

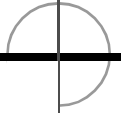


The Green Wrench Guide

*Stormwater
Best
Management
Practices
for the
Automotive
Industry*



Definitions



Best Management Practices (BMPs):

Techniques or controls used to prevent or reduce the discharge of pollutants into stormwater, receiving waters, or the stormwater conveyance system.

Dry Cleaning Methods:

Methods of cleaning surfaces that minimizes the use of water. Examples include sweeping, vacuuming, and using hydrophobic mops and rags.

Illegal Connection:

An unauthorized pipe, facility, or other device connected to the storm drain system or receiving waters. Devices that convey pollutants may be illegal even if they were permitted at the time of installation.

Illegal Discharge:

The unauthorized discharge of pollutants or non-stormwater into the stormwater conveyance system or receiving waters.

Pollutants:

Anything that can cause or contribute to water quality degradation.

Pollution Prevention:

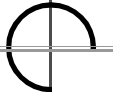
Practices that minimize or eliminate the generation of pollutants at the source.

Receiving Waters:

Any water bodies including the Pacific Ocean, lakes, streams, lagoons, rivers, reservoirs, and intermittent waters such as vernal pools and seasonal dry creeks.

Stormwater Conveyance System (storm drain system):

Any public or private drainage system (non-sewage) including streets, curbs, gutters, inlets, ditches, pipes, channels, culverts, streams, etc.



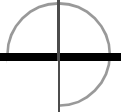


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Thank you to The City of San Francisco for the original Green Wrench Guide concept.



Background

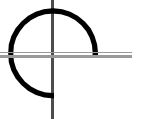


What is Stormwater Pollution

When water flows over work areas, parking lots, streets, and other surfaces, it picks up pollutants and carries them into the storm drain system. This system is designed to prevent flooding by transporting water away from urban areas. Water and all the contaminants that it collects eventually flow without treatment through the storm drain system to our streams, lakes, and the ocean where we swim and fish. This polluted runoff harms inland freshwater wildlife and habitats, and in some cases causes beach closures and makes our fish and shellfish unsafe to eat.

The Storm Drain System and the Sewer System are NOT Connected

In San Diego County, wastewater and surface runoff are discharged into two separate underground systems. Wastewater that is disposed to a toilet, sink, or a piped sewer drain flows into the sanitary sewer system where it is filtered and treated. Water runoff that leaves your business via driveways, sidewalks, parking lots, streets, gutters, storm drain inlets, drainage ditches, and concrete channels flows into a separate storm drain system. Anything that enters the storm drain system eventually flows untreated and unfiltered into our creeks, bays, lagoons – and ultimately the ocean. The things you do at work are directly connected to the health and safety of our citizens and the environment.





Your Responsibilities

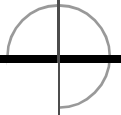
As required by federal and state laws, the County of San Diego, the Unified Port District, and each of the 18 incorporated cities in the County have adopted local stormwater management ordinances to protect our water resources. *These ordinances prohibit the discharge of pollutants into the storm drain system.* Pollutants typically associated with automotive maintenance and repair activities include antifreeze, fuels, waste oils, solvents, and paints. Other pollutants commonly contributing to stormwater pollution include sediment, fertilizers, pesticides, and litter. As a business owner or operator, you are legally responsible for ensuring that these and any other potential stormwater pollutants are properly managed. To do so, you will need to select and use Best Management Practices that are specific to your business activities.



A storm drain outlet which flows unfiltered directly into a local stream.



Background



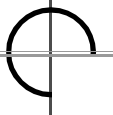
Best Management Practices (BMPs)

Best Management Practices, commonly called BMPs, are actions you can take to prevent pollutants from leaving your facility. In general, there are two main types of BMPs:

- ◆ **Source control BMPs** keep pollutants from entering runoff. Examples include preventive maintenance and routine sweeping.
- ◆ **Treatment control BMPs** remove pollutants from runoff before it reaches the storm drain system. Common examples are storm drain filters and oil / water separators.

Source control BMPs are often preferable because they are usually simpler and more cost-effective. One of the main types of source control BMPs is “pollution prevention”. Pollution prevention methods (process changes, materials substitution, waste reduction) help to limit the amount of pollutants that are generated, thus eliminating the need to manage or remove them. Pollution prevention BMPs can help your business to run more efficiently and can save you money.

