ATTACHMENT I

Educational Outreach Materials Samples





The best way to handle household hazardous waste is to prevent it in the first place. By learning more about which types of products are hazardous and about ways to use less, use it up and use nonhazardous alternatives, you can significantly reduce the generation of this type of waste right at the source.

Before you buy a product, read the label and make sure it will do what you want. Once you buy something, you are also responsible for disposing of it properly.

Buy only what you need, and use it all up.

Be conservative in selecting the product container size. A large container is not a bargain if you don't use it all.

Give away unwanted leftover products.

Ask friends, neighbors or non-profit groups if they can use the products.

Look for nonhazardous alternatives.

Safer substitutes, like vinegar, lemon juice, baking soda, salt, borax, olive oil and cedar chips, used alone or in various combinations can get the job done as well as their more hazardous counterparts. Consider the following suggestions for nonhazardous alternatives:

- To keep drains clear and fresh smelling, mix and apply 1/4-cup baking soda and 1/2-cup vinegar. Let stand in drain for 5-10 minutes. Flush with hot water.
- Windows can be cleaned with a mixture of 2 cups each of vinegar and water and 2

tablespoons of lemon juice. Use newspaper for a lint-free finish.

- An ice cube can be used to harden chewing gum before scraping it from carpet.
- For a rug deodorizer, mix 2 parts commeal to I part borax. Sprinkle over rug and leave for I hour, then vacuum.
- To polish furniture, combine 2 parts olive oil to 1 part lemon juice.
- Processed manure or fish emulsion is a good substitute for chemical fertilizers.Mulch and compost are great soil enrichment products. You can purchase them
- locally, or you can make it yourself from your yard trimmings.Select water-based latex and non-toxic paint products over oil-based paints and
- varnishes.
- Instead of mothballs, use cedar chips or dried lavender.
- Instead of bug sprays, use baited traps.
- Use glue or spring traps instead of rodent poison.
- Clean copper pots and stainless steel with salt and vinegar.
- Clean stains from coffee cups and dishes with baking soda and vinegar.
- To clean, disinfect and deodorize, use a mixture of 1/2-cup borax and 1 gallon hot water.
- Instead of aerosol sprays, purchase products in pump sprays, roll-on or liquid.

Return to subjects

Hazardous Products and Guidelines

- Dispose on your own -- in the trash or down the drain. Many types of products can be conveniently and safely disposed of in the City's existing refuse and sewage systems. The City's H-POWER waste-to-energy facility and wastewater treatment plants can effectively and safely manage small quantities of specified materials. For example, most types of household cleaners can be safely flushed down the drain with plenty of water. Items such as paint and used oil can be safely disposed of with our rubbish, once they have been dried out or absorbed with materials such as rags, newspaper or sawdust.
- Special Handling -- call for an appointment Materials which present serious health and safety hazards, including pesticides and highly flammable substances like gasoline and kerosene, require special handling. Oahu residents can call 768-3201 or email for an appointment to drop off these materials at the hazardous waste handling facility contracted by the City. Drop-off days are coordinated every two months.
 Before you call to schedule a drop-off, please take an inventory of the materials you wish to dispose of (including type and quantity of material).



Oil change boxes, sold in local retail stores, not only make changing your motor oil easier, they can also be used to dispose of other items listed under "Dispose on Your Own." The absorbant material in the box can work well for the items with "absorb and trash" instructions

Review the lists under Special Handling and Dispose on your own to determine the proper way to handle your items. The lists reflect the more common items found at home and are not complete.

But before you get to the details, here are a few basic rules and guidelines for safe handling and disposal:

The disposal guidelines in this section apply only to small quantities disposed of by residential households. Households with large quantities of any type of hazardous waste must call the City's Refuse Division for disposal instructions. Commercial businesses and industrial operations must comply with City, state and federal regulations for disposing of their hazardous waste.

- Read product labels carefully for handling and use instructions.
- Keep all hazardous materials out of children's reach.
- Keep all hazardous materials in their original containers and labeled for

proper identification.

- Keep all hazardous materials out of the storm drain system. The water in storm drains flows directly to streams or to the ocean. Hazardous materials could seriously contaminate our environment.
- Carefully follow the disposal guidelines in this section. Only pour chemicals down the drain or put materials in the trash that are so designated. Improper disposal could injure workers, damage processing equipment, or harm the environment.
- If you are unsure about how to dispose of a material, or the material is not listed, call the Refuse Division at 768-3201.

Special Handling

The following materials require special handling at the drop-off event, scheduled every two months. **The next day is set for Saturday, April 4**, **2009**. Call 768-3201 to schedule an appointment, or email us. Requests for appointments must be placed by email or phone no later than one week prior to each event. Drop-off dates are scheduled every 2 months. Future event dates include: June 6, 2009; August 1, 2009; October 17, 2009; and December 5, 2009.

Schedule an appointment if you have these:

- Acetone Arsenic Boric Acid Chlordane DDT Dieldrin Dursban Fertilizers Formaldehyde Gasoline Herbicides Hydrochloric Acid Insecticides Kerosene Lead
- Lighter Fluid Mercury Muriatic Acid Paint Stripper Paint Thinner Paraquat Pentachlorophenol Paris Green Photographic Chemicals Rust Remover Solvents Swimming Pool Chemicals Turpentine Varathane Wood Preservatives

Dispose On Your Own

Material

- Aluminum Cleaners Ammonia Cleaners Antifreeze Auto Battery Auto Repair Products Bathroom Cleaners Batteries - Household Batteries - Rechargeable Brake Fluid Bug Sprays Compact Fluorescent Lights (CFLs)
- Diesel Fuel Disinfectants Drain Cleaners Fiberglass Floor Care Products Fluorescent Tubes Furniture Polish Hair Permanent Lotions Hair Relaxers Medicine (liquids)

