWIN TOWER OFFICE BLDG 2600 BLAIR STONE RD TALLAHASSEE FL 32999-2400 Tel: (904) 488-4522 Fax: (904) 487-3618



Georgia Wash Water Permitting Requirements

Permitting	Permitting Authority: Georgia is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: Due to pretreatment requirements, the state does not consider it feasible for vehicle washing operations to obtain an individual NPDES permit for waste wash water discharges. The state recommends directing waste wash water to a sanitary sewer system. A permit is not required to operate closed-loop recycling systems. Percolation: No permit is required for waste wash water discharges to the ground surface. The facility is, however, liable for any soil or groundwater contamination that may occur. Rinse Water: Rinse water is defined by the state as discharges from washing vehicle exteriors without detergent, including discharges from the use of hot water or high pressure. If a facility has an NPDES permit, the rinse water discharges are covered by this permit.
Action	Vehicle washing operations, except rinsing only, should consider directing waste wash water to the sanitary sewer system.
Contact	MIKE CREASON UNIT COORDINATOR INDUSTRIAL WASTEWATER UNIT WATER PROTECTION BRANCH GEORGIA DEPARTMENT OF NATURAL RESOURCES ATLANTA TRADE PORT SUITE 110 4244 INTERNATIONAL PARKWAY ATLANTA GA 30354 Tel: (404) 362-2680 Fax: (404) 362-2691



Hawaii Wash Water Permitting Requirements

Permitting

Permitting Authority: Hawaii is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual NPDES permit is required for discharges of waste wash water to surface waters. Permit requirements depend on site-specific operations. Recycling systems must receive state approval in order to operate legally. Facilities should write to the state describing their recycling system and obtain a letter of approval from the state.

Percolation: A permit is not required for percolation of waste wash water to ground surfaces. The state recommends discharging waste wash water to a sanitary sewer system, if possible.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations discharging waste wash water to surface waters should contact the Hawaii Department of Health, Clean Water Branch, for an NPDES permit. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.

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Idaho Wash Water Permitting Requirements

Permitting

Permitting Authority: Idaho is not a delegated state. The NPDES permitting process is regulated by EPA Region 10.

Surface Water Discharge: (See also Federal EPA Region 10 discussion.) Fixed-location and mobile vehicle washing operations must obtain an NPDES permit from the Regional EPA for discharges to surface water. Fixed-location vehicle washing operations include facilities permanently located at one site, facilities using a client's site on a routine or ongoing basis or repeated occasions, or facilities using one or more sites for extended periods of time in which clientele come to the portable operator.

The Idaho Division of Environmental Quality (DEQ) or the municipality responsible for the stormwater collection system must be contacted to determine their requirements or guidelines for discharges of waste wash water to stormwater collection systems.

The state has published a guidance document that outlines best management practices for charity car washes and mobile washing operations.

A permit is not required for closed-loop recycling units. Facilities must handle any residuals and wastes generated during recycling in the appropriate manner.

Percolation: Groundwater is considered a water of the state, and the discharge of wastewater directly to the waters of the state is prohibited. All vehicle washing on grass or gravel should be carefully evaluated to prevent the saturation of the soils to result in contamination of groundwater.

Surface disposal using a land application system is regulated by the Wastewater Land Application Permit Regulations. Use of a lagoon for disposal of waste wash water requires that plans and designs of the lagoon be submitted to the Idaho DEQ for approval prior to construction and may require additional permits.

The state has published a guidance document that outlines best management practices for charity car washes and mobile washing operations.

Rinse Water: Rinse water is defined by the state as discharges from washing vehicle exteriors without detergent, including discharges from the use of hot water or high pressure. Rinse water may be discharged to a stormwater collection system, to a sanitary sewer, or onto a grassy area. Before rinse water enters a stormwater collection system, any dirt or grit should be settled out. Regulators are concerned about the leaching of chlorides from road salts.



Idaho Wash Water Permitting Requirements (continued)

Action	Fixed-location vehicle washing operations discharging to surface waters should obtain an individual NPDES permit from federal EPA Region 10. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements. Mobile vehicle washing operations should follow the state's guidance document or contact the Idaho Division of Environmental Quality for more information.
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Illinois Wash Water Permitting Requirements

Permitting	Permitting Authority: Illinois is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: An individual NPDES permit is required for discharges from fixed-location vehicle washing operations. A permit is required for mobile washing only in response to a complaint. The state does not generally grant permits to mobile washers and recommends that they use best management practices, such as using biodegradable detergent and not performing degreasing. If washing operations are causing a problem or nuisance and a complaint is brought to the state, the field office of the Illinois Environmental Protection Agency will inspect the operations and may require a permit. A wastewater treatment permit might be required for closed-loop recycling systems for vehicle wash water. Percolation: The requirements for percolation are the same as those for the surface water discharges above. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, fixed-location vehicle washing operations should obtain an individual NPDES permit. Mobile vehicle washing operations should implement best management practices.
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Indiana Wash Water Permitting Requirements

Permitting

Permitting Authority: Indiana is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: If washing operations involve the use of high pressure, hot water, or chemical cleaners (e.g., detergents), then an individual NPDES permit is required for discharges to surface waters.

A Permit to Construct is required before any wastewater treatment system is put in place at a facility, including closed-loop recycling systems.

Percolation: Unless specifically authorized by a permit, the discharge of pollutants to groundwater is prohibited. However, these permits are almost never granted. Instead, the state usually requires a surface water discharge permit because there is potential for pollutants to reach waters of the state. Facilities that discharge wash water to a septic system must obtain an underground injection control permit.

Rinse Water: The state regards cold wash water that is not used with any cleaning chemicals and that is not under high pressure to be rinse water. If a facility has an NPDES permit, the rinse water discharges are covered by this permit.

Action

Vehicle washing operations that discharge to surface waters must obtain an individual NPDES permit. Mobile vehicle washing operations must cease discharging to surface waters at unpermitted facilities. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.

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Iowa Wash Water Permitting Requirements

Permitting	Permitting Authority: Iowa is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: An individual NPDES permit must be obtained for all waste wash water discharges to surface waters. Permits are written for the facility, not the vendors. A permit is required for the construction and operation of a wastewater disposal system. However, the state does not require a permit for a closed-loop recycling system where no water is discharged to surface water or groundwater. Percolation: A state water pollution control permit may be required for holding tanks for closed-loop recycling systems. If the holding tank is above ground and easy to inspect, no permit is usually required. If the tank is under ground or difficult to inspect, then the facility must meet the engineering standards of the industrial pond liner policy. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	Vehicle washing operations that discharge to surface waters must obtain an individual NPDES permit. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.
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Kansas Wash Water Permitting Requirements

Permitting

Permitting Authority: Kansas is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual NPDES permit must be obtained for all waste wash water discharging to surface waters. Federal EPA Application Forms 1 and 2C and a state form must be completed when applying for this permit. The permit requires treatment before discharge, usually by using at least a sediment trap and an oil/water separator. If a facility is located within a city, it might be required to discharge to the sanitary sewer. A state water pollution control permit may be required for collection and recycling of waste wash water.

A state water pollution control permit may be required for holding tanks for closed-loop recycling systems. If the holding tank is above ground and easy to inspect, no permit is usually required. If the tank is under ground or difficult to inspect, then the facility must meet the engineering standards of the industrial pond liner policy.

Percolation: The state does not allow vehicle waste wash water to be discharged by percolation. A facility with a waste wash water containment device or lagoon must obtain a state water pollution control permit.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations that discharge to surface waters should obtain an individual NPDES permit. Vehicle washing operations that percolate waste wash water should cease percolation activities. Vehicle washing operations considering containment, recycling, or discharging to a sanitary sewer system should contact the Kansas Department of Health and Environment, Bureau of Water, for permit requirements.

Contact

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Kentucky Wash Water Permitting Requirements

Permitting	Permitting Authority: Kentucky is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: Waste wash water is considered by the state to be a process water requiring a Kentucky Pollutant Discharge Elimination System (KPDES) permit. Mobile vendors can obtain a permit if they can show that all waste wash water is contained. The state prefers that waste wash water be discharged to the sanitary sewer system. A No-Discharge Operational Permit is required for closed-loop recycling systems that do not discharge. Percolation: A No-Discharge Operational Permit can be obtained from the state if waste wash water is land-applied under certain conditions. For example, the application rate must be low enough not to cause runoff to a surface water body or a sinkhole (i.e., the application rate should not exceed 1,000 gallons per acre per day), and waste wash water should not be applied to the same acreage for more than 5 consecutive days. Application during adverse weather conditions is prohibited. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should obtain a KPDES permit or use the services of a permitted mobile vendor. Vehicle washing operations requiring a No-Discharge Operational Permit should obtain the appropriate application forms from the Kentucky Division of Water.
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Louisiana Wash Water Permitting Requirements

Permitting	Permitting Authority: Louisiana is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: A state wastewater discharge (SCC-2) permit, which covers both stormwater and waste wash water discharges, must be obtained for waste wash water discharges. Federal EPA Region 6 should also be contacted to determine if any additional permits are required. The state does not require a permit for a closed-loop recycling system where no water is discharged to surface water or groundwater. Percolation: A state SCC-2 permit must be obtained for waste wash water discharges that are percolated, because groundwater is considered a water of the state. Depending on site-specific practices (e.g., washing without detergent), sampling requirements under the permit may be reduced. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should obtain a state SCC-2 permit for surface water discharges.
Contact	RON GRAY ENVIRONMENTAL SPECIALIST II WATER POLLUTION CONTROL DIVISION OFFICE OF WATER RESOURCES LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY PO BOX 82215 BATON ROUGE LA 70884-2215 Tel: (504) 765-0543 Fax: (504) 765-0635



Maine Wash Water Permitting Requirements

Permitting	Permitting Authority: Maine is not a delegated state. The NPDES permitting process is regulated by EPA Region 1. Surface Water Discharge: (See also Federal EPA Region 1 discussion.) Federal EPA Region 1 requires an individual NPDES permit for waste wash water discharges to surface waters. In addition, the state has its own surface water permit program that may require a state waste discharge license for discharging waste wash water, depending on site-specific conditions such as the use of chemicals, the parts of vehicles washed, and the frequency of washes. Waste wash water from washing vehicle exteriors without detergents might not require a state waste discharge license. A permit is not required for construction or operation of closed-loop recycling systems. No discharge permit is needed if the system does not discharge. Percolation: Vehicle washing operations that percolate waste wash water may be required to obtain a state groundwater waste discharge license. Whether this license is required depends on the frequency and volume of washing, the chemicals used, the parts of vehicles washed, etc. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact Federal EPA Region 1 regarding an individual NPDES permit if they discharge to surface waters, and contact the Maine Department of Environmental Protection regarding site-specific permit requirements for discharges to surface waters or percolation.
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Maryland Wash Water Permitting Requirements

Permitting

Permitting Authority: Maryland is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual NPDES permit is required for waste wash water discharges to surface waters. Permits are location-specific. The state generally does not permit mobile vendors to discharge waste wash water to surface waters.

A permit is not required for closed-loop recycling systems if they do not discharge. No permit to construct or operate the treatment system is required.

Percolation: A state groundwater permit must be obtained for discharges of waste wash water that percolate. Mobile vendor operations are often illegal (see surface water discharge requirements above). Vendors that contain, collect, and dispose of wash water appropriately are operating legally.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should obtain an individual NPDES permit for surface water discharges. Vehicle washing operations where the waste wash water percolates should obtain a state groundwater permit.

Contact

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Massachusetts Wash Water Permitting Requirements

Permitting	Permitting Authority: Massachusetts is not a delegated state. The NPDES permitting process is regulated by EPA Region 1. Surface Water Discharge: (See also Federal EPA Region 1 discussion.) EPA Region 1 requires an individual NPDES permit and the Massachusetts Department of Environmental Protection requires a permit for waste wash water discharges to surface waters. A permit is required to construct a closed-loop recycling system. Facilities must submit a zero discharge plan to the state for approval of any new system they wish to install. Percolation: A groundwater permit must be obtained from the state for discharges of waste wash water that percolate. Discharges to groundwater must meet drinking water standards. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact the Massachusetts Department of Environmental Protection and Federal EPA Region 1 to obtain an individual NPDES permit for surface water discharges. Vehicle washing operations where waste wash water percolates should obtain a groundwater permit from the state.
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Michigan Wash Water Permitting Requirements

Permitting

Permitting Authority: Michigan is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual NPDES permit is required for the discharge of waste wash water to surface waters. At this time, facilities should discharge to a sanitary sewer system where possible, and should install a settling basin with a skimmer where a sanitary sewer system is not available.

A permit is not required to construct or operate closed-loop recycling systems that do not discharge.

Percolation: Facilities should notify the state of their washing operations. The state usually grants a general exemption from permit requirements to washing operations that percolate waste wash water but do not use any cleaning chemicals for washing vehicles. All other wash water dischargers need to apply for a site-specific exemption or obtain a permit for percolating the discharge.

