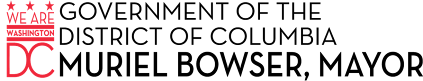
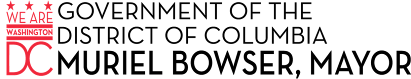


**TEMPLATE POLLUTION PREVENTION PLAN  
FOR AUTOMOTIVE REPAIR FACILITIES  
IN THE DISTRICT OF COLUMBIA**



**TEMPLATE POLLUTION PREVENTION PLAN  
FOR AUTOMOTIVE REPAIR FACILITIES  
IN THE DISTRICT OF COLUMBIA**

Prepared For   
By   
On

Modification Log:

|  |  |  |
| --- | --- | --- |
| **Date** | **Description of Modification** | **Name of Person Making Modification** |
|  |  |  |
|  |  |  |
|  |  |  |

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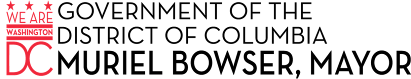
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# Introduction

The GreenWrench Technical Assistance Program (GreenWrench) provides free pollution prevention guidance and training to District 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 of Columbia Department of Energy and Environment (DOEE) and is offered free of charge for all participants.

This Template Pollution Prevention Plan (P2 Plan) assists facilities with preventing land, air, and water pollution, and with tracking actions and goals that improve their environmental impact. The template assists shops with developing a clear plan that will minimize and prevent pollution with best management practices (BMPs), cost-effective technology, and less toxic products.



**How to use this plan:**

This Template P2 Plan and the Automotive Pollution Prevention Plan Guidebook (GreenWrench Guidebook) should be used hand-in-hand to develop a shop-specific plan to assist with compliance and reduce the shop’s impacts on the environment. The information collected will identify activities and products used on site and potential contributions to pollution. These data provide a starting point to measure how successful and cost-effective the shop’s P2 Plan eventually becomes at reducing pollution. The Template P2 Plan helps shops set goals to get into compliance with environmental regulations, qualify to become GreenWrench certified, eliminate pollution, improve human health, and save money.

For more information, please visit the GreenWrench website, [doee.dc.gov/service/greenwrench](https://doee.dc.gov/service/greenwrench), or call 202-645-4231.

***Please contact us if you need assistance completing your plan.***

# CHAPTER 1. FACILITY INFORMATION

## 1.1 Facility

This plan has been prepared for the following facility:   
Name Phone Number ( ) -   
Address

## 1.2 Points of Contact

The following people are involved with implementing this P2 Plan:

**Table 1. Facility Points of Contact**

|  |  |  |
| --- | --- | --- |
| **Name / Position** | **Contact Info** | **Pollution Prevention Responsibilities** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## 1.3 Site Description

Provide a short description of the activities and structures at the facility.

# Chapter 2. ENVIRONMENTAL COMPLIANCE



**GREENWRENCH** GUIDEBOOK

**ENVIRONMENTAL COMPLIENCE**

CHAPTER 2, P. 2

## 2.1 Environmental Permits

Fill out the following table with information on existing permits the facility has.

**Table 2. Environmental Permits**

|  |  |  |  |
| --- | --- | --- | --- |
| **Permit Type** | **Permit #** | **Date Issued** | **Notes / Details** |
| 1. DC Air Quality Permit  * Major Source * Minor Source |  |  |  |
| 1. Multi-Sector General Permit (MSGP) for Industrial Stormwater runoff |  |  |  |
| 1. Hazardous Waste Generator  * Short-Term Generator * Conditionally-exempt Small Quantity Generator * Small Quantity Generator * Large Quantity Generator * Other: |  |  |  |
| 1. Other: |  |  |  |

**Goals:** List any permit goals that the facility has and a realistic time line for achieving them.

## 2.2 Hazardous Materials, Hazardous Waste, Universal Waste, and Used Oil

Use this section to record the shop’s current and planned methods of tracking hazardous materials, hazardous waste, universal waste, and used oil. If the shop has multiple collection locations, create an inventory and plan for each location. Section 4.2, Solid Waste and Recycling (p. 35), captures a baseline for general trash and recycling activities.



**GREENWRENCH** GUIDEBOOK

**HAZARDOUS WASTE REGULATIONS**

CHAPTER 2.1, P. 2

#### 2.2.1 Hazardous Materials

A Hazardous Material Management Plan (HMMP) and a Hazardous Materials Inventory Statement (HMIS) are often required by hazardous waste, fire, and employee safety regulations when a facility handles hazardous materials. Whether or not they are required, HMMP and HMIS are useful tools for tracking the types and amounts of hazardous materials at the shop. HMMP and HMIS help identify opportunities to use less-toxic alternatives and ways to minimize how much is used.

If the facility already has a Hazardous Material Management Plan (HMMP) and/or a Hazardous Materials Inventory Statement (HMIS), fill in the following table and skip ahead to goals in Table 6 (pages 9-10).

If the facility does not have a HMMP and/or an HMIS, skip Table 3 and fill out the rest of this section.

**Table 3. Hazardous Material Documents**

|  |  |  |  |
| --- | --- | --- | --- |
| **Document** | **Date Developed** | **Date Last Updated** | **Location of Document** |
| HMMP |  |  |  |
| HMIS |  |  |  |
| Other Please list |  |  |  |

#### 2.2.2 Hazardous Materials Inventory Statement

Fill out the following table.