Method

Flush down drain Flush down drain Absorb and trash Return to retailer Trash can Flush down drain Trash can **RBRC** drop-off Absorb and trash Sprays Wrap and Trash (click here for recycling options) Absorb and trash Flush down drain Flush down drain Trash can Absorb and trash Wrap and Trash Absorb and trash Flush down drain Flush down drain Absorb and trash

Medicine (pills)*	Trash can
Metal Polish with Solvent	Trash can
Oil products (motor oil, cutting oil, fuel oil)	Absorb and trash
Oven Cleaner	Trash can
Paint (see also Sprays)	Absorb and trash
Primer	Absorb and trash
Propane Tank	Drop-off
Shoe Polish	Trash can
Toilet Bowl Cleaners	Flush down drain
Transmission Fluid	Absorb and trash
Tub & Tile Cleaners	Flush down drain
Varnish	Absorb and trash
Window Cleaners	Flush down drain

*For child safety, tape containers and double-bag before tossing.

Flush down drain: Flush down the drain with plenty of water; rinse and throw empty container away in trash container.

Sprays: Place absorbent material in a plastic bag, spray until can is empty, being careful not to inhale the fumes; leave can in bag, then tie and throw bag away in trash container.

Trash container: Close container securely to prevent spillage, then throw away.

Drop off: Take to a Drop-off Convenience Center. Propane tanks may be empty, or fully/partially full. Or you can take tanks (empty or containing gas) to Air Liquide (fee). Call Air Liquide at 845-9021 (Kalihi) or 682-2151 (Campbell Industrial Park).



Do not put propane tanks in the trash. If they get into the H-POWER disposal plant, they EXPLODE!

Absorb and trash: Pour liquid into a plastic bag with absorbent material, such as shredded newspaper, old rags, or sawdust. Once liquid is absorbed, seal the bag, then throw away in trash can. An oil change box provides the same results. Paints can be hardened in the can,

Wrap and trash: Wrap bulb in newspaper and dispose of with your regular household trash. CFL recycling kits are available at www.prepaidrecycling.com

Return to retailer: Retailers of car batteries are required by law to accept your old battery when you purchase a new replacement. For excess batteries, call a battery recycler or ask retailers if they'll accept additional batteries.

Return to retailer: RBRC (Rechargeable Battery Recycling Corporation) a nonprofit, public service organization founded by the rechargeable power industry has introduced the Charge Up To Recycle! Program to Oahu. Drop-off in collection boxes at Home Depot and Radio Shack. For more information, please click here or visit www.rbrc.org.

Return to list of disposable products

Return to subject

then thrown away.



There is no reason to leave batteries on the roadside or let them pile up in your carport. Retailers are required to take your old battery when you purchase a new one and recycle it. Many retailers will take them without a sale. Or you can dropoff old batteries at **City Dropoff Convenience Centers**.

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FLOATABLES



Be an Everyday Clean Water Hero!

Be AWARE, take ACTION, report ACTIVITIES that adversely affect streams, drainage channels and the ocean.

BE AWARE:

Perhaps the most visible water quality pollutant, floatables, are water-borne litter and debris. The main source of floatables is street litter such as plastic bags, six-pack rings, styrofoam containers, and plastic bottles that end up in storm drains, streams and the ocean. Floatables clog drainage channels, harm fish and other aquatic life and and adversely affect the beauty of Hawaii's beaches and oceans.

TAKE ACTION:

- Use litter containers in public areas. Carry a litter bag in your car, truck or commercial vehicle.
- Carry out your trash from parks and beaches. Practice the 3 Rs: reduce, reuse, recycle.
- Bag your trash before placing it in the bin, especially lightweight items that can easily become windblown during collection, such as plastic bags. Use paper or reusable shopping bags if possible.
- Place garbage containers and bulky items at the curb for pickup no earlier than the evening before your scheduled collection day.
- Support community cleanups and other efforts to reduce litter.

REPORT ACTIVITIES:

City's Environmental Concern Line at **768-3300** or visit **www.cleanwaterhonolulu.com**

Reference: Revised Ordinances of Honolulu, City and County of Honolulu Storm Water Quality Branch, http://envhonolulu.org/solid_waste/, http://epa.gov/nps/toolbox/





9 POLLUTION TIPS

NEIGHBORHOOD

- 1. **Keep It Clean** It is your responsibility to keep sidewalks, curbs and gutters in front of your property clean.
- Dump No Waste Stencil storm drains with the message, "Dump No Waste, Protect Our Waters ... For Life," and keep waste materials from polluting our waterways.
- 3. Do It Right Use water-based paint and dispose properly.

CAR

- Use An Oil Change Box If you change your own oil be careful not to spill it in the street where it could enter the storm drain. Have old rags or other absorbent material handy to pick up the mess in case of a spill.
- 5. Use water and soap sparingly. Wash your car with a bucket, sponge, and nozzle on the end of the hose to conserve water and reduce the pollutants entering the ocean; too many pollutants in the water decreases water quality and can harm aquatic life.

YARD

- Cover Up Prevent soil and debris from leaving your property by replacing bare soil with vegetative cover or mulch and covering temporary stockpiles with tarps. Plant right for your site.
- 7. **Read The Label** Read and follow the label on all fertilizers and pesticides. The label is the law.
- 8. Yard Maintenance Gather leaves, grass clippings, and yard trimmings for proper disposal or composting. Practice smart watering. Use open pavers or other permeable paving that lets the rain soak into the soil. Minimize impermeable paving.
- 9. Pick It Up Remove and dispose of pet waste before you leave an area.

Laws and Ordinances

The Federal Clean Water Act gave the Environmental Protection Agency (EPA) the authority to implement water pollution control programs. Local statutes and ordinances address compliance and enforcement of the EPA's mandates.

