



GREEN WRENCH

TECHNICAL ASSISTANCE

DEPARTMENT OF ENERGY & ENVIRONMENT

AUTOMOTIVE REPAIR POLLUTION PREVENTION GUIDEBOOK



EXECUTIVE SUMMARY

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The GreenWrench Technical Assistance Program (GreenWrench) provides free pollution prevention guidance and training to District of Columbia automotive mechanics and auto body shops. This voluntary program is funded by a grant from the U.S. Environmental Protection Agency (EPA) and the District Department of Energy & Environment (DOEE) and is offered free of charge for all participants.

This Automotive Pollution Prevention Guidebook document is intended to assist shops, mechanics, and auto body specialists in developing an automotive pollution prevention plan in line with the GreenWrench program.

There are four ways shops can choose to be involved in the GreenWrench program, and they can sign up for as many or as few ways as they would like. The program's goal is to provide businesses with compliance assistance for environmental regulations, protect the environment, and improve its participants' bottom lines.

DOEE offers four ways to participate in GreenWrench:

1. **Technical Assistance Visits** – Receive free technical assistance with a customized pollution plan, training, and troubleshooting with confidential in-person visits by the GreenWrench consulting team.
2. **Workshops** – Learn from and ask questions of government inspectors about how to comply with local and Federal regulations.
3. **Newsletter** – Find tips and tricks for reducing pollution, as well as new technologies and case studies on local shops in the GreenWrench Toolbox newsletter.
4. **GreenWrench Certification** – Apply to become GreenWrench-certified by accomplishing your pollution prevention goals and showing progress on improvements to your shop. Advertise to customers that your facility meets rigorous environmental standards.

Register and learn more about GreenWrench at doee.dc.gov/service/greenwrench or by calling 202-645-4231.

Benefits of Joining:

- Save money with strategies that protect the environment
- Receive complimentary onsite technical consultations and training
- Learn how to protect yourself and your employees from harmful substances
- Fit pollution prevention into YOUR schedule
- Learn about new technologies and products that are effective and environment-friendly
- Attract environmentally-conscious car owners

Cost:

- **Free** to all registered participants

Languages Offered:

- English
- Spanish (Español)
- Amharic (አማርኛ)



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CHAPTER 1. GETTING STARTED

This Automotive Pollution Prevention Guidebook was developed to provide guidance and assistance to automotive repair and body shops in the District of Columbia (District) by establishing a plan to reduce sources of pollution at their shops, assisting with environmental regulation compliance, and finding new ways to save money. An accompanying plan template provides a framework for developing a comprehensive Automotive Pollution Prevention Plan (P2 Plan).

This guidebook is intended to:

- Introduce and explain the principles of pollution prevention.
- Help shops identify potential sources of land, air, and water pollution.
- Assist facilities to develop a clear plan of action to minimize and prevent pollution using best management practices (BMPs) and cost-effective technology, as well as product alternatives.
- Summarize regulatory requirements that protect the environment.

District automotive repair and body shops are encouraged to use this guidance document and accompanying template to complete a site-specific plan and to receive training on the findings and tips on implementation.

1.1 Inventory and Inspection: Establishing a Baseline

An inspection of a shop's baseline processes currently in practice to service and repair automobiles must be completed first to identify which activities and products are being employed on site and which may contribute to pollution. The baseline inspection data also provide a starting point to measure how successful and cost-effective the shop's P2 Plan eventually becomes at reducing pollution.

Shops that successfully implement a P2 Plan and meet or exceed environmental compliance regulations (as measured by the GreenWrench Pollution Source Reduction Calculator –

see Appendix 2, Resources, for more information) are eligible to become GreenWrench-certified. For more information on the DOEE certification program, please visit the GreenWrench website, doee.dc.gov/service/greenwrench, or call 202-645-4231.

1.2 Large Facilities

While this guidebook and accompanying template have been developed with a primary focus on the District's smaller automotive repair shops, they include information and elements necessary for facilities of any size. Larger automotive shops may have different regulatory requirements due to the volume of work they perform and the waste materials they generate. Where possible, alternatives for larger shops have been identified in the pollution prevention sections. DOEE can provide additional guidance on modifying plans for larger shops.

CHAPTER 2. ENVIRONMENTAL COMPLIANCE

All facilities are required to comply with local and Federal environmental regulations. Environmental regulations can be complex and confusing; GreenWrench is a free program that provides environmental consulting services for participants to help sort out what the requirements are and how to ensure compliance. In addition, the GreenWrench Pollution Source Reduction Calculator (see Appendix 2, Resources) can provide metrics to demonstrate compliance with regulations.

2.1 Hazardous Waste, Universal Waste, and Used Oil Regulations

2.1.1 Hazardous Waste (HW) Generator Registration

Most facilities are required by the Federal Resource Conservation and Recovery Act (RCRA) to register with DOE before generating hazardous waste, universal waste, and/or used oil. Corporations with multiple addresses (physical locations) must register each location separately. Materials that are used and stored onsite for recycling are not considered to be RCRA-regulated waste materials.¹

Definitions:

Solid waste is any garbage, refuse, trash or other discarded material that is designated for disposal. Solid waste can be a solid, liquid, semi-solid, or contained gaseous material. Facilities can save money by increasing the amount of materials that are recycled and using other pollution prevention techniques to minimize the amount of solid waste that is generated.

Hazardous waste is a form of solid waste. Hazardous waste is any solid waste that, because of its quantity, concentration, or physical, chemical, or infectious characteristics:

- Exhibits any one or more of the following characteristic properties: ignitability, corrosivity, reactivity or toxicity, or can be specifically listed in 40 CFR 261.
- Causes or contributes to an increase in mortality or an increase in serious irreversible or incapacitating illness, poses a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.²

Universal wastes (UW) are a special category of hazardous wastes that are defined in RCRA Sub-title A, "Requirements for Universal Waste,"³ by a list of items. EPA has given them the universal waste designation and created specific disposal requirements defined in 40CFR part 273.⁴ It is important to keep Universal Waste out of the hazardous waste stream, and they can be recycled in many cases.

Universal waste common to the automotive repair industry includes:

- Fluorescent light tubes and other non-incandescent light bulbs
- Batteries, including rechargeable batteries used in tools and lead acid batteries used in vehicles
- Mercury-containing equipment To determine whether a particular solid waste is considered hazardous or universal waste, ask GreenWrench or navigate to www.epa.gov/hw/learn-basics-hazardous-waste#wid.⁵

1. See EPA: Learn the Basics of Hazardous Waste at <https://www.epa.gov/hw/learn-basics-hazardous-waste>

2. See eCFR: Title 40, Chapter I, Subchapter I, Part 261, Subpart A, Section 10 to 24 (40 CFR 261.10) at https://www.ecfr.gov/cgi-bin/text-idx?SID=4874c59aa12cfdd97366206a3f0dcd78&mc=true&node=se40.28.261_110&rgn=div8

3. See eCFR: Title 40, Chapter I, Subchapter I, Part 261, Subpart A, §261.9, Requirements for Universal Waste (40 CFR 261.9) at https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=4874c59aa12cfdd97366206a3f0dcd78&mc=true&n=pt40.28.261&r=PART&ty=HTML#se40.28.261_19

4. See eCFR: Title 40, Chapter I, Subchapter I, Part 273, Standards for Universal Waste Management (40 CFR 273) at <https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=16537354dafa52b7f50c87f0acee5d0e&mc=true&n=pt40.29.273&r=PART&ty=HTML>

5. See EPA: Learn the Basics of Hazardous Waste: What is a Hazardous Waste? at <https://www.epa.gov/hw/learn-basics-hazardous-waste#wid>

Did You Know?

Solid waste commonly found at auto shops that is defined under hazardous waste/universal waste regulations:

- Used oil
- Spoiled gasoline (HW) (ignitable)
- Certain washer solutions (HW) (ignitable)
- Many aerosol products (HW) (ignitable)
- Certain paints and paint thinners (HW) (ignitable)
- Waste diesel fuel (combustible)
- Car, truck, or forklift batteries (UW)
- Lead wheel weights (HW) (toxic)
- Battery acid (HW) (corrosive)
- Compact fluorescent (CFLs) and fluorescent light bulbs (UW)
- Certain concentrated cleaning products (HW) (corrosive)
- Mercury tilt switches (UW)
- Waste Electronics

HW = Hazardous Waste UW = Universal Waste

Registration:

To register as a hazardous waste generator with DOEE, the facility must:

1. Complete Federal registration Form 8700-12 "RCRA Subtitle C Site Identification Form," to request an EPA Identification Number (EPA ID #),
2. Send the completed form and a check for the required fee (see below for applicable fees) to DOEE, and
3. Submit an Annual Self-Certification of Compliance form and registration fee every year.

To download forms and for more information on registering as a hazardous waste generator, navigate to <https://doee.dc.gov/service/register-hazardous-waste-generator>.⁶

Fees, reporting requirements, and other regulations depend on the quantity of hazardous waste the facility generates.

There are four main classifications for hazardous waste generators:

- **Short-Term Generators:** Produce hazardous waste from a particular activity for a limited time and then

cease conducting that activity.

- **Conditionally-exempt small quantity generators:** Generate less than or equal to 100 kg (220 lbs.) of hazardous waste and do not generate more than 1 kg (2.2 lbs.) of acute hazardous wastes (defined in sections 261.31 or 261.33(e))⁷ in any calendar month.
- **Small quantity generators:** Generate greater than 100 kg (220 lbs.) but less than 1,000 kg (2,200 lbs.) of hazardous waste and do not generate more than 1 kg (2.2 lbs.) of acute hazardous wastes in any calendar month.
- **Large quantity generators:** Generate greater than or equal to 1,000 kg (2,200 lbs.) of hazardous waste or generate more than 1 kg (2.2 lbs.) of acute hazardous wastes in any calendar month.

Annual fees and self-certification of compliance are due to DOEE's Hazardous Waste Branch on **March 1** each year.

EPA ID Number Fees (as defined in District regulations):

- Conditionally-exempt small quantity generators (less than 8 employees): \$100

6. See DOEE: Summary of Hazardous Waste Generator Status Options at

<https://doee.dc.gov/publication/summary-hazardous-waste-generator-status-options>

7. See eCFR: Title 40, Chapter I, Subchapter I, Part 261, Subpart D, §261.33 (e) (40 CFR 261.33 (e)) at

https://www.ecfr.gov/cgi-bin/text-idx?SID=6071e53685d07c8caeda33fe0c727f0b&mc=true&node=se40.28.261_133&rqn=div8

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- Conditionally-exempt small quantity generators (8 or more employees): \$250
- Small quantity generators: \$500
- Large quantity generators: \$1,000
- Short-term Generators EPA ID Number: \$100

Each site must maintain current information on file with the DOEE Hazardous Waste Branch. To do this, send in a revised 8700-12 if the contact person changes, the mailing address changes, the waste streams change, or the generator status changes. There is no fee to update this information.

For more additional details visit: <https://doee.dc.gov/service/register-hazardous-waste-generator>.

2.1.2 Hazardous Waste Regulations

Table 1 provides a summary of local and Federal hazardous waste handling regulations that covers:

- Regulation summaries
- Fines for non-compliance
- How a facility can return to compliance

While there are differing requirements for hazardous waste generators based upon the amount of waste they generate monthly, all hazardous waste generators and facilities that use or store must identify, manage, and dispose of hazardous waste and universal waste regardless of the amount they generate or the amount of hazardous substances stored onsite.

