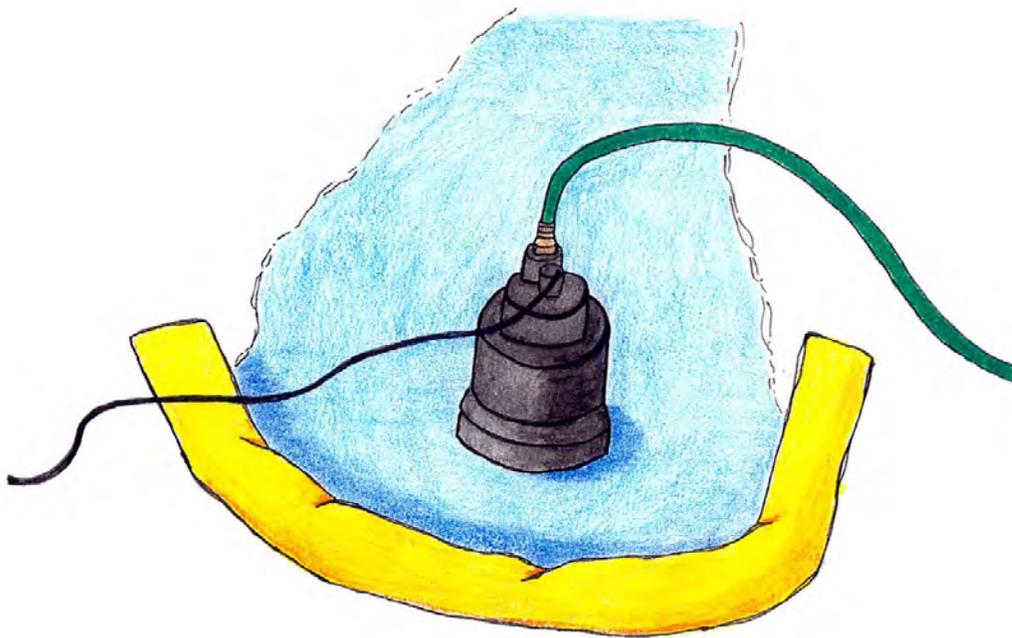

Proper Containment, Collection, and Disposal of Wastewater from Surface Washing

Updated December 2013



DURHAM



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CITY OF MEDICINE

City of Durham
Department of Public Works
Stormwater Services
101 City Hall Plaza
Durham, NC 27701
(919) 560-4326
(919) 560-4316 fax
StormWaterQuality@durhamnc.gov



Clean Water is important to all of us!

It's up to all of us to make it happen. In recent years sources of water pollution like industrial wastes from factories have been greatly reduced. Now, more than 60% of water pollution comes from things like cars leaking oil, fertilizers from farms and gardens, and failing septic tanks. All these sources add up to a big pollution problem.

Why do we need clean water?

Having clean water is important for our health and economy. Clean water provides a chance for family activities like swimming, fishing, and boating. It provides jobs and commercial opportunities (everything from tour guides to outdoor gear sellers and boat builders). Clean water adds beauty to our landscape and provides important wildlife habitat. And perhaps most importantly we need clean water for drinking. All of us benefit from clean water—and all of us have a role in getting and keeping our lakes, rivers, and ground water clean.

The City of Durham realizes the importance of clean water and has taken steps to help protect our natural resources. These steps include the City's ordinance that prohibits anything other than rainwater from getting into a storm drain. This includes soapy or dirty runoff from commercial pressure or power washing. **Your business must properly contain, collect, and dispose of the wastewater it creates.** Your business may be subject to fines and other penalties if it does not handle its wastewater properly.

What's the problem with power or pressure washing?

Power washing itself is not a problem—in fact, it can actually help keep pollution out of our local waterways if done correctly. The issue is that there is a lot besides water in the runoff from power or pressure washing. For instance, the grime that comes off parking lots can contain oil, grease, and toxic chemicals. If wastewater is not collected properly, all of this pollution will run along with the water into a storm drain. The water that enters a storm drain is not treated or cleaned before it enters our rivers and lakes.



Planning and Site Preparation

You will need to develop a method to contain, collect, and dispose of wastewater. A number of complete systems that help accomplish this are available for purchase. However, many businesses have found it less expensive and more effective to develop their own unique containment system using common construction materials. A list of vendors, both for complete systems and for developing your own system, is available from the Stormwater Services Division.