The Revised Ordinances of Honolulu, Section 14-12-23(a) Environmental Quality Control-Violation states, "It shall be unlawful for any person to discharge or cause to be discharged any pollutant into any drainage facility which causes a pollution problem in state waters, or causes a violation of any provision of the city NPDES permit or the water quality standards of the State of Hawaii.

Discharging pollutants to the storm drain system is against the law. Violations can result in fines of up to \$25,000 per violation, per day.





www.cleanwaterhonolulu.com

부유물질



날<mark>마다 환경지킴이가 됩시다</mark>!

주의를 기울이고, 대책을 강구하며 하천, 배수통로 및 바다에 악영향을 미치는 행위들은 신고합니다.

주의 집중:

아마도 수질문제의 가장 눈에 띄는 부분으로서는 물을 따라 이동하는 쓰레기와 부스러기 등 부유물질이 되겠습니다. 부유물질의 주요 발생원인은 빗물 배수구, 하천 및 바다에 투기한 플라스틱 봉지, 6개들이 포장용 링, 스티로폼 용기, 및 플라스틱 병과 같은 길거리의 쓰레기입니다. 부유물질은 배수구 통로를 막고, 오리, 물고기, 거북이 및 새와 같은 수중생물을 해치며, 해양 및 해안지대의 심미적인 요소를 망가뜨립니다.

대책 강구:

· 공공장소에서는 쓰레기통을 사용합니다. 승용차, 트럭 또는 상용차량 내에 쓰레기봉지를 비치합니다.

• 공원 및 해변에서 발생한 쓰레기는 가지고 나옵니다. 3 R 운동을 실천합니다: Reduce(줄이기), Reuse(재사용), Recycle(재활용).

• 쓰레기를 쓰레기통에 버리기 전에는 봉지에 담아두며, 특히, 줍는 동안에도 바람에 날려가기 쉬울 정도로 가벼운 플라스틱 봉지와 같은 쓰레기들은 더욱 유념해야 합니다. 할 수만 있다면, 종이나 재사용이 가능한 쇼핑백을 사용합니다.

• 쓰레기 및 부피가 큰 물건들은 예정된 수거일 전 저녁시간 이후에 길가에 내놓아 쓰레기 수거가 이루어지도록 합니다.

• 커뮤니티 청소 및 기타 노력을 지원하여 쓰레기량을 줄입니다.

오염행위 신고: 시의 환경관련 신고전화 768- 3300 번 이용 또는 웹사이트 www.cleanwaterhonolulu.com 의 방문

· 참고문헌, 초놀동투 조례 개정판(Revised Ordinances of Honolulu), 초놀동투사 및 가운티 빗문수한관리 때(別은을 보진 때), http://envhonolulu.org/solid_waste/, http://epa.gov/nps/toolbox/





PET WASTE



Be an Everyday Environmental Hero!

Be AWARE, take ACTION, report ACTIVITIES that adversely affect streams, drainage channels and the ocean.

BE AWARE:

Pet waste is one of the many little sources of pollution that can add up to a major source of bacteria and excess nutrients that can cause algal blooms (overgrowth of aquatic plants that smother other aquatic life). These blooms use up the oxygen in the water that fish and other organisms need to breathe.

TAKE ACTION:

- Always carry a bag when you walk your pet. Use the bags as a glove to pick up the pet waste.
- Dispose in the trash or toilet. Leaving it on the ground allows bacteria to wash into the storm drain.
- Get involved in a pet group and remind others to pick up after their pet. Education is essential to changing people's behavior.

REPORT ACTIVITIES:

City's Environmental Concern Line at **768-3300** or visit **www.cleanwaterhonolulu.com**

Reference: Revised Ordinances of Honolulu, City and County of Honolulu Storm Water Quality Branch, http://epa.gov/nps/toolbox/







Auto Repair Industry BEST MANAGEMENT PRACTICES



Here are a few simple practices to reduce polluted runoff at local businesses such as auto repair shops, auto dealerships, car rental garages, gas stations, and high performance auto shops.

1. Proper Storage and Disposal of Hazardous Waste

Cover the work area to limit exposure to rain. Use secondary containment when storing batteries and hazardous liquids; keep liquid wastes segregated. Contact a licensed hazardous waste hauler to dispose of saturated absorbents.



4. Good Housekeeping

Routinely sweep the maintenance area, if it is paved, to collect loose particles, and wipe up spills with rags and other absorbent materials immediately. Do not hose down the area into a storm drain.



5. Preventing and Cleaning Up Spills

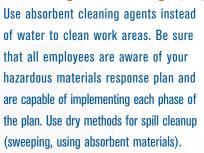
2. Material and Waste Handling Designate a special area to drain and replace motor oil, coolant, and other fluids where there are no connections to the storm drain. Do not pour liquid waste into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections.

3. Cleaning Auto Parts

Minimize use of solvents. Clean parts without using solvents whenever possible, or use water-based solvents for cleaning. Clean greasy hands with a waterless hand cleaner.

E Mālama I Ka Wai Ola Protect our waters... FOR LIFE







6. Storm Water Flow Patterns

Check off-site drainage patterns. (Where is water coming onto the site? Where is water leaving the site?) Reduce flow by use of open vegetated swales and other nonstructural measures.

7. Washing Vehicles

Vehicle wash water is not allowed in the storm drain system. Pretreatment may be required for discharge to the sanitary sewer; call 692–5137 or 692–5593 for more information.

"This is our home, our island, and we are all responsible for its health and beauty."