How to identify, manage, store, and dispose of HW, UW, and Used Oil:

1. Identify all waste that requires management under the regulations (see Section 3.1.1). To assist in identification, review the material’s current safety data sheet (SDS), ask the material vendor, or submit

Table 1. Summary of District and Federal (RCRA Part C) Hazardous Waste Regulations

REGULATION SUMMARY	FINE FOR NON-COMPLIANCE	SOLUTION
Identify hazardous wastes (HW), universal waste (UW), and used oil	\$500 to \$2,000 per infraction	Identify all HW, UW, and used oil generated at the facility
Properly manage all HW, UW, and/or used oil	\$500 to \$2,000 per infraction	Properly handle, store, and dispose all HW, UW, and used oil generated at the facility
Properly dispose of all HW, UW, and/or used oil	Up to \$37,500 per day per violation plus clean up expenses. This is DOEE’s daily maximum	Work with a licensed hauler to take the HW, UW, or used oil. See Appendix 1, Local Contacts, for how to vet haulers
Burning used oil for heat	\$2,500 fine for each day of the violation, imprisoned for no more than 1 year for violating District regulations, ⁸ in addition to RCRA Subpart C fines ⁹	Switch to other fuel sources or use a different type of heater, such as an electric heater

8. See District of Columbia Municipal Regulations and District of Columbia Registrar: Hazardous Waste Management – Standards for the Management of Hazardous Waste and Used Oil (Chapter 20-42) and Administration and enforcement (Chapter 20-43) at <https://dcregs.dc.gov/Common/DCMR/ChapterList.aspx?TitleNum=20>

9. See EPA. RCRA Civil Penalty Policy at <https://www.epa.gov/sites/production/files/documents/rcpp2003-fnl.pdf>

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a sample for testing for anything believed to be hazardous waste.

2. Properly package, label, and date materials that have been identified.
3. Keep waste in closed containers, properly stored, and segregated from other materials.
4. Inspect waste containers weekly and keep a log of the inspections.
5. Dispose of waste on a regular schedule using a licensed contractor, typically every 90 days.
6. Make sure all waste is transported offsite under manifest and keep a copy of the manifest the transporter provides.
7. Train staff to determine which items are HW and

UW and how to properly package, store and dispose of them. Note: UW should not be stored onsite for over a year. Used oil is required to be stored in a container with secondary containment.

Secondary containment is defined as a system that provides temporary control of liquids and other products that could spill, and is used to catch spills in the event the material's primary storage container loses its integrity or fails. It is a secondary means of containing products that could spill or leak and should be larger to contain the capacity of the largest storage container plus enough room to allow for precipitation to collect within the storage area without the containment system overflowing.

✓ **GOOD:** Containers are closed, labeled, and dated



✗ **BAD:** Containers are open and unlabeled



Did You Know?

In Title 40 of the Code of Federal Regulations (40 CFR), EPA maintains a broad range of regulations, covering everything from air emissions and chemical management to pesticides and the storage, handling, treatment, and disposal of hazardous waste. Penalties are associated with violations of these rules.

For sites subject to the EPA's RCRA hazardous waste rules, the District of Columbia's maximum civil penalty for RCRA violations is \$37,500 per day per violation.

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2.2 Air Regulations

Facilities with the potential to emit certain air pollutants must have an air pollutant permit issued by the DOEE Air Quality Division to construct and operate new sources of air contaminant emitting equipment.¹⁰

Sources and activities that trigger the requirements for an air pollutant permit include:

- Automotive painting and paint booths
- Parts washing or degreasing using solvents that contain volatile organic compounds (VOCs)
- Emergency generators
- Boilers that have a heat rating of 5 million BTUs/hour or more
- Sandblasting



Table 2. Common air quality regulations related to auto maintenance and auto body shops

REGULATION	FINE	SOLUTION
Motor vehicles powered by gasoline or diesel are not allowed to idle for more than 3 minutes while the vehicle is parked, stopped or standing. Time is extended to 5 minutes if the air temperature is below freezing. (20 DCMR 900.1)	\$500 for a first-time violation ¹¹	Do not idle cars for more than 3 minutes. It is preferable to turn off the vehicle and restart it when needed than to idle.
Manufacturing, using, or selling specific ozone-depleting substances (ODS), such as refrigerants that contain chlorofluorocarbons (CFCs)(20 DCMR 724.1) These products are heavily regulated, and many products have been banned since the 1990s	Fines of at least \$2,500 for each day of the violation, imprisoned for no more than 1 year	Make sure technicians are EPA-certified and comply with the CFC and ODS recycling requirements. Switch to an alternative refrigerant or upgrade the equipment. DC Sustainable Energy Utility (DCSEU) provides rebates to businesses wishing to install energy efficient refrigeration and chillers Go to www.dcseu.com or call 202-479-2222

Table 2 continues on next page

10. See DOEE: Apply for an Air Pollutant Permit at <https://doee.dc.gov/service/airpermits>

11. See DOEE: Civil Infraction Schedule of Fines Amendment at <https://doee.dc.gov/sites/default/files/dc/sites/ddoe/publication/attachments/Civil%20Infractions%20Schedule%20of%20Fines.pdf>

Table 2. Common air quality regulations related to auto maintenance and auto body shops, Continued

Burning of HW, used oil, or solid waste is prohibited in the District with certain specific and limited exemptions (20 DCMR 604.1, 20 DCMR 606.2, 20 DCMR 600.1 and 20 DCMR 804.1) See Section 3.1.2, Table 1 for additional penalties for burning used oil	\$2,500 fine for each day of the violation, imprisoned for no more than 1 year. (This is in addition to Federal RCRA Part C fines)	Dispose of the material using certified haulers. Do not do any open burning onsite
All auto body shops with spray painting operations must obtain an operating permit and follow the requirements for spray painting, solvent use, and staff training (20 DCMR § 718 and 40 CFR 63, Subpart HHHHHH) ¹²	Up to \$37,500 per day of violation	Apply for an operating permit. The forms and additional details are available at doee.dc.gov/service/airpermits

Did You Know?

The maximum EPA civil penalty for violation of the Clean Air Act is \$93,750 per violation.¹³

2.3 Water and Land Regulations

2.3.1 Stormwater Regulations

Under the District of Columbia Water Pollution Control Act and the Federal Clean Water Act, the discharge of pollutants to the stormwater sewer system without a permit is prohibited. Any substance with the potential to alter water quality is considered a pollutant, including wash water, grey water, oils, dirt, and litter that may be harmful to fish and other living organisms.

No amounts of any of these substances may be disposed of or washed into a storm drain, and accidental releases must be prevented. It is illegal to discharge of oil, gasoline,

anti-freeze, acid, or other hazardous substance, pollutant or nuisance material to any street, alley, sidewalk or other public space in quantities sufficient to constitute a hazard or nuisance, as is the discharge of used motor oil to any sewer.¹⁴

Activities such as material handling and storage, maintenance and cleaning of vehicles and equipment, industrial processing, and other operations can expose potential pollutants to stormwater.

Runoff from two-thirds of the District – the portion of the city that falls within the Municipal Separate Storm Sewer System (MS4) – drains into local streams and rivers with little to no treatment. If an automotive repair shop is located within

12. See DOEE: Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations at <https://www.dcregs.dc.gov/Common/DCMR/RuleDetail.aspx?RuleId=R0020648> and EPA: Summary of Regulations Controlling Air Emissions from Paint Stripping and Miscellaneous Surface Coating Operations at https://www3.epa.gov/airtoxics/area/paint_stripb.pdf
13. See EPA: Transmittal of the 2017 Annual Civil Monetary Penalty Inflation Adjustment Rule at <https://www.epa.gov/sites/production/files/2017-01/documents/2017transmittalmemopenaltyinflationrule.pdf>
14. See DOEE: Water Pollution Control Act of 1984 at <https://doee.dc.gov/publication/water-pollution-control-act-1984>

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the MS4, exposure from precipitation may allow pollutants from these activities to wash off their properties, into stormdrains, and out into nearby waterbodies where they harm environmental and human health.

All automotive repair shops and gas stations that drain to the MS4 area of the District are considered critical sources of stormwater pollution and can expect inspections and enforcement from DOEE.¹⁵ Shops within the MS4 area that conduct industrial activities have additional permitting requirements. The EPA developed a permitting system, called the National Pollutant Discharge Elimination System (NPDES), to ensure provisions within the Clean Water Act are being followed.¹⁶ Industrial facilities within the MS4 are required to obtain a NPDES permit. EPA has simplified the process through a Multi-Sector General Permit (MSGP) for industrial stormwater runoff, to which shops can apply for coverage.

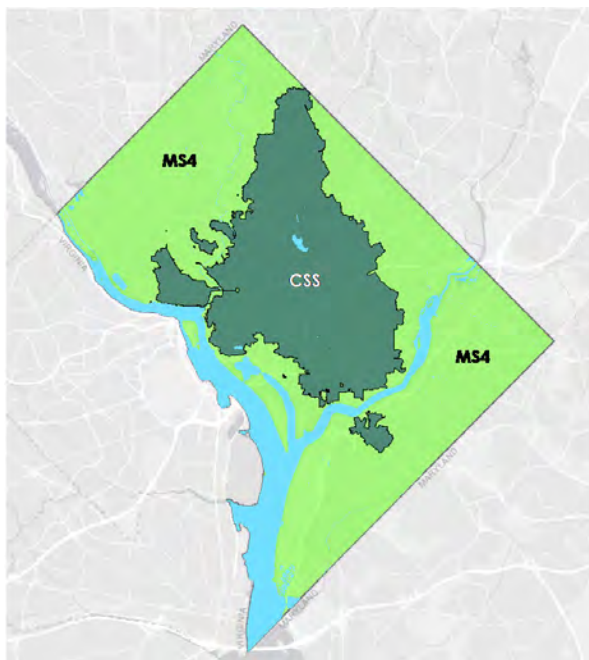
The other third of the District has a Combined Sewer System

(CSS), which is managed by DC Water. In these areas, stormwater and sewage are captured by the same sewer pipes and go to the Blue Plains Waste Water Treatment Plant for treatment.

Facilities in the CSS need to apply for additional permit coverage from DC Water only if they are industrial, commercial, or federal entities allowing wastewater or contaminated non-wastewater flows containing pollutants or chemicals to get into the CSS.¹⁷ See Map 1 for the boundary between the MS4 and CSS areas of the District.

A Stormwater Pollution Prevention Plan (SWPPP) is a written assessment of potential sources of stormwater pollution and a plan for how the facility will minimize the discharge of these pollutants from the site. There are many ways to prevent pollution through practices, procedures, and physical features that manage runoff and exposure of potential pollutants to stormwater.

Map 1. Map of the MS4 and CSS areas of the District



KEY:

- Municipal Separate Storm Sewer System (MS4)
- Combined Sewer System (CSS)

15. See EPA: D.C. Municipal Separate Storm Sewer System (MS4) at <https://www.epa.gov/npdes-permits/dc-municipal-separate-storm-sewer-system-ms4>

16. See EPA: NPDES Stormwater Program at <https://www.epa.gov/npdes/npdes-stormwater-program>

17. See DC Water: Industrial User Wastewater Discharge Permit at <https://www.dewater.com/industrial-user-wastewater-discharge-permit>



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A SWPPP outlines which strategies the operator uses, and is expected to be regularly updated so that it accurately reflects current efforts. All shops, especially those in the MS4, are encouraged to develop a SWPPP. Industrial facilities are required by the MSGP to develop and maintain a SWPPP.

EPA's template SWPPP for industrial activities:

www.epa.gov/sites/production/files/2015-11/msgp2015_swppptemplate.docx

Determine which sewer system a facility drains to, the MS4 or the CSS. It is important to consider where stormwater from a facility drains onsite. It is possible for a facility to fall on the border of the MS4 and CSS and drain to both areas. Of particular concern, facilities in the CSS that are close to the MS4 border could have rainwater flow overland, called sheet flow, into an MS4 area.

Visit the following web site and type in the facility address to determine where the facility falls relative to the two sewer systems:

<https://dcgis.maps.arcgis.com/apps/webappviewer/index.html?id=15ab232cad21477483ba25ee9c50a933>

Determine if shop activities are industrial. If any of the following activities occur on site, even if it is just one of many activities the shop performs, the shop's operations would be considered industrial by the EPA and should apply for coverage under the MSGP. Common industrial activities at automotive repair shops include the following:¹⁸

- Sector P: Land transportation and warehousing
 - Passenger transportation facilities (SIC 4111-4173), including shops that service taxicabs, limousines, and buses.
 - Motor freight transportation and warehousing (SIC 4212-4231), including shops that service box trucks, tractor-trailers, garbage trucks,

and other vehicles used to transport goods or wastes.