**Table 4. Hazardous Materials Inventory Statement**   
Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Id #** | **Chemical or Trade Name** | **Chemical Concentration** | **CAS\* Number** | **Physical State (S, L, G)†** | **Hazard Category‡** |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |
| 6 |  |  |  |  |  |
| 7 |  |  |  |  |  |
| 8 |  |  |  |  |  |
| 9 |  |  |  |  |  |
| 10 |  |  |  |  |  |

\* All chemical substances have a Chemical Abstracts Service (CAS) registry number. While a chemical might be used and known by a number of different brand names, its CAS number will not change. Find more information at: <https://www.cas.org>.

† Types of physical states a chemical can be found in include solid (S), liquid (L), or gas (G).

‡ There are nine hazard categories: Class 1 – explosives, Class 2 – compressed gases; Class 3 – flammable and combustible liquids; Class 4 – flammable solids, spontaneously combustible, or dangerous when wet; Class 5 – oxidizing substances, organic peroxides; Class 6 – toxic or infectious substances; Class 7 – radioactive materials; Class 8 – corrosives; and Class 9 – miscellaneous hazardous materials. Find more information at <https://www.osha.gov/dsg/hazcom/global.html>.

#### 2.2.3 Annual Hazardous Material Tracking

Enter annual amount of each hazardous materials used, if available. If you don’t know the exact amount, you can estimate number of bottles / cans. Please indicate in each cell the type of units used to measure how much of the items are used or disposed of.

**Table 5. Hazardous Material Usage**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Amount of each Chemical Used or Disposed of**  ***(chemical number associated with table 4 in section 2.2.2)*** | | | | | | | | | |
| **Date** | **1**  **Used / Disposed** | **2**  **Used / Disposed** | **3**  **Used / Disposed** | **4**  **Used / Disposed** | **5**  **Used / Disposed** | **6**  **Used / Disposed** | **7**  **Used / Disposed** | **8**  **Used / Disposed** | **9**  **Used / Disposed** | **10**  **Used / Disposed** |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

**Goals:** Identify which hazardous products the facility would like to replace with non-toxic alternatives. Use the following table to list non-toxic alternatives and calculate the costs associated with replacement.

**Table 6. Product Alternatives**

| **Product Name / Description** | **# Units Used** | **Time # Units Used In** | **Price / Unit** | **Total Cost Per Time Period** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| 1. |  |  |  |  |  |
| Alternative Product |  |  |  |  |  |
| Difference |  |  |  |  |  |
| 2. |  |  |  |  |  |
| Alternative Product |  |  |  |  |  |
| Difference |  |  |  |  |  |
| 3. |  |  |  |  |  |
| Alternative Product |  |  |  |  |  |
| Difference |  |  |  |  |  |
| 4. |  |  |  |  |  |
| Alternative Product |  |  |  |  |  |
| Difference |  |  |  |  |  |

**Other Goals:** List any other hazardous material goals that facility has and a realistic time line for achieving them.

#### 2.2.4 Management of Hazardous Waste, Universal Waste, and Used Oil



**GREENWRENCH** GUIDEBOOK

**HAZARDOUS WASTE REGULATIONS**

CHAPTER 2.1, P. 2

Use Table 7 to identify the types of hazardous waste, universal waste, and used oil currently generated and how the waste is disposed of and managed. Use the same table to track new methods the shop is using to reduce how much is being generated.

This table helps identify the types of hazardous waste produced, and clarify how and who is responsible to ensure they are properly disposed of and managed. Common hazardous wastes and universal wastes at shops include:

* Air bags *(GW Guidebook Chapter 3.7, p. 23)*
* Fluorescent lights *(GW Guidebook Chapter 2.1.2, p. 4)*
* Aerosol cans *(GW Guidebook Chapter 3.5.3, p. 21)*
* Many vehicle fluids *(GW Guidebook Chapter 3.1, p. 14)*

**Table 7. Waste Identification**

| **Type\* (HZ, UW, UO)** | **Description** | **Procedures / Methods for Managing Prior to Disposal** | **Disposal Method and Documentation (Manifest)** | **Person Responsible** |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

\* Types of Waste: Hazardous Waste = HZ; Universal Waste = UW; Used Oil = UO

## 2.3 Waste Hauling Information

This section tracks waste management practices used to comply with hazardous waste and solid waste regulations.



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**HAZARDOUS WASTE REGULATIONS**

CHAPTER 2.1, P. 2  
**TRASH-RELATED REGULATIONS**

CHAPTER 2.3.2, P. 9

Use Table 8 to track how the shop disposes of waste generated on site.

**Table 8. Waste Disposal**

| **Material Type** | **Disposal Method** | **Disposal Company  check service type, add hauler or collection point name** | **Hauler Permit Number**  **(EPA and/or DCRA)** | **Disposal / Recycling Schedule** | **Location of Receipts / Manifests** |
| --- | --- | --- | --- | --- | --- |
| Universal Waste | * Hauler picks up waste * Other: | * Disposal * Recycling |  |  |  |
| Used Oil | * Hauler picks up waste * Other: | * Disposal * Recycling |  |  |  |
| Hazardous Waste | * Hauler picks up waste * Other: | * Disposal * Recycling |  |  |  |
| Scrap Metal | * Hauler picks up waste * Other: | * Disposal * Recycling |  |  |  |
| Used Tires | * Hauler picks up waste * Other: | * Disposal * Recycling |  |  |  |
| Trash | * Hauler picks up waste * Other: | * Disposal * Recycling |  |  |  |
| Recycling | * Hauler picks up waste * Other: | * Disposal * Recycling |  |  |  |
| Other: Please list | * Hauler picks up waste * Other: | * Disposal * Recycling |  |  |  |

**Goals**: List any hazardous waste, universal waste, and/or used oil goals that facility has and a realistic time line for achieving them.