Mufi Hannemann, Mayor
City and County of Honolulu

To report illegal discharge or dumping or to participate in volunteer programs on O'ahu

One phone call... One website

692-5656 www.cleanwaterhonolulu.com



Auto Repair Industry BEST MANAGEMENT PRACTICES



INDUSTRY CAN HELP PROTECT OUR WATERS... FOR LIFE

Auto repair and maintenance are potentially significant sources of storm water pollution, due to the use of hazardous wastes during repair and maintenance processes. Engine repair and service (e.g. parts cleaning, replacement of fluids such as oil changes, and outdoor equipment storage) can affect water quality if storm water runoff picks up contaminants from these activites. Implementation of Best Management Practices, or BMPs, will help prevent or minimize the discharge of pollutants to storm water from vehicle and equipment maintenance and repair activities.

Laws and Ordinances

The Federal Clean Water Act gave the Environmental Protection Agency (EPA) the authority to implement water pollution control programs. Local statue and ordinances address compliance with enforcement of the EPA's mandates.

The Revised Ordinances of Honolulu, Section 14–12–23(a), Environmental Quality Control–Violation states, "It shall be unlawful for any person to discharge or cause to be discharged any pollutant into any drainage facility which causes a pollution problem in state waters, or causes a violation of any provision of the city NPDES (National Pollutant Discharge Elimination System) permit or the water quality standards of the State of Hawaii."

For More Information

Call the City's Environmental Concern Line at 692-5656 or visit our website at www.cleanwaterhonolulu.com to:

- · Report any situation that may pollute storm drains, waterways and beaches
- Report a clogged storm drain or catch basin
- Request fact sheets and educational materials
- Schedule a presentation on polluted runoff and BMPs or a walk-through assessment of your facility
- Volunteer to clean up a portion of a stream, City block or stencil storm drains with the message,

"Dump No Waste, Protect Our Waters ... for Life"



Emergency or spill in progress, call 911 or Hawaii Department of Health, Hazard Evaluation & Emergency Response: (808) 586-4249, (808) 247-2191 (after hours) Discharging pollutants to the storm drain system is against the law. Violations can result in fines of up to \$25,000 per violation, per day.



POLLUTION SOLUTIONS

to Help Protect Our Waters...for Life!

Best Management Practices for Builders & Contractors

Construction sites, by their very nature, are a large source of sediment, debris and pollutants. When planning and conducting your project, consider the following "green" best management practices:

- Do all construction work in phases. Complete clearing operations one stage at a time to take advantage of existing ground cover that provides a natural filter for sediment and other pollutants. Establish final vegetation and cover with mulch as soon as portions of the site are completed.
- Keep work areas clean. Clear out waste and litter at the work site daily. Sweep paved surfaces that flow to the storm-drain system. Collect and dispose of sweepings properly.
- Control runoff during construction and divert it from areas of exposed soil. This can be done with berms, ditches or pipe drainage systems. Reduce runoff velocities with vegetation or check dams.

- Protect storm drains close to your construction site against runoff with commercial filters or storm drain inlet protection.
- Collect and dispose of concrete wash water from construction sites promptly and properly. When cleaning concrete trucks and vehicles, use off-site facilities or wash in designated and contained areas only.
- Prepare for and clean up spills with a Spill Response Plan that includes key emergency contacts, clean up instructions and locations of spill containment and clean up devices.

THESE GUIDELINES HELP ENFORCE PROVISIONS OF THE CLEAN WATER ACT. NONCOMPLIANCE MAY RESULT IN FINES UP TO \$25,000 PER VIOLATION PER DAY!

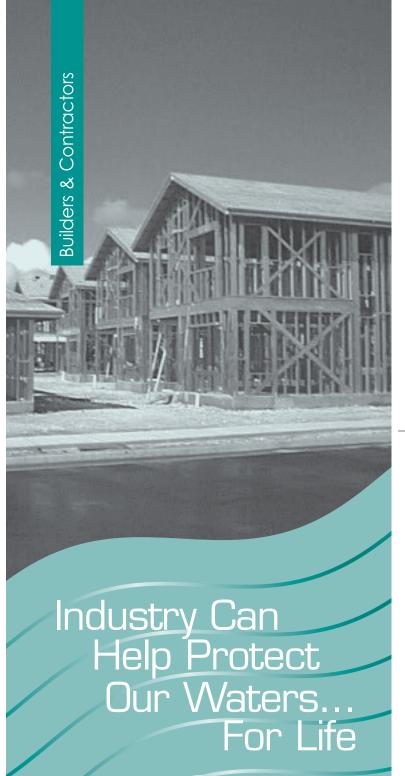
For more information call the Environmental Concern Line at 692-5656, or visit www.CleanWaterHonolulu.com.

City & County of Honolulu • Department of Environmental Services 1000 Uluohia Street, Suite 303 • Kapolei, Hawaii 96707





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ahu is home to nearly one million residents with new construction projects constantly occurring. The City & County of Honolulu Department of Environmental Services works in partnership with the construction industry in an ongoing effort to protect Hawaii's precious waterways.

Storm Water Stewardship & Ocean Pollution: Where the Flow Goes

Storm water runs from construction sites to streets, then into catch basins that lead to storm drains. Storm water eventually flows from drains into streams and surrounding coastline.



Hawaii's fragile aquatic environment is one of our most precious commodities. Government, communities, business and individuals need to work together to prevent pollution.

Policy for Pollution Prevention

The City encourages businesses to develop effective strategies on pollution prevention. When companies set standards to reduce waste, both management and employees become key parts in keeping Oahu an attractive place to live and visit. Environmentally conscious organizations also have strong public images as caring corporate citizens.



Partners for Pollution Prevention

While the City and private sector have done well in preventing urban runoff, we must continue to work together to keep our streets, beaches and ocean clean. The City's main priorities are educating businesses and the public on pollution prevention, advising on practical, cost-effective solutions and enforcing rules to ensure compliance.

Call 692-5263 for more information on the following:

- best management practices for effective storm water pollution prevention;
- recent changes to City ordinances and how to comply with them;
- or to schedule a walk-through assessment of facilities.