- Sector M: Automobile salvage yards (SIC 5015), including wholesale or retail distribution of used motor vehicle parts.
- Section N: Scrap recycling facilities (SIC 5093), including shops that dismantle cars for scrap.

MSGP permit coverage. Industrial facilities will need to apply directly to EPA for MSGP coverage. Once an industrial facility has MSGP coverage, there are additional permit requirements. Some main requirements include:¹⁹

1. Ensure the procedures outlined in the SWPPP are being implemented by the facility and updated as necessary, and a copy of the SWPPP is kept on-site,
2. Records of stormwater infrastructure maintenance, self-inspections, employee training, corrective actions, and updates to the SWPPP must be kept with the SWPPP,
3. Employees are required to be trained annually on how to prevent stormwater pollution,
4. Quarterly visual stormwater monitoring is required by all industrial activities, and some industrial activities required additional benchmark and analytical monitoring of stormwater runoff,²⁰ and
5. An annual report that summarizes activities, monitoring, and corrective actions must be submitted to the EPA by January 30 of each year.

To learn more about the MSGP, including how to apply and a full list of industrial activities covered by the permit, visit www.epa.gov/npdes/stormwater-discharges-industrial-activities.

2.3.2 Trash-related Regulations

Littering and illegal dumping are illegal in the District of Columbia. It is illegal for any person to dispose of trash, also

18. See EPA: MSGP Appendix N – List of SIC and NAICS Codes at

https://www.epa.gov/sites/production/files/2015-10/documents/msgp2015_appendixn.pdf

19. See EPA: Stormwater Discharges from Industrial Activities, Summary of 2015 MSGP Reporting Requirements and Deadlines at

<https://www.epa.gov/npdes/stormwater-discharges-industrial-activities#guidance>

20. See EPA: MSGP Part 8 – Sector-Specific Requirements for Industrial Activity at

https://www.epa.gov/sites/production/files/2015-10/documents/msgp2015_part8.pdf

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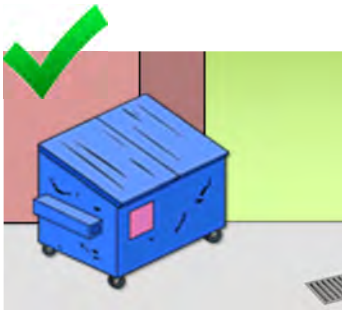
known as solid waste, in or on any street, lot, park, public place, or any other public or private area, unless the site is authorized for the disposal of trash by the Mayor.²¹

The District of Columbia requires commercial properties to contract for their own trash and recycling collections services.²² For trash, the requirements include removal twice a week and trash should not overflow the container or be stored in paper or plastic bags outside of a container. To determine if a material is trash, go to zerowaste.dc.gov/page/trash-businesses.

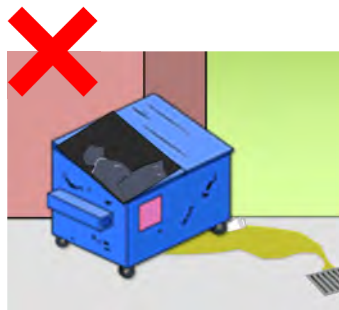
The District of Columbia also requires recycling in all commercial properties or establishments. Recycling is required to be removed at least twice a month. For a list of items that need to be recycled go to zerowaste.dc.gov/node/1269576.

For trash, recycling, bulk trash, and hazardous waste disposal the hauler removing the material must be licensed.

- For recycling and trash, including bulk and used tire haulers: go to <https://eservices.dccra.dc.gov/BBLV/Default.aspx>, and search for the hauler, or navigate to the “Solid Waste Collection” category for a list of licensed haulers in the District .
- For hazardous waste, including used oil, ask the hauler for their EPA ID number, and verify it at epa.gov under “Facility Name/ID.”



GOOD: Closed dumpster



BAD: Open dumpster

2.3.3 Petroleum Storage Tank Regulations

Automotive repair and service stations and dealerships often have aboveground storage tanks (AST) and underground storage tanks (UST) that store a variety of different petroleum and automotive fluid products.

The stored products may include:

- Gasoline
- Fuel Oil
- Diesel Fuel
- Motor Oil

Facilities with ASTs holding oils of any kind are covered under Federal and local regulations. District of Columbia regulations were created by the District’s Water Pollution Control Act, and require businesses that store significant quantities of oil and hazardous substances to have a Spill Prevention and Cleanup Plan.²³

In addition to the District’s Spill Prevention and Cleanup Plan requirements, Federal Clean Water Act regulations (40 CFR 112) require a Spill Prevention Control and Countermeasure (SPCC) Plan for facilities that have more than 1,320 gallons of aboveground storage of petroleum products or have one or more individual aboveground storage tanks (AST) that are 660 gallons or larger.²⁴

Facilities with a total aboveground oil storage capacity of 10,000 gallons or less are considered Qualified Facilities, and may self-certify their SPCC Plan instead of having a professional engineer review and certify the plan.²⁵ Larger facilities must have the plan prepared and certified by a professional engineer.

Automotive shops are subject to these regulations because they may store fuel, oil, solvents, paints, batteries, and

21. See DC Code: Chapter 9. Illegal Dumping Enforcement at <https://code.dccouncil.us/dc/council/code/titles/8/chapters/9/>

22. See DPW: Commercial Recycling at <https://dpw.dc.gov/service/commercial-recycling>

23. See DOEE: Water Pollution Control Act of 1984 at <https://doee.dc.gov/publication/water-pollution-control-act-1984>

24. See EPA: Oil Spills Prevention and Preparedness Regulations at <https://www.epa.gov/oil-spills-prevention-and-preparedness-regulations>

25. See EPA: Is my Facility a “Qualified Facility” under the SPCC Rule? at <https://www.epa.gov/oil-spills-prevention-and-preparedness-regulations/my-facility-qualified-facility-under-spcc-rule>

Table 3. Summary of key local water and land pollution regulations, the associated fine(s) for non-compliance, and means by which the facility can address violation(s)

REGULATION	FINE	SOLUTION
Discharging into a sewer any material that is corrosive, flammable, explosive, or may adversely affect the structure of a sewer line. (D.C. Official Code 8.103.06(a) and 8.103.07(d))	First Violation is \$1,000 ²⁶	Prohibit dumping. Clean up after spills. Implement best management practices (BMPs) such as storing these substances indoors when possible, keeping containers closed, having these substances removed by a licensed hauler when the containers become full, and using secondary containment.
Violations relating to shops in the MS4 that conduct industrial activities including failure to obtain a permit.	Fines range from \$2,500 to \$250,000 and/or imprisonment per day per violation ²⁷	Apply for coverage under the EPA's Multi-Sector General Permit (MSGP) for industrial stormwater runoff and take action to prevent stormwater pollution, including developing and maintaining a SWPPP
Onshore and offshore facilities storing pollutants have a spill prevention and cleanup plan approved by the Mayor for those pollutants (DC Official Code, Section 8-103.10(a))	Type 4 infraction. Fine starts at \$100 ²⁸	Create a spill prevention and cleanup plan and submit it to DOEE for review
Littering (21 DCMR 700.4)	First Violation is \$75. Fines increase up to \$500 ²⁹	1) Place trash/recycling in the proper waste receptacle, 2) Regularly pick up litter on the lot, 3) Keep waste containers closed to prevent litter
Using an unlicensed hauler (21 DCMR 705.1)	First Violation is \$500 ³⁰	Dispose of trash, recycling, and bulk items through a licensed hauler or by taking to a transfer station/landfill
Illegal dumping (24 DCMR 1000.1)	Minimum violation is \$1,000. Maximum violation is \$40,000	Properly dispose of all trash, recycling, bulk items, and debris. Use only licensed haulers for disposal of unwanted materials.
Properly dispose of all trash, recycling, bulk items, and debris. Use only licensed haulers for disposal of unwanted materials.	First Violation is \$200 ³¹	Arrange an agreement with a licensed hauler to take away paper, cardboard, plastic, glass, and wood for recycling on regular basis. More information is available at: zerowaste.dc.gov

26. See DOEE: Civil Infraction Schedule of Fines Amendment at

<https://dpw.dc.gov/sites/default/files/dc/sites/dpw/publication/attachments/24-1380.pdf>

27. See EPA: Multi Sector General Permit (MSGP) Appendix B, Standard Permit Conditions (Section B.1 Duty to comply) at

https://www.epa.gov/sites/production/files/2015-10/documents/msgp2015_appendixb.pdf

28. See DOEE: Fines and Enforcement – Office of Enforcement and Environmental Justice at <https://doee.dc.gov/oej>

29. See DPW: Schedule of Fines for Violations of the Litter Control Administration Act at

<https://dpw.dc.gov/sites/default/files/dc/sites/dpw/publication/attachments/24-1380.pdf>

30. See DCMR: 24 DCMR §1380.1, Schedule of Solid Waste Violations at

<https://dpw.dc.gov/sites/default/files/dc/sites/dpw/publication/attachments/1399%20Title%2024%20Chapter%2013.pdf>

31. See DPW: DC Recycling Regulations at

https://dpw.dc.gov/sites/default/files/dc/sites/dpw/publication/attachments/DC_Recycling_Regulations%202061.pdf



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similar items that are used in their day-to-day business operations. Key requirements from these regulations that apply to automotive shops include:

1. Submit a Spill Prevention and Cleanup Plan to DOEE for the pollutants or hazardous substances prior to storing them at the facility.
2. The Spill Prevention and Cleanup Plan should describe the procedures, equipment, and personnel used to prevent and clean up the spill of a pollutant to prevent it from getting into District waters.
3. The owner or operator of an underground storage tank containing fuel, oil, gasoline, waste oil, or any other regulated pollutant needs to maintain compliance with 40 CFR 280. This includes registration, posting the current registration certificate, training, regular testing for leaks, and other requirements.³² The shop may be required to remove or change the storage location of hazardous substances to prevent the spread of the discharge.

A shop's P2 Plan can be customized to comply with Spill Prevention and Cleanup Plan requirements. It must be submitted to DOEE for review and approval.

USTs are covered under local regulations promulgated to minimize the potential for the stored product to be released.³³ USTs containing petroleum or hazardous substances are subject to specific requirements for tank registration, system performance standards, operation and maintenance, release detection, release reporting and corrective action, operator training, and financial responsibility.

Owners and Operators of USTs have different expectations and responsibilities of the regulations.³⁴

Owners of USTs:

1. Shall designate at least one for each active UST

facility and provide training for each operator.

2. May not dispense or store a regulated substance from a facility, unless operators have been designated and trained.
3. Shall maintain the following documentation at the facility for inspection by DOEE:
 - a. a list of the designated operators
 - b. all operator training certificates,
 - c. instructions for operators, and
 - d. records of training completed by all Operators, where a certificate is not available
5. Must ensure that the facility is registered with DOEE,³⁵ Underground Storage Tank Branch (USTB) annually and a current registration certificate is posted onsite, in a visible location.
6. Shall post the names of Operator and Owner, as well as contact details for same at unmanned UST facilities.