Proper Planning

Proper planning can help you avoid delays, unanticipated costs, and violations. Before beginning, you should make sure that you know the location of all the drains near the site you will be cleaning. You should also have a good understanding of what pollutants will be in your wastewater. This information will help ensure that your job goes smoothly—you can make sure you have all the necessary equipment and that employees have all the training they need. You can also plan appropriately for the disposal of your wastewater—especially if it will need to be pretreated or is hazardous.

Pre-cleaning or Dry Cleaning

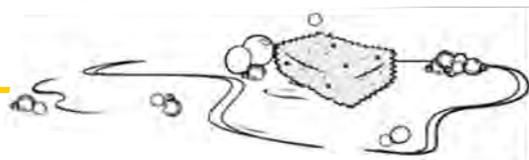
One of the easiest ways to reduce the amount of wastewater that needs special handling is to properly pre-clean the area you will be power or pressure washing. Pre-cleaning includes: picking up litter, sweeping up dirt and other debris, and using an absorbent to remove any oil or grease stains.

Pre-cleaning can allow you to use less water and cleaning chemicals (such as soap). In some instances, such as cleaning plazas and sidewalks, proper pre-cleaning will mean the difference between being able to dispose of your wastewater in a planted area and having to divert it to the sanitary sewer system.

Adding Soap to the Mix

Soap changes the way water molecules attach to each other. This makes it easier to loosen and rinse away dirt and grime. Unfortunately, this property of soap will also strip protective coatings from fish and damage their gills. In addition, most soap contains phosphates that can cause algae to grow. Large amounts of algae looks and smells bad. As algae decays, the process uses up oxygen in the water that fish need. Other pollutants that may be in soap include dyes, acids, and ammonia.

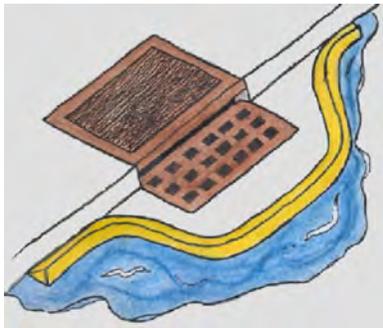
As you power or pressure wash, any time you use soap (or other cleaning chemicals) you must dispose of that water in the sanitary sewer system.



Containment

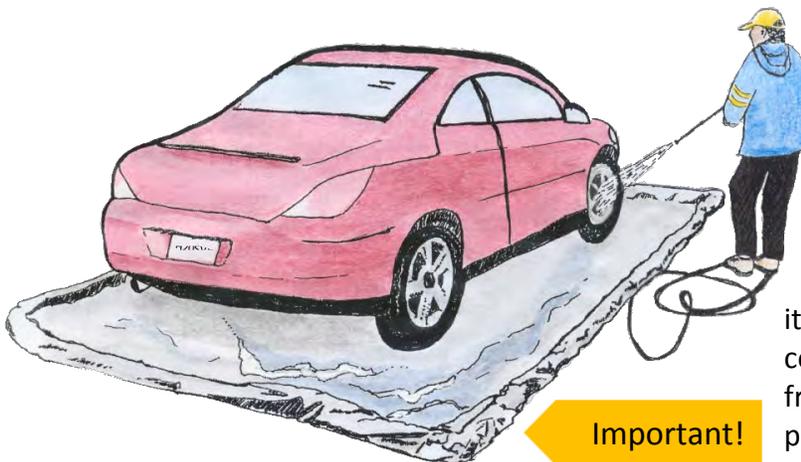
The City does not require you to use a specific containment method. However, proper containment should prevent any wastewater from entering storm drains or nearby streams. It will also allow you to collect the wastewater and dispose of it properly.

There are two major approaches to wastewater containment. The first method is to let the wastewater flow to a low point and to collect it there. To use this approach, you will need to first determine where all the storm drains are located. You will also need to determine where the high and low spots are on the property so you will understand where the water will flow. Once you have this information you can make sure to block or plug any storm drains in the path of your wastewater. Some of the many ways to accomplish this are shown below.



You can contain wastewater with storm drain mats (left), flexible berms (middle) and flexible or inflatable drain plugs (right). If you use this containment method, you will need to wash down the pavement when you are done and collect that water as well.