## 2.4 Stormwater Regulations

This section will help a facility comply with stormwater regulations.



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**STORMWATER REGULATIONS**

CHAPTER 2.3.1, P. 7

If a facility already has a stormwater pollution prevention plan (SWPPP) or management plan (SWMP), fill in the following blank and skip ahead to section 2.4.5, Structural BMPs.

The facility’s stormwater pollution prevention or management plan is located \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If the facility does not have a SWPPP, please fill out the rest of this section (2.4.1 to 2.4.5).

#### 2.4.1 Watershed and Sewer System Location

To which sewer system, watershed, and sub-watershed does the facility discharge?Look up the facility’s discharge waters at: <https://dcgis.maps.arcgis.com/apps/InformationLookup/index.html?appid=a60a0086b47c4e35a638b7a8abe5954f>

Then enter the sewer type, watershed, and sub-watershed in which the facility is located, into Table 9. Parts of the property may fall into different watersheds. If so, please list each watershed and sub-watershed below with a short description of where the area is located*.*

**Table 9. Watersheds within which the facility is located**

|  |  |  |  |
| --- | --- | --- | --- |
| **Area**  ***Please describe***  **X** | **Sewer Type** | **Watershed** | **Sub-Watershed** |
| *e.g. Employee parking lot* | *□ MS4 □ CSS* | *e.g. Anacostia River* | *e.g. Hickey Run* |
| 1. | *□ MS4 □ CSS* |  |  |
| 2. | *□ MS4 □ CSS* |  |  |

#### 2.4.2 Potential Sources of Pollution

The following activities include all significant materials handled, treated, stored, or disposed of, and those materials that could be exposed to stormwater. Place a check mark by each activity listed below performed at the facility.

**Table 10. Potential Sources of Pollution**

| **x** | **Activity** | **Potential Pollutants** |
| --- | --- | --- |
|  | **Fueling** | Fuel, Oil, and Heavy Metals |
|  | **Vehicle Washing and Maintenance** | Chlorinated Cleaning Solutions / Detergents, Degreasers, Oil, Grease, Heavy Metals, Phosphorus, Salts, Rust, Soil, and Grit |
|  | **Outdoor Vehicle, Vehicle Parts and Equipment Storage and Parking** | Sulfuric acid, Galvanized Metals, Heavy Metals, Oil, Grease, Hydraulic Fluids, Rust, Dirt, Grit, and Debris |
|  | **Painting Areas** | Paint, Paint Solids, Paint Thinners, Heavy Metals, and Dust |
|  | **Outdoor Storage** | Oil, Grease, Heavy metals, Rust, and Other Materials: Please list |
|  | **Hazardous Material Storage (Indoor or Outdoor)** | Oil, Grease, Heavy metals, Rust, and Other Materials: Please list |
|  | **Building and Grounds Maintenance of Facility** | Pesticides, Cleaning Solutions, Drain Cleaners, Degreasers, Salts, Rust, Soil, and Grit |
|  | **Scrap metal processing** | Heavy metals, Mercury, Hydraulic fluids, PCBs, Oils, Fuels, Grease, Chemical Additives, Lead, and Battery acid |
|  | **Outdoor Stockpiling of Materials** | Oil, Grease, Heavy Metals, Phosphorus, Salts, Soil, Grit, and Other Material: Please list |
|  | **Trash / Recycling / Illegal Dumping** | Metals, Oil, Grease, Rust, Soil, Grit, Litter, Leaf, Other Organic Litter and Other Materials: Please list |
|  | **Cold Weather activities** | Salts, Soil, and Grit |
|  | **Loading / Unloading Areas** | Material Being Loaded / Unloaded: Please list |
|  | **Facility Exhaust Pipes** | Particulate Matter and Volatile Organic Chemicals |
|  | **List any other activity** | Please list potential pollutants |

#### 2.4.3 Stormwater Flow on Site



**GREENWRENCH** GUIDEBOOK

**STORMWATER REGULATIONS**

CHAPTER 2.3.1, P. 7

Provide a brief sketch of the shop and attach it to this plan in Appendix B, p. 39. Additional guidance is in Appendix B.

The map should include the following:

1. Location of significant structures and impervious surfaces, such as pavement
2. Location of stormwater infrastructure, including storm drains, bioswales, trees, oil/water separators, and spill kits
3. Direction of stormwater flow
4. Locations of activities and materials, identified as potential sources of pollution (section 2.4.2, Table 10), that could be exposed to rain and runoff, including material and equipment storage, liquid storage tanks, loading / unloading areas, et al.
5. Points at which stormwater leaves the property, called discharge points

#### 2.4.4 Stormwater Best Management Practices

Use this section to identify what the facility is doing to prevent stormwater pollution. Check which measures the shop is using and make a note of any goals or additional details.