Operators of USTs:

1. Designated operators shall successfully complete required initial training.
2. Trained operators shall be readily available to respond to suspected or confirmed releases, other unusual operating conditions, emergencies and equipment failures.
3. Operators shall obtain a passing grade on an examination in order to obtain a training certificate from the trainer.
4. The training certificate shall remain valid for a lifetime, except in the event of serious violations or changes in future regulatory requirements

32. See DOEE: Key Responsibilities of UST Stakeholders at <https://doee.dc.gov/service/key-responsibilities-ust-stakeholders>

33. See DOEE: Underground Storage Tank Program at <https://doee.dc.gov/service/underground-storage-tank-program>

34. See DOEE: Key responsibilities of UST stakeholders at <https://doee.dc.gov/service/key-responsibilities-ust-stakeholders>

35. See DOEE: UST Facility Notification Form at <https://doee.dc.gov/node/11772>

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Table 4. Summary of key UST regulations, the associated fine(s) for non-compliance, and means by which the facility can address violation(s)

REGULATION	FINE	SOLUTION
Failure to register UST or to renew registration (20 DCMR §§ 5601.2, 5601.5, 5601.10)	First Violation is \$ 500	Register USTs using the DOEE UST Facility Notification Form at https://doee.dc.gov/node/11772
Failure to take immediate action to contain and clean up any spill or overfill from UST (20 DCMR §§ 6201.1, 6201.3, or 6201.5)	First Violation is \$ 2,000	Implement procedures for spills and overfills. Ensure there are ample spill cleanup supplies available close to the UST in the event of a spill. See Spill and Leak Response in Section 3.1.5



CHAPTER 3. VEHICLE MAINTENANCE

Many common vehicle maintenance activities have the potential to contribute to land, air, and water pollution. Automotive fluids dripping from cars, asbestos worn from brake linings, spilled fuels, and volatile compounds in aerosol degreasers are common pollutants.

BMPs for managing, storing, and disposing of materials properly can prevent pollutants from entering our streams, rivers, and the air we breathe.

3.1 Oil Changes

3.1.1 Alternatives

One simple way of reducing oil is by using recycled oil. The same consumers and businesses that use regular oil also can use re-refined oil, since re-refining simply re-processes used oil into new, high-quality lubricating oil.

Any vehicle maintenance facilities, automobile owners, and other machinery maintenance operations that use oil also can use re-refined oil. One gallon of used motor oil provides the same 2.5 quarts of lubricating oil as 42 gallons of crude oil.³⁶



Materials that could spill should be stored in secondary containment.

3.1.2 Pollution Prevention

Spill response materials should be on hand in areas where spills are most likely to occur. A spill kit is a collection of items needed to contain and clean up a spill, leak, or other discharge of oil. It typically contains personal protective equipment, such as gloves, and materials, such as granular absorbents and sorbent pads, used to clean up the spill. The spill kits should also include bags or a container to collect and store the used cleanup material for disposal. Spill kits should be placed at locations throughout the work place near the most likely locations of a spill.

Enough spill absorbent material should be maintained on hand to clean a spill coming from the largest container or source. For example, three 40-pound bags of absorbent material should be appropriate for a 55-gallon drum.

3.1.3 Waste Management

Used oil and used oil filters should be properly collected for recycling. Oil filters should be fully drained to minimize the potential for spills. A drainage tray should be used to allow oil to fully drain from oil filters before they are packaged for recycling. Place used oil filters in water-tight containers to prevent release of any residual oil while they are being stored or transported. Regulations require used oil to be stored in a container with secondary containment.

To minimize the potential for a release, place all material in containers, keep the containers closed except when adding or removing materials, and dispose of the contents promptly when the containers become full.

3.1.4 Petroleum Storage Tanks

The amount of liquid products or waste petroleum storage capacity that tanks have determine the pollution prevention methods that are required to manage the volume they hold.

36. See EPA: Managing, Reusing and Recycling Used Oil at <https://www.epa.gov/recycle/managing-reusing-and-recycling-used-oil>

The BMPs listed below are recommended or required for management of tanks:

1. Label the tank to clearly indicate what is being stored in it and the capacity.
 - If it is empty, label it as “empty.”
 - If it contains hazardous waste, it must be labeled in accordance with the District of Columbia Hazardous Waste Management Act of 1977 (20 DCMR 42).³⁷
2. The tank must be kept closed except when adding or removing product. This is generally a good housekeeping practice for any type of product.
 - Ensure employees can deposit used oil into the tank without spilling or dripping it on the ground or on the tank itself.
 - If there is evidence of spills and drips around the tank, consider changing the tank’s location or adding accessibility measures, such as a stepladder or widened access so employees can easily add material without spilling.
3. Install an overfill protection system on the storage tank to minimize the risk of spilling liquids during transfer and loading.
4. Install bollards or guards around tanks and piping to prevent damage from forklifts or vehicles.
5. For permanently installed tank storage systems for liquids, use curbs or dikes to contain spills and leaks or invest in double-walled tanks that comply with SPCC requirements.
 - The curbing should be of adequate height to contain a volume equal to the volume of the largest single storage tank plus rainfall if the storage area is uncovered.
 - A good approximation of the needed volume would be 110% of the largest storage tank, but additional volume may be required depending on the quantity of rainfall reaching the site.³⁸
- A roof can be placed over the tank and containment to minimize the amount of rainwater that accumulates.
- If the curbs or diking have a drainage valve, keep the valve in the closed position unless actively draining the containment area of accumulated rainwater.
6. The floor area enclosed by the curbing needs to be covered with an impervious surface and sealed to prevent spills from contaminating groundwater.
7. Inspect accumulated rainwater for signs of oil and other pollutants, and do not release any oil-contaminated rainwater. Instead, collect it and dispose of it properly, through a hauler or into the sanitary sewer depending on the type of contaminants in the water.
8. Train employees in operating procedures, label valves and piping to reduce human error, and keep good records of inspections of stormwater runoff for oil and any releases.

3.1.5 Drum and Small Container Storage

Automotive repair shops often store oil and hazardous substances in drums and small containers. The following are BMPs to implement when managing drums or small containers:³⁹



Roof over a diked AST

37. See DOEE: Hazardous Waste Management Laws & Regulations at <https://doee.dc.gov/publication/hazardous-waste-management-laws-regulations>

38. See EPA: Single Horizontal Cylindrical Tank inside a rectangular or square dike or berm worksheet at https://www.epa.gov/sites/production/files/2014-05/documents/example_autoservice_single_horizontal.pdf

39. See DOEE: Stormwater Pollution Prevention for Automotive Repair Shops at https://doee.dc.gov/sites/default/files/dc/sites/ddoe/event_content/attachments/Prevent_Stormwater_Pollution-Practices_and_Regulations_Sept2016.pdf

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1. Label and date all containers, specifically identifying the contents at all times. The contents of an unlabeled or unmarked container must be considered a hazardous substance or hazardous waste until a determination of the contents can be made. Empty containers should be labeled as such.
2. Keep all containers closed except when adding or removing materials.
3. All petroleum, oil, and lubricants containers and other stored liquids should be placed in secondary containment at all times.
4. Ensure all containers are kept in good condition.
5. Protect all containers from the elements when stored outside, with covered storage or a tarp.
6. Separate – and never mix – waste materials.
7. Clean all spills as soon as possible.
8. If a spill leaves the site, enters a drain, seeps into the ground, or becomes out of control, call 911 immediately.

Temporary transfer vessels are containers used during oil changes to collect used oil from vehicles. These containers should be kept closed at all times unless actively being used. Transfer containers must be emptied into the primary used oil storage container when they are no longer in use, become full or at the end of the day, whichever occurs first.

3.1.6 Spill and Leak Response

Avoiding spills and leaks is easier than cleaning them up after they happen not only from an environmental



Store liquids in secondary containment and always label the containers

standpoint, but also because spills and leaks waste material and staff time spent cleaning up. If there is a leak or a spill, the material should be cleaned up using the dry cleanup method, which does not use water. The steps below outline the dry cleanup method:

Step 1: Contain the spill or leak. This can be done using a berm or using plastic sheeting to cover any storm drains to which the spill or leak is traveling. This prevents the material from entering the storm drain.

Step 2: Stop the source of the spill or leak. Identify where the spill or leak is coming from and take necessary measures to stop it. If a leaky vehicle or equipment cannot be repaired immediately, place a drip pan, absorbent pads, or loose absorbent under the leak until it can be serviced.

Step 3: Clean up. Clean up the spill or leak. Absorbent pads can be used to wipe up spills, and loose absorbents can be sprinkled over the spill or leak. The loose absorbent can be worked into the spilled liquid using a non-sparking shovel or broom.

Step 4: Dispose of used absorbents. Sweep up used loose absorbents using a non-sparking shovel, broom, and/or dustpan. Absorbent materials left unattended or outside can be a safety concern and have the potential to pollute waterways. This includes paper towels, chamois, absorbent pads, and loose absorbents saturated with oil and other material. Do not place these materials in the trash. They should be placed in a container and removed by a licensed contractor.

- Used rags can be laundered and reused.
- Absorbents contaminated with any material, such as oil or gasoline, may be considered hazardous waste.
- Keeping gasoline-saturated materials separate from other materials is essential for reducing fire hazard.

If a spill or significant leak is unable to be contained and reaches a storm drain, call 911 so District of Columbia emergency personnel can stop the spill and recover the material before it reaches the storm drain.

3.2 Battery Management

3.2.1 Pollution Prevention

The cells of a lead-acid battery contain lead dioxide and a solution of sulfuric acid, which is corrosive. Lead-acid batteries are hazardous to the environment but are managed as universal waste to facilitate their recycling.

Damaged or spent batteries stored inside or outside a shop should be placed in secondary containment to prevent leaks. Outside storage should be protected from stormwater from both below and above.

Containers holding used batteries must always be labeled as “universal waste battery/batteries,” “used battery/batteries,” or “waste battery/batteries,” and should include the date when the batteries were discarded (also known as the accumulation date).

Leaking batteries must be in a rigid, leak-proof, chemically-compatible container that can contain the acid. The preferred container is made of polyethylene or other type of plastic that will not react with the acid. Keep the liquid-tight container tightly closed (plastic wrap is not acceptable). Label it as hazardous material, and mark it with the accumulation start date.

Make sure containers are serviced by an appropriate, licensed hauler and are transported under manifest to an approved recycling facility.

3.2.2 Waste Management

It is illegal to dispose of a lead-acid battery in a landfill. Contact a contractor to safely take both damaged and undamaged lead-acid batteries. It is best to keep a record of the batteries that are being recycled. Waste batteries can be kept onsite for no more than one year.⁴⁰



Place drip pans under active leaks to contain the spilled liquid.

3.3 Brake Shoe or Pad Replacement

The braking system is one of the most common wear parts on a motor vehicle. Brake pads must be replaced as they wear out. There are many new types of brake pads that are more environmentally friendly than older varieties.

3.3.1 Alternatives

Copper-Free Brake Pads. Copper in stormwater runoff can have adverse effects on fish, amphibians, invertebrates, and plants. Installing copper-free brake pads is a practice endorsed by the EPA, individual states, and the automotive industry. On January 21, 2015, EPA, states, and the automotive industry signed an agreement to reduce the use of copper and other materials in motor vehicle brake pads.⁴¹

Installing copper-free brake pads also reduces mercury, lead, cadmium, asbestiform fibers, and chromium-six salts in motor vehicle brake pads, and, in turn, will decrease runoff of these metals from roads.

40. See DOE: Proper Management of Bulbs and Batteries for Facilities and Businesses at <https://doee.dc.gov/service/proper-management-bulbs-and-batteries-facilities-and-businesses>

41. See EPA: Copper- Free Brake Initiative at <https://www.epa.gov/npdes/copper-free-brake-initiative>

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Asbestos-Free Brake Pads. While most automotive manufacturers now install asbestos-free brake components, there are still products on the market that contain asbestos. Installing asbestos-free brake pads will help reduce potential exposure and reduce the risk of developing asbestos-related diseases, such as asbestosis, lung cancer, and mesothelioma.⁴²

3.3.2 Pollution Prevention

Because asbestos and non-asbestos brake pads are not easily distinguishable from each other, employees should assume all brakes are made of asbestos, and special precautions should be taken when removing brake pads and shoes. Protecting employees from inhaling brake dust and using proper decontamination procedures are simple ways to protect the health of mechanics.