Requirements of the Law

It is the responsibility of all businesses to stay abreast of current Federal, State and City regulations.

For more information on permits and the latest applicable ordinances, call 692-5207 or visit www.CleanWaterHonolulu.com

Trash: Dispose of it with Care

Regular inspections should be conducted to ensure that dumpsters are leak-free and have tight-fitting lids. It is highly recommended that dumpsters and trash compactors are stored in covered locations. Maintenance staff should frequently clean up debris in trash areas with a broom rather than water. Whenever a trash container is cleaned, the water must be disposed of through a grease interceptor to a sewer. Keep liquid wastes out of dumpsters. Runoff due to dumpster leaks can lead to City fines.

For more information on refuse disposal, call 692-5411.



Storage of Chemicals

Store pesticides, fertilizers, paints, solvents and other chemicals in original containers in covered locations. Chemicals must be stored on elevated surfaces—away from contact with the ground.

Penalties & Fines

Businesses and property owners are liable for illegal discharges whether the work is performed in-house or contracted out. Non-compliance can result in fines up to **\$25,000 per day per violation.**

Educating the Construction Industry

The City asks that businesses educate employees about construction best management practices (BMPs) and encourages them to be "good neighbors" by using BMPs to help protect Oahu's environment.



Environmental Concern Line 692-5656

Call the Environmental Concern Line to...

- report any situation that may pollute storm drains, waterways and beaches
- report a clogged storm drain or catch basin
- request educational materials
- schedule a presentation on pollution prevention

*Cover photo provided by City & County of Honolulu



Pollution Solution FACT SHEET 4

CITY AND COUNTY OF HONOLULU MUFI HANNEMANN, MAYOR ERIC TAKAMURA, P.E., P.h.D, Director DEPARTMENT OF ENVIRONMENTAL SERVICES 1000 Uluohia Street, Suite 303 Kapolei, HI 96707 Environmental Concern Line: 768-3300 Fax: 768-3289

O ahu is home to nearly one million residents. The City and County of Honolulu works in partnership with the construction industry in an ongoing effort to protect our fragile aquatic environment.

When companies set standards to reduce waste, both management and employees become key parts in keeping Oahu an attractive place to live and visit. Environmentally conscious businesses have strong public images as caring corporate citizens.

WHAT IS POLLUTED RUNOFF?

When it rains, water flows over streets and yards carrying the pollutants it picks up into storm drains. This significantly impacts the quality of the water because unlike sanitary sewers, anything dumped into the storm drain system flows directly into the nearest stream and drainage channel without any treatment to remove contaminants.

Silt and sediment can smother bottom dwelling aquatic life, clog fish gills, and block sunlight needed by underwater plants.

With more than 20,000 storm drain inlets, and over 670 miles of storm drains to clean and maintain, we need your help.

TYPES OF POLLUTANTS

"Pollutant" means any waste, cooking or fuel oil, waste milk, waste juice, pesticide, paint, solvent, radioactive waste, hazardous substance, sewage, dredged spoils, chemical waste, rock, sand, biocide, toxic substance, construction waste and material, and soil sediment. The term also includes commercial FOG waste as defined under Section 14-5A.1.

Environmental Concern Line 768-3300 Help protect our waters ... for life!

OWNER-BUILDER



The City's main priorities are educating businesses and the public on pollution prevention, advising on practical, cost effective solutions and enforcing rules to ensure compliance.

What are BMPs?

"Best Management Practices" or "BMPs" means pollution control measures, applied to nonpoint sources, on-site or off-site, to control erosion and the transport of sediments and other pollutants which have an adverse impact on waters of the state. BMPs may include a schedule of activities, the prohibition of practices, maintenance procedures, treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, or drainage from raw material storage. *Revised Ordinances of Honolulu Section 14-12.2.*

BMPs for Owner-Builders

Construction sites, by their very nature, are a large source of sediment, debris and pollutants. When planning and conducting your project, consider the following best management practices:

1. Do all construction work in phases. Complete clearing operations one stage at a time to take advantage of existing ground cover that provides a natural filter for sediment and other pollutants. Establish final vegetation and cover with mulch as soon as portions of the site are completed.

2. Keep work areas clean. Clear out waste and litter at the work site daily. Sweep paved surfaces that flow to the storm-drain system. Collect and dispose of sweepings properly.

3. Control runoff during construction and divert it from areas of exposed soil. This can be done with berms, ditches or pipe drainage systems. Reduce runoff velocities with vegetation or check dams.

4. Protect storm drains close to your construction site against runoff with commercial filters or storm drain inlet protection.

5. Collect and dispose of concrete wash water from construction sites promptly and properly. When clearing concrete trucks and vehicles, use off-site facilities or wash in designated and contained areas only.

6. Prepare for and clean up spills with a Spill Response Plan that includes key emergency contacts, cleanup instructions and locations of spill containment and clean up devices.





Pollution Prevention (P2) in Action

Textile Cleaning



Regulation and Inspection

Textile cleaning today can be accomplished using many different cleaning technologies. In the past, the term "Dry Cleaning" was used for operations using Perchloroethylene or Perc chemical for cleaning. Although Perc is a good cleaner, it carries with it many negative environmental and health implications. Perc is toxic, suspected to cause cancer and can be released through the air and can also contaminate property/soil. Because of these concerns, Dry Cleaning facilities are visited regularly by environmental compliance inspectors. Dry Cleaners are responsible for taking several precautions to ensure that customers, workers, and the environment are protected. Dry Cleaning facilities must be equipped to protect workers from exposure to different health risks. Precautions must also be taken to prevent any harmful chemicals or materials from polluting the environment. Complying with environmental laws and reducing health and environmental risks at the source through pollution prevention, is a first step to help ensure worker and community safety. Changing to newer, safer technologies can further these efforts to protect our air, water and land, prevent risk of future liability and even reduce costs associated with the generation of waste.