**Table 11. Best Management Practices**

| **Activity** | **Control Measure** | **Notes and/or Staff Responsible** |
| --- | --- | --- |
| Good housekeeping | * Sweep or vacuum paved areas regularly to remove dirt, debris and other pollutants. * Drips, leaks, and spills are cleaned up immediately. * Litter is picked up regularly. * Materials are put away when not in use and are stored upright. * Vehicle maintenance and repairs are conducted inside. * Vehicles are not washed onsite. Any wash water is diverted to the sanitary sewer, a grassy area, or treatment facility, and is never allowed to enter a storm drain. * Other: Please list |  |
| Vehicle and parts: storage and parking | * Rusted-out vehicles, exposed engines, and loose parts are covered to prevent contact with stormwater. Tarps, canopies, and other types of covers that are used are inspected regularly. * Fluids are drained from vehicles that are stored for a long time. * Drip pans are used to catch leaks from vehicles. Drip pans are inspected daily to ensure they do not overflow. * Vehicles and parts are inspected regularly to identify evidence of leaks and other sources of pollution, such as rust, and action is taken to resolve issues found. * Other: Please list |  |
| Outdoor material Storage | * Materials stored outside are elevated off the ground and covered (e.g. tarp / canopy) to prevent contact with stormwater. * Items stored near loading / unloading areas are removed prior to loading / unloading activities if they could tip or spill. * Storage containers are clearly labeled and stored in low-traffic areas that are protected from stormwater. * Storage containers are inspected regularly and replaced if evidence of leaks, tears, cracks, and other structural flaws. * Other: Please list |  |
| Material Use | * Containers are kept closed at all times unless actively being used. * Tight-fitting lids are kept on outdoor storage containers. * Liquids are never poured or allowed to drain into floor drains. * Other: Please list |  |
| Structural control measures | * Oil/water separators are inspected twice a year and after any major storm. * Oil/water separators are cleaned out at least once a year, when sludge accumulate to over 8 inches or the oil on tip is over 2 inches deep, and whenever there is a spill or leak that could affect tank capacity. * Storm drains are kept clear. * Other: Please list |  |
| Waste storage and disposal | * Waste containers are kept closed at all times. * Liquid is not disposed of in trash receptacles. * Dumpsters and other waste storage containers are inspected regularly for fullness level and presence of litter and leaks. * Waste is picked up regularly, and service that is more frequent is scheduled when needed. * Damaged waste containers are fixed as soon as possible. * Other: Please list |  |
| Snow and ice removal | * Only enough salt or deicer is used to get the job done. * Salt is stored inside or is kept undercover and protected from runoff that could leach salt from the base of the pile or containers. * Other: Please list |  |
| Facility and Landscape Maintenance | * Staff ensures the site drains properly and that storage and parking areas do not flood. * Pesticides, including herbicides, rodenticides, and fungicides, are only applied by certified professionals and when necessary. * Areas of bare dirt are stabilized using plantings, landscape fabric, or other methods. * Other: Please list |  |
| Other: [describe] | Please list |  |

#### 2.4.5 Structural BMP’s

Use the following table to list any structural BMPs that are located onsite and to explain maintenance activities used to keep them functional.



**GREENWRENCH** GUIDEBOOK

**STORMWATER REGULATIONS**

CHAPTER 2.3.1, P. 7

**OIL/WATER SEPARATORS**

CHAPTER 4.4, P. 30

**Table 12. Structural BMPs**

| **Structural BMP** | **Inspection Schedule** | **Maintenance Schedule** | **Access Needs** | **Person Responsible** |
| --- | --- | --- | --- | --- |
| Oil/Water Separator |  |  |  |  |
| Storm Drains |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Maintenance contractor**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
**Manifest / records are kept in the following location:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
**Contact for maintenance**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Goals**: List any stormwater goals that facility has and a realistic time line for achieving them.

## 2.5 Spill Prevention Control and Countermeasure (SPCC) Plan

Place a check mark besides which option applies to this facility. See the GreenWrench Guidebook for more information on how to make a determination on whether or not the facility needs an SPCC plan.



**GREENWRENCH** GUIDEBOOK

**PETROLEUM STORAGE TANKS**

CHAPTER 2.3.3, P. 10

* The facility has an SPCC Plan. It can be found at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* The facility is not required to have an SPCC plan according to the Spill Prevention, Control, and Countermeasure (SPCC) rule (40 CFR part 112).

## 2.6 Training

A number of environmental regulations require regular staff training. If a training plan exists, enter where it can be found or attach it as an appendix. If a training plan is needed, fill out Table 13, Training.

**Table 13. Training**

| **Training Name or Description** | **Regulatory Requirements Met Through Training (check all that apply)** | **Schedule** | **Date of Last Training** |
| --- | --- | --- | --- |
|  | * Hazardous Waste Identification and Management * Stormwater Pollution Prevention * Air Quality Protection * Spill Prevention and Response * Underground Storage Tank * Other: |  |  |
|  | * Hazardous Waste Identification and Management * Stormwater Pollution Prevention * Air Quality Protection * Spill Prevention and Response * Underground Storage Tank * Other: |  |  |

**Goals:** List any training goals that facility has and a realistic time line for achieving them.

## 2.7 Regulatory Inspections

A number of different government agencies inspect automotive repair shops to determine whether shop activities comply with environmental regulations. Use Table 14, Regulatory Inspections, to record when an agency inspects the facility, to track any issues found during the inspection, and to record when the issues were resolved.

**Table 14. Regulatory Inspections**

| **Date** | **Inspection Entity** | **Inspection Type** | **Issues Found** | **Date Issues Resolved** |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# Chapter 3. VEHICLE MAINTENANCE

Use this template to capture a baseline for vehicle maintenance activities, and to create a plan to reduce pollution associated with vehicle maintenance.