With smaller jobs you can contain wastewater at the cleaning site. This is done by using collapsible pools, containers, or trays to capture wastewater.

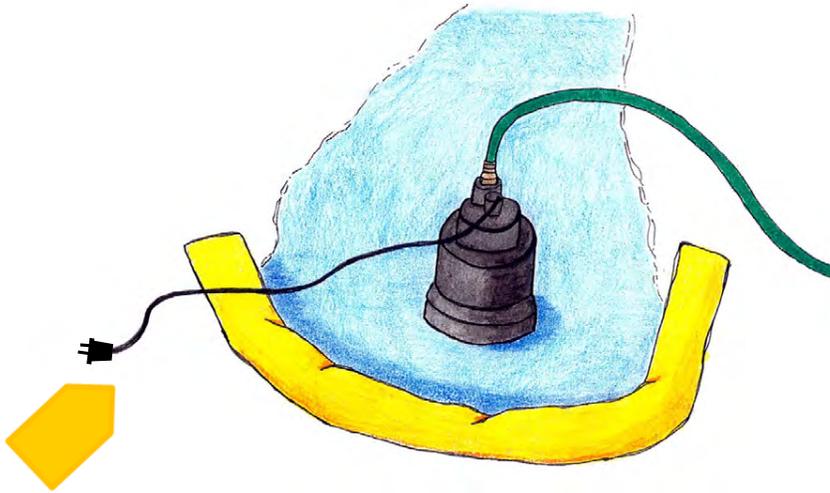


Before buying or building a containment system make sure it is large enough! It should easily contain wastewater and spray from the largest jobs you perform.

Important!

Collection

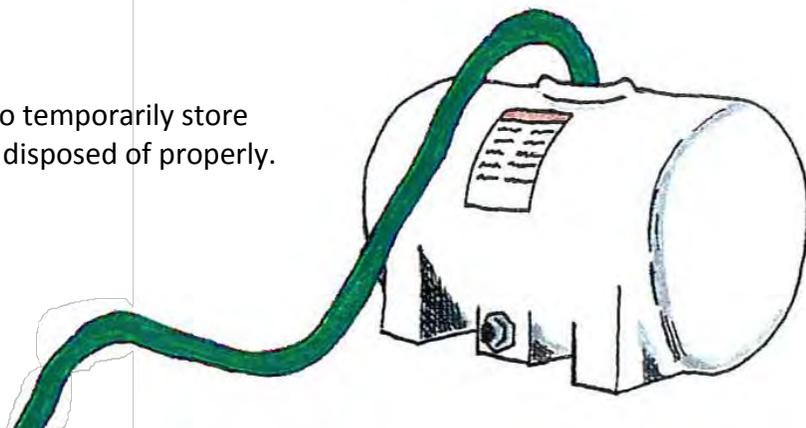
Wastewater can be collected from its containment using a wet vacuum, a sump pump, or a vacuum pump. It is important to collect your wastewater because any pollutants left on the pavement will eventually be carried into a nearby storm drain by rainwater. Wastewater that contains soap, detergent, cleaning products, hazardous waste, or large amounts of any other pollutant, cannot be left on paved surfaces.



A generator can power your sump pump or wet vacuum. Be careful to keep power cords out of the water to avoid safety risks!

A sump pump or wet vacuum can be used with a flexible berm to collect wastewater.

Plastic tanks can be used to temporarily store wastewater until it can be disposed of properly.



Disposal

Once you have contained and collected your wastewater, you will need to dispose of it properly. Proper disposal methods include using the sanitary sewer system, one of Durham's Water Reclamation Facilities, or using a private treatment company. In using any of these methods you may need to pre-treat your water.

If your wastewater:	You may need to pre-treat by:
is over 150°F	cooling the wastewater to under 150°F
has a pH <5 or >12	neutralizing the pH to between 5 and 11
is oily or greasy	using an oil-water separator
has dirt, grit, or paint chips	using a filter to remove large particles

If you dispose of your wastewater in the sanitary sewer system, you can do so by using an oil and water separator, a sewer clean out, a sink, or a floor drain (with the property owners permission).

You must get approval from the Water Management Department **before** disposing of your wastewater in the City's sanitary sewer system or at one of the City's Water Reclamation Facilities. You can obtain approval by contacting the Industrial Pretreatment Coordinator at (919) 560-4386.