New Technologies

New less toxic alternatives to Perc dry cleaning are now available:

- Wet Cleaning
- Icy Water
- Green Jet
- Hydrocarbon
- Pure Dry
- Carbon Dioxide

Waste Management Hierarchy (US EPA Policy, 1976)



Pollution prevention (P2) is reducing waste at the source = Source Reduction. P2 is using less toxic materials and using

resources efficiently (including water and energy) to reduce the generation of waste.

P2 can save businesses money while protecting our environment.

Volume 1, Issue 1

INSIDE

- Regulation and Inspection
- New Technologies
- P2 Action

Energy and **water** are precious resources for our community. Do your part to save by having an audit done and install the latest technologies; check for leaks and fix immediately; replace incandescent lights with low mercury fluorescent or LED lighting. Visit:

HECO <u>www.heco.com</u> BWS <u>www.hbws.org</u> (Oahu)



LINDA LINGLE Governor

DR. CHIYOME FUKINO Director of Health

Pollution Prevention (P2) Action

First, if you are now using a Perchloroethylene machine or "Perc", manage your operations appropriately:

- Train staff to avoid spills and exposure;
- Maintain equipment to prevent leaks;
- Dispose of filters, still bottoms and waste-water as hazardous waste.

Perchloroethylene (Perc) also goes by the name Tetrachloroethylene. Other chlorinated chemicals such as Trichloroethylene (TCE) and Methylene chloride (MeCl), are also suspected to cause cancer and are toxic.

Secondly, begin developing a business plan to phase out Perc use and save for the purchase of new less toxic technology. All of the following safer alternatives require new machines.

Wet Cleaning: This technology has actually been around for decades. It relies on water, detergents, conditioners and degreasers for cleaning of garments. The process involves computerized washer, dryer and specialized finishing/tensioning equipment. Most health and environmental problems are eliminated. Always check ingredients of "spotting chemicals" as some have been found to contain Perc or TCE. Use spotting chemicals that are Perc-free.

Icy Water: Like traditional wet cleaning, the icy water technology relies on water, detergents, conditioners and degreasers. Garments can be fully dried in the dryer.

Green Jet: Involves using a mist of water and detergent to clean clothes. It is best for lightly soiled clothing.

Hydrocarbon: The new hydrocarbon cleaning process uses a solvent that has a higher flashpoint than historical stoddard solvents and although it is still flammable it is less toxic than Perc. The hydrocarbon solvent can be distilled and reused generating very little hazardous waste.

Pure Dry: Is another type of hydrocarbon process, however it currently utilizes additives such as per-fluorocarbon (PFC) which is a global warming gas of concern.

Carbon Dioxide (CO2): Relies on liquid CO2 under pressure. The cleaning process does not require heat so is a gentle cleaner. Carbon dioxide is non-toxic. The CO2 is acquired from other industries and is used in a closed system, preventing the CO2 from entering the atmosphere therefore preventing global warming.

Other technologies such as **Green Earth** (Uses a volatile methyl siloxane (D5) which is toxic and a suspected carcinogen) or **Glycol Ether** (a process using a mixture of flammable ingredients) have safety and health concerns you should be aware of. Always ask for the Material Safety Data Sheet (MSDS) for a product and review it carefully.

TECHNOLOGY	CLEANING CA- PABILITY	ADVANTAGES	DISADVANTAGES
PERC	Aggressive	Process easy to use	Not good for delicates
Hydrocarbon	Gentle	Can clean delicates Good hand* In -kind technology	Can have bacterial growth Longer cycle time
Pure Dry	Gentle	Can clean delicates Good hand* In -kind technology	Can have bacterial growth Longer cycle time
Green Earth	Gentle	Can clean delicates Very good hand* In -kind technology	Longer cycle time
Glycol Ether	Aggressive	Cleans water soluble and oil based soils In-kind technology	Longer cycle time Water separation difficult Distillation boil over
Traditional Wet Cleaning	Aggressive	Can clean delicates	Finishing more difficult Not-in-kind technology
Icy Water	Aggressive	Can clean delicates May not need ten- sioning equipment	Longer drying cycle Not-in-kind technology **
Green Jet	Very Gentle	Can clean delicates Less finishing	Doesn't clean well Not-in-kind technology **
Carbon Diox- ide	Gentle	Good hands	Detergent issues Problems with acetate Expensive equipment Not-in-kind technology **

*the feel of the fabric ** Different than traditional perchloroethylene technology

Chart courtesy of IRTA and San Diego County HMD. Report information available on-line at: www.dtsc.ca.gov/PollutionPrevention/upload/P2_REP_Emerging_Technology_Textile_Cleaning.pdf

Note: Final determinations of the proper handling and disposal of waste are the sole responsibility of the waste generator. For more information, contact the DOH Solid and Hazardous Waste Branch phone: (808) 586-4226 or visit: www.hawaii.gov/health/environmental/waste/index.html

"P2 is a choice; being "green" is making that choice."



Pollution Solution FACT SHEET 3

CITY AND COUNTY OF HONOLULU MUFI HANNEMANN, MAYOR ERIC TAKAMURA, P.E., P.hD, Director DEPARTMENT OF ENVIRONMENTAL SERVICES 1000 Uluohia Street, Suite 303 Kapolei, HI 96707 Environmental Concern Line: 768-3300 Fax: 768-3289

O ahu is home to nearly one million residents who have a direct effect on our island environment and water quality.

WHAT IS POLLUTED RUNOFF?