## 3.1 Spills, Leaks, and Drips

#### 3.1.1 Spill Prevention



**GREENWRENCH** GUIDEBOOK

**OIL CHANGES**

CHAPTER 3.1, P. 14

**SPILL AND LEAK RESPONSE**

CHAPTER 3.1.6, P. 16

**Table 15. Spill Prevention**

| **Common Source of Spills** | **Solutions (check which one(s) are being or will be used)** |
| --- | --- |
| Vehicle repair | * All repair work is done inside and under cover * Place tarp under vehicle to capture leaks, drips, and spills * Place drip pans under leaking vehicles that are waiting to be worked on * Other: Please list |
| Using and transferring vehicle fluids | * Make storage and disposal containers easy to access: keep area clear of clutter, keep container opening within easy reach (below chest height), install self-closing funnels for waste receptacles * Do not overfill waste and transfer containers- purchase equipment that allows level to be easily seen * Keep all containers in secondary containment and closed unless actively being used * Other: Please list |
| Other: Please list | Please list solutions |

#### 3.1.2 Spill Cleanup Plan

**Table 16. Spill Cleanup**

| **Pollutant** | **Procedures for Spill Response**  **(e.g. dry cleanup method, cover drains)** | **Supplies to be Used**  **(e.g. universal absorbent or oil-absorbent pads)** | **Person Responsible for Materials** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Goals:** List any spill cleanup goals that facility has and a realistic time line for achieving them.

## 3.2 Liquid Product Storage

This section records how petroleum and other products are stored on-site. A list of storage locations and methods that are currently used can help identify alternatives that are less expensive and better for the environment. Add more lines to Table 17, Liquid Product Storage, to record all the storage methods the shops uses or plans to use.



**GREENWRENCH** GUIDEBOOK

**DRUM & SMALL CONTAINER STORAGE**

CHAPTER 3.1.5, P. 15

**Table 17. Liquid Product Storage**

| **Product** | **Storage Location** | **Method of Storage**  **(include details)** | **Person Responsible for inspection** | **Inspection schedule** |
| --- | --- | --- | --- | --- |
| *e.g. unleaded gasoline* | *e.g. flammable cabinet by office* | *e.g. Allow room for expansion in fuel can or tank. Keep the can/ tank tightly sealed* | *e.g. John Doe* | *e.g. Once a month* |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Goals:** List any liquid product goals that facility has and a realistic time line for achieving them.

## 3.3 Battery Management

This section records how used batteries are stored and disposed on at the shop. Shops can use this section to keep a record of used batteries to ensure they are recycled within an appropriate length of time. Use this information to plan process improvement, for example more frequent disposal by a certified hauler, and record information in a revised plan.



**GREENWRENCH** GUIDEBOOK

**BATTERY MANAGEMENT**

CHAPTER 3.2, P. 17

**Table 18. Battery Management**

| **Battery Type / Identification** | **Storage Method  (e.g. inside / outside / contained)** | **Disposal / Recycling Method** | **Hauler Name** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |

**Goals:**   
**Storage:** The shop is/will (Check all that apply)

* Store fewer batteries at shop
* Recycle batteries on a regular basis
* Store batteries inside
* Store batteries in secondary containment and keep them covered / protected from rain and snow

**Other Goals:** List any battery management goals that facility has and a realistic time line for achieving them.

## 3.4 Brake Shoe or Pad Replacement

Use Table 19 to record the shop’s method of storing, removing, and recycling the different types of brake pads and shoes the shop handles (e.g. copper-free or asbestos). Use the same table to identify ways to improve how brake pads and shoes are handled and disposed.



**GREENWRENCH** GUIDEBOOK

**BRAKE SHOE OR PAD REPLACEMENT**

CHAPTER 3.3, P. 17

**Table 19. Brake Shoe or Pad replacement**

| **Type of Brake Pad / Shoe** | **Number Used Per Month / Week / Day (Circle one)** | **Number Removed Per Month / Week / Day (Circle one)** | **Dust Containment and Decontamination Procedures Used\*** | **Disposal Location and Methods\*** |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |

\* Because some brake pads still contain asbestos, containing brake dust, decontaminating work areas, and careful disposal of brake pads and shoes are important steps for protecting staff health and reducing pollution. Refer to the GreenWrench Guidebook for detailed requirements and recommendations (Chapter 3.3, p. 17).

**Goals:   
Alternatives:** The shop is/will (Check all that apply)

* Make copper-free brake pads available to customers
* Encourage customers to install copper-free brake pads
* Only install copper-free brake pads
* Only install brake pads that are asbestos-free

**Other Goals:** List any brake shoe / pad goals that has and a realistic time line for achieving them.

## 3.5 Coolant Flushing

This section records the shop’s method of storing, preventing and containing spills, and recycling coolants. Use the Table 20 to enter this information and to identify ways to improve practices used to handle coolants.

**Table 20. Coolant Flushing**



**GREENWRENCH** GUIDEBOOK

**COOLANT FLUSHING**

CHAPTER 3.4, P. 19

| **Type of Coolant / Antifreeze** | **Storage Methods** | **Spill Prevention and Cleanup** | **Disposal or Recycling Methods (e.g. collection or on-site recycling. Include hauler name if available)** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Goals:   
Alternatives:** The shop is/will (Check all that apply)

* Make recycled antifreeze available to customers
* Encourage customers to choose recycled antifreeze for their vehicles
* Only use recycled antifreeze

**Other Goals:** List any coolant flushing goals that facility has and a realistic time line for achieving them.

## 3.6 Parts Washing and Lubrication

Use Table 21 to identify cleaning and lubrication products the shop uses, and track how they are stored and disposed of. Use Table 22 to identify less toxic alternatives and the table’s notes section to identify methods the shop can use to minimize how much of product is used.