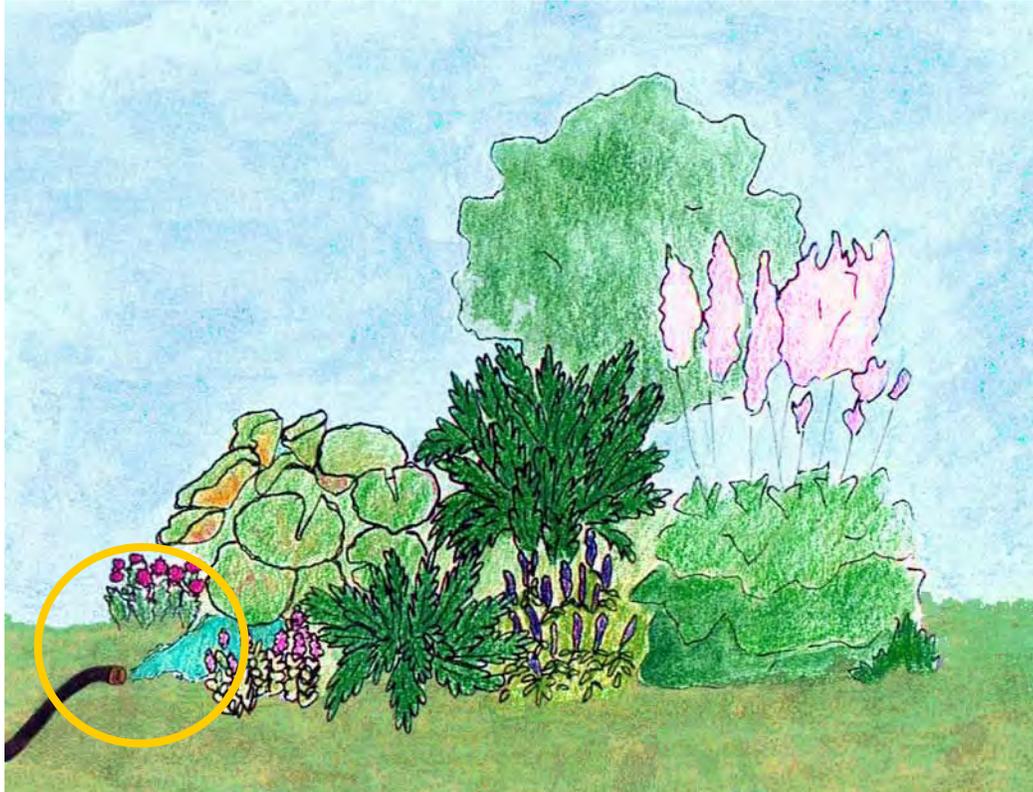
If you plan to use one of the City's Water Reclamation Facilities, you will also need to call to schedule your disposal. Contact the North Durham Facility at (919) 560-4384, and the South Durham Facility at (919) 560-4386.



A sewer clean out is one option for disposing of your wastewater. Never open a sanitary sewer manhole for any reason. It is unsafe and illegal.

Disposal to a Planted Area

In special cases (as outlined on page 11), you may be able to dispose of your wastewater in a landscaped area with grass or plants. The planted area must be able to absorb all the water you place in it. You will need to obtain the property owner's permission before using this disposal method.



Wastewater that contains any of the following **may not be disposed** of in a planted area:

- grease or oil
- food wastes or scraps
- hazardous materials
- biological wastes
- chlorine
- solvents
- surfactants/soap*
- petroleum products

*Soapy waste water may be disposed of in an on-site planted area if it is from washing the exterior of a residential building.

Best practices for specific surfaces...

Sidewalks and Plazas

1. Sweep the area that you are cleaning and any area your wastewater will flow through to remove dirt and litter. Use absorbents to spot treat any oil or grease stains (there should not be many as these areas only have foot traffic). Dispose of collected dirt, litter, and absorbent in the trash.
2. Wash the area down using only water. Keep the wastewater out of the storm drains. With the property owner's permission the wastewater can be disposed of in a planted area.

OR

Wash the area using water and soap (or another cleaner). Contain, collect, and then dispose of water in the sanitary sewer system or at the wastewater treatment plant.

Parking Lots, Driveways, Drive Thrus, Parking Garages, Etc.