Using the BMPs described in this booklet will help you to satisfy regulatory requirements and to preserve and protect San Diego’s waterways. Successfully meeting this challenge will require the active participation of all employees at your business. To assist your employees in understanding these requirements, please have them read and review this Green Wrench Guide. Also have your employees sign and date the training log included on pages 19 and 20 of this guide so that you will have a record of their training activities.





BMPs and Your Business

This guide is designed to help you think about ways to manage potential stormwater pollutants associated with your business activities. It provides information on minimum requirements, and includes suggested pollution prevention tips for the automotive industry. It is organized according to the following activity types:

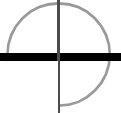
- ◆ **Facility Audits**
- ◆ **Employee Training**
- ◆ **Spill Management and Reporting**
- ◆ **Vehicles and Equipment**
- ◆ **Good Housekeeping**
- ◆ **Hazardous Waste Recycling and Treatment**

This guide is not intended to address all regulatory requirements pertaining to your business. Local jurisdictions may have additional, more specific stormwater BMP requirements. Pages 17 and 18 of this guide list additional contact information where you can obtain more information on stormwater and other regulatory requirements.

Thank you for helping to keep the San Diego region a great place for people to live and visit!

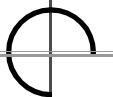


Facility Audits



Conducting your own facility audit is the best way to make sure that you stay in compliance with stormwater requirements. This can also save you money by identifying process and procedural improvements (waste prevention, etc.) to make your business activities more efficient. Be sure to address the following key areas during your audits:

- ◆ **Illegal Connections** - Inspect your business for connections that may convey pollutants to the storm drain system or receiving waters. An illegal connection is an unauthorized pipe, facility, or other device connected to the storm drain system, and may be illegal even if it was permitted at the time of installation.
- ◆ **Inlet and Discharge Points** - Identify the location of storm drain inlets on or down-gradient of your business or property. Mark these locations on a facility map and keep it posted in a common work area. Ensure that employees are shown these areas during training sessions.
- ◆ **Review of Activities** - Identify and use specific BMPs for activities with the potential to cause spills or releases of pollutants (oil, grease, fuel, etc.). Use the BMPs presented here as a guide for compliance, but don't stop there. Continue to seek out other sources of BMP information through the internet, professional associations, industry publications, etc. – you can never know too much.
- ◆ **Documentation** - Document any corrective action taken after your audit. Documentation is your key to demonstrating compliance. Be sure to include revised business practices and procedures in your employee training.





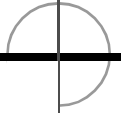
An effective stormwater management training program promotes employee ownership of problems and solutions. Employees are more likely to respond to training when they understand the impact of their daily activities on water quality. By involving your employees, their feedback will help implement needed actions to reduce stormwater pollution.

- ◆ Train all employees on stormwater BMPs and pollution prevention. Maintain training records on site; record the date of each training session and include a sign-in list of those who attended. Perform refresher trainings on a regular basis.
- ◆ Post signs around your shop reminding employees of BMPs and pollution prevention tips. This will also help to create awareness for your customers.
- ◆ Train employees about the proper use, handling, and disposal of all hazardous materials. Make sure all employees have current licensing and certification for their specific job duties.
- ◆ Teach employees how to control, contain, and clean up spills. Demonstrate how to properly use spill response kits.

You can stay informed about current regulations by joining trade associations and subscribing to trade journals and magazines. At trade association meetings and workshops, you will have the opportunity to learn about new pollution control practices and to network with others in your industry. Being involved will help you share ideas with others and will keep your training program up to date.



Spill Management and Reporting

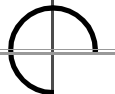


It is always best to prevent spills, but be ready when they occur. Keep spill kits readily available, preferably near work areas where spills are most likely to occur. Make sure all employees know where these materials are kept and how to properly use them to contain and immediately clean up spills. Whenever possible, use dry methods such as sweeping, vacuuming, mopping or absorbents (if absorbents are used, they may have to be disposed of as a hazardous waste). Spilled hazardous materials (antifreeze, gasoline, solvents, etc.) need to be managed as hazardous wastes. Make sure your employees are aware of any special requirements that apply to hazardous material disposal.