**Table 21. Parts Cleaning and Lubrication**



**GREENWRENCH** GUIDEBOOK

**PARTS CLEANING & LUBRICATION**

CHAPTER 3.5, P. 19

| **Product** | **How it is Used** | **Storage Method** | **Disposal Method** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Goals:**

**Table 22. Parts Cleaning and Lubrication Goals**

| **Product Name / Description** | **# Units Used** | **Time Within Which # Units Are Used** | **Price per Unit** | **Total Cost per Time Period** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| 1. |  |  |  |  |  |
| Alternative Product |  |  |  |  |  |
| Difference |  |  |  |  |  |
| 2. |  |  |  |  |  |
| Alternative Product |  |  |  |  |  |
| Difference |  |  |  |  |  |
| 3. |  |  |  |  |  |
| Alternative Product |  |  |  |  |  |
| Difference |  |  |  |  |  |
| 4. |  |  |  |  |  |
| Alternative Product |  |  |  |  |  |
| Difference |  |  |  |  |  |

**Other Goals:** List any parts washing/ lubrication goals that facility has and a realistic time line for achieving them.

## 3.7 Tire Balancing, Patching, and Replacement

Use Table 23 to identify products the shop uses for tire maintenance are replacement and to identify alternative products and management methods that will reduce pollution.



**GREENWRENCH** GUIDEBOOK

**TIRE BALANCING, PATCHING, & REPLACEMENT**

CHAPTER 3.6, P. 21

**Table 23. Tire Operations**

| **Application / Activity** | **Products Used** | **Product Storage and Waste Disposal or Recycling** | **Alternative Product or Process** |
| --- | --- | --- | --- |
| Tire balancing |  |  |  |
| Tire leak wash water |  |  |  |
| Tire waste |  |  |  |
| Tire detailing / polish |  |  |  |
| Patch adhesive |  |  |  |
| Other Please list |  |  |  |

**Goals:   
Storage:** The shop is/will (Check all that apply)

* Store fewer tires at shop
* Haul away tires on a regular basis
* Store tires inside
* Store tires on metal racks that are covered (e.g. with a tarp)

**Other Goals:** List any goals for tire balancing, patching, and replacement that facility has and a realistic time line for achieving them.

## 3.8 Vehicle Washing



**GREENWRENCH** GUIDEBOOK

**VEHICLE WASHING**

CHAPTER 3.8, P. 23

**Goals:  
Table 24. Vehicle Washing Goals**

| **Activity** | **Product or Technique** | **Amount Used per Wash Please specify units** | **Notes** |
| --- | --- | --- | --- |
| Washing detergent |  |  |  |
| Current | Please list |  |  |
| Alternative | Biodegradable  Spray-and-wipe  Other: Please list |  |  |
| Water use\* |  |  |  |
| Current | Please list | Gallons of water |  |
| Alternative | Vehicles are taken to a licensed car wash  Spray-and-wipe/no water  Nozzle with automatic shutoff or pull trigger  Other: Please list | Gallons of water |  |
| Dirty wash water management |  |  |  |
| Current | Please list |  |  |
| Alternative | Vehicles are taken to a licensed car wash  Allow to soak into grassy area, and with no water entering a storm drain  Collect with wet-vacuum and dispose of wash water in sanitary sewer  Other: Please list |  |  |
| Other: Please list |  |  |  |

\* To calculate water usage: a typical garden hose uses about 10 gallons per minute. That equates to 100 gallons of water for a 10-minute car wash. Power washers use only 2-5 gallons per minute. See Maryland Department of the Environment “Water Conservation and Washing Vehicles” webpage for a full table of average water consumption by car wash type at <https://mde.maryland.gov/programs/water/waterconservation/pages/carwashing.aspx>

**Other Goals:** List any other vehicle washing goals that facility has and a realistic time line for achieving them.

## 3.9 Bodywork

Bodywork is highly regulated because of its potential to affect air quality and harm the health of bodywork professionals. Consult the GreenWrench Guidebook to find best practices on bodywork, and for additional information on how to fill out Table 25. Use Table 25 to document the current activities to manage pollution from bodywork activities and to identify practices that minimizes it.   
  
  
  
  
  
**Table 25. Bodywork**



**GREENWRENCH** GUIDEBOOK

**BODYWORK**

CHAPTER 3.9, P. 24

| **Activity** | **Practice** | **Notes and Person Responsible** |
| --- | --- | --- |
| **Areas** |  |  |
| Keep area clean | * Solvent wipe down of painting and prep areas * Consistently vacuum areas used for sanding * Use aqueous or low-VOC cleaning products * Other: Please list |  |
| Ventilation | * Contain vapors by using exhaust ventilation * Regularly change ventilation filters according to manufacturer’s recommendations * Other: Please list |  |
| Other: Please list |  |  |
| **Operations** |  |  |
| Paint | * Use waterborne paint, finishes, and basecoats * Mix only the amount of coating needed for the job * Use a computerized mixing system to reduce waste * Other: Please list |  |
| Spray guns | * Use HVLP spray guns or spray guns that provide equivalent transfer efficiencies * Set spray guns to the correct pressure at the gun tip, and ensure the compressor is capable of delivering enough pressure to the gun and other shop equipment * Pre-clean spray guns to prevent contamination and prolong the life of the gun * Use automated spray gun cleaners that reuse solvents * Other: Please list |  |
| Other: Please list |  |  |
| **Storage and Disposal** |  |  |
|  | * Paint containers are kept close and closed properly when not in use * Store and reuse remaining primers and basecoats when possible * Use a solvent recycler * Solvent waste drum has a funnel with a spring loaded cover or other type of cover, which remains closed except when opened to transfer wastes into the container * Other: Please list |  |

**Goals:** List any other bodywork goals that facility has and a realistic time line for achieving them.

# Chapter 4. FACILITY MANAGEMENT

## 4.1 Energy



**GREENWRENCH** GUIDEBOOK

**ENERGY & LIGHTING**

CHAPTER 4.1, P. 27

#### 4.1.1 Energy Audit

Energy audits are systematic reviews of a facility’s energy use, and help facilities identify ways to make the shop more energy efficient. Use Appendix C, p. 40, to complete a do-it-yourself energy audit or hire a company to conduct a professional energy audit.