1. Sweep the area that you are cleaning and any area wastewater will flow through to remove dirt and litter. Use absorbents to spot treat oil or grease stains. Dispose of collected dirt, litter, and absorbent in the trash.
2. Wash the area using water and soap (or another cleaner). Contain, collect, and then dispose of water in the sanitary sewer system or at the wastewater treatment plant. If the wastewater is oily or greasy, you will need to dispose of it through an oil/water separator or a grease interceptor. (This may be especially true around restaurants and grease disposal areas.)

Masonry Mineral Deposits (Efflorescence)

1. Sweep any area your wastewater will flow through to remove dirt and litter. Use absorbents to spot treat oil or grease stains. Dispose of collected dirt, litter, and absorbent in the trash.
2. If you use an acid wash to remove the mineral deposits on the masonry, you will need to contain and collect your wastewater.
3. Rinse down the acid treated area with an alkaline soap.
4. Collect all of the wastewater and neutralize the pH to between 5 and 11. Dispose of wastewater in the sanitary sewer system or at the wastewater treatment plant.

Best practices for specific surfaces...

Commercial Building Exteriors

Buildings that are glass, steel, unpainted, or painted with no loose paint:

1. Sweep any hard surfaces your wastewater will flow through to remove dirt and litter. Use absorbents to spot treat oil or grease stains. Dispose of collected dirt, litter, and absorbent in the trash.
2. Wash the building using only water. Keep the wastewater out of the storm drains. With the property owner's permission the wastewater can be disposed of in a planted area. Keep in mind that this may stress, damage, and potentially even kill plants.

OR

Wash the area using water and soap (or another cleaner). Contain, collect, and then dispose of water in the sanitary sewer system or at the wastewater treatment plant. You may need to filter the water first.

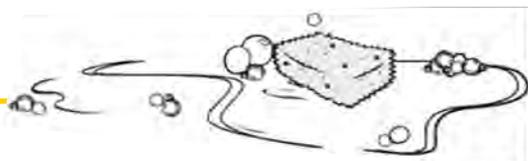
You should avoid pressure washing any wood treated with chromated copper arsenate (or CCA)—especially avoid using an acid wash or any cleaning products containing chlorine. This will increase the arsenic leaching out of the wood.

Residential Building Exteriors

Buildings that are glass, steel, unpainted brick or vinyl, or a painted surface with no loose paint:

1. Sweep any hard surfaces your wastewater will flow through to remove dirt and litter. Use absorbents to spot treat oil or grease stains. Dispose of collected dirt, litter, and absorbent in the trash.
2. Keep the wastewater out of the storm drains. With the property owner's permission the wastewater can be disposed of in a planted area. This may stress, damage and potentially even kill plants, especially if any cleaning chemicals were used.

You should avoid pressure washing any wood treated with chromated copper arsenate (or CCA)—especially avoid using an acid wash or any cleaning products containing chlorine. This will increase the arsenic leaching out of the wood.



Best practices for specific surfaces...

To Remove Paint for Repainting OR Washing a Building with Loose Paint

NOTE: Make sure you know what kind of paint you are removing. If it is toxic (i.e. contains lead, copper, tributyl tin, or PCBs) then you will need to dispose of the paint chips as a hazardous waste. You will also need to contact the Industrial Pretreatment Coordinator at (919) 560-4386 to see if your wastewater will need to be handled as a hazardous waste.

1. You will need to contain and collect your wastewater.
2. As much as possible, collect any paint chips by sweeping them up or rinsing the area. (This may be easier if you scrape the paint chips off, as much as possible, before you power or pressure wash the remaining paint.)
3. Before disposing of wastewater in the sanitary sewer system you will need to filter out any paint chips. Non-toxic paint chips can be disposed of as normal garbage. Toxic paint chips will need to be handled as a hazardous waste.

Graffiti Removal

1. If you are sand blasting the graffiti off, you will need to contain and collect your wastewater.
2. As much as possible, collect any paint chips by sweeping them up or rinsing the area. (This may be easier if you scrape the paint chips off, as much as possible, before you power or pressure wash the remaining paint.)
3. Before disposing of wastewater in the sanitary sewer system you will need to filter out any paint chips and the sand. Non-toxic paint chips can be disposed of as normal garbage. Toxic paint chips will need to be handled as a hazardous waste.