The state is in the process of developing a general exemption specifically for the mobile power washers that would also apply to most vehicle washing operations.

Facilities must obtain a general exemption application from the Department of Environmental Quality and submit it for approval before commencing washing operations. Facilities denied a general exemption must obtain a site-specific exemption or an individual NPDES permit.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Waste wash water should be directed to a sanitary sewer system where possible. Vehicle washing operations that discharge waste wash water to surface waters should apply for an NPDES permit. Vehicle washing operations that percolate waste wash water discharges must apply for a site-specific exemption or must obtain a permit.



Michigan Wash Water Permitting Requirements (continued)

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Minnesota Wash Water Permitting Requirements

Permitting

Permitting Authority: Minnesota is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual NPDES permit may be required for discharges from fixed-location vehicle washing operations. Discharges to surface waters from mobile vehicle washing operations are considered illegal. No permits have been issued for mobile washing operations.

No permit is required for closed-loop recycling systems, but all discharges should be routed to a sanitary sewer system.

Percolation: A permit may be required for percolation based on site-specific conditions.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

An individual NPDES permit must be obtained for discharges from fixed-location vehicle washing operations, or they must discharge to a sanitary sewer system. Mobile vehicle washing operations whose wastewater may reach surface waters are discharging illegally and must decide how to manage the discharge. Vehicle washing operations that percolate waste wash water should contact the Minnesota Pollution Control Agency to determine whether a permit is required.

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Mississippi Wash Water Permitting Requirements

Permitting	Permitting Authority: Mississippi is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: Under state law, waste wash water is considered a process water, and therefore an individual NPDES permit is required for discharges to waters of the state or to a stormwater collection system. No permit is required for closed-loop recycling systems for waste wash water from washing vehicle exteriors. Percolation: An individual NPDES permit may be required on a case-by-case basis for discharges to the ground surface due to their “potential for entering surface waters.” Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact the Mississippi Department of Environmental Quality and describe their operations before completing an application. The Department will determine whether a permit is required.
Contact	STEVE SPENGLER CHIEF OF INDUSTRIAL NPDES SECTION MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY OFFICE OF POLLUTION CONTROL PO BOX 10385 JACKSON MS 39289-0385 Tel: (601) 961-5070 Fax: (601) 354-6612



Missouri Wash Water Permitting Requirements

Permitting

Permitting Authority: Missouri is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: Missouri does not allow the discharge of untreated wash water. Facilities wishing to discharge 50,000 gallons or less per day of waste wash waters to surface waters must apply for a general permit (use Form E, application fee is \$150). The general permit requires facilities to treat wash water in state-approved treatment systems. A separate construction permit is required to construct a treatment system (use Forms A, C, and D, application fee is \$500).

A permit is required to construct closed-loop recycling systems for waste wash waters.

Percolation: Land disposal and percolation of waste wash water are regarded as a treatment system and must be approved by the state.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations that wash vehicles on-site should contact the state and describe their washing operations. The state determines which permits the facility should obtain based on the operations conducted by the facility.

Contact

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Montana Wash Water Permitting Requirements

Permitting	Permitting Authority: Montana is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: An individual NPDES permit is required for the discharge of waste wash water to surface waters. Even small, intermittent operations must apply for a permit. The state does not require a permit to construct or operate closed-loop wash water recycling systems. Percolation: The infiltration of waste wash water into soil is an acceptable practice in Montana, which does not require a permit at present. If groundwater may be contaminated due to the percolation of wash water, a groundwater permit may be required. In either case, the facility is liable for any contamination that occurs as a result of washing operations. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	Vehicle washing operations that discharge to surface waters must apply for an individual NPDES permit. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.
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Nebraska Wash Water Permitting Requirements

Permitting	Permitting Authority: Nebraska is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: An individual NPDES permit is required for discharges of waste wash water to surface waters. No permit is needed for construction or operation of closed-loop recycling systems unless the recycling system incorporates an outdoor lagoon. Percolation: A permit is probably required for the infiltration of waste wash water into soil. A permit is probably not required for the infiltration of rinse water. Facilities should contact the state to discuss their operations and determine whether or not a permit is needed. Rinse Water: Rinse water is defined as the discharge that results from washing operations in which no cleaning chemicals (e.g., detergents) are used. A permit may be required for discharges of rinse water to surface waters. Each facility that discharges only rinse water should contact the state to discuss its operations and determine whether or not a permit is needed.
Action	Vehicle washing operations that discharge to surface waters require an NPDES permit. Washing operations that discharge to the ground should contact the state to determine whether or not a permit is needed. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.
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Nevada Wash Water Permitting Requirements

Permitting	Permitting Authority: Nevada is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: Fixed washing operations should discharge to a sanitary sewer system and follow municipal pretreatment requirements. Fixed washing operations may not discharge to surface waters. Mobile washing operations may not discharge to surface waters or stormwater collection systems. Mobile washing operators must contain and collect waste wash water and haul it to a treatment works for proper disposal. A permit is not required to construct or operate closed-loop recycling systems that do not discharge waste wash water. Percolation: A permit is required for percolation and evaporation of waste wash water. Facilities should contact the Nevada Division of Environmental Protection to determine whether or not a permit is required for their particular operations. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact the Nevada Division of Environmental Protection for site-specific permitting requirements.
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New Hampshire Wash Water Permitting Requirements

Permitting

Permitting Authority: New Hampshire is not a delegated state. The NPDES permitting process is regulated by EPA Region 1.

Surface Water Discharge: (See also Federal EPA Region 1 discussion.) Waste wash water cannot be discharged to surface waters without a permit except on a case-by-case basis. Facilities can apply for an individual NPDES permit from the Federal EPA Region 1. Waste wash water should be discharged to a sanitary sewer system under a state permit.

If there is no discharge from a closed-loop recycling system, then no additional permits are required for its construction or operation. A Stormwater Pollution Prevention Plan should specify what maintenance is necessary to ensure that there is no discharge from the closed-loop recycling system.

Percolation: Technically, a state groundwater permit is required for any discharge of waste wash water. However, unless the discharge causes a problem or there are complaints, the state will not ask for a groundwater permit for mobile vehicle washing operations. Facilities should not perform steam cleaning or undercarriage and engine washing and should use biodegradable detergent. The state prefers washing on grass, if possible.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations discharging to surface waters should contact the New Hampshire Department of Environmental Services or the Federal EPA Region 1 for permit requirements. Vehicle washing operations that percolate waste wash water should use best management practices to avoid contamination. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.



New Hampshire Wash Water Permitting Requirements (continued)

Contact

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New Jersey Wash Water Permitting Requirements

Permitting

Permitting Authority: New Jersey is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual New Jersey Pollutant Discharge Elimination System (NJPDES) permit is required for discharges of waste wash water to surface waters, although no permits have been issued for any mobile vehicle washing operations. Permits have been written for fixed-location vehicle washing operation discharges.

There are no additional permitting requirements for the construction and operation of a closed-loop recycling system, provided that there is no discharge.

Percolation: A permit is required if waste wash water infiltrates into soil; however, the state does not have the resources to write these permits at the present time. The state is developing a guidance document for power washing operations. The state expects that vehicle washing operations will be managed responsibly and best management practices will be followed.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations that discharge to surface waters should apply for an individual NJPDES permit. Vehicle washing operations that allow wash water to percolate into the ground should contact the state to determine whether or not they should apply for a permit. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.

Contact

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New Mexico Wash Water Permitting Requirements

Permitting	Permitting Authority: New Mexico is not a delegated state. The NPDES permitting process is regulated by EPA Region 6. Surface Water Discharge: (See also Federal EPA Region 6 discussion.) An individual NPDES permit is required for discharges of waste wash water to surface waters. Federal EPA Region 6 is responsible for granting NPDES permits in New Mexico. Recycling systems normally do not require a permit; however, if the system discharges any wastewater, a Notice of Intent to discharge wash waters should be submitted to the Groundwater Pollution Prevention Section. Percolation: If the vehicle washing operation percolates wash water, a Notice of Intent to discharge wastewater must be submitted to the Groundwater Pollution Prevention Section of the New Mexico Environment Department. The permit requirement will depend on the presence of contaminants in the wastewater and the depth to groundwater in the area. If a permit is required, the method of disposal specified in the permit could be an evaporation lagoon, land application, complete recycling, or any other method that protects groundwater from contamination. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	Vehicle washing operations discharging to surface waters should contact the Federal EPA Region 6 for an individual NPDES permit. Vehicle washing operations that percolate should consider using an evaporation pond and contact the New Mexico Environment Department for site-specific requirements. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.
Contact	GLEN SUMMS (SURFACE WATERS) MARCHELLE SCHUMAN (PERCOLATION) NEW MEXICO ENVIRONMENT DEPARTMENT 1190 ST FRANCIS DRIVE HAROLD RUNNELS BUILDING SANTA FE NM 87502 Tel: (505) 827-2445 (Marchelle Schuman) (505) 827-2827 (Glen Summs) Fax: (505) 827-2965



New York Wash Water Permitting Requirements

Permitting

Permitting Authority: New York is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual state pollutant discharge elimination system (SPDES) permit is required for wash water discharges to surface waters. The permit usually sets discharge limitations for some combination of the following parameters, depending on the washing method used: 20 mg/l of surfactants/foaming agents, 15 mg/l of oil and grease, 0.1 mg/l of cadmium, and 0.65 mg/l of zinc. The permits do not specify what technology must be used to meet the discharge limits, but permit writers are aware of which technologies are available. Typically, an oil/water separator alone is sufficient treatment for wash water discharges resulting from washing operations that do not use any chemical cleaning agents.

If a closed-loop recycling system does not cause any discharge to surface waters or groundwaters, no permit for construction or operation of the system is required under the SPDES program.

Percolation: An SPDES permit is required for the discharge of waste wash waters to groundwaters. Groundwater discharge limits are typically more stringent than surface water discharge limits, except for oil and grease, which are 15 mg/l in both cases.

Rinse Water: The state strongly recommends that wash waters be discharged to a municipal sanitary sewer system, with the permission of the sewer district. Use of mobile vendors who contain and collect the waste wash water and dispose of the wash water to a municipal sanitary sewer system is also recommended. Washing operations that are unable to use these options and that discharge wash water to surface waters or groundwaters should apply for an SPDES permit.

Action

Vehicle washing operations that discharge wash water to surface waters or into soil should apply for an SPDES permit. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.

Contact

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North Carolina Wash Water Permitting Requirements

Permitting	Permitting Authority: North Carolina is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: An individual NPDES permit is required for waste wash water discharges to surface waters. The state encourages facilities to use no-discharge operations. The state encourages low-flow operations to first refer to the Regional Offices of the North Carolina Department of Environment, Health, and Natural Resources for permit requirements. Facilities with closed-loop recycling systems must obtain a No Discharge Permit from the state before construction. Percolation: Facilities should contact their Regional Office of the Department of Environment, Health, and Natural Resources to determine what requirements must be met if waste wash water is discharged to the ground surface or groundwater. Rinse Water: Discharges of rinse wastewater to surface waters should not take place without a permit. Washing operations that discharge to surface waters or to the ground should contact a Regional Office of the Department of Environment, Health, and Natural Resources. Facilities intending to install recycling systems should obtain and complete an application for a No Discharge Permit.
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should ensure that their discharges do not cause water quality problems or result in complaints to the state. When the state has developed a general permit for vehicle washing operations, facilities should apply for coverage under the permit.
Contact	MARK MACINTIRE (SURFACE WATERS) RANDY KEPLER (NONDISCHARGE) NORTH CAROLINA DEPARTMENT OF ENVIRONMENT HEALTH AND NATURAL RESOURCES PO BOX 29535 RALEIGH NC 27626 Tel: (919) 733-5083 Ext 553 (Mark Macintire) (919) 733-5083 Ext 544 (Randy Kepler) Fax: (919) 733-0719



North Dakota Wash Water Permitting Requirements

Permitting

Permitting Authority: North Dakota is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual NPDES permit is required for the discharge of waste wash water. The state recommends discharging to a sanitary sewer system or containing the discharge.

No permit is required to operate or construct a closed-loop recycling system as long as the system is not treating a hazardous waste.

Percolation: At this time, no permit is required for percolating waste wash water. Regulators in the Underground Injection Control Program are discussing coverage of such discharges at a later date.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations discharging to surface waters should contact the North Dakota Department of Health and Consolidated Laboratories for permit requirements. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.