Audit Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Main areas for improved energy efficiency include:

#### 4.1.2 Energy Use

The easiest way to see if the facility is reducing energy use is by tracking the shop’s energy use over the past several years using its energy bill. The utility company can provide these upon request. Track energy use in Table 26, Energy Use, to compare usage across years and throughout the year:

**Table 26. Energy Use**

| **Year** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** | **Monthly Average** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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#### 4.1.3 Energy Efficiency

Use Table 27 to track the current energy efficiency of equipment and building components, and to identify alternative products that are more energy efficient. This information can be used to calculate potential costs and savings, by comparing the cost to switch to the alternative product with the potential savings from reduced energy use.

**Table 27. Energy Efficiency**

| **Application** | **Product Currently in Use (name / description including estimated yearly kWh)** | **Alternative Product**  **(name / description including estimated yearly kWh)** | **Potential Costs and/or Savings** |
| --- | --- | --- | --- |
| Light bulbs and tubes |  |  |  |
| Lighting fixtures |  |  |  |
| Vacuuming |  |  |  |
| Air compressors |  |  |  |
| Paint Booth ventilation |  |  |  |
| Heating and air conditioning |  |  |  |
| Bay heating |  |  |  |
| Ventilation Fans |  |  |  |
| Other electrical equipment, appliances, or features |  |  |  |

**Goals**: List any energy goals that facility has and a realistic time line for achieving them.

## 4.2 Waste



**GREENWRENCH** GUIDEBOOK

**SOLID WASTE & RECYCLING**

CHAPTER 4.2, P. 29

#### 4.2.1 Alternatives

List products that create waste and identify alternative products or practices that will reduce waste. The GreenWrench Guidebook, Chapter 4.2, has suggestions for alternatives, and for additional information, visit [https://zerowaste.dc.gov](https://zerowaste.dc.gov/)

**Table 28. Waste Reduction**

| **Items** | **Product in Use (Describe type and amount)** | **Alternative Product or Practice (Identify ways to reduce this product’s packaging by buying in bulk, switching products, and using other methods)** |
| --- | --- | --- |
| Packaging |  |  |
| Office supplies |  |  |
| Food and drink |  |  |
| Restrooms |  |  |
| Other: Please list |  |  |

#### 4.2.2 Waste Management

**Waste Diversion Rate.** Use the Waste Audit, Appendix D, p. 42, to calculate how much trash the facility produces and track how it is disposed of. Appendix D explains how to calculate the shop’s diversion rate, which is the amount of waste that is directed away from solid waste heading for the landfill or incinerator, by using recycling, compost, or reuse. Once the current diversion rate is calculated, a shop can set a target rate, using the project ideas in Appendix D and other methods to further increase recycling, composting, and reuse. Regularly conduct a waste audit to track how diversion rates change as new methods are introduced. .

**Current Diversion Rate:**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ %  **Target Diversion Rate:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ %

Goals: List any waste reduction goals that facility has and a realistic time line for achieving them.

## 4.3 Fire Extinguishers

Describe current fire extinguisher maintenance, pollution prevention, and waste management procedures. List each fire extinguisher and its location in table 29. Use the same table to identify improved practices for planning purposes.



**GREENWRENCH** GUIDEBOOK

**FIRE EXTINGUISHERS**

CHAPTER 4.3, P. 30

**Table 29. Fire Extinguishers**

| **Fire Extinguisher  (location / specifications)** | **Inspection Date** | **% Full at Time of Inspection  100% - 50% - 0%** | **Disposal Method** | **Notes and/or Staff Responsible** |
| --- | --- | --- | --- | --- |
| *e.g. Front Office / Class ABC 5 lb extinguisher* | *e.g. 1/1/19* |  | *e.g. Hazardous waste hauler accepts spent extinguishers* | *e.g. John Doe* |
|  |  |  |  |  |
|  |  |  |  |  |

**Goals:** List any fire extinguisher goals that facility has and a realistic time line for achieving them.

## Appendix A. Baseline Checklist

## Appendix B. Facility Map

The map should show how the facility manages stormwater and should include the following (see section 2.4.3, p. 15):

|  |  |  |  |
| --- | --- | --- | --- |
| **Symbol** | **Item** | **Symbol** | **Item** |
|  | Major structures and hard surfaces (e.g. pavement) |  | Structures that manage stormwater: storm drains, trees, oil/water separators, etc. |
|  | Direction of stormwater flow |  | Potential sources of pollution |
|  | Locations where stormwater leaves the facility either over land or in a stormwater sewer system |  | Spill kits |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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## Appendix C. Energy Audit

**1. Heating / Cooling:** Fixing air leaks alone can provide up to 30% in energy savings.

* Inspect the facility to identify obvious gaps or cracks and seal them with caulk or other methods. Close all the doors and windows, and use smoke from incense, or similar, to identify drafts that would otherwise not be visible. Areas to inspect include:
  + Windows, doors, and trim
  + Electrical outlets and switch plates
  + Along baseboards, floor edges, ceiling, and wall junctures
  + Around pipes and wires
  + Foundation seals
  + Mail slots
  + Exterior of the building, especially where two different building materials meet
* Inspect insulation in ceiling and walls, and make note of insulation levels (R-values, minimum R-value is R-30).
* Inspect heating and cooling equipment annually, or as recommended by the manufacturer. Check and replace filters every month or two, or as needed.