When it rains, water flows over streets and yards carrying the pollutants it picks up into storm drains. This significantly impacts the quality of the water because unlike sanitary sewers, anything dumped into the storm drain system flows directly into the nearest stream or drainage channel without any treatment to remove contaminants. Waste oil has the largest environmental impact of all automotive products because it is insoluble in water, persistent, and laced with toxic chemicals and heavy metals.

With more than 20,000 storm drain inlets, and over 670 miles of storm drains to clean and maintain, we need your help.

WHAT ARE BMPs?

Many simple yet effective methods can be used to help reduce individual runoff. These are called Best Management Practices or BMPs.

Some storm water BMPs can be implemented when first planning and building the home and designing the landscape. Other can be incorporated into day-to-day activities. The cumulative effect throughout an entire watershed can contribute to improved storm water management.

WHAT ARE POLLUTANTS?

"Pollutant" means any waste, cooking or fuel oil, waste milk, waste juice, pesticide, paint, solvent, radioactive waste, hazardous substance, sewage, dredged spoils, chemical waste, rock, sand, biocide, toxic substance, construction waste and material, and soil sediment. The term also includes commercial FOG waste as defined under Section 14-5A.1.

"Pollution problem" means the discharge of any pollutant into state waters directly or by conveyance through a drainage facility which

MOTOR OIL



We can have a positive impact on our environment by minimizing runoff that drains into streams, estuaries, and the ocean. Sound environmental practices begin at home and at work. Here are nine simple actions we can incorporate into our daily activities to reduce pollution.

- 1. Keep sidewalks, curbs, and gutters clean.
- 2. Prevent soil and debris from leaving your property.

3. Gather grass clippings, fallen leaves, shrub trimmings and fruits, and dispose as green waste, or compost your yard trimmings

4. If you change your own oil, use an oil change box. The best practice is to have your oil changed by a shop that recycles their waste oil.

- 5. Remove and dispose of pet waste before you leave an area.
- 6. Use water-based paint and discard properly.

 Read the product label on fertilizers and pesticides and use as directed.
Wash your car on a lawn or gravel drive where the water will soak into the ground. Dispose of leftover soapy water in your bucket into a toilet or sink.

9. Keep household cleaning products from becoming hazardous waste.

MOTOR OIL

- The best practice to have your oil changed by a shop that recycles their waste oil.

- Use an oil change box if you change your own oil.
- Never use old oil to kill weeds or allow oil to go down a storm drain.

- When changing your oil, do it away from storm drains and have old rags around to respond in case of a spill.

- All junk autos are recycled. To arrange for free auto junking services for your car, call 532-4325 or go to Satellite City Hall. To report abandoned autos, call 733-2530. Do not store used vehicle parts on areas that drain to the storm drain.

Driving less is the best way to prevent pollution. Water quality tests show that polluted runoff comes from heavily traveled highways and streets.

Carpooling or using public transportation are great ways to help reduce the amount of pollution entering the environment.







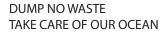
Discharging pollutants to the storm drain system is against the law. Violators can be fined up to \$25,000 per violation, per day.

Know the law to avoid fines. The Clean Water Act gave the Environmental Protection Agency (EPA) the authority to implement water pollution control programs. In an effort to comply with the EPA's mandate, the Revised Ordinances of Honolulu, Section 14-12.23(a) Environmental Quality Control - Violation states, "It shall be unlawful for any person to discharge or cause to be discharged any pollutant into any drainage facility which causes a pollution problem in state waters, or causes a violation of any provision of the city NPDES permit or the water quality standards of the State of Hawaii."

Be A Part Of The Solution

The City and County of Honolulu, working under Federal Clean Water Act Guidelines, has a number of public education programs that focus on community involvement and targeted enforcement to eliminate or reduce illegal discharge practices. Existing projects such as the storm drain stenciling, Adopt-A-Stream Workshops, World Water Monitoring Day, and Adopt-A-Block cleanup and monitoring programs, provide opportunities to train a commited neighborhood.

To volunteer call the Environmental Concern Line at 768-3300 or go to www.cleanwaterhonolulu.com, click on contact us.





Report It, Who to Call

As a resident, you can make a difference, both on the job and in your community. When you're at home, share your knowledge with neighbors and family. As you drive to work, report pollution of Oahu's storm drain system.

Call the City Environmental Concern Line: 768-3300 Storm Water Public Education and Outreach: 768-3289

Revised December 2007

www.cleanwaterhonolulu.com www.opala.org

Laws and Ordinances

Revised Ordinances of Honolulu (ROH)

Section 14-12.23 Environmental Quality Control--Violation. (a) It shall be unlawful for any person to discharge or cause to be discharged any pollutant into any drainage facility which causes a pollution problem in state waters, or causes a violation of any provision of the city NPDES permit or the water quality standards of the State of Hawaii.

(b) It shall be unlawful for any person to discharge or cause to be discharged any storm water runoff associated with industrial activity into any drainage facility which causes a violation of any provision of the city NPDES permit.

(c) It shall be unlawful to discharge domestic wastewater and industrial wastewater into any drainage facility or any separate storm sewer system.

It also shall be unlawful to discharge commercial cooking oil waste and commercial FOG waste, as defined under Section 14-5A.1, into any drainage facility or any separate storm sewer system.

(d) It shall be unlawful to discharge any storm water on any public right-of-way which creates a drainage problem or causes a nuisance.