Use the following guidelines within 24 hours of occurrence for reporting spills:

- ◆ Report any spill or discharge that cannot be completely contained or cleaned up prior to entering the storm drain system. To report spills and discharges, call the Regional Stormwater Hotline at **(888) 846-0800**.
- ◆ If the spill involves hazardous substances, call the Department of Environmental Health (DEH), Hazardous Materials Division at **(619) 338-2284**.

Always call **911** if the spill presents an immediate threat to public health or the environment.





This section describes core BMPs for vehicle fluid management, engine and parts cleaning, vehicle and equipment washing, and body repair and painting. No matter which of these activities you are doing, it is important to always protect storm drain inlets on or down-gradient of work areas. Cover inlets with plastic or other impermeable material to prevent the entry of spilled fluids or wash water. Tape or weigh down the edges to keep the protective material in place.

Vehicle Fluid Management

Antifreeze, waste oil, and used solvents are hazardous wastes and must be stored, managed, and disposed of in accordance with all local, state, and federal laws.

- ◆ Whenever possible, drain vehicle fluids indoors or within covered areas, and only over floors that are constructed of a non-porous material such as concrete. Asphalt and dirt floors are not acceptable because they absorb spilled or leaked fluids.
- ◆ Use drip pans, containers, or other methods of drip and spill containment.
- ◆ Take extra precautions to prevent spills while draining fluids from vehicles. Transfer waste fluids to a labeled waste storage container as soon as possible.
- ◆ Provide drip pans under stored vehicles and those with known leaks. Drain fluids from disabled or stored vehicles as soon as possible to prevent leaks and spills.



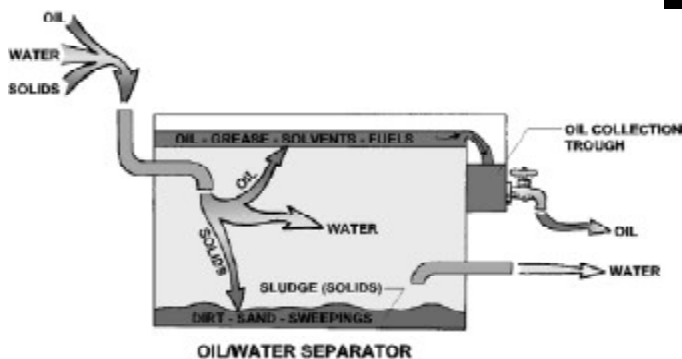


Vehicles and Equipment

- ◆ Transfer any fluids from drip pans or collection devices to designated waste storage areas regularly.
- ◆ Store vehicle fluids in separate, sealed, and leak-proof containers.

Vehicle & Equipment Washing

- ◆ Never discharge wash water or rinse water to a storm drain system or receiving water. Wash vehicles and equipment in designated areas. Use wash racks whenever possible.
- ◆ Use a spray nozzle or rinse bucket to conserve water and minimize discharge water.
- ◆ Whenever possible, use biodegradable soaps.
- ◆ Consider the use of a wash water recycling system to minimize wastewater from car washing.
- ◆ Use an oil / water separator or similar treatment system to remove oil, grease, and solids when discharging to the sanitary sewer.
- ◆ Use a commercial car wash facility if you are not able to meet the minimum standards described in this guide.
- ◆ Contact your local sewer agency for discharge information to the sanitary sewer. Use of oil / water separators and wash water recycling systems may have special discharge requirements.



An oil / water separator is designed specifically to remove petroleum products, and can also remove solids. As the mixture enters the separator, the vehicle fluids float to a collection trough and the water flows into the sewer system. Solids settle to the bottom of the separator. Bottom sludges are often contaminated with heavy metals and other pollutants and must be managed as a hazardous waste.

Engine and Parts Cleaning

- ◆ Designate specific areas in your service bays for parts cleaning. Do not wash or rinse parts outdoors.
- ◆ Use aqueous cleaning solutions instead of solvents whenever possible. Recycle used solutions through a licensed hazardous waste hauler.
- ◆ Avoid using hose-off degreasers; never allow runoff to enter the storm drain system. Instead, brush off loose debris and use damp rags to wipe down parts. Manage used rags through a rag service or as hazardous waste.
- ◆ Clean parts in self-contained sinks or drum units when working with solvents. Inspect part washing units daily for leaks and make repairs immediately.