Contact

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Ohio Wash Water Permitting Requirements

Permitting	Permitting Authority: Ohio is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: An NPDES permit is required for any discharge of waste wash water to surface waters; no exceptions are made for small discharges. The state is concerned with the protection of state water quality standards, which also include whole effluent toxicity. Note: Ohio has a policy document that strongly discourages the discharge of waste wash water to surface waters. The state would prefer to see waste wash water directed to a sanitary sewer system, recycled, or hauled away and disposed of properly. The state does on occasion issue permits for leach field systems on a case-by-case basis, but is reluctant to do so. No permit is required by the Ohio EPA for installation and operation of a closed-loop recycling system if there is no discharge. The Ohio EPA strongly encourages recycling of waste wash water. Percolation: No operations with any potential to contaminate groundwater are allowed. If a facility can demonstrate that its waste wash water does not overflow into surface waters, does not cause erosion, and does not contaminate groundwater, then no permit is needed. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	Vehicle washing operations that discharge waste wash water to surface waters should apply for an NPDES permit. However, facilities are encouraged not to discharge to surface waters, but to discharge waste wash water to a sanitary sewer system or recycle waste wash water.
Contact	RAJ CHAKRABARTI ENVIRONMENTAL ENGINEER DIVISION OF SURFACE WATERS OHIO ENVIRONMENTAL PROTECTION AGENCY PO BOX 163669 COLUMBUS OH 43266 Tel: (614) 644-2027 Fax: (614) 644-2329



Oklahoma Wash Water Permitting Requirements

Permitting

Permitting Authority: Oklahoma is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: A joint individual NPDES permit from the state and Federal EPA Region 6 are required for discharges of waste wash water to surface waters. The permit requirements depend on site-specific conditions. Currently, no permit program exists for mobile vehicle washing operations; however, a discharge of waste wash water to waters of the state is a violation of state law. The state recommends containing waste wash water and transporting or directing the discharge to a sanitary sewer system with the permission of the municipality.

There are Pollutant Discharge Elimination System permit requirements for construction and operation of closed-loop recycling systems.

Percolation: Groundwater is considered a water of the state. A water quality permit may be granted for fixed-location vehicle washing operations that percolate waste wash water. The state also regulates retention lagoons and septic systems. If waste wash water is fully retained, a surface impoundment permit from the state is needed. Surface impoundments must have a liner to prevent percolation. No permit program exists for percolation from mobile vehicle washing operations; however, contamination of groundwater violates state law. See the recommendations in Surface Water Discharge above.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Fixed-location vehicle washing operations discharging to surface waters or percolating to groundwater should contact the Oklahoma Department of Environmental Quality for permit requirements. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements. Mobile vehicle washing operations should contain their waste wash water discharge and transport or direct it to a sanitary sewer system with the permission of the sanitary district.

Contact

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Oregon Wash Water Permitting Requirements

Permitting

Permitting Authority: Oregon is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: Waste wash water must be recycled or directed to a sanitary sewer system. Facilities that recycle all their water or that discharge to a sanitary sewer system can operate without general permit 1700-J.

Commercial operations that wash fewer than 8 vehicles a week (tractors and trailers count as separate vehicles) are granted general permit 1700-J without registering with the Oregon Department of Environmental Quality (DEQ). If detergents or other chemical cleaners are used, the waste wash water cannot be discharged to surface waters. Instead, this water must be discharged where it can soak into the ground or evaporate.

Each facility that discharges waste wash water from washing only the exterior of more than 8 vehicles must register with the DEQ and comply with the following best management practices:

- Visible oil and grease must be removed prior to discharge.
- Rinse water may be discharged to an evaporation pond, seepage pond, seepage trench, irrigation system, or dry well.
- Facilities must use chemicals that are biodegradable and may be discharged to a septic tank or leach field.

Other water from washing operations may be discharged directly to surface waters if a number of relatively stringent conditions are met. Monitoring is required for discharges from steam or chemically assisted cleaning of oily or greasy equipment and from cleaning operations using strong acids, caustics, or other metal brighteners.

The state is planning to change general permit 1700-J after it expires on December 31, 1997. The new permit will probably differentiate between washing operations that involve acid, caustics, or metal brighteners, hot water, and steam cleaning — higher concern discharges — and those that do not — lower concern discharges. Facilities with lower concern discharges will not have to monitor for metals and will have less stringent effluent limits to meet that can be achieved with a properly sized settling tank and an oil/water separator or equivalent treatment. Facilities with higher concern discharges will have to monitor for metals and will be required to meet more stringent discharge limits such as some combination of treatment technologies including sedimentation, oil/water separation, and chemical precipitation or the equivalent. The monitoring frequency for both discharges will probably be once a month.



Oregon Wash Water Permitting Requirements (continued)

Permitting (continued)	Percolation: A permit is required for percolation and evaporation of waste wash water. Facilities should contact the Oregon DEQ to determine whether or not a permit is required for their particular operations. Rinse Water: The state distinguishes between rinse water and waste wash water in its best management practices, which are required by general permit 1700-J for vehicle cleaning and equipment cleaning operations. Rinse water is the wastewater that results from washing operations that do not involve the use of cleaning chemicals (e.g., detergents).
Action	Vehicle washing operations that cannot recycle their wash water or discharge it to a sanitary sewer must apply for general permit 1700-J.
Contact	RAJ KAPUR WATER QUALITY DIVISION DEPARTMENT OF ENVIRONMENTAL QUALITY 811 SW 6TH AVENUE PORTLAND OR 97204 Tel: (503) 229-5185



Pennsylvania Wash Water Permitting Requirements

Permitting	Permitting Authority: Pennsylvania is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: The regional office of the Pennsylvania Department of Environmental Resources decides on a case-by-case basis whether or not an NPDES permit is required for the discharge of waste wash water to surface waters. No permit is required by the Pennsylvania Department of Environmental Protection for closed-loop recycling systems. Percolation: The regional office of the Pennsylvania Department of Environmental Resources decides on a case-by-case basis whether or not a Water Quality Management Part II permit is required for the percolation of waste wash water. This permit will probably not be needed for washing vehicle exteriors. Rinse Water: The state does not distinguish between rinse water and waste wash water.												
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact the appropriate regional office of the Pennsylvania Department of Environmental Resources to determine site-specific permit requirements.												
Contact	GARY HEPFORD PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES PO BOX 8465 HARRISBURG PA 17105-8465 Tel: (717) 787-8184 Fax: (717) 772-5156 Regional Offices: <table><tr><td>Southeast Region</td><td>(610) 832-6130</td></tr><tr><td>Southcentral Region</td><td>(717) 657-4590</td></tr><tr><td>Southwest Region</td><td>(412) 442-4000</td></tr><tr><td>Northeast Region</td><td>(717) 826-2553</td></tr><tr><td>Northcentral Region</td><td>(717) 327-3670</td></tr><tr><td>Northwest Region</td><td>(814) 332-6942</td></tr></table>	Southeast Region	(610) 832-6130	Southcentral Region	(717) 657-4590	Southwest Region	(412) 442-4000	Northeast Region	(717) 826-2553	Northcentral Region	(717) 327-3670	Northwest Region	(814) 332-6942
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Rhode Island Wash Water Permitting Requirements

Permitting

Permitting Authority: Rhode Island is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual Rhode Island Pollutant Discharge Elimination System (RIPDES) permit is required for discharges of waste wash water to surface waters.

No permit is required by the Rhode Island Department of Environmental Management, Office of Water Resources, for closed-loop recycling systems.

Percolation: An Underground Injection Control Program permit is required for percolation of waste wash water on a case-by-case basis, depending on the use of chemicals, the sensitivity of and depth to groundwater, and the treatment in place. Any time that undercarriages are washed a permit is required. The Underground Injection Control program primarily regulates discharges to leaching structures. However, if large quantities of waste wash water discharge are soaking into the ground, the Groundwater Division of the Rhode Island Department of Environmental Management should be contacted for their review.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations discharging to surface waters should contact the Rhode Island Department of Environmental Management to determine if an RIPDES permit is required. Vehicle washing operations where waste wash water percolates should contact the Groundwater Division of the Rhode Island Department of Environmental Management for permit requirements. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.

Contact

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South Carolina Wash Water Permitting Requirements

Permitting

Permitting Authority: South Carolina is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: The state issued a permit authorizing vehicle wash water discharges to the environment on February 23, 1996 (Permit No. SCG 750000). Facilities that discharge less than 10,000 gallons per day from the operations listed below are covered by the permit:

- Fixed commercial washing facilities that wash vehicle exteriors only and discharge to a waterway or the land.
- Fixed washing facilities (on the vehicle owner's property) that wash vehicle exteriors only and discharge wash water to a waterway or land.
- Mobile washing of vehicle exteriors, on the property of a vehicle owner, that discharges to a waterway or land. The mobile washer, not the property owner, has coverage in this case.
- Wash water that is 100 percent recycled (that is, no discharge).

There are some limitations on coverage, so facilities should contact the state to determine if their operations may be covered by the permit.

Fixed commercial facilities covered by the permit that store hazardous or toxic substances on-site must develop a best management practices plan for their washing operations.

Fixed commercial washing facilities that wash vehicle exteriors only are required to sample their discharges once a quarter and analyze the sample for flow, oil and grease, pH, and total suspended solids. Other facilities covered by the permit need to comply with all other conditions of the permit, including discharge limitations, but are not required to submit sampling data.

Percolation: See Surface Water Discharge above.

Rinse Water: The state does not distinguish between rinse water and waste wash water.



South Carolina Wash Water Permitting Requirements (continued)

Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations that wash exteriors should contact the state to determine if their operations can be covered by Permit No. SCG 750000.
Contact	ANDY YASINSAC JR PE MANAGER INDUSTRIAL WASTEWATER SECTION SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL 2600 BULL STREET COLUMBIA SC 29201 Tel: (803) 734-5246 Fax: (803) 734-5593



South Dakota Wash Water Permitting Requirements

Permitting

Permitting Authority: South Dakota is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: For fixed-location vehicle washing operations, an NPDES permit is required if waste wash water discharges to surface waters. Permit requirements are determined on a case-by-case basis. Granting permits to mobile vehicle washing operations has not been a high priority. The state recommends directing waste wash water discharge to a sanitary sewer system with permission from the municipality.

A permit is not required for closed-loop recycling systems that do not discharge.

Percolation: For fixed-location vehicle washing operations, an assessment may be required before construction. After construction, downgradient monitoring may be required. The need for site monitoring is evaluated on a case-by-case basis, and depends on site geology and the type of material found in the waste wash water.

The state also has a groundwater discharge plan and associated permit that may apply to facilities at which waste wash water percolates. Under this groundwater discharge permit, a “perimeter of operation pollution” zone is established within which the groundwater standards can be exceeded. The standards must be met at the compliance points. The state decides on a case-by-case basis whether this permit is required.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact the South Dakota Department of Environment and Natural Resources for permit requirements.



South Dakota Wash Water Permitting Requirements (continued)

Contact

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NATURAL RESOURCES ENGINEER
POINT SOURCE CONTROL PROGRAM

SHELDON HAMANN (GROUNDWATER)
GARY HAAG (GROUNDWATER DISCHARGE PERMIT)
HYDROLOGIST
GROUNDWATER QUALITY PROGRAM

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(605) 773-3296 (Groundwater)

Fax: (605) 773-4068 (Surface Waters)
(605) 773-6035 (Groundwater)



Tennessee Wash Water Permitting Requirements

Permitting

Permitting Authority: Tennessee is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual NPDES permit is required for discharges of wastewater that reach surface waters of the state. An NPDES permit is not required for discharges that do not reach waters of the state. The Division of Water Pollution Control recognizes that there are cases where a minimal amount of water is used, and it is not likely to reach waters of the state. Generally, no permit would be required in such a case, but the field office of the Division of Water Pollution Control should be contacted for a case-by-case determination as to whether or not an NPDES permit is required.

The Tennessee Department of Environment and Conservation, Division of Water Pollution Control, decides on a case-by-case basis whether or not a closed-loop recycling system requires a State Operation Permit (SOP). The decision is based on the type of recycling system, proximity to waters of the state, and likelihood of release. Mobile truck washing operations that capture and dispose of or recycle the waste wash water are required to have an SOP.

Percolation: Discharges of waste wash water to the ground are usually not allowed because no pollutant can be discharged to groundwater. The state decides on a case-by-case basis whether or not an Underground Injection Control Program permit is required, but percolation is rarely allowed.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations discharging waste wash water to surface waters should contact the appropriate field office of the Tennessee Department of Environment and Conservation and describe their operations. The field office determines whether or not a permit is required. Percolation of waste wash water should cease. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.



Tennessee Wash Water Permitting Requirements (continued)

Contact

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ROBIN BELL (PERCOLATION)
GEOLOGIST

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(615) 532-0169 (Robin Bell)

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Texas Wash Water Permitting Requirements

Permitting

Permitting Authority: Texas is not a delegated state. The NPDES permitting process is regulated by EPA Region 6.

Surface Water Discharge: (See also Federal EPA Region 6 discussion.) Fixed-location vehicle washing operations need an NPDES permit from Federal EPA Region 6. Facilities that discharge waste wash water must also obtain an individual permit or a general permit from the state (in addition to any permits required by Federal EPA Region 6). General permit requirements are usually less burdensome than individual permit requirements.