**2.** **Lighting**: Energy for lighting typically accounts for about 10% of shop’s electric bill

* Examine light bulbs to identify which kinds are currently being used, and if brightness (lumens) are sufficient. Fill out Table 27 in section 4.1.3, p. 31.
* Take note of any controls, such as sensors, dimmers, or timers to reduce lighting use. Consider installing sensors where appropriate.
* Observe how long the light is kept on, and make note of how often it is kept on unnecessarily. Locations where lights are kept on may benefit from sensors or signs to remind people to turn off lights.

**3.** **Appliances and Electronics:**

* Are items left plugged in when not in use? This can cause phantom loads. Unplug items or use a power stripe with an on/off switch to turn off electronics when not in use.
* Can the settings on electronics be changed to reduce power use, or using the item less often? Have the settings been changed to reduce energy use?
* Take stock of appliances and identify which can be updated with more energy-efficient models.

Adapted from <https://www.energy.gov/energysaver/weatherize/home-energy-audits> and <https://doee.dc.gov/service/diy-home-energy-audit>

## Appendix D. Waste Audit

A waste audit will allow a shop to identify how much waste becomes trash and how much trash the shop diverts through recycling, composting, and reuse. Conduct a waste audit once per year to assess progress towards an identified waste diversion goal.

**Person(s) conducting audit:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Time frame:** Start Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ End Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Receptacle Inspection:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Receptacle Location** | **Waste Type (trash, recycling, compost)** | **Container Size (gallons)** | **% Full** | **Total Amount** | **Contaminated?\*** |
| 1. |  |  |  |  |  |
| 2. |  |  |  |  |  |
| 3. |  |  |  |  |  |
| 4. |  |  |  |  |  |
| 5. |  |  |  |  |  |
| 6. |  |  |  |  |  |
| 7. |  |  |  |  |  |
| 8. |  |  |  |  |  |

\*Contamination is the presence of a type of waste that should not be in that specific type of waste container. For example, trash found in a recycling container and recycling found in a trash container are both kinds of contamination.

**Total amount of waste generated during this time:**

|  |  |  |
| --- | --- | --- |
| **Waste Type** | **Total Amount (Gallons)** | **Estimated Annual Total\* (Gallons)** |
| Trash |  |  |
| Recycling |  |  |
| Compost |  |  |
| Other |  |  |

\*To estimate the annual amount of each waste produced, use the length of the time frame and multiple the total amount found in the receptacle inspection by the following numbers:

• One week audit, multiple by 52 • Three day audit, multiple by 122 • One day audit, multiple by 365

**Calculate Diversion Rate:**The diversion rate is the percentage of waste that is recycled, reused, or composted. To find the shop’s diversion rate divide the total amount of non-landfill / incinerator waste by the total amount of waste (sum of recycling, composting, and reuse in gallons divided by the sum of trash, recycling, composting, and reuse).

Diversion rate = sum of non-Trash waste divided by the total amount of waste  
= [Total amount recycling, compost, and items reused] C:\Users\clara.elias\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\LV0Z4X46\567px-Division_Sign.svg[1].png [Total amount in trash, recycling, and compost, and items reused]  
**Current Diversion rate:** \_\_\_\_\_\_\_\_\_\_\_\_%  **Target Diversion Rate:** \_\_\_\_\_\_\_\_\_\_\_\_%

**Waste Reduction Project Ideas.** Below are some ideas for how to reduce waste and contamination.

1. Set defaults on copiers and printers to double-sided.
2. Reuse single sided pages for scrap paper.
3. Use reusable products (e.g. cloth rags, reusable cups).
4. Removed address from unwanted mailing lists.
5. Reuse or give away packing material.
6. Ask suppliers to minimize packaging or ask if they will take it back for reuse.
7. Post educational signage posted at each waste / recycling station (available at [Zerowaste.dc.gov](https://zerowaste.dc.gov/node/1269391), or ask the shop’s waste hauler if they have resources).
8. Train staff on recycling and composting procedures
9. Use concentrated products or purchase them in bulk

## Appendix E. Environmental Impact Calculations

Using the GreenWrench Pollution Prevention (P2) Calculator, calculate the current amount of pollution created by the facility and use it to set goals for reducing the shop’s environmental impact and to track the long-term cost or cost-savings for achieving these goals.

The P2 Calculator is located at [doee.dc.gov/service/greenwrench](https://doee.dc.gov/service/greenwrench)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Time** | **Type of Pollutant** | | | **Long Term Savings**  (negative savings indicate costs) | **Notes or Goals** |
| Year, quarter, or month | Pounds of hazardous materials and wastes (used or created) | Metric Tons of Carbon Dioxide Equivalents (MTCO2e) | Gallons of water used |
| *e.g. Q1 FY19* | *250 lbs.* | *2.5* | *200* | *$500/year* | *e.g. Purchased a non-lead wheel weight system, which will pay for itself within 2 years and then yield $500/year in savings* |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
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