Occupational Safety and Health Administration (OSHA) regulations require commercial automotive shops that perform more than five brake or clutch jobs per week use one of the following decontamination procedures:⁴³

- **Negative-Pressure Enclosure/HEPA Vacuum System Method:** An enclosure and vacuum system has a special box with clear plastic walls or windows that fits tightly around a brake or clutch assembly to prevent asbestos exposure.
- **Low Pressure/Wet Cleaning Method:** Specially designed low-pressure spray equipment wets down the brake assembly and catches the runoff in a basin to prevent airborne brake dust from spreading in the work area.

Additional best practices to mitigate airborne asbestos fibers include laundering shop cloths using a professional auto shop laundry service – the cloths can then be reused,

limiting waste; recycling cleaning fluid, using a drip pan, and reducing the collected fluid to clean rotors and drums.

3.3.3 Waste Management

Used, broken, or unwanted asbestos brake pads are not considered hazardous waste; however, dust generated from brake cleaning and turning processes should be separated from all other wastes and properly labelled for disposal.

Labeling should read “DANGER, ASBESTOS, MAY CAUSE CANCER, CAUSES DAMAGE TO LUNGS AUTHORIZED PERSONNEL ONLY.”⁴⁴ Dust must be dampened with water and bagged with thick plastic before disposal.⁴⁵

Ensure that the waste hauler is aware and can handle disposing asbestos waste. Rags used should be laundered. Brake pads cannot be recycled and must be disposed of properly. They can be disposed of with the dust.



42. See EPA: Current Practices for Preventing Asbestos Exposure Among Brake and Clutch Repair Workers at

<https://www.epa.gov/sites/production/files/documents/brakebrochure-paginated.pdf>

43. See EPA: Current Best Practices for Preventing Asbestos Exposure Among Brake and Clutch Repair Workers at

<https://www.epa.gov/asbestos/current-best-practices-preventing-asbestos-exposure-among-brake-and-clutch-repair-workers-1>

44. See OSHA: Changes to asbestos warning signs and ANSI warning signs at

<https://www.osha.gov/laws-regs/standardinterpretations/2015-10-13>

45. See OSHA: Asbestos-Automotive Brake and Clutch Repair Work at <https://www.osha.gov/dts/shib/shib072606.html>

3.4 Coolant Flushing

3.4.1 Pollution Prevention

When draining coolant (a mixture of antifreeze and water) from vehicles, use drip pans that are designated “coolant or anti-freeze only.” Keep used coolant for recycling as clean and undiluted as possible. Do not mix coolant with used oil, solvents, or other automotive fluids. Over-diluted and contaminated used coolants cannot be recycled.

Spill response materials must be on hand in areas where coolant spills are most likely to occur. Note that automotive coolants are water-based and will not be absorbed by the same spill response materials used to trap and control spills of oil products. Common shop equipment such as a mop and wet-dry vacuum can be used to help contain and clean up a coolant spill.

3.4.2 Waste Management

Used coolants should not be drained into the sanitary or storm sewer systems. Coolant containing ethylene glycol, which is highly toxic, must be kept away from children and pets and must be cleaned promptly after spills. Coolant containing propylene glycol is much less toxic, and therefore a better choice of coolant. Regardless of toxicity, however, coolant should never be poured into any drain.

Used coolant can be collected for recycling. See Appendix 1, Local Contacts, for licensed haulers who can collect used coolant in addition to used oil. To minimize risk, store used coolant properly (sealed and labeled) and dispose of it regularly. Used coolant can be stored in an AST or small container.

3.4.3 Coolant Recycling

Commercial used coolant recycling systems are available. These systems may be economically viable for facilities that service large vehicles or fleets, or generate large quantities of used coolant. Typically, these systems filter impurities

out of the used coolant, regenerate the mixture by adding additional antifreeze, and produce a 50:50 coolant mixture ready for use.⁴⁶

3.4.4 Use of Recycled Coolants

Recycled coolant can be purchased from recycling companies, including some of those listed in Appendix 1, Local Contacts. Recycled coolant is typically delivered to the site in 55-gallon drums that contain a 50:50 mixture of water and antifreeze, ready for use in vehicles.

Use of recycled coolant rather than new antifreeze has the following advantages:

- Recycled coolant mixtures are less expensive than the equivalent amount of new antifreeze and water.
- Less effort is needed to add the recycled coolant mixture to a vehicle, as water is already added.
- Use of recycled coolant mixture reduces the likelihood of an incorrect coolant mixture.

3.5 Parts Cleaning and Lubrication

3.5.1 Alternatives

Solvents are frequently used to clean automotive parts. However, many organic solvents are toxic, pose inhalation and skin contact hazards, create environmental problems if spilled or used improperly, and must be disposed of as hazardous waste.

Instead of using solvent-based cleaning products, consider using a non-toxic alternative (See table 5).

In many cases solvents used in small shops are packaged in aerosol cans. While aerosol cans can be recycled, they must first be depressurized and all remaining contents should be drained. Residual contents may be hazardous waste.

Aerosol can management and disposal equipment is commercially available, however it is expensive to purchase and operate. The systems consist of a self-contained can

46. See EPA: Antifreeze Recycling at <https://www.epa.gov/sites/production/files/2016-02/documents/antifreeze.pdf>

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Table 5. Safer chemical alternatives to typical parts cleaning and lubrication products

APPLICATION	TYPICAL PRODUCT	ALTERNATIVE PRODUCT	BENEFITS
Degreaser	<ul style="list-style-type: none"> • Petroleum-based solvents • Chlorinated solvents 	<ul style="list-style-type: none"> • Water-based cleaners or EPA Safer Choice products (pick “degreaser” at EPA Safer Choice Website https://www.epa.gov/saferchoice/products) • Steam Cleaner • Parts washer with cleaning fluid that is non-solvent or water based 	<ul style="list-style-type: none"> • Non-toxic alternative/ safer for employees • Non-hazardous waste alternative • Cheaper to dispose of
All-purpose lubrication or corrosion inhibitor	<ul style="list-style-type: none"> • Petroleum-based all-purpose cleaner/ corrosion inhibitor • Product with aliphatic hydrocarbons 	<ul style="list-style-type: none"> • Plant-oil based • Free of Aliphatic hydrocarbons • Biodegradable • Reusable, pressurized aerosol cans • Non-Aerosol and low-VOC products 	<ul style="list-style-type: none"> • Non-toxic alternative/ safer for employees • Non-Hazardous waste alternative • Cheaper to dispose of

puncturing and collection system. The cans are punctured to depressurize them and allow the contents to drain. The cans are then stored for recycling while the residual contents are collected for disposal.⁴⁷

As an alternative to aerosol cans, consider using self-contained parts washers. These parts washers typically use a non-solvent or waterbased cleaning fluid that is less hazardous to human health and the environment and less expensive to dispose of. Parts washers reduce or eliminate the need for spray cans of solvents.

Steam cleaners are another option to replace solvent-based parts cleaners. The heat from the steam removes grease and other contaminants from parts without the use of any form of cleaner, either solvent or water based. The condensed steam and contaminants must be collected and properly handled for disposal but waste is generally a much lower volume than other options.

In addition, reusable pressurized aerosol cans can be used. The sprayer is pressurized using an air compressor. Using reusable aerosol cans requires no propellant and saves product and disposal costs. Refilling from bulk packaging further reduces waste.

Similarly, lubricants are often used in aerosol form while fixing and replacing parts. Aerosol spray cans contain product and propellant under pressure that can be dispensed as a spray, mist, or foam.

Find alternative products at: [epa.gov/saferchoice](https://www.epa.gov/saferchoice)

3.5.2 Pollution Prevention

If stored outside, used aerosol cans should be placed in closed containers and covered to prevent contact with stormwater.

47. See Environmental Law Institute: Considering the Fate of Consumer Aerosol Cans at <https://www.eli.org/sites/default/files/eli-pubs/aerosol-can-retail-sector-final.pdf>

3.5.3 Waste Management

Most aerosol cans are made of recyclable steel or aluminum and can be managed as scrap metal when empty and depressurized. When a shop needs to dispose of aerosol cans:

1. If the can has no liquid in it, recycle the can
 - a. so long as the propellant is not hazardous and
 - b. if the shop recycling hauler takes aerosol cans.
3. If the recycling hauler does not take them, the empty cans may be put in the trash.
4. If the can has liquid in it, the shop must determine if the liquid is a hazardous waste. Cans containing hazardous waste can be disposed of
 - a. via a hazardous waste hauler, or
 - b. may be punctured and drained of the residual waste prior to recycling. The liquid waste must be stored in a closed container which must be disposed of via a hazardous waste hauler. Do not mix different types of waste chemicals in one container. Label the container with its contents.

Defective products should be returned to the retailer or manufacturer for refund or replacement. Most manufacturers will send a replacement for free if the can is defective.

3.6 Tire balancing, Patching, and Replacing

3.6.1 Alternatives

The most effective way to reduce tire waste is to extend the life of clients' tires by keeping them properly balanced, inflated, and aligned. The longer tires last, the less tire waste is generated.

Make additional reductions in pollution by changing the amount and type of product used to repair tires. Switching to non-lead wheel weights and non-spray adhesives will help protect employee health, reduce the amount of hazardous waste generated, and is better for the environment.

3.6.2 Waste Management

Used or unwanted lead wheel weights can be sold for recycling. See Appendix 1, Local Contacts, for some local scrap metals dealers.

Used tire storage can create environmental and health hazards. Tires stored outdoors will collect rainwater and the tires could become breeding areas for mosquitos. Used tires may also have pollutants, such as brake dust and lead, on them that could get washed off into District waterways.

The tires can also harbor insects and rodents. Finally, in

Table 6. Safer chemical alternatives to tire balancing, patching, and replacement

APPLICATION	TYPICAL PRODUCT	ALTERNATIVE PRODUCT	BENEFITS
Tire balancing	• Lead wheel weights	• Aluminum, steel, zinc, and other non-lead wheel weights	• Hazardous waste source reduction • Reduce risk of lead poisoning • Long-term cost savings
Tire Patching	• Solvent-based adhesives • Cyanoacrylate (CA) adhesives • Spray-adhesives	• Water-based or brands that use nontoxic solvents • Non-spray adhesives	• Lower toxicity • Improved respiratory health • Cleaner air

VEHICLE MAINTENANCE

Did You Know?

It is the shop's responsibility to verify that its used tire hauler is licensed in the District and is properly disposing of its tires. Failure to do so could result in an initial fine of \$500.

It is fairly common for unlicensed haulers to illegally dump tires in order to avoid disposal costs. This was the case for the tires in the photo to the right, which were dumped under the Benning Road Bridge, a few yards from the Anacostia River in the District.

The District of Columbia Department of Consumer and Regulatory Affairs (DCRA) has an online database where a hauler's business license can be verified. It can be found at: <https://eservices.dcra.dc.gov/BBLV/Default.aspx>

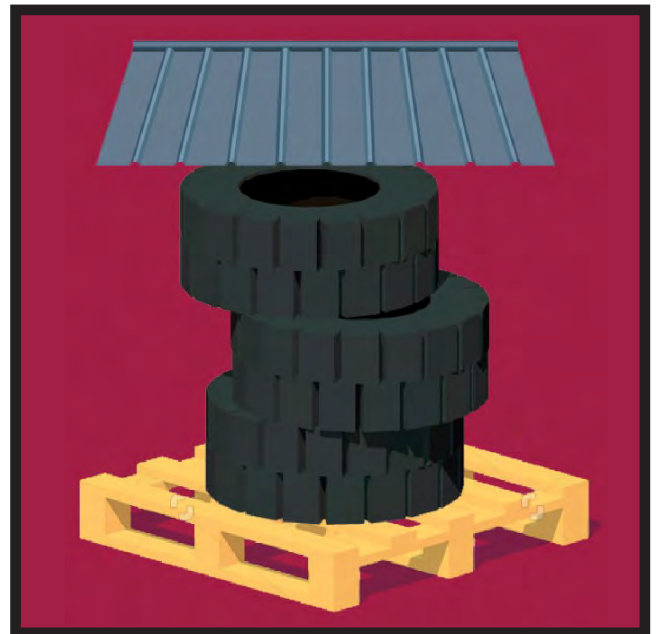


the event of a fire, tires will burn. Tire fires are extremely hot, difficult to extinguish, and release large amounts of hazardous substances to the environment.