Facilities may need to apply for a general permit if they discharge more than 5,000 gallons per day (on average per month), and if they are outside the area of a publicly owned treatment works. The Operating-by-Rule Permit fee is \$500 per year. The important requirements of the general Operating-by-Rule Permit are described below.

The permit has general requirements to meet effluent limits and not to cause a nuisance or adverse effect on human health or safety or the environment. Facilities are required to analyze grab samples for pH (limit 6.0 to 9.0 standard units) once a month, and for oil and grease (limit 15 mg/l), total suspended solids (limit 65 mg/l), and chemical oxygen demand once a quarter.

Mobile vehicle washing operations need to contain waste wash water and direct it to a sanitary sewer system.

No permit is required by the Texas Natural Resources Conservation Commission (TNRCC) if a vehicle wash water treatment system does not discharge.

Percolation: Discharges of waste wash water to the ground are considered a discharge to waters of the state. Percolation is considered more of a site-specific issue.

Rinse Water: The state does not distinguish between rinse water and waste wash water.



Texas Wash Water Permitting Requirements (continued)

Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact EPA Region 6 and the Texas Natural Resources Conservation Commission for site-specific permit requirements.
Contact	CHARLES EANES WASTEWATER PERMIT SECTION (MC-148) TEXAS NATURAL RESOURCES CONSERVATION COMMISSION PO BOX 13087 AUSTIN TX 78711-3087 Tel: (512) 239-4563 Fax: (512) 239-4430



Utah Wash Water Permitting Requirements

Permitting	Permitting Authority: Utah is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: In rural areas where vehicle washing operations use best management practices (such as using biodegradable detergents and carefully selecting the site), the state would not insist on a Utah Pollutant Discharge Elimination System (UPDES) permit for washing vehicle exteriors. Vehicle washing operations should contain and treat the discharge under a UPDES permit. In many instances the permit requirements are financially prohibitive, and the state recommends discharging to the sanitary sewer system. No permit is required by the Utah Department of Environmental Quality for the construction or operation of a closed-loop recycling system that does not discharge. Percolation: Vehicle washing operations discharging waste wash water that could cause contamination of soil or groundwater are required to obtain a permit. A permit is required for discharges from washing engines or undercarriages. Rinse Water: Rinse water is defined as the discharge generated by washing vehicle exteriors without detergent, including discharge from using hot water and high pressure sprays. The discharge of rinse water to surface waters can be covered by a UPDES permit.
Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact the Utah Department of Environmental Quality, Division of Water Quality, to determine if a permit is required.
Contact	HARRY CAMPBELL PE (SURFACE WATERS) ENVIRONMENTAL ENGINEER PERMITS AND COMPLIANCE SECTION LARRY MICE (GROUNDWATER) UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY PO BOX 144870 SALT LAKE CITY UT 84114-4870 Tel: (801) 538-6146 (Harry Campbell) (801) 538-6835 (Larry Mice) Fax: (801) 538-6016



Vermont Wash Water Permitting Requirements

Permitting

Permitting Authority: Vermont is a delegated state but is not authorized to regulate NPDES permits for federal facilities. EPA Region 1 administers permits for federal facilities.

Surface Water Discharge: (See also Federal EPA Region 1 discussion.) An individual state permit is required for discharges of waste wash water to surface waters. The state determines on a case-by-case basis whether or not the discharge of waste wash water can be covered under the state stormwater program (the state has two stormwater programs, the state program and the delegated NPDES program). Whether or not waste wash water discharge can be covered under a state stormwater program depends on such things as the size of the operation and the distance to surface waters.

No permit is required by the Wastewater Management Division for the construction or operation of a closed-loop recycling system.

Percolation: An Underground Injection Control Program permit is required for new facilities that discharge waste wash water to structures such as leach fields or dry wells. Existing facilities must complete a registration form and may be required to obtain a permit. Facilities that percolate waste wash water without the presence of discharge structures should request a determination of whether or not the proposed discharge constitutes a surface discharge to waters of the state. Some areas of the state have very low percolation rates, and depending on the volume, discharges in these areas may reach surface waters.

Rinse Water: Rinse water is defined as the discharge from washing operations that do not use cleaning chemicals. The use of chemicals is considered when determining permit requirements or whether or not a permit is required.



Vermont Wash Water Permitting Requirements (continued)

Action	First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact the appropriate Vermont Department of Environmental Conservation division for permit requirements.
Contact	RANDY BEAN (DIRECT DISCHARGE NPDES) ENVIRONMENTAL ENGINEER JOHN AKIELASZEK (INDIRECT DISCHARGE) ENVIRONMENTAL ENGINEERING SUPERVISOR INDIRECT DISCHARGE SECTION WASTEWATER MANAGEMENT DIVISION ELIZABETH HUNSBERGER (UNDERGROUND INJECTION CONTROL PROGRAM) UNDERGROUND INJECTION CONTROL PROGRAM COORDINATOR WATER SUPPLY DIVISION VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION 103 S MAIN STREET WATERBURY VT 05676 Tel: (802) 241-3822 (R Bean and J Akielaszek) (802) 241-3400 (E Hunsberger) Fax: (802) 241-2596 (R Bean and J Akielaszek) (802) 241-3284 (E Hunsberger)



Virginia Wash Water Permitting Requirements

Permitting

Permitting Authority: Virginia is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: All vehicle washing operations discharging waste wash water to surface waters must contact the regional Virginia Department of Environmental Quality office to discuss application for a permit according to state regulations. However, the state may use its discretion in requiring a permit. Generally, the state attends to fixed-location washing operations at a higher priority than mobile vehicle washing operations. The regional offices decide whether or not to give a permit to a washing operation based on site-specific information.

No permit is required by the Virginia Department of Environmental Quality for the construction or installation of a closed-loop recycling system.

Percolation: Vehicle washing operations discharging waste wash water to the ground may be required to have a Virginia Pollution Abatement permit. The regional offices decide whether or not a washing operation needs a permit based on site-specific information.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should contact the appropriate regional office of the Virginia Department of Environmental Quality for site-specific permit requirements.

Contact

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VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 10009
RICHMOND VA 23240

Tel: (804) 698-4086

Fax: (804) 698-4032



Washington Wash Water Permitting Requirements

Permitting	Permitting Authority: Washington is a delegated state but is not authorized to regulate NPDES permits for federal facilities. EPA Region 10 administers permits for federal facilities. Surface Water Discharge: (See also Federal EPA Region 10 discussion.) An individual NPDES permit is required for discharges of waste wash water to surface waters; however, discharges to surface waters are strongly discouraged. Waste wash water should be discharged to a sanitary sewer system or recycled. No permit is required by the Water Division for the construction and operation of a closed-loop recycling system. Percolation: A state waste discharge permit may be required for percolation of waste wash water. Discharges of waste wash water to groundwater are not recommended, unless no other option exists and adequate treatment to prevent groundwater pollution has been provided. Rinse Water: Guidelines published in May 1995 distinguish between rinse water discharges and waste wash water discharges. Rinse water discharges are defined as discharges from cold water rinses without detergents. Rinse water requirements are different from waste wash water requirements. For example, rinse water is allowed to soak into grassy surfaces.
Action	Vehicle washing operations should discharge to a sanitary sewer system or use a recycling system.
Contact	FAROOZAN LABIB ENVIRONMENTAL ENGINEER WATER QUALITY PROGRAM WASHINGTON DEPARTMENT OF ECOLOGY PO BOX 47696 OLYMPIA WA 98504-7696 Tel: (360) 407-6439 Fax: (360) 407-6426



West Virginia Wash Water Permitting Requirements

Permitting

Permitting Authority: West Virginia is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: An individual West Virginia NPDES permit is required for all waste wash water discharges. The state has granted permits to fixed-location vehicle washing operations.

No permit is required by the Office of Water Resources for the construction and operation of a closed-loop recycling system.

Percolation: Percolation of waste wash water is not considered a viable option owing to the potential for soil and groundwater contamination, unless the discharge can be treated to attain drinking water standards.

Rinse Water: The state does not distinguish between rinse water and waste wash water.

Action

Vehicle washing operations that discharge to surface waters should apply for a permit. Vehicle washing operations that currently percolate waste wash water should cease percolation. Consider discharging to an on-site sanitary sewer system instead, taking into consideration all local pretreatment and permit requirements.

Contact

ATTN: INDUSTRIAL BRANCH
MARK SCOTT
CHIEF
OFFICE OF WATER RESOURCES
WEST VIRGINIA DEPARTMENT OF COMMERCE LABOR AND
NATURAL RESOURCES
1201 GREENBRIER STREET
CHARLESTON WV 25311-1088

Tel: (304) 558-8855
Fax: (304) 558-5903



Wisconsin Wash Water Permitting Requirements

Permitting

Permitting Authority: Wisconsin is a delegated state and is authorized to regulate NPDES permits for federal facilities.

Surface Water Discharge: Wisconsin has a general permit (WPDES Permit No. WI-0049328-1) for facilities discharging wastewater from washing only the exteriors of motor vehicles, construction equipment, and other objects. The permit is applicable when wash water flows to waters of the state directly or through a stormwater collection system, or seeps into the groundwater.

Some washing activities do not require a permit if the discharger follows appropriate BMPs. This includes facilities that wash fewer than eight motor vehicles per week on a regular basis. (A motor vehicle is considered to be an automobile, truck, bus, or semitractor and trailer.) The cleaning is restricted to the exterior of the vehicle with biodegradable soap or detergent and water. BMPs required for these operations are described in the permit. The BMPs include measures designed to remove suspended solids and settleable solids from the wastewater and to prevent oil in the discharge water, and the choice of soap or detergent to minimize environmental impacts.

Facilities with all other types of discharge are required to notify the Wisconsin Department of Natural Resources (WDNR) of their activities and request a general permit. The notice serves as a permit application and must include a description of the washing activities and best management practices. If the facility is already regulated by a permit and has on file with the WDNR a pollution prevention plan that specifies which BMPs will be implemented for vehicle wash water, it is not required to obtain a separate vehicle washing general permit. The Stormwater Tiers 1 and 2 permit would be applicable to this provision.

A discharger who obtains a separate vehicle washing discharge permit must meet all the BMPs listed in the permit, including construction and maintenance of an oil/water separator for wastestreams heavily contaminated with oil, limitation on the discharge of chlorides (from road salt), limitations on the discharge of oil and grease (15 mg/l), and limitations on turbidity and suspended solids.

Wash water samples and analysis are required only for operations that steam clean or use high-pressure water to clean engine or oily pieces of equipment.



Wisconsin Wash Water Permitting Requirements (continued)

Permitting (continued)

A discharger or contract washer may apply for one general permit to cover multiple sites. The permit may apply to facilities that discharge to wetlands, outstanding resource waters, and exceptional resource waters and that discharge pollutants in harmful amounts, in violation of water quality standards, or bioaccumulating toxic substances.

Percolation: See Surface Water Discharge above.

Rinse Water: Final rinse water discharge (including hot water and high-pressure systems) from washing operations that do not use cleaning chemicals may be clean enough to be discharged to a stormwater collection system or onto a grassy area. Rinse water should pass through a settling trench before being discharged.

Action

First consider discharging to an on-site sanitary sewer system, taking into consideration all local pretreatment and permit requirements. Otherwise, vehicle washing operations should apply for a washing permit unless their operations are small enough that no permit is needed or if they are already covered by another appropriate permit (see Surface Water Discharge above).