OR

1. If you are using solvents in your pressure washing you will need to contain and collect your wastewater.
2. Call the Industrial Pretreatment Coordinator at (919) 560-4386 before disposing of your wastewater to ensure the solvent is safe for the sanitary sewer system.

Best practices for specific surfaces...

Grocery Carts

1. You will need to contain, collect, and filter your wastewater.
2. If you only use water to clean the cart, you may dispose of the wastewater in a planted area, the sanitary sewer, or a wastewater treatment plant. If you used soap or another cleaning agent then you will have to dispose of the wastewater in the sanitary sewer or at a wastewater treatment plant.

Dumpster and Surrounding Area

1. Sweep the area that you are cleaning and any area your wastewater will flow through to remove dirt and litter. Use absorbents to clean oily or greasy areas. Dispose of collected dirt, litter, and absorbent in the trash.
2. Wash the area using water and soap (or another cleaner). Contain and collect your wastewater.
3. If your wastewater is contaminated with large amounts of dirt, grime, food particles, or other particles you will need to filter it.
4. If your wastewater is oily or greasy, you will need to dispose of it through an oil/water separator or a grease interceptor. Dispose of wastewater in the sanitary sewer system or at the wastewater treatment plant.

Restaurant Equipment

Restaurant floor mats, exhaust hoods or filters, grease bins/storage and other oily restaurant equipment needs special handling.

1. Wash the area or item using water and soap (or another cleaner).
2. Contain, collect, and then dispose of water in the sanitary sewer system or at the wastewater treatment plant. If the wastewater is oily or greasy, you will need to dispose of it through an oil/water separator or a grease interceptor.

Disposal Methods by Surface Type

Surface Type	Potential Pretreatment Required				Potential Disposal Methods			
	screen/filter to remove debris	neutralize pH so between 5-11	oil/grease separator	cool water so less than 150o F	landscaped area	sanitary sewer	wastewater treatment plant	as a hazardous waste
Areas with no vehicular traffic: sidewalks, plazas (just water)					X	X	X	
Areas with no vehicular traffic: sidewalks, plazas (with soap or other cleaner)						X	X	
Parking lots, driveways, drive-through areas, parking garages, etc.			X			X	X	

Building Exteriors:

glass, steel, other unpainted surface, painted surface without loose paint (just water)	X				X	X	X	
glass, steel, other unpainted surface, painted surface without loose paint (with soap or other cleaner)	X				X*	X	X	
treated wood shingles (should be dry cleaned only!)								X

In Preparation for Repainting:

to remove non-toxic paint for repainting	X	X			X*	X	X	
to remove toxic paint (contains: lead, copper, tributyl tin, PCBs) before repainting	X	X				X	X	X
Graffiti Removal (sand blasting)	X				X	X	X	
Graffiti Removal (using solvents and pressure washing)						X	X	
Masonry (mineral deposits, efflorescence)		X				X	X	

Food or Grease Removal

Grocery carts	X					X	X	
Product racks (i.e. rolling bakery racks) if no grease or oil	X					X	X	
Dumpster and dumpster area	X	X				X	X	
Grease bins and storage	X	X				X	X	
Restaurant floor mats	X	X				X	X	
Exhaust filters and hoods	X	X				X	X	
Lunch wagon/food carts/ food delivery vehicles	X	X				X	X	
Restaurant alleys	X	X				X	X	

*With owners permission, allowed but not preferred. This may stress, damage, or kill plants.

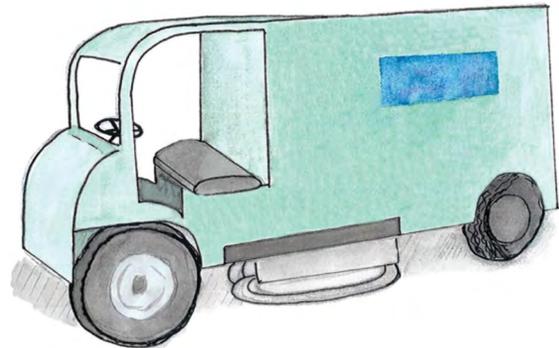
Other Options...

There are many options besides those shown in previous sections. The City does not require any specific method or equipment be used as long as you properly contain, collect, and dispose of your wastewater. The following are examples of other equipment you may want to consider.