Best management practices have been established to eliminate these hazards:⁴⁸

1. Store as few tires as possible at the shop.
2. Make sure tires are hauled away on a regular basis.
3. Tires should not be stored directly on the ground. Instead, store tires on metal tire racks.
4. Store tires indoors or keep the tire pile covered to prevent rainwater from collecting (e.g. with a tarp).
5. Maintain access around the tire pile at all times.

An operational permit is required to establish, conduct or maintain storage of scrap tires and tire byproducts that exceeds 2,500 cubic feet of total volume of scrap tires and for indoor storage of tires and tire byproducts (roughly 925 tires).⁴⁹ Shops can apply for an operational permit from FEMS at <https://fems.dc.gov/service/operational-permits>.



Used tires stored outside should be elevated off the ground and covered using a tarp or roof to prevent rain from washing

48. See Tire Industry Association: Best Management Practices for Tire Storage at <https://www.tireindustry.org/sites/default/files/files/BMP-Storage-1113.pdf>

49. See DCMR: 12H Fire Code Supplement at https://os.dc.gov/sites/default/files/dc/sites/os/publication/attachments/OS_DCMR_12H_Fire_Code_Supplement.pdf

Used tires must be picked up by a licensed hauler. Appendix 1, Local Contacts, lists licensed used tire haulers in the Metropolitan Washington area.

When checking tires for leaks, make sure the tire leak wash water is stored inside. Reuse the wash water if using a bucket system and dispose of the waste water into the sanitary sewer, especially if it contains soap or other products. If there is ever a question of what can or cannot go into the sanitary sewer, contact DC Water (see Appendix 1, Local Contacts).⁵⁰

3.7 Air Bags

Safe disposal of airbags is a prime environmental concern for all airbags, not just those deployed in accidents. There have been many recent airbag recalls in the automotive industry, which have left an estimated 34 million vehicles in need of airbag replacement. Undeployed airbags are explosive devices and must be disposed of safely and properly.⁵¹

Airbags and related components:

- Airbag inflators
- Airbag inflators with compressed gas
- Airbag inflators, pyrotechnic
- Airbag modules
- Seat belt pretensioners
- Mercury containing tilt switches (accelerometers)

The recycling process for airbags and their components recovers scrap metal, plastic, and scrap nylon, while safely managing detonation and disposal of charge units in compliance with state and federal regulations.

Use a licensed recycling company to recycle air bags and dispose of hazardous components properly.

3.8 Vehicle Washing

Washing vehicles regularly helps keep them looking good and operating at their best, but can be harmful to the environment if wash water is allowed to enter storm drains. Two thirds of the District of Columbia drains directly into local streams with little or no treatment. Under the Clean Water Act, untreated wash water is prohibited from entering storm drains in the District unless it is from a personal vehicle that is being washed at home. This helps to protect the health of our residents, waterways, and wildlife from detergents, heavy metals, dirt, and other pollutants found in wash water.

There are many environmentally safe ways to wash vehicles. They include the following elements:

1. **Minimize** the amount of wash water produced.
2. **Capture and Collect** wash water to prevent it from entering storm drains.
3. **Treat** wash water by diverting it to the sanitary sewer or a treatment facility.



The District's Soapstone Creek became sudsy after wash water entered a storm drain.

50. See DC Water: Contact Information at <https://www.dewater.com/contact>

51. EPA considers the airbags and the related components, if discarded, to be a hazardous waste because they generally meet both the reactivity and ignitability hazardous waste characteristics. See EPA: Regulatory Status of Automotive Airbag Inflators and Fully Assembled Airbag Modules at https://www.epa.gov/sites/production/files/2018-08/documents/airbags_memo_signed_7-19-18.pdf

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3.8.1. Alternatives

Waterless car wash products allow vehicles to be washed without water. These products use sprays that are applied and wiped off using chamois, towels, or sponges.

Take the vehicles to a car wash or hire a company to come wash the vehicles onsite. Car washes are closely monitored for environmental compliance and are tied into the sanitary sewer, to which the wash water goes to be treated. Mobile washing services are a convenient option that allows vehicles to be washed onsite, but a shop must make sure the company uses water recovery to collect the wash water for treatment offsite.

3.8.2. Pollution Prevention

If the shop washes vehicles infrequently, there are generally two options that can be used to wash vehicles on site. Any option that is used should prevent wash water from getting into the stormdrain and should use biodegradable soap.



Stop wash water from getting into storm drains when hosing down equipment or washing vehicles. Use a wet vacuum or spray-and-wipe cleaner instead.

Option 1: Wash on grassy areas where wash water will soak into ground. For this method to be effective, wash water must not run off the grassy area into the road or stormdrain. Try to minimize the amount of water used during washing. Spray wands and nozzles with pull-triggers will automatically shut the water off and reduce the amount of water used.

Option 2: Stop the wash water from getting into the storm drain (e.g. block the drain with a drain blocker), use a wet-vacuum to collect it, and dispose of the collected wash water down a sink or other existing sanitary sewer connection.

3.9 Bodywork

Automotive bodywork can generate hazardous, toxic air emissions in the shop that can harm worker health. Body shops regularly use harmful chemicals that workers can be exposed to including:

- Isocyanates, a common ingredient in automotive paints, the top chemical cause of asthma in the workplace.⁵²
- Organic solvents, such as toluene and ethylbenzene, which have been linked to numerous health effects, such as cancer, liver and kidney disease, and reproductive damage.⁵³
- Heavy metals, such as hexavalent chromium and lead found in paints, which can cause lung cancer and nerve and brain damage.⁵⁴

There are a number of ways to reduce worker exposure to these chemicals, by managing and reducing that amount and toxicity of the volatile organic compounds (VOCs) and dust that painting and sanding operations can emit. The federal government provides resources to help shops implement best management practices to reduce health hazards and improve air quality, including:

1. **EPA Collision Repair Campaign to Reduce Air Toxics:**
<https://www.epa.gov/collision-repair-campaign>

52. See OSHA: Autobody Repair and Refinishing: Hazards and Solutions <https://www.osha.gov/SLTC/autobody/hazards.html>

53. See OSHA: Solvents at <https://www.osha.gov/SLTC/solvents/index.html>

54. See EPA: Collision Repair Campaign to Reduce Air Toxics at <https://www.epa.gov/collision-repair-campaign>

2. **U.S. Occupational Safety and Health Administration (OSHA)** Autobody Repair and Refinishing – Hazards and Solutions site: www.osha.gov/SLTC/autobody/hazards.html
3. **U.S. Center for Disease Control (CDC)** Control of Paint Overspray in Autobody Repair Shops site: www.cdc.gov/niosh/docs/hazardcontrol/hc2.html

The following guidance summarizes some, but not all, of the best management practices for bodywork that reduce pollution. Shops with surface prep, detailing, and painting operations are encouraged to explore the resources listed above to access a full set of requirements and practices, such as the types of personal protective equipment (gloves, air purifying respirators (APRs), coveralls, etc.) required to ensure worker safety.

3.9.1 Alternatives

Use mechanical paint stripping when possible. Use solvent paint strippers only when necessary. Waterborne basecoats, paints, and finishes are primarily made out of water, with a much smaller percentage of solvent than typical solvent-based products. Waterborne painting products can increase a shop's productivity. They require fewer coats, can reduce insurance costs because they are not flammable, and reduce VOCs, which can make it easier to comply with air quality requirements. Switching to waterborne basecoats, paints, and primers requires an initial investment for booth modifications and painter training on how to work with the new product, but the investment pays off.⁵⁵

Use fillers and surface preparation products that do not contain metals such as lead and zinc. Use aqueous or low-VOC cleaning products. Find more resources at EPA's Safer Choice website: www.epa.gov/saferchoice/automotive-refinishing-safety-information

3.9.2 Pollution Prevention

Keep all painting and sanding areas clean by wiping them down with solvents and consistently vacuuming areas used for sanding to minimize dust. Proper ventilation in these areas is key to containing vapors and dust from painting and sanding operations. Ventilation filters should be changed regularly according to manufacturers' recommendations. Filter technology should be installed on all spray booths, stations, or enclosures to achieve at least 98% capture efficiency.⁵⁶

Section 2.2, Air Regulations, (p. 6) has additional information on painting booth requirements, including how to apply to DOEE for an Air Quality Permit for a booth.

To prevent waste when painting, mix only the amount of coating needed for the job. Computerized mixing systems make it easier to mix small batches accurately. Whenever possible, store and reuse any remaining primers and basecoats that are left over from painting operations. Spray-applied coatings must be applied with a high volume, low pressure (HVLV) spray gun, electrostatic application, airless or air-assisted airless spray gun, or an equivalent technology. HPLV spray guns, or guns that provide a similar transfer efficiency (percentage of paint used that sticks to the vehicle), cut paint overspray in half.⁵⁷

Set spray guns to the correct pressure at the gun tip, and make sure the compressor is capable of delivering enough pressure to the spray gun and other shop equipment. Clean spray guns prior to use to avoid contamination and to prolong the life of the gun. Clean spray guns after use with an automated spray gun cleaner that reuses solvents. Train all painters on spray gun equipment selection, spray techniques, maintenance, and environmental compliance.

55. See EPA: Using Waterborne Basecoats in Collision Repair Shops: A Case Study at https://www.epa.gov/sites/production/files/2013-12/documents/auto_refinishing_waterborne_basecoats.pdf

56. See EPA: Summary of Regulations Controlling Air Emissions from Paint Stripping and Miscellaneous Surface Coating Operations at https://www3.epa.gov/airtoxics/area/paint_stripb.pdf

57. See CDC: Control of Paint Overspray in Autobody Repair Shops at <https://www.cdc.gov/niosh/docs/hazardcontrol/hc2.html>

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Paints, basecoats, primers, and other materials used for painting and sanding operations should be stored properly. Follow all best management practices for painting supplies that are hazardous materials (see section 2.1, Hazardous Waste, Universal Waste, and Used Oil Regulations, p. 2). Paint containers should be kept properly closed when not in use, and stored inside a heated building to prevent spills and freezing.

3.9.3 Waste Management

Much of the waste created by bodywork contains toxics and heavy metals, or has properties that classify the waste as hazardous. For these reasons, follow all best management practices for bodywork waste that is hazardous (see section 2.1, Hazardous Waste, Universal Waste, and Used Oil Regulations, p. 2).

Separate and dispose of the sanding dust as hazardous waste if the dust contains metals, and collect used solvents and have them regularly picked up for disposal by a licensed hazardous waste hauler.

The District of Columbia's Paint Stewardship Act of 2014 requires paint manufacturers to collect and reuse, recycle, or safely dispose of leftover paint.⁵⁸ Paint retailers in the District accept leftover paint at their locations and will pick up large volumes of paint from businesses. Find more information, including retailer information and the types of paints accepted, at: <https://www.paintcare.org/paintcare-states/district-of-columbia>



58. See DOEE: Paint Stewardship at <https://doee.dc.gov/paint>

CHAPTER 4. FACILITY MAINTENANCE

4.1 Energy and Lighting

4.1.1 Alternatives

With impacts of climate change already being felt in the District, it is critically important that more is done to reduce the Greenhouse Gas (GHG) emissions that cause climate change, reduce overall energy consumption, and increase the use of renewable energy.

The District of Columbia has adopted forwardlooking energy policies to achieve greenhouse gas (GHG) emissions targets for 2032, while encouraging innovation, efficiency, and resiliency.⁵⁹ Learn more about what the District plans to do at <https://doee.dc.gov/cleanenergydc>.

DOEE offers financial incentives for installing energy-saving measures and switching to more sustainable sources of energy. Installing these measures will help reduce energy costs and reduce a shop's environmental impact.