Contact

JERRY RODENBERG
ENVIRONMENTAL ENGINEER
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
PO BOX 7921
MADISON WI 53707

Tel: (608) 266-7715
Fax: (608) 267-7664

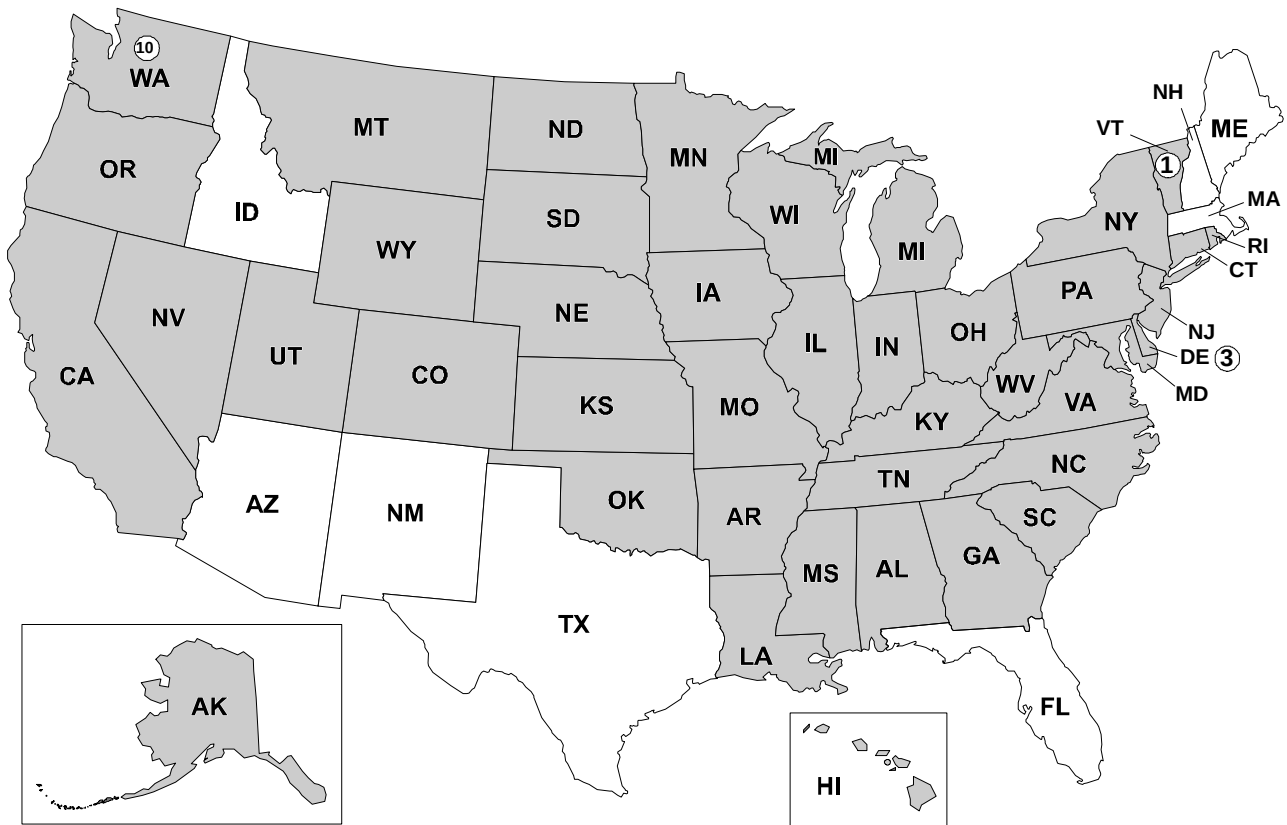


Wyoming Wash Water Permitting Requirements

Permitting	Permitting Authority: Wyoming is a delegated state and is authorized to regulate NPDES permits for federal facilities. Surface Water Discharge: An individual NPDES permit is required for each facility for all waste wash water discharges to surface waters. Regulators report that most vehicle washing operations in the state recycle waste wash water or discharge to the sanitary sewer system and, therefore, do not need a permit. A permit will probably be needed to construct closed-loop recycling systems, even when located indoors. Facilities planning to install a closed-loop recycling system should contact the state to discuss the recycling system before installation, as permit requirements are determined on a case-by-case basis. Percolation: Any waste wash water treatment or disposal system with the potential to contaminate groundwater by percolation or infiltration must comply with the permit-to-construct regulations. Compliance with these regulations is very expensive. Deep well injection of waste wash water may be allowed under a permit from the Underground Injection Control Program. Regulators report that most vehicle washing operations discharge to the sanitary sewer system and, therefore, do not need a permit. Rinse Water: The state does not distinguish between rinse water and waste wash water.
Action	Vehicle washing operations should apply for the appropriate permit or directly discharge to the sanitary sewer system with the permission of the sanitary sewer district.
Contact	LARRY ROBINS (PERMIT TO CONSTRUCT) MANAGER DISTRICT OPERATIONS BOB LUCENT SUPERVISOR UNDERGROUND INJECTION CONTROL PROGRAM WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY HERSCHLER BUILDING 4TH FLOOR CHEYENNE WY 82002 Tel: (307) 777-7082 Fax: (307) 777-5973



States Delegated Authority to Regulate Surface Water Discharges



Legend

-  Shading indicates states delegated authority to regulate surface water discharges, including discharges associated with federal facilities.
-  A number in a shaded state indicates states delegated authority to regulate surface water discharges, but not authorized to grant permits for federal facilities. The number in the circle indicates the regional EPA office responsible for granting permits to federal facilities.

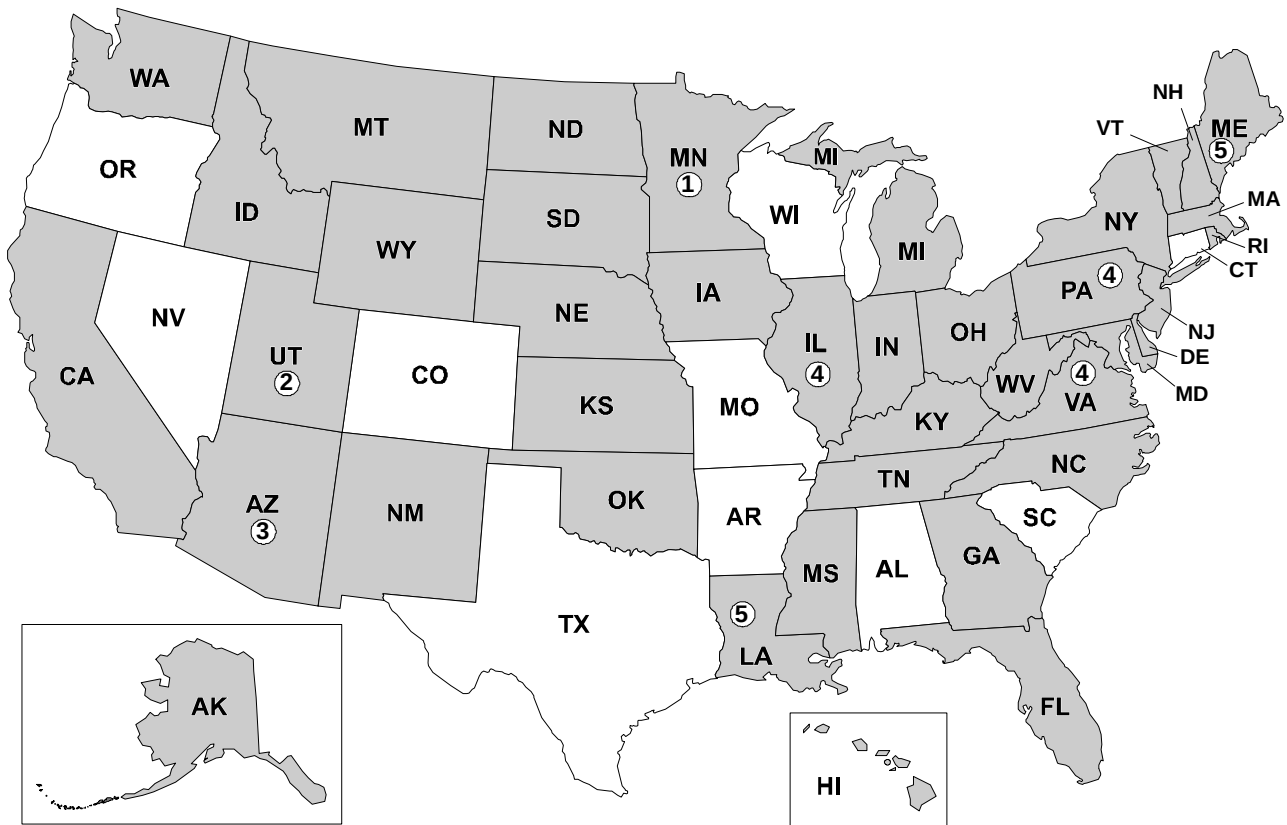
Note: NPDES permits for the District of Columbia are administered by EPA Region 3.





-  Shading indicates states where surface water discharges remain regulated by the federal EPA.
-  The number in the circle indicates the regional EPA office having jurisdiction.

Individual Permits Required for Wash Water Discharges to Surface Waters

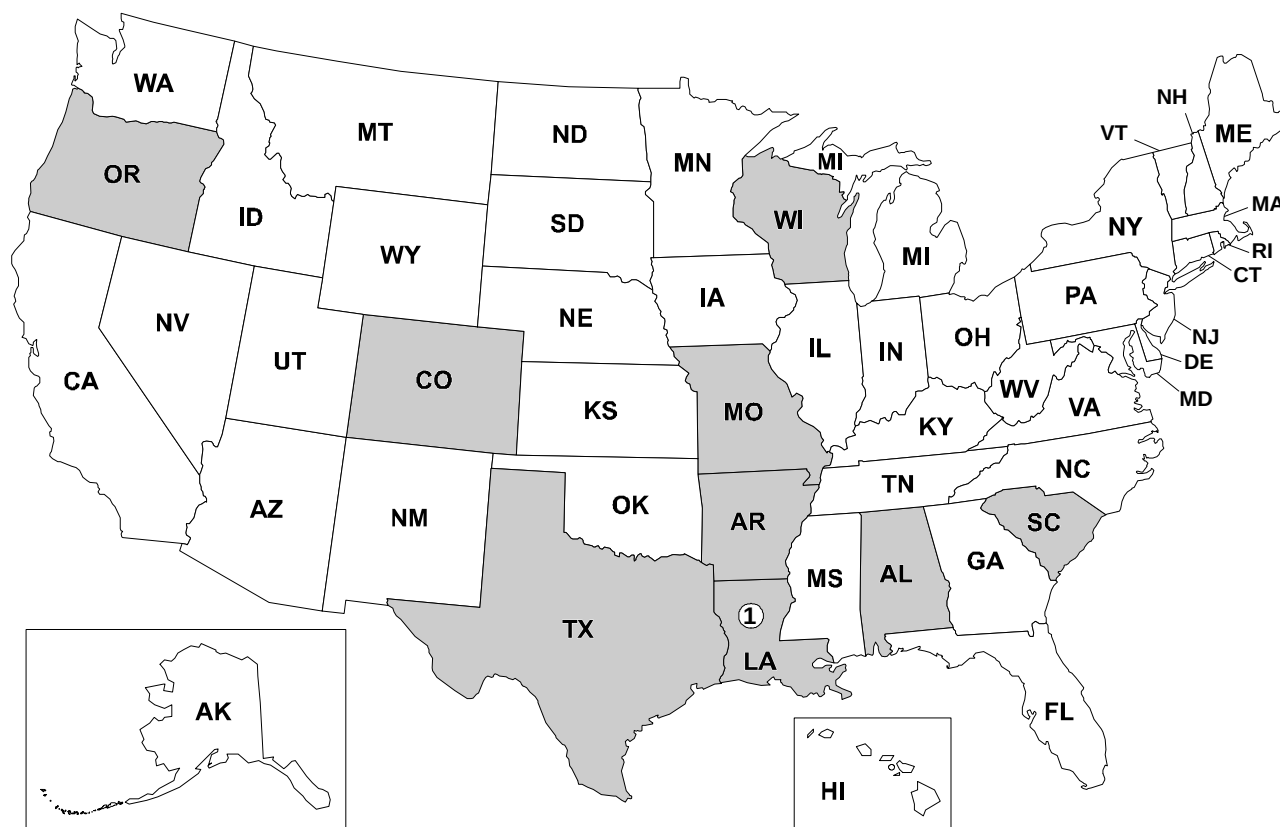


Legend

- States where an individual permit is required for waste wash water discharges to surface waters.
- 1 Mobile vendors may not discharge to surface waters.
- 2 Rinse waters may be covered by a general permit.
- 3 An additional state permit is required.
- 4 Some exceptions may be allowed.
- 5 A general permit may be available for pressure washing.