Vehicles and Equipment

- ◆ Allow parts to drain over the solvent sink or drum, rather than allowing the solvents to drip or spill onto the floor. Never discharge the rinse solution into the sewer system.
- ◆ Recycle wastewater from steam cleaning or pressure washing activities. Discharges of wash water into the storm drain system are prohibited.



Body Repair and Painting

- ◆ Conduct work indoors or under cover when possible. If this cannot be done, take other precautions to prevent discharges from work areas.
- ◆ Inspect damaged vehicles for fluid leaks and use drip pans where necessary.
- ◆ Regularly clean work areas using dry methods. Use a shop vacuum or sweep up dust and debris. Do not vacuum flammable liquids.
- ◆ Allow wet sanding debris to dry overnight on the shop floor and sweep or vacuum it the next day. Liquid must not be discharged to the storm drain system. Consider investing in sanders with an attached vacuum system to capture dust at the source.

Vehicles and Equipment

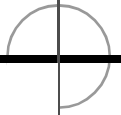


- ◆ Conduct painting only in approved, enclosed areas equipped with vacuum hoods and filters.
- ◆ Minimize paint and thinner waste by carefully calculating paint needs based on surface area and by using the proper sprayer cup size.
- ◆ Collect water used to control over-spray or dust in the paint booth and recycle or dispose of it properly. Clean spray guns in a self-contained unit and recycle or properly dispose of the cleaning solution.
- ◆ Check with your local fire agency and the Air Pollution Control District for additional information and permit requirements for spray booths, coatings, and emissions.





Good Housekeeping



“Good Housekeeping” refers to the routine practices you can use to maintain a clean work environment, and to prevent pollutants from entering our waterways. These practices include the use of dry cleaning methods for floor and paved surfaces, waste management practices, and grounds maintenance.

Floors and Paved Surfaces

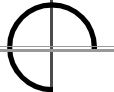
- ◆ Sweep or vacuum your shop floors frequently. Use mops instead of hosing down work areas.
- ◆ Consider using a three mop system as described below:

1 Remove any spilled oil using a hydrophobic (oil absorbing) mop and wring out oil into a bucket labeled “Oil Only”. Add the waste oil from this bucket to your waste oil drum or tank where it can be recycled. Keep the oil mop and the “Oil Only” bucket readily available in the work area for any future oil spills.

2 If antifreeze is spilled, use a regular mop and wring out the antifreeze into a bucket labeled “Coolant Only”. Recycle the spilled material with other used antifreeze. Use rags sparingly for small spills or to dry a work area. Use a rag service or manage the rags as a hazardous waste.



3 Use a regular mop and bucket with detergent as a final rinse and use water sparingly. Dispose of wash water to an oil / water separator or the sewer.





- ◆ Never pour mop water onto paved areas, such as parking lots, sidewalks, street gutters, or storm drains.
- ◆ Oil / water separators must be regularly inspected and cleaned.
- ◆ Do not hose down fuel-dispensing islands; use only dry clean-up methods. Absorbent used for fuel spills should be promptly swept up and disposed of as hazardous waste.

Material and Waste Management

- ◆ Materials and waste such as fuels, solvents, batteries, and oils must be stored off the ground and in areas where they will not be exposed to rain water.
- ◆ If possible, provide overhead coverage for all outside hazardous materials or waste storage areas. If overhead coverage is not available, then cover stored materials with an impervious material such as a plastic tarp.
- ◆ Store batteries indoors and place used batteries in plastic trays to contain any potential leaks. Recycle used batteries regularly.
- ◆ Sweep parking lots and areas around your facility regularly. Do not hose down these areas. Provide trash cans with lids in your parking lot to discourage littering.
- ◆ Keep trash storage and disposal areas clean and free of debris. Inspect trash storage areas weekly. Maintain dumpsters and other containers in good condition and keep them securely closed when not in use.



Good Housekeeping

- ◆ Contact your local solid waste hauler for recycling options and containers.
- ◆ Post “No Dumping or Littering” signs around your property.

Rooftops and Landscaped Areas

- ◆ Clean the rooftops of your buildings at least once before the rainy season. Cover any materials that are stored on the roof to protect them from rainwater.
- ◆ Maintain landscaped areas so that dirt and sediment do not reach the sidewalk or street.
- ◆ Apply pesticides and fertilizers according to label instructions and do not apply prior to rain. Consider using less toxic alternatives to pesticides and fertilizers whenever possible.
- ◆ Recycle or dispose of green waste properly.
- ◆ Properly berm and cover soil stockpiles.
- ◆ Ensure that sprinkler heads are adjusted properly to prevent over-irrigation and water runoff.