DOEE energy programs for businesses include:

- **Energy Choice DC:** Helps bundle collective electricity demand to create more opportunities to secure a more affordable, reliable, and sustainable electricity option. <https://doee.dc.gov/node/16832>
- **DC Sustainability Energy Utility (DCSEU):** Helps District businesses save energy and money through energy efficiency and renewable energy programs. www.dcseu.com
 - a. Receive instant rebates at District of Columbia Certified Business Enterprise (CBE) distributors
 - b. Apply for standard rebates
 - c. Work with a DCSEU Account Manager to receive a custom analysis and explore rebate opportunities
- **DC Green Bank:** Provides financing for energy efficiency or renewable energy projects. dcgreenbank.org

- **Property Assessed Clean Energy (PACE):** Provides affordable, long-term funding for building upgrades that reduce utility bills and operating expenses.

dcpace.com

4.1.2 Pollution Prevention

Conserve energy when possible. There are many systems in shops that use energy, from lighting to heating and cooling systems. These BMPs are recommended to reduce energy use:⁶⁰

1. Apply stickers to light switches or post a sign by the door to remind users to turn off the lights after use. Motion sensor switches can be installed that will turn the lights on when a person enters a room and turn the lights off if there has been no activity in the room for a short period of time. These occupancy sensors can reduce lighting costs by up to 40%.
2. Heating systems use significant amounts of energy. To conserve energy, keep overhead doors closed when possible during heating or cooling season. Use automatic set-back thermostats to reduce the amount of heating or cooling energy used when the shop is closed.
3. In the summer, set the thermostat to 78 degrees when the shop is occupied, and 85 degrees or off after business hours. In the winter, set the thermostat to 68 degrees when the shop is occupied, and 60-65 degrees or off after business hours. Up to 3% of the utility bill can be saved for each degree the thermostat is raised in the summer and lowered in the winter.
4. Maintain the HVAC system. Perform regular maintenance to keep heating and air conditioning systems running more efficiently. Using ceiling or room fans improves air circulation.
5. Turn off office equipment or set it to "power down" when not in use. Setting computers, monitors, and copiers to use sleep-mode when not in use helps

59. See DOEE: Clean Energy DC at <https://doee.dc.gov/cleanenergydc>

60. See DOEE: Energy Tips for Commercial Buildings at <https://doee.dc.gov/service/energy-tips-commercial-buildings>

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cut energy costs by approximately 40%. Remember to turn equipment off at the end of the workday.

6. Weatherize buildings. Install awnings, solar shade screens or sun-control film for windows and apply a heat-blocking coating to the roof. On hot days, draw the curtains and/or shades to keep the sun out. Remember to close doors to the outside to keep in cooler air.
7. Convert hallway and non-public security lighting to energy-saving 25-watt T12 fluorescent bulbs. Convert TV surveillance cameras to newer equipment, which may not require floodlighting.

4.1.3 Waste Management

Used fluorescent and compact fluorescent light bulbs are considered universal waste (see Section 2.1). Carefully place

used bulbs in a sealed, rigid container. Bags are not allowed. The rigid container must be labeled to identify its contents and include the date it became waste. Use the following labeling terms: “Universal Waste – Lamps,” “Used Lamps,” or “Waste Lamps.” Labels calling them tubes or bulbs are not compliant with RCRA Subpart C regulations.⁶¹

Waste bulbs may be stored onsite for up to one year and should be disposed of using a licensed universal waste handler. See Appendix 1, Local Contacts, for local handlers. Incandescent and LED lamps may be placed in the trash.

Any broken or crushed florescent or compact florescent light bulbs are typically considered hazardous waste because they contain traces of mercury. Avoid breaking these bulbs, and if they become broken follow EPA’s recommendations for cleanup at www.epa.gov/cfl/cleaning-broken-cfl.

Table 7. Alternative products to reduce energy use

APPLICATION	TYPICAL PRODUCT	ALTERNATIVE PRODUCT	BENEFITS OF ALTERNATE PRODUCT
Lighting	<ul style="list-style-type: none"> Incandescent blubs Fluorescent blubs 	<ul style="list-style-type: none"> LED bulbs 	<ul style="list-style-type: none"> Reduced energy and bulb replacement costs LEDs are not universal waste
Vacuuming	<ul style="list-style-type: none"> Gas/ diesel shop vacuum 	<ul style="list-style-type: none"> Energy efficient shop vacuum 	<ul style="list-style-type: none"> Reduced energy costs
Air compressors	<ul style="list-style-type: none"> Conventional air compressor equipment 	<ul style="list-style-type: none"> Energy-efficient air compressor equipment 	
Heating and air conditioning	<ul style="list-style-type: none"> Typical HVAC system 	<ul style="list-style-type: none"> Energy efficient HVAC system 	
Vending machines	<ul style="list-style-type: none"> In use 24 hours 	<ul style="list-style-type: none"> Plug-loaded occupancy sensor 	
Bay heating	<ul style="list-style-type: none"> Used oil / used solvent heater 	<ul style="list-style-type: none"> Energy efficient HVAC system 	<ul style="list-style-type: none"> Legal to use in the District (used oil heaters are illegal)

61. See DOE: Proper Management of Bulbs and Batteries for Facilities and Businesses at <https://doee.dc.gov/service/proper-management-bulbs-and-batteries-facilities-and-businesses>

4.2 Solid Waste and Recycling

4.2.1 Alternatives

Table 8 (below) lists products being used and suggests alternatives, which should have been identified in the Baseline Inspection.

4.2.2 Pollution Prevention

Improving general housekeeping practices is often the easiest and least expensive way to reduce waste and prevent pollution. Good housekeeping includes good inventory control and efficient operating procedures.

Here are some housekeeping tips:

1. Keep storage and work areas clean and well organized, and keep all containers properly labeled and closed.
2. Inspect materials upon delivery, and immediately return unacceptable materials to the supplier.
3. Rotate stock to minimize waste from expired materials. Mark the purchase with a date on each container and adopt a “first in, first out” policy so that older materials are used up before new ones are opened.
4. Keep accurate records of material usage so that reductions can be measured.
5. Regularly inspect outdoor waste containers to

Table 7. Alternative products to reduce solid waste

APPLICATION	TYPICAL PRODUCT	ALTERNATIVE PRODUCT OR PRACTICE	BENEFITS
Packaging	<ul style="list-style-type: none"> • Individually wrapped products • Cardboard boxes 	<ul style="list-style-type: none"> • Buy in bulk to reduce packaging • Reusable containers 	<ul style="list-style-type: none"> • Minimize waste • Reduce costs
Office supplies	<ul style="list-style-type: none"> • Plastic binders • Disposable pens • Paper made from virgin product • Standard cleaning products 	<ul style="list-style-type: none"> • Cardboard or metal binders • Refillable pens • Electronic bills and receipts • Paper products made with recycled content • Print double-sided • Non-toxic cleaning products. Find a list at www.epa.gov/SaferChoice/products 	<ul style="list-style-type: none"> • Reduce solid waste and the amount of trash that goes to landfills
Food and drink	<ul style="list-style-type: none"> • Single-use cups • Disposable water bottles 	<ul style="list-style-type: none"> • Water cooler/pitcher • Reusable cups • Buy in bulk • Compost food and napkins 	<ul style="list-style-type: none"> • Reduce material to the landfill • Reduces costs
Restrooms	<ul style="list-style-type: none"> • Paper towels and toilet paper made from virgin paper • Regular faucet • Standard cleaning products and hand soaps 	<ul style="list-style-type: none"> • Products made with recycled content • Hand dryer • Motion-activated faucet • Non-toxic and sustainable cleaners and hand soaps. Find a list at www.epa.gov/SaferChoice/products 	<ul style="list-style-type: none"> • Reduce solid waste and the amount of trash that goes to landfills • Reduce water use



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- ensure they are kept closed and serviced when full.
6. Do not dispose of liquids in waste bins and keep outdoor bins covered to prevent liquids from collecting and leaking.
 7. Train personnel to use the minimum amount of material to get the job done.

4.2.3 Waste Management

Shops are encouraged to reduce the amount of waste they produce with the ultimate goal of having a zero waste shop. Many of the materials used at a shop are recyclable, compostable, or can be replaced by a recyclable or compostable product. To find out how to recycle items not listed in this report and to find resources, such as recycling signs, visit: zerowaste.dc.gov.

Waste and recycling haulers should service the shop on a regular schedule and with enough frequency that collection containers do not become full and overflow. To prevent litter, shops can request their haulers remove any waste that spills on the ground during collection. Shops can also work with their haulers to set a process through which shops can make additional service requests when needed.

4.3 Fire Extinguishers

Fire extinguishers are necessary safety equipment in any facility, and must match the types of fuels anticipated at a facility.

Using an incorrect fire extinguisher may result in spreading the fire, placing additional persons and property at risk for harm. Improper fire extinguisher use may also result in additional pollution from runoff and cleanup of the contents.

All fire extinguishers have a useful life. Fire extinguishers should be inspected monthly to ensure they remain in working order.⁶² Inspection labels must be kept up to date. Promptly replace expired fire extinguishers. A schedule for routine inspections should be developed and followed to

identify extinguishers that need to be replaced.

4.3.1 Waste Management

Fire extinguishers must be properly emptied and recycled. Contact the fire extinguisher supplier or the local fire department to identify other disposal options.

The District of Columbia's Fire and Emergency Medical services (FEMS) can provide advice on the proper handling of a fire extinguisher and locations for disposal. FEMS can be reached at (202) 673-3320, info.fems@dc.gov, or fems.dc.gov.

4.4 Oil/Water Separators

In many shops Oil/Water Separators (OWS) are installed as equipment used to separate oil and water mixtures into separate components. OWS allow for treatment of vehicle and floor wash water by allowing substances lighter than water to float and substances heavier than water to sink.

4.4.1 Pollution Prevention

Eliminate contaminants: Don't rely on the OWS to handle wash water from fuel, coolant, solvent, oil, or paint spills. Instead, clean up spills when and where they occur with dry methods (see Section 3.1.5 Spill and Leak Response).

Wash without detergents: Antifreeze, degreasers, and detergents will emulsify (break up) oil into small droplets so the oil doesn't float to the surface. These make OWS ineffective, as oil passes right through to the sewer. High pressure water or non-emulsifying cleaners are sufficient for most cleaning applications.⁶³

Minimize loading: Minimize the amount of solids and oils that enter your OWS. The less solids and oils that reach the OWS, the less frequently sludge and floating oil must be removed from the OWS and the better it will work. Also, minimize the amount of wash water reaching the OWS.

62. See OSHA: Portable Fire Extinguishers at https://www.osha.gov/SLTC/etools/evacuation/portable_required.html

63. See EPA: Oil/Water Separators at <https://www.epa.gov/sites/production/files/2016-02/documents/separator.pdf>

Excessive water flow can flood an OWS, forcing wastewater through it too fast to allow separation; the result: oil and other contaminants pass right through to the sewer. OWSs should not be used to treat storm water runoff.

Self-inspections: OWS should be inspected twice a year and after major storms to ensure that it is functional and oil pollution is not going into the sewer.

4.4.2 Waste Management

To ensure that the OWS is functional, the structure needs to be maintained. This should be done at a minimum of once a year or when sludge accumulates to 8 or more inches or oil on top is 2 or more inches deep.⁶⁴ Additionally the OWS should be maintained after a major oil spill impacting the OWS tank capacity.

There are companies that specialize in pumping out

and cleaning OWS. These companies can be found with companies that conduct “**Tanks – Cleaning.**” These vendors have special vacuum trucks that pump out materials with the consistency of anything from liquid slurry to solid dirt. The bulk liquid is shipped to a licensed treatment facility where the oils, solids and heavy metals are treated and removed from the water before being discharged to the sewer.

Businesses should choose a licensed vendor, making sure that its equipment is right for the situation. Some equipment requires incoming sludge to be a pumpable slurry. A lot of water may be needed to break up compacted sludge and to rinse out the truck’s tank at the treatment facility. Both steps will involve extra time and expense. Make sure the vendor vacuums out all of the sludge in each chamber. Ensure the vendor provides a manifest or proof to document when the OWS was maintained.