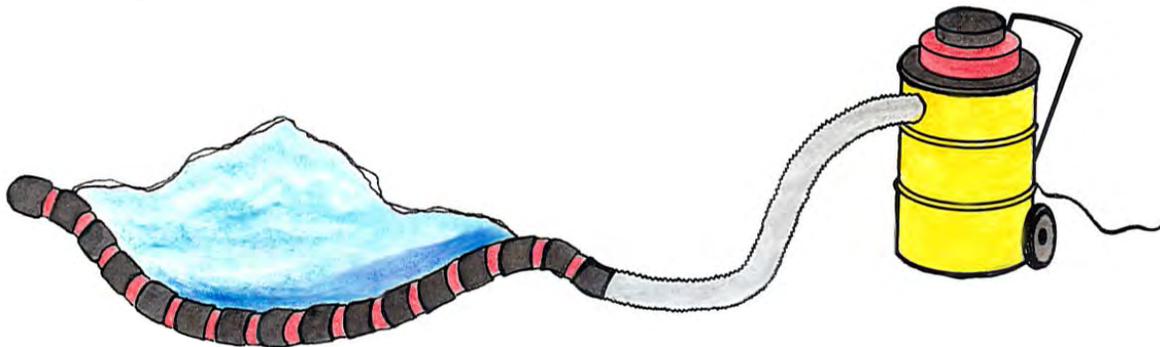


Some rotary cleaners also collect dirty wash water along with supplying high pressure water for cleaning. This water is carried through a hose to a storage tank.

A ride-on surface cleaning system is a vehicle with built in pressure cleaning equipment. The vehicle collects and recycles your wastewater. While this equipment can make your cleaning job (and properly handling your dirty wastewater) easy, it can be relatively expensive.



A vacuum boom or berm integrates containment and collection. The suction from the vacuum helps seal the berm to the ground and also sucks the wastewater through a hose into a storage tank.



Complying with Durham's Ordinance

You will need to develop a method to contain, collect, and dispose of wastewater. A number of complete systems that help accomplish this are available for purchase. However, many businesses have found it less expensive and more effective to develop their own unique containment system using common construction materials. A list of vendors, both for complete systems and parts for developing your own system, is available from the Stormwater Services Division.

Whom do I contact to schedule a compliance inspection?

You should contact Stormwater Services at (919) 560-4326 to schedule a demonstration of your containment, collection, and disposal methods. It is recommended that you do this before starting any commercial power washing operations.

City of Durham Stormwater Services Contact Information

Address:

Department of Public Works
Stormwater Services
101 City Hall Plaza, Third Floor
Durham, North Carolina 27701

Phone: (919) 560-4326 (option #8 and then #5 on the menu)

Fax: (919) 560-4316

E-mail: StormWaterQuality@durhamnc.gov

To schedule a demonstration, please call the stormwater hotline at (919) 560-7946 or e-mail Stormwater Services at StormWaterQuality@durhamnc.gov.

Other Requirements

Other requirements (unrelated to stormwater) may apply to your power or pressure washing business including the City's sewer use ordinance, the City's water conservation ordinance, the Durham City/County zoning ordinance, and the City's business privilege license ordinance.

-For approval to dispose of wastewater into the City's sanitary sewer system, please contact the Water Management Department's Industrial Pretreatment Coordinator at (919) 560-4386.

-For more information regarding Durham's water conservation ordinance, please contact the Water Management Department at (919) 560-4381.

-For more information regarding Durham's zoning ordinance and requirements for obtaining a home occupation permit contact the front desk of the Planning Department at (919) 560-4137.

-For more information regarding the City's business privilege licensing, please contact the Business License Office at (919) 560-4700.

If you are using, storing, or transporting certain cleaning chemicals or hazardous wastes (for example, wastewater from stripping paint containing lead or copper) there may be additional Occupational Safety and Health Administration (OSHA) or U.S. Department of Transportation (DOT) regulations you need to follow. Please contact the appropriate group to find out more about these regulations:

-OSHA—Raleigh Area Office at (919) 790-8096

-U.S. DOT—Office of Hazardous Materials Safety (HAZMAT) at the toll-free number (in the U.S.) 1-800-HMR-4922 (1-800-467-4922). (The hotline operates Monday through Friday from 9:00 am to 5:00 pm eastern standard time.)

Notes