Hazardous Waste Recycling and Treatment

Please call the County of San Diego, DEH Hazardous Materials Duty Specialist at **(619) 338-2231** for incompatible waste storage and on-site hazardous waste treatment requirements.

Recycling

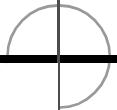
- ◆ Reuse and recycle solvents, paints, oil filters, antifreeze, motor oil, batteries, water, and lubricants whenever possible.
- ◆ Segregate wastes – it saves money! Combining different types of hazardous wastes will limit your recycling options and can be dangerous. A licensed hazardous waste hauler can provide information on hazardous waste storage and disposal costs.
- ◆ Label waste barrels and drums in accordance with all local, state, and federal laws and regulations. This will also help to remind employees to separate wastes and to recycle.

On-Site Waste Treatment

- ◆ Consider self-contained, zero discharge treatment alternatives that incorporate wastewater recycling.
- ◆ Choose treatment systems that are effective, but easy to maintain and repair.
- ◆ Properly maintain and service all pre-treatment equipment, including oil / water separators.



How to Reach Us



Regional Stormwater Hotline

To report spills and discharges to the storm drain system, call **(888) 846-0800**.

General Information

For additional information regarding water quality in the San Diego region, please use the resources listed below.

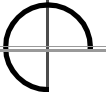
(888) 846-0800 www.projectcleanwater.org

(888) THINK-BLue www.thinkbluesd.com

Local Stormwater Program Information

Stormwater and BMP requirements may vary by jurisdiction. Please contact your jurisdiction for questions or if you would like additional information. Updated phone numbers are posted on the www.projectcleanwater.org website.

- Carlsbad (760) 602-2799
- Chula Vista (619) 397-6111
- Coronado (619) 522-7380
- County of San Diego
(Unincorporated Communities) (888) 846-0800
- Del Mar (760) 753-1120
- El Cajon (619) 441-5580
- Encinitas (760) 633-2632
- Escondido (760) 839-6315
- Imperial Beach (619) 628-1369
- La Mesa (619) 667-1152
- Lemon Grove (619) 825-3810





National City	(619) 336-4389
Oceanside	(760) 435-5800
Poway	(858) 679-4228
San Diego	(619) 235-1000
San Diego Unified Port District	(619) 686-6254
San Marcos	(760) 752-7550
Santee	(619) 258-4100
Solana Beach	(858) 720-2400
Vista	(760) 726-1340

Other Agency Contacts

County of San Diego, Department of Environmental Health, Hazardous Materials Management Division:

To report hazardous materials and waste spills, call **(619) 338-2284**

To obtain general information on hazardous materials and waste requirements, call **(619) 338-2231**

Air Pollution Control District:

To obtain information on air emission requirements, call **(858) 650-4700**



Training Log

Have your employees sign and date this training log so that you will have a record of their training activities.

Employee Name

Date

Employee Name	Date

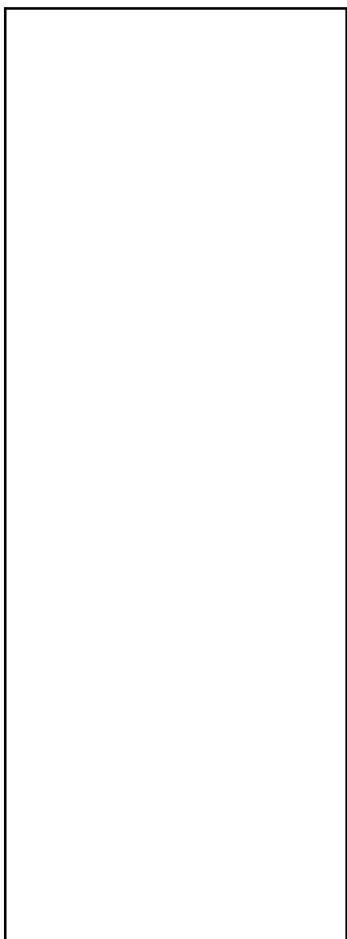
Training Log



Employee Name

Date

Employee Name	Date



project clean water