64. See King County: Fact Sheet: The Oil/Water Separator How to select and maintain an oil/water separator at https://www.kingcounty.gov/~media/services/environment/wastewater/industrial-waste/docs/TechAssistance/OilWaterFS_0115.ashx?la=en

APPENDIX

APPENDICES

Appendix 1: Local Contacts

Resources are available to help develop and implement a program that will meet a shop's individual needs.

Table A-1. Recycling, Hazardous Waste Collector, Spill Reporting, and Technical Support Contact Information

RESOURCE	CONTACT NAME	CONTACT INFORMATION	NOTES
Commercial Recycling	District of Columbia Department of Public Works (DPW)	Recycling Hotline: (202) 645-8245 Commercial Recycling Website: dpw.dc.gov/service/commercial-recycling	
Hazardous Waste Collector and Used Oil Collectors/ Recyclers	EPA Enforcement and Compliance History Online (ECHO)	All legal haulers will have an EPA ID, even if they are from outside of DC	All legal haulers will have an EPA ID, even if they are from outside of the District
Trash and Tire Haulers	Department of Consumer and Regulatory Affairs (DCRA) Business License Verification	go to https://eservices.dcra.dc.gov/BBLV/Default.aspx , and search for the hauler, or navigate to the "Solid Waste Collection" category for a list of licensed haulers in the District	
Lead and other Scrap Metal Dealers	DCRA Business License Verification	go to https://eservices.dcra.dc.gov/BBLV/Default.aspx and search for the company's name or address	Make sure to get proof of payment for lead and other heavy metal. \$20 for 'scrap metal' is not enough, shops will need to show how they recycled or disposed of heavy metals.
Laundry Services	DCRA Business License Verification	go to https://eservices.dcra.dc.gov/BBLV/Default.aspx and search for the company's name or address	
Spill response when a spill cannot be controlled or enters a public stormdrain	District Emergency Responders: FEMS and DOEE	911	
Spill Reporting a. Spill/leak is on land b. Spill/leak gets into a waterway or stormdrain c. Spill or leak into the MS4 d. Spill or leak into the CSS	a. Homeland Security b. US Coast Guard c. DOEE d. DC Water	a. (202) 727-6161 b. 1-800-424-8802 c. (202) 535-2645 d. (202) 612-3400	
Free Technical Support	GreenWrench	(202) 645-4231 clara.elias@dc.gov	

Appendix 2: Resources

A2.1 Government of the District of Columbia

A2.1.1 Department of Energy and Environment (DOEE)

1. DOEE. Phone: (202) 535-2600, email: doee@dc.gov, webpage: <https://doee.dc.gov/>
2. Apply for an Air Pollutant Permit. <https://doee.dc.gov/service/airpermits>
3. Asbestos Laws and Regulations. <https://doee.dc.gov/service/asbestos-laws-and-regulations>
4. Clean Energy DC. <https://doee.dc.gov/cleanenergydc>
5. DC Green Bank. <https://dcgreenbank.org/>
6. District of Columbia Sustainable Energy Utility (DCSEU). www.dcseu.com/commercial-and-multifamily
7. Energy Choice DC. <https://doee.dc.gov/node/16832>
8. Energy Tips for Commercial Buildings. <https://doee.dc.gov/service/energy-tips-commercial-buildings>
9. Fines and Enforcement - Office of Enforcement and Environmental Justice. <https://doee.dc.gov/oej>
10. GreenWrench Technical Assistance Program. <https://doee.dc.gov/service/greenwrench>
11. GreenWrench Pollution Source Reduction Calculator available for download. <https://doee.dc.gov/service/greenwrench>
12. Key Responsibilities of UST Stakeholders. <https://doee.dc.gov/service/key-responsibilities-ust-stakeholders>
13. Paint Stewardship. <https://doee.dc.gov/paint>
14. Property Assessed Clean Energy (PACE). dcpace.com
15. Proper Management of Bulbs and Batteries for Facilities and Businesses. <https://doee.dc.gov/service/proper-management-bulbs-and-batteries-facilities-and-businesses>
16. Solar for All. <https://doee.dc.gov/node/9342>
17. Stormwater Pollution Prevention for Automotive Repair Shops. <https://doee.dc.gov/sites/default/files/dc/>

[sites/ddoe/event_content/attachments/Prevent Stormwater Pollution-Practices and Regulations Sept2016.pdf](https://doee.dc.gov/sites/default/files/dc/sites/doee/publication/attachments/Prevent%20Stormwater%20Pollution-Practices%20and%20Regulations%20Sept2016.pdf)

18. Summary of Hazardous Waste Generator Status Options. <https://doee.dc.gov/publication/summary-hazardous-waste-generator-status-options>
19. Underground Storage Tank Laws and Regulations. <https://doee.dc.gov/publication/underground-storage-tank-laws-and-regulation>
20. Water Pollution Control Act of 1984 at <https://doee.dc.gov/publication/water-pollution-control-act-1984>
21. Water Quality Regulations. <https://doee.dc.gov/service/water-quality-regulations>
22. Zero Waste DC. <https://zerowaste.dc.gov/>

A2.1.2 Other District Agencies

1. Department of Public Works (DPW). Phone: (202) 673-6833, email: dpw@dc.gov, webpage: <https://dpw.dc.gov/>
2. District of Columbia Municipal Regulations and Registrar. <https://os.dc.gov/page/dc-municipal-regulations-and-register>
3. Fire and Emergency Medical services (FEMS). Phone: (202) 673-3320, email: info.fems@dc.gov, webpage: <https://fems.dc.gov/>
 - Operational Permits. <https://fems.dc.gov/service/operational-permits>
 - Fire Code Supplement. DCMR 12H. https://os.dc.gov/sites/default/files/dc/sites/os/publication/attachments/OS_DCMR_12A_Building_Code_Supplement.pdf
4. Hazardous Waste Management – Standards for the Management of Hazardous Waste and Used Oil (Chapter 20-42) and Administration and enforcement (Chapter 20-43). <https://dcregs.dc.gov/Common/DCMR/ChapterList.aspx?TitleNum=20>
5. Recycling Regulations. <https://dpw.dc.gov/sites/default/files/dc/sites/dpw/publication/attachments/>



APPENDIX

[DC Recycling Regulations%202061.pdf](#)

6. Schedule of Fines for Violations of the Litter Control Administration Act. <https://dpw.dc.gov/sites/default/files/dc/sites/dpw/publication/attachments/24-1380.pdf>

A2.2 United States Environmental Protection Agency (EPA) <https://www.epa.gov/>

1. Antifreeze Recycling. <https://www.epa.gov/sites/production/files/2016-02/documents/antifreeze.pdf>
2. Best Workplace Practices for Automotive Repair and Fleet Maintenance. <https://www.epa.gov/saferchoice/best-workplace-practices-automotive-repair-and-fleet-maintenance>
3. Cleaning up a broken CFL. www.epa.gov/cfl/cleaning-broken-cfl
4. Collision Repair Campaign to Reduce Air Toxics. <https://www.epa.gov/collision-repair-campaign>
5. Copper- Free Brake Initiative. <https://www.epa.gov/npdes/copper-free-brake-initiative>
6. Current Best Practices for Preventing Asbestos Exposure Among Brake and Clutch Repair Workers. <https://www.epa.gov/asbestos/current-best-practices-preventing-asbestos-exposure-among-brake-and-clutch-repair-workers-1>
7. Final 2015 MSGP Documents. <https://www.epa.gov/npdes/final-2015-msgp-documents>
8. Is my Facility a “Qualified Facility” under the SPCC Rule? <https://www.epa.gov/oil-spills-prevention-and-preparedness-regulations/my-facility-qualified-facility-under-spcc-rule>
9. Learn the Basics of Hazardous Waste. <https://www.epa.gov/hw/learn-basics-hazardous-waste>
10. Learn the Basics of Hazardous Waste: What is a Hazardous Waste? www.epa.gov/hw/learn-basics-hazardous-waste#hwid
11. Oil Spills Prevention and Preparedness Regulations. <https://www.epa.gov/oil-spills-prevention-and-preparedness-regulations>

[preparedness-regulations](#)

12. RCRA Civil Penalty Policy. <https://www.epa.gov/sites/production/files/documents/rcpp2003-fnl.pdf>
13. Regulatory Status of Automotive Airbag Inflators and Fully Assembled Airbag Modules. https://www.epa.gov/sites/production/files/2018-08/documents/airbags_memo_signed_7-19-18.pdf
14. Safer Choice Program. www.epa.gov/saferchoice
15. Single Horizontal Cylindrical Tank inside a rectangular or square dike or berm worksheet. https://www.epa.gov/sites/production/files/2014-05/documents/example_autoservice_single_horizontal.pdf
16. Stormwater Discharges from Industrial Activities. <https://www.epa.gov/npdes/stormwater-discharges-industrial-activities>
17. Summary of Regulations Controlling Air Emissions from Paint Stripping and Miscellaneous Surface Coating Operations. https://www3.epa.gov/airtoxics/area/paint_stripb.pdf
18. Transmittal of the 2017 Annual Civil Monetary Penalty Inflation Adjustment Rule. https://www.epa.gov/sites/production/files/2017-01/documents/2017transmittal_memopenaltyinflationrule.pdf
19. Using Waterborne Basecoats in Collision Repair Shops: A Case Study. https://www.epa.gov/sites/production/files/2013-12/documents/auto_refinishing_waterborne_basecoats.pdf

A2.3 Electronic Code of Federal Regulations (e-CFR) www.ecfr.gov

1. Criteria for identifying the characteristics of hazardous waste (40 CFR 261.10). https://www.ecfr.gov/cgi-bin/text-idx?SID=4874c59aa12cfd97366206a3f0dcd78&mc=true&node=se40.28.261_110&rgn=div8
2. Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof (40 CFR 261.33 (e)). https://www.ecfr.gov/cgi-bin/text-idx?SID=6071e53685d07c8caeda33fe0c727f0b&mc=true&node=se40.28.261_133&rgn=div8

[div8](#)

3. Requirements for Universal Waste (40 CFR 261.9). https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=4874c59aa12cfdd97366206a3f0dcd78&mc=true&n=pt40.28.261&r=PART&ty=HTML#se40.28.261_19
4. Standards for Universal Waste Management (40 CFR 273). www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=16537354dafa52b7f50c87f0acee5d0e&mc=true&n=pt40.29.273&r=PART&ty=HTML

A2.4 Occupational Safety and Health Administration (OSHA) www.osha.gov

1. Autobody Repair and Refinishing: Hazards and Solutions. <https://www.osha.gov/SLTC/autobody/hazards.html>
2. Changes to asbestos warning signs and ANSI warning signs. <https://www.osha.gov/laws-regs/standardinterpretations/2015-10-13>
3. Portable Fire Extinguishers. www.osha.gov/SLTC/etools/evacuation/portable_required.html#Inspection
4. Solvents. <https://www.osha.gov/SLTC/solvents/index.html>

A2.5 Other Resources

1. Automotive Service Association (ASA): Phone: (817) 283-6205, <https://asashop.org/>
2. Center for Disease Control (U.S. CDC): Control of Paint Overspray in Autobody Repair Shops at <https://www.cdc.gov/niosh/docs/hazardcontrol/hc2.html>
3. DC Water. Phone: 202-787-2000 (M-F 8 a.m. to 5 p.m.), Email: info@dcwater.com, website: <https://www.dewater.com/>
4. Environmental Law Institute. Considering the Fate of Consumer Aerosol Cans. www.eli.org/sites/default/files/eli-pubs/aerosol-can-retail-sector-final.pdf
5. Tire Industry Association. Best Management Practices for Tire Storage. <https://www.tireindustry.org/sites/default/files/files/BMP-Storage-1113.pdf>
6. Washington Metropolitan Auto Body Association (WMABA). <https://wmaba.com/>



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