General Permits Available for Wash Water Discharges to Surface Waters

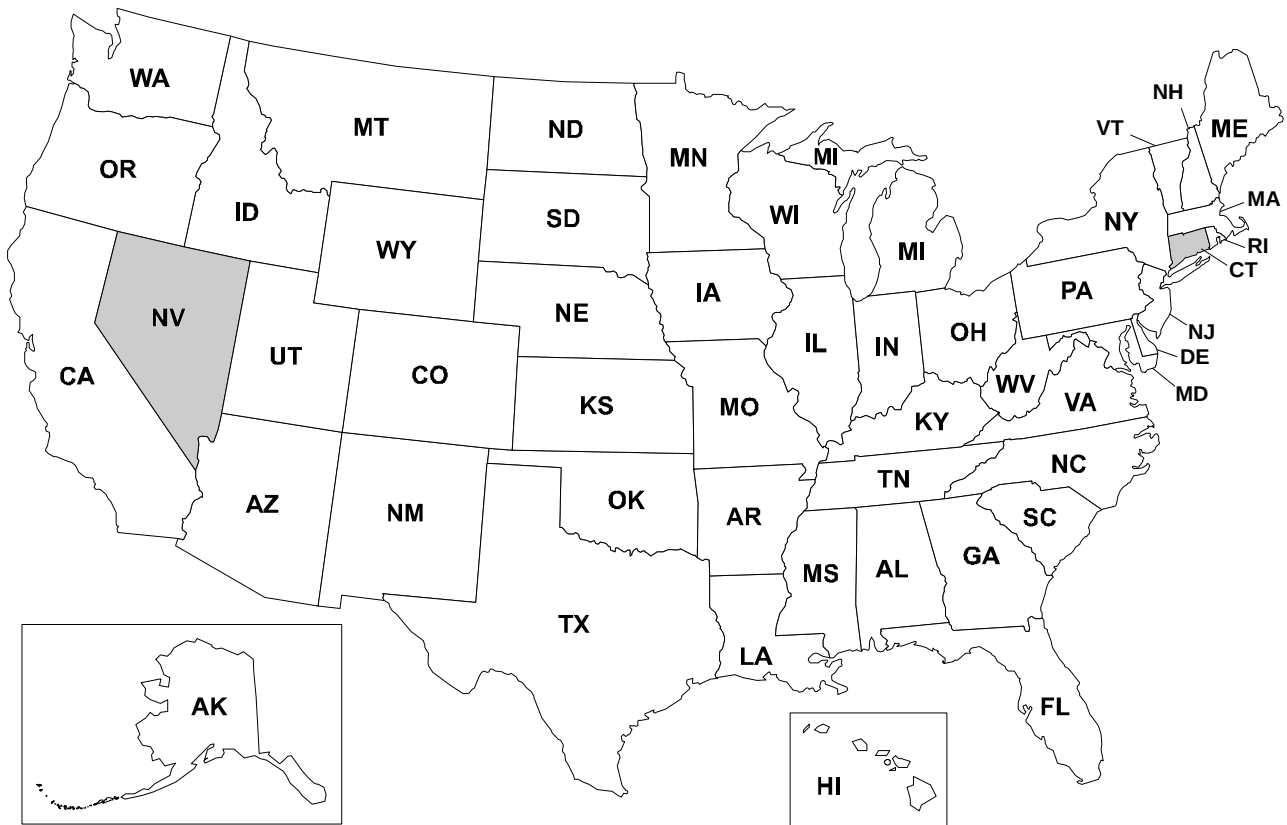


Legend

- States that have general permits for wash water discharges to surface waters.
- 1 A general permit is available only for pressure washers.



Discharge of Vehicle Wash Water to Surface Waters Prohibited

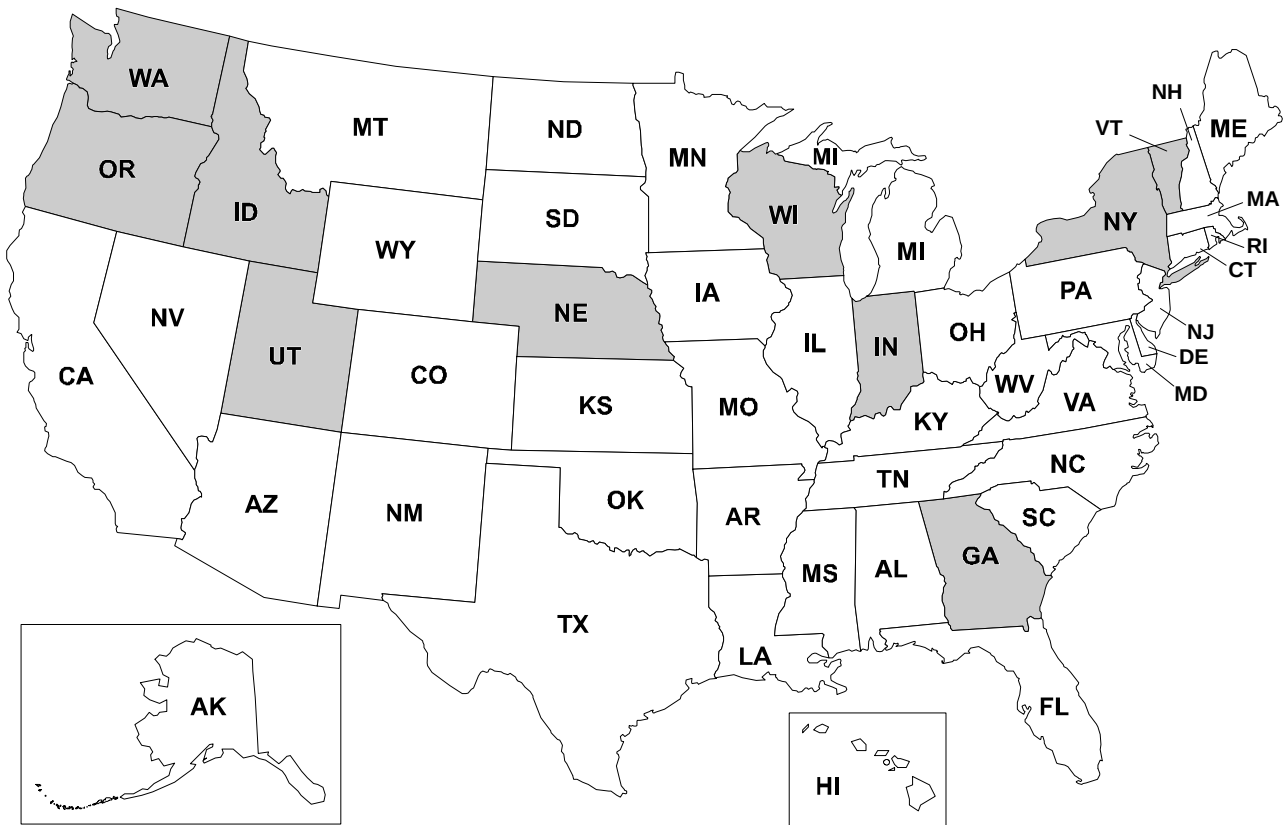


Legend

-  States that prohibit the discharge of vehicle wash water to surface waters.



States That Treat Rinse Water Differently Than Waste Wash Water



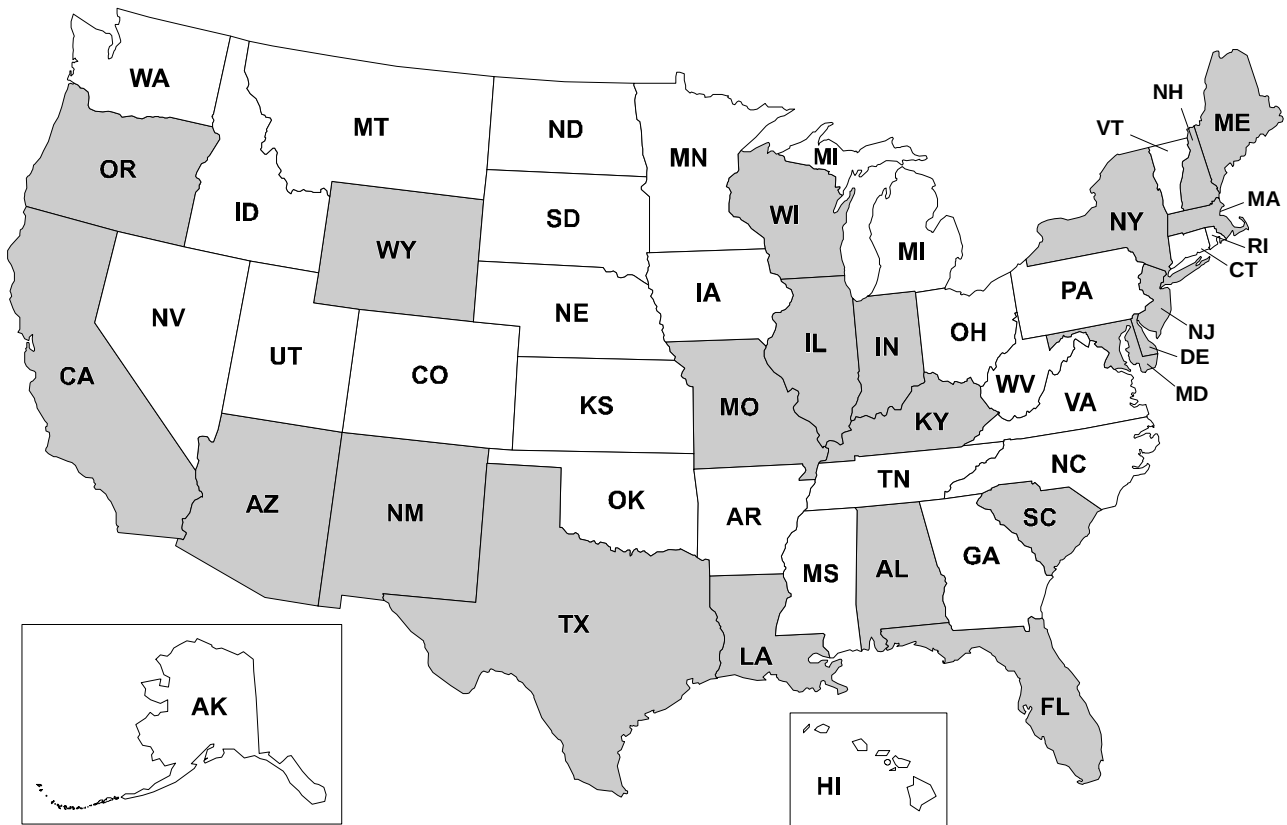
Legend



States that treat rinse water differently than waste wash water.



Permits Usually or Always Required for Wash Water Percolation

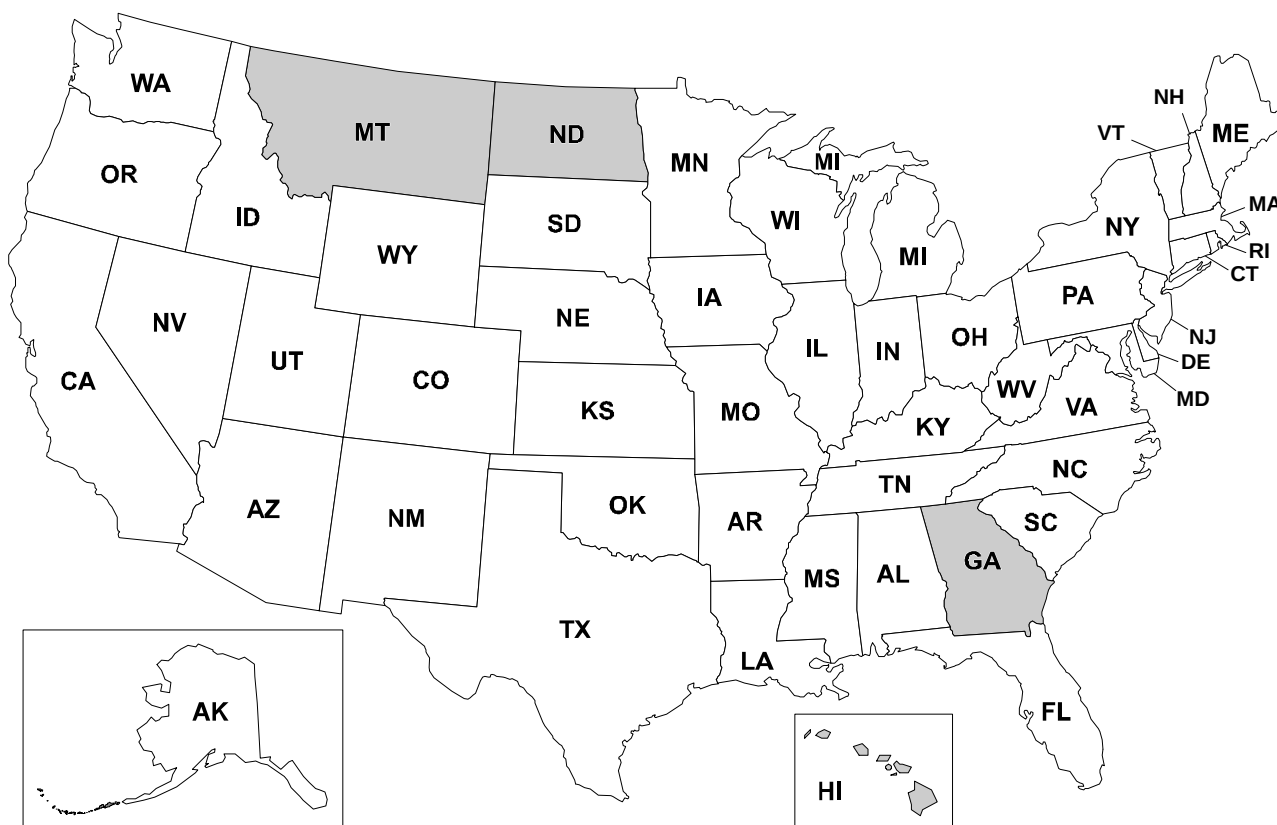


Legend

- States that usually or always require a permit for waste wash water percolation.



Wash Water Percolation Allowed Without a Permit

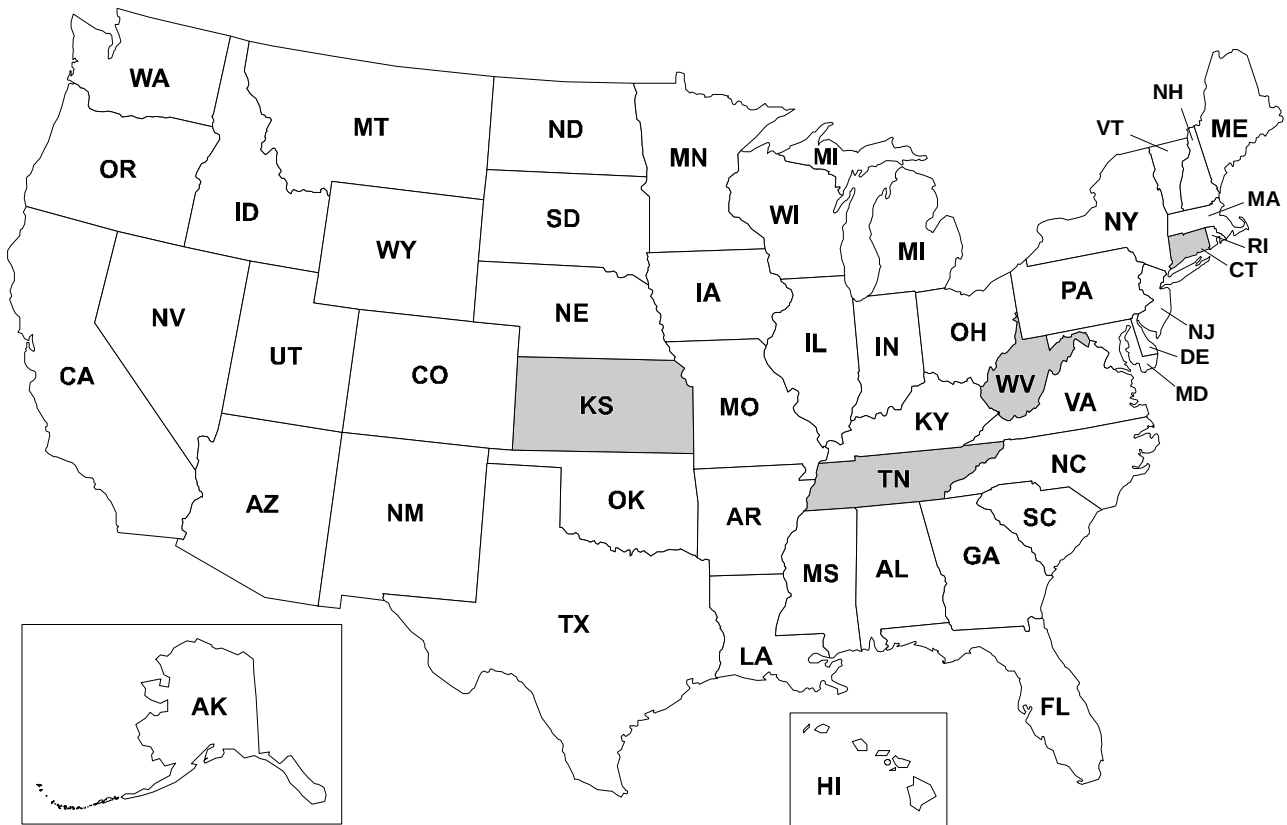


Legend

 States that allow percolation of waste wash water without a permit.



Exhibit A-9
Percolation of Wash Water Prohibited

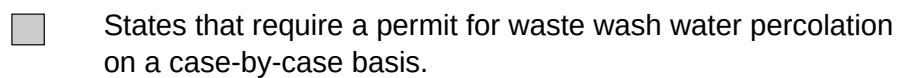


Legend

 States that prohibit the percolation of waste wash water.



Permit Required on a Case-by-Case Basis for Wash Water Percolation



B Vehicle Washing Evaluation Sheets



This appendix provides a method for evaluating the various washing processes available under mobile washing and off-site washing technologies. A comparative analysis of the washing processes is based on three overall evaluation categories: cost, system efficiency, and site requirements.



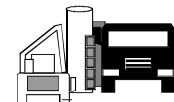
Comparative Analysis of Mobile Washing Equipment — High-Pressure Spray Systems



Evaluation Category	Evaluation Factor	High-Pressure Spray Systems
Cost	Estimated per Vehicle Washing Cost	\$4 to \$10 per wash, depending on number and type of vehicles.
System Efficiency	Quality of Wash	High quality wash, especially if used in combination with brushing on hard-to-clean areas.
	Speed of Wash	10 minutes to wash an LLV. 15 minutes to wash a tractor-trailer.
	Ability to Wash Vehicles of Various Sizes	This system can be used to wash vehicles of any size and shape.
	Potential to Damage Vehicles	Low potential to damage vehicles when using proper water pressure and detergents. If acid is used, precautions must be taken not to damage or etch nonmetal vehicle areas (e.g., windshield glass).
Site Requirements	Space Availability	Vehicles can usually be washed where they are parked.
	Drought Restrictions	This washing system is potentially subject to drought restrictions unless a water recycling process is used.
	Pretreatment Requirements	If discharging to a sanitary sewer, pretreatment may be necessary (depending on local POTW requirements).
	System Hookup Requirements	Wash water collection system hookup to the sanitary sewer system is required if available.
	Permitting and Approval of Disposal Methods	Must obtain necessary permits and approvals prior to discharging to an on-site sanitary sewer. If wash water disposal is off-site, the mobile washing contractor is responsible for obtaining permits and proper disposal procedures.



Comparative Analysis of Mobile Washing Equipment — Brush Systems



Evaluation Category	Evaluation Factor	Brush Systems
Cost	Estimated per Vehicle Washing Cost	\$3 to \$7 per wash, depending on number and type of vehicles.
System Efficiency	Quality of Wash	High quality wash on long, straight-sided vehicles. System cannot wash windshields or irregular shapes and is not appropriate for washing LLVs.
	Speed of Wash	3 to 5 minutes to wash a 45-foot trailer. Not a practical system for washing LLVs.
	Ability to Wash Vehicles of Various Sizes	This system is limited to long, straight-sided vehicles and/or trailers.
	Potential to Damage Vehicles	Low potential to damage vehicles if washing is limited to long, straight-sided vehicles.
Site Requirements	Space Availability	Vehicles must be moved to a suitable area accessible by brush equipment.
	Drought Restrictions	This washing system is potentially subject to drought restrictions unless a water recycling process is used.
	Pretreatment Requirements	If discharging to a sanitary sewer, pretreatment may be necessary (depending on local POTW requirements).
	System Hookup Requirements	Wash water collection system hookup to the sanitary sewer system is required if available.
	Permitting and Approval of Disposal Methods	Must obtain necessary permits and approvals prior to discharging to an on-site sanitary sewer. If wash water disposal is off-site, the mobile washing contractor is responsible for obtaining permits and proper disposal procedures.



Comparative Analysis of Mobile Washing Equipment — Dry Washing



Evaluation Category	Evaluation Factor	Dry Washing
Cost	Estimated per Vehicle Washing Cost	\$8 to \$15 per vehicle.
System Efficiency	Quality of Wash	Wash quality is high for painted and polished surfaces. Dry washing may be ineffective at removing clay films, salts, and de-icing products.
	Speed of Wash	Slow — very labor intensive, especially for larger vehicles. Estimated 20 minutes to wash an LLV.
	Ability to Wash Vehicles of Various Sizes	Able to wash vehicles of various sizes.
	Potential to Damage Vehicles	Low potential to damage vehicles.
Site Requirements	Space Availability	Vehicles can usually be washed where they are parked.
	Drought Restrictions	Water is not used; therefore, this washing process is not subject to drought restrictions.
	Pretreatment Requirements	N/A
	System Hookup Requirements	N/A
	Permitting and Approval of Disposal Methods	N/A



Comparative Analysis of Mobile Washing Equipment — Hand Washing



Evaluation Category	Evaluation Factor	Hand Washing
Cost	Estimated per Vehicle Washing Cost	\$4 to \$10 per wash, depending on number and type of vehicles.
System Efficiency	Quality of Wash	Generally provides the best quality wash of all mobile washing processes.
	Speed of Wash	Slow — very labor intensive, especially for larger vehicles. Estimated 15 minutes to wash an LLV.
	Ability to Wash Vehicles of Various Sizes	Able to wash vehicles of various sizes.
	Potential to Damage Vehicles	Low potential to damage vehicles.
Site Requirements	Space Availability	Vehicles can usually be washed where they are parked.
	Drought Restrictions	Hand washing is potentially subject to drought restrictions in some parts of the country. However, hand washing typically requires less water than high-pressure spray systems.
	Pretreatment Requirements	If discharging to a sanitary sewer, pretreatment may be necessary (depending on local POTW requirements).
	System Hookup Requirements	Wash water collection system hookup to the sanitary sewer system is required if available.
	Permitting and Approval of Disposal Methods	Must obtain necessary permits and approvals prior to discharging to an on-site sanitary sewer. If wash water disposal is off-site, the mobile washing contractor is responsible for obtaining permits and proper disposal procedures.



Comparative Analysis of Off-Site Washing — Commercial Washing Facilities



Evaluation Category	Evaluation Factor	Commercial Washing Facilities
Cost	Estimated per Vehicle Washing Cost	\$2 to \$10 per wash, depending on number and type of vehicles.
System Efficiency	Quality of Wash	Typically provides a high quality wash.
	Speed of Wash	Typically 1 to 5 minutes, depending on vehicle size and type.
	Ability to Wash Vehicles of Various Sizes	Most systems are adaptable to vehicles of various sizes. Possible limitations on washing vehicles of nonstandard or very large size.
	Potential to Damage Vehicles	Low potential to damage vehicles at most facilities.
Site Requirements	Space Availability	May have to wait if facilities are busy.
	Drought Restrictions	This washing system is potentially subject to drought restrictions unless a water recycling process is used.
	Pretreatment Requirements	N/A — Responsibility of commercial facility.
	System Hookup Requirements	N/A — Responsibility of commercial facility.
	Permitting and Approval of Disposal Methods	N/A — Responsibility of commercial facility.



Comparative Analysis of Off-Site Washing — Manual Washing Options



Evaluation Category	Evaluation Factor	Manual Washing Options
Cost	Estimated per Vehicle Washing Cost	\$3 to \$6 per wash, depending on number and type of vehicles.
System Efficiency	Quality of Wash	Typically provides a high quality wash.
	Speed of Wash	Slow — very labor intensive, especially for larger vehicles. Estimated 20 minutes to wash an LLV.
	Ability to Wash Vehicles of Various Sizes	Able to wash vehicles of various sizes.
	Potential to Damage Vehicles	Low potential to damage vehicles.
Site Requirements	Space Availability	Facilities may not be available within normal routing areas.
	Drought Restrictions	Manual washing is potentially subject to drought restrictions in some parts of the country.
	Pretreatment Requirements	N/A
	System Hookup Requirements	N/A
	Permitting and Approval of Disposal Methods	These washing processes require the organizations to use containment of wash water and disposal methods consistent with Postal Service policy.



C Supplier Questionnaire



This appendix (Exhibit C) provides a questionnaire for suppliers offering vehicle washing services. Vehicle washing suppliers should be required to fill out this questionnaire and submit the information requested with their offer. Information provided on this questionnaire can be used in conjunction with the evaluation sheets provided in Appendix B to perform the evaluation.



Supplier Questionnaire

USPS Facility _____

1. Name of company _____

Contact person _____

Business address _____

Phone number () _____ Fax number () _____

2. Method(s) of vehicle washing provided by your company

☐ Mobile washing service — Years in operation _____

☐ Off-site commercial washing facilities — Years in operation _____

3. Service location

☐ Washing on-site

☐ Washing off-site. If vehicles are shuttled by your employees, attach copies of driver's license.

4. Indicate the specific process for washing and cleaning vehicles.

Process	Manufacturer	Approximate Age of Equipment
☐ Mobile brush	_____	_____
☐ Mobile high pressure	_____	_____
☐ High pressure	_____	_____
☐ Mechanical brush systems	_____	_____
☐ Hand wash	N/A	N/A
☐ Dry wash	N/A	N/A

5. Indicate method(s) of disposal of vehicle wash water.

☐ Direct discharge to sanitary sewer

☐ Collect and discharge to sanitary sewer

☐ Collect and discharge to POTW or other location

☐ Recycling system

☐ Other



Supplier Questionnaire (continued)

6. For direct discharge to sanitary sewer or collection and discharge to an allowable system, attach proof of valid permit to dispose or transport and dispose.

7. If using a recycling system, indicate method of characterization and disposal location for sludge.

8. List all detergents, compounds, and other chemicals you propose to use (attach a Material Safety Data Sheet for each).

Certifications

	Yes	No
Do employees receive training in handling of equipment and cleaning materials?	☐	☐

Are vehicle washing components routinely inspected for wear?	☐	☐
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Does your firm have written guidelines for proper control and disposal of vehicle wash water? (If yes, please attach a copy.)	☐	☐
---	--------------------------	--------------------------

Are all employees familiar with USPS policies regarding disposal of vehicle wash water?	☐	☐
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1. Provide three references who may be contacted to confirm your ability and qualifications to perform the requested services. Include the company or organization name, person to contact, title of that person, full address including ZIP Code, and telephone number including area code.

2. Attach proof of insurance and bonding as required to perform the requested services.



D Glossary



acid	A material that has a pH of less than 7.0. Acids are corrosive to human tissue and some metals.
alkali	A material that has a pH of greater than 7.0. Generally corrosive to human tissue.
best management practices	Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices utilized to prevent or reduce the pollution of surface waters and that include treatment requirements, recycling, reduction, reuse, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
biochemical oxygen demand	The quantity of oxygen used by bacteria in consuming organic matter in a sample of wastewater (usually measured over a 5-day period).
biodegradable material	Waste material that is capable of being broken down by microorganisms into simple stable compounds such as carbon dioxide and water.
Clean Water Act	Redesignated name for the Federal Water Pollution Control Act following the 1977 amendments; the national law under which stormwater management is regulated.
closed-loop recovery system	A recovery unit for which secondary materials are returned to the original process; the production process to which these secondary materials are returned is a primary production process; and the secondary material is returned as feedstock to the original production process and is recycled as part of the process. Additional information can be found in the <i>Federal Register</i> , Volume 50, page 639, January 4, 1985.
<i>Code of Federal Regulations (CFR)</i>	The detailed regulations, written by federal agencies, to implement the provisions of laws passed by Congress. Regulations in the CFR have the force of federal law.
combined sewer system	A system where stormwater collection systems and sanitary sewers are combined and the effluent is treated.
contaminant	Any physical, chemical, biological, or radiological substance or matter that has an adverse effect on air, water, or soil.



contractor	An individual or organization accomplishing work according to a contractual agreement at a predetermined price and on predetermined terms and who is responsible for the performance of a task in accordance with established specifications and plans.
conventional pollutants	Statutorily listed pollutants that are well understood by scientists. These may be in the form of organic waste, sediment, acid, bacteria and viruses, nutrients, oil and grease, or heat.
conveyance	A channel or passage that conducts or carries water, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container.
co-permittee	A permittee to an NPDES permit who is only responsible for permit conditions related to the discharge for which it is the operator.
corrosives	Chemicals that are acidic or basic in pH and are destructive to human tissue and many metals.
discharge	The discharge of a pollutant when used without qualification.
discharge monitoring report	The required report (usually generated monthly) of the monitoring results for NPDES-permitted discharges.
DOT	The United States Department of Transportation.
dry washing	Refers to the application of a chemical cleaner which is wiped off using a rag.
dry well	A shallow well designed for discharging water underground. Included in this definition are dug holes that are deeper than they are wide.
effluent	The water and the quantities, rates, and concentrations of chemical, physical, biological, and other constituents that are discharged from a point source.
effluent limitation	Any restriction imposed by EPA on quantities, discharge rates, and concentrations of pollution that are discharged from point sources into U.S. water, the waters of the contiguous zone, or the ocean.
enforcement	Efforts made by official agencies to ensure agreement with environmental laws and regulations.
environment	The sum of all external conditions affecting the life, development, and survival of an organism.
EPA	The United States Environmental Protection Agency. Responsible for making and enforcing the laws and regulations regarding protection of the environment.
EPA Region	The EPA has 10 regional offices that implement the federal program in states that have not been delegated the authority to implement a federally mandated program.



first-flush grab sample	An individual sample of water taken during the first 30 minutes of a storm event. The pollutants in this sample can often be used as a screen for nonstormwater discharges because such pollutants are flushed out of the system during the initial portion of the discharge.
flow-weighted composite sample	A sample taken by combining many small samples of at least 100 milliliters each. The time interval between samples, or the volume of each sample, is proportional to the total flow since the last sample was taken.
general permit	A single permit issued under the NPDES program to cover facilities within a certain category of discharges.
generator	A person, company, site, or mobile source that produces solid or liquid waste.
generator notification form	Every site that generates, treats, stores, or disposes of hazardous waste must inform EPA of its hazardous waste activity by filing EPA Form 8700-12, <i>Notification of Hazardous Waste Activity</i> (Hazardous Waste Activity Notification Form). After receiving the notification form, EPA assigns an identification number (EPA ID) to the site.
grab sample	A single sample of wastewater taken without regard to time or flow.
hazardous wastes	Byproducts of society that can pose a substantial or potential hazard to human health or the environment when improperly managed, possess at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity), or appear on special EPA lists.
illicit discharge	Any discharge to a municipal separate stormwater collection system that is not composed entirely of stormwater except discharges pursuant to an NPDES permit (other than the NPDES permit for discharges from the municipal separate stormwater collection system) and discharges from firefighting activities.
indirect discharger	A facility that discharges to a publicly owned treatment works, either directly or through a publicly owned sewer system.
individual permit	A permit granted on an individual or case-by-case basis after consideration of site-specific circumstances of the facility applying for permit coverage.
in-plant control technology	The regulation and conservation of chemicals and the reduction of water use throughout operations, as opposed to end-of-pipe treatment.
leach field	A system of piping that allows for the slow, constant release of wastewaters underground.
manual washing operations	Washing operations that do not involve fixed equipment. They include hand-held wash systems, hand-held wand operations, hand brushing with soap, and those operations typically performed by independent washing contractors or facility personnel.



Material Safety Data Sheet (MSDS)	A compilation of information required under the Occupational Safety and Health Administration's Communication Standard on the identity of hazardous chemicals, health and physical hazards, exposure limits, and precautions. Section 311 of Superfund Amendments and Reauthorization Act (SARA) requires facilities to submit MSDSs under certain circumstances.
mg/l	Milligrams per liter.
mixing zone	That portion of the receiving stream that may be set aside for the mixing of effluents with the receiving waters. Most water quality criteria will not apply within this zone.
monitoring	The measurement, sometimes continuous, of water quality.
National Pollutant Discharge Elimination System (NPDES)	The system of permits for point source discharges to surface waters issued by EPA or by states with EPA-approved programs.
new discharger	Any building, structure, facility, or installation from which there is or may be a discharge of pollutants at a site at which, on October 18, 1972, it had never discharged pollutants, that has never received a final NPDES permit, and that is not a new source.
new source	Any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced after the publication of proposed regulations prescribing a standard of performance under section 306 of the Clean Water Act, which will be applicable to such a source if that such standard is thereafter promulgated in accordance with section 306.
new source performance levels	Effluent standards for new sources established pursuant to section 306(b)(1)(B) of the Clean Water Act.
nonpoint source	Any source of water pollution of pollutants not associated with a discrete conveyance, including runoff from fields, forest lands, mining, construction activity, and saltwater intrusion.
Notice of Intent (NOI)	The application that notifies the permitting authority of a facility's intent to be covered by a general permit.
oil/water separator	A device that retains water long enough for solids to settle to the bottom of the device and oils to float to the top of the water. These devices are often used in conjunction with chemicals which speed the settling of the solids and the de-emulsifying of oils.
outfall	A point source at the point where a municipal separate stormwater collection system discharges into U.S. waters and does not include open conveyances connecting two municipal separate stormwater collection system or pipes, tunnels, or other conveyances that connect segments of the same stream or other U.S. waters and are used to convey U.S. waters.



overburden	Any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally occurring surface materials that are not disturbed by mining operations.
owner or operator	The owner or operator of any facility or activity subject to regulation under the NPDES program.
permissible discharge	A discharge which is allowed without being covered by a permit.
permit	An authorization, license, or equivalent control document issued by EPA or a delegated state to implement the requirements of the NPDES process. This includes an NPDES general permit but does not include any permit that has not yet been the subject of EPA final action, such as a draft permit or a proposed permit.
permitted discharge	A discharge covered by a permit.
pH	A unit for measuring hydrogen ion concentrations. A pH of 7 indicates a neutral water or solution. At a pH lower than 7, a solution is acidic; at a pH higher than 7, a solution is alkaline.
point source	Any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged. This does not include return flows from irrigated agriculture.
pollutant	Dredged soil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended), heat, wrecked or discharged equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged from water.
pollution prevention	The reduction of multimedia pollutants at the source and by the use of environmentally sound recycling. This prevention includes all regulated toxic and nontoxic substances.
privately owned treatment works	Any device or system that is used to treat wastes from any facility whose operator is not the operator of the treatment works and is not a publicly owned treatment works.
process wastewater	Any water that, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.
publicly owned treatment works (POTW)	Any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature that is owned by a state or municipality. This includes sewers, pipes, or other conveyances only if they convey wastewater to a publicly owned treatment works providing treatment.



receiving waters	Rivers, lakes, oceans, or other water courses that receive treated or untreated wastewaters.
recycling	Recycling wash water means cleaning used wash water and reusing it.
Resource Conservation and Recovery Act	The federal statute that regulates the generation, treatment, storage, disposal, or recycling of solid and hazardous waste.
retention pond	The holding of runoff in a basin without release except by means of evaporation, infiltration, or emergency bypass.
rinse water	Some states consider rinse water different from wash water. Rinse water is usually defined as wash water that does not contain cleaning chemicals. Hot water or high-pressure water may be considered rinse water.
runoff coefficient	The fraction of total rainfall that will appear at the conveyance as runoff.
sanitary sewer	A channel or conduit that carries household, commercial, and industrial wastewater from the source to a treatment plant or receiving stream.
sewage sludge	Any sludge generated by a wastewater treatment plant that treats any domestic wastewater.
sewer	A channel or conduit that carries wastewater and stormwater runoff from the source to a treatment plant or receiving stream. Sanitary sewers carry household, industrial, and commercial wastes. Storm sewers carry runoff from rain or snow. Combined sewers are used for both purposes.
significant materials	This includes but is not limited to raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of the Comprehensive Environmental Response Compensation and Liability Act; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with stormwater discharges.
site	The land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.
sludge	A semisolid residue from any number of air or water treatment processes. Sludge can be a hazardous waste.
solvent	Substance (usually liquid) capable of dissolving or dispersing one or more other substances. Solvents include, but are not limited to, the unspent materials listed in EPA Waste Codes F001 through F005.
storage	The temporary holding of waste pending treatment or disposal. Storage methods include containers, tanks, waste piles, and surface impoundments.



stormwater	Stormwater runoff, snow melt runoff, and surface runoff and drainage.
stormwater discharge associated with postal activity	The point discharge from any pipe, channel, or ditch that collects water from postal property and allows runoff to be concentrated and flow into waters of the United States or into a stormwater collection system.
surface waters	Any visible stream or body of water.
toxic	Harmful to living organisms.
toxic pollutant	Any pollutant listed as toxic under section 307(a)(1) of the Clean Water Act. Postal Service examples are antifreeze, paint, inks, solvents, oils, thinners, and so on.
toxicity test	The means to determine the toxicity of a chemical or an effluent using living organisms. A toxicity test measures the degree of response of an exposed test organism to a specific chemical or effluent.
treatment	Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such wastes, to recover energy or material resources from the waste, or to render such waste nonhazardous or less hazardous; safer to transport, store, or dispose of; or amenable to recovery, storage, or reduction in volume.
U.S. waters	Refers to the following: a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters that are subject to the ebb and flow of the tide. b. All interstate water, including interstate wetlands. c. All other water, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use of which would affect or could affect interstate or foreign commerce, including any such waters (1) that are or could be used by interstate or foreign travelers for recreational or other purposes, (2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce, or (3) that are used or could be used for industrial purposes by industries in interstate commerce. d. All impoundments of waters otherwise defined as U.S. waters under this definition. e. Tributaries of waters identified in items <i>a</i> through <i>f</i> of this definition. f. The territorial sea. g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in items <i>a</i> through <i>f</i> of this definition.



waste	Any material discarded as worthless, defective, or of no further use that, when disposed of, may pose a threat to human health or the environment.
waste minimization	The reduction, to the extent feasible, of hazardous waste that is generated or subsequently treated, stored, or disposed of. It includes any source reduction or recycling activity undertaken by a generator that results in: (1) the reduction of total volume or quantity of hazardous waste; (2) the reduction of toxicity of hazardous waste; or (3) both, as long as the reduction is consistent with the goal of minimizing present and future threats to human health and the environment.
waste reduction	Any change in a process, operation, or activity that results in the economically efficient reduction in waste material per unit of production without reducing the value output of the process, operation, or activity, taking into account the health and environmental consequences of such change.
waste stream	A specific type of waste leaving a facility or operation.
Water Quality Act of 1987	The most recent amendments to the Clean Water Act, Public Law 100–4, enacted on February 4, 1987.
Water Quality Standards	The regulations specifying, through a combination of use designations and water quality criteria to protect those uses, the quality to be achieved and maintained for each surface water in the state, as required by section 303 of the Clean Water Act.