(Sec. 16-6.23, R.O. 1978 (1987 Supp. to 1983 Ed.); Am. Ord. 92-122, 96-34, 02-14)

Sec. 14-20.1 Cleaning of sidewalks. Every property owner whose land abuts or adjoins a public street shall continually maintain, and keep clean, passable and free from weeds and noxious growths, the sidewalk and gutter area which abuts or adjoins the property owner's property; provided, however, that this requirement shall not apply where maintenance of an abutting sidewalk and gutter may be hazardous to the owner, or where a sidewalk and gutter, although abutting the owner's residential property, are so situated that there is no reasonable access from the property to the sidewalk and gutter. The term "sidewalk" as used herein, shall mean that portion of a street between a curb line or the pavement of a roadway, and the adjacent property line intended for the use of pedestrians, including any setback area acquired by the city for road widening purposes. The term "gutter" as used herein, shall mean that paved portion of a roadway immediately adjacent to the curb or that portion of a roadway in concrete and 12 to 14 inches wide immediately adjacent to the curb. (Sec. 20-4.1, R.O. 1978 (1983 Ed.))



Purchase used oil change box; soak up spilled oil and dispose of appropriately.





Restaurant and Food Industry BEST MANAGEMENT PRACTICES



Here are a few simple practices to reduce polluted runoff at local businesses such as bakeries, food producers and distributors, grocery stores, and restaurants.

 Keep dumpster area clean and lid closed. Don't fill it with liquid waste or hose it out. Repair or replace leaky dumpsters.



 Clean floor mats, filters and garbage cans in a mop sink, floor drain or proper outside area. Don't wash them in a parking lot, alley, sidewalk or street.



2. Pour wash water into a janitorial or mop sink. Don't pour it out onto a parking lot, alley, sidewalk or street.



4. Recycle grease and oil. Don't pour it into sinks, floor drains, or onto a parking lot or street. Pouring grease and food scraps down the sink can clog pipes and back up sewers.



 Use dry methods for oil and grease spill cleanup (sweep, use absorbent material) instead of hosing.



"This is our home, our island, and we are all responsible for its health and beauty."

Mufi Hannemann, Mayor
City and County of Honolulu



To report illegal discharge or dumping or to participate in volunteer programs on O'ahu

One phone call... One website

692-5656 www.cleanwaterhonolulu.com





INDUSTRY CAN HELP PROTECT OUR WATERS... FOR LIFE

The City and County of Honolulu, Department of Environmental Services, Storm Water Quality (SWQ) Branch works with businesses to minimize discharges of pollutants into the storm drainage system. This system is protected by a number of Federal and State laws and City ordinances. The Revised Ordinances of Honolulu, Section 14-12.23(a) Environmental Quality Control - Violation specifically states that, "It shall be unlawful for any person to discharge or cause to be discharged any pollutant into any drainage facility which causes a pollution problem in state waters, or causes a violation of any provision of the city NPDES (National Pollutant Discharge Elimination System) permit or the water quality standards of the State of Hawaii."

Both the Environmental Protection Agency (EPA) and State of Hawaii Department of Health (DOH) have identified restaurants as a major source of pollutants. Sources of pollutants include leaking trash bins; wash water onto a parking lot, alley, sidewalk or street; and food scraps, grease and used oil in sinks, floor drains, or onto a parking lot or street. These pollutants can also clog pipes, back up sewers or enter the storm drainage system by way of illegal connections.

Laws and Ordinances

The Federal Clean Water Act gave the EPA the authority to implement water pollution control programs. Local statute and ordinances address compliance and enforcement of the EPA's mandates.

The Revised Ordinances of Honolulu, Section 14–12–23(a), Environmental Quality Control–Violation states, "It shall be unlawful for any person to discharge or cause to be discharged any pollutant into any drainage facility which causes a pollution problem in state waters, or causes a violation of any provision of the city NPDES (National Pollutant Discharge Elimination System) permit or the water quality standards of the State of Hawaii."

For More Information

Call the City's Environmental Concern Line at 692-5656 or visit our website at www.cleanwaterhonolulu.com to:

- Report any situation that may pollute storm drains, waterways and beaches
- Report a clogged storm drain or catch basin
- Request fact sheets and educational materials
- · Schedule a presentation on polluted runoff and BMPs or a walk-through assessment of your facility
- Volunteer to clean up a portion of a stream, City block or stencil storm drains with the message,

"Dump No Waste, Protect Our Waters ... for Life"



Emergency or spill in progress, call 911 or Hawaii Department of Health, Hazard Evaluation and Emergency Response (808) 586-4249 or (808) 247-2191 (after hours) Discharging pollutants to the storm drain system is against the law. Violations can result in fines of up to \$25,000 per violation, per day.

Laws and Ordinances

Businesses and property owners are liable for illegal discharges whether the work is performed in-house or contracted out. Violations of the Clean Water Act can result in fines of up to \$25,000 per violation, per day.

Know the law to avoid fines. The Clean Water Act gave the Environmental Protection Agency (EPA) the authority to implement water pollution control programs. In an effort to comply with the EPA's mandate, the Revised Ordinances of Honolulu, Section 14-12.23(a) Environmental Quality Control - Violation states:

(a) It shall be unlawful for any person to discharge or cause to be discharged any pollutant into any drainage facility which causes a pollution problem in state waters, or causes a violation of any provision of the city NPDES permit or the water quality standards of the State of Hawaii.

(b) It shall be unlawful for any person to discharge or cause to be discharged any storm water runoff associated with industrial activity into any drainage facility which causes a violation of any provision of the city NPDES permit.

(c) It shall be unlawful to discharge domestic wastewater and industrial wastewater into any drainage facility or any separate storm sewer system. It also shall be unlawful to discharge commercial cooking oil waste and commercial FOG waste, as defined under Section 14-5A.1, into any drainage facility or any separate storm sewer system.

(d) It shall be unlawful to discharge any storm water on any public right-of-way which creates a drainage problem or causes a nuisance. (Sec. 16-6.23, R.O. 1978 (1987 Supp. to 1983 Ed.); Am. Ord. 92-122, 96-34, 02-14)

For violations, penalties and liabilities for grading, grubbing and stockpiling, go to http://www.honolulu.gov/refs/roh/14a10_19.htm.

Sec. 14-16.2 Notice of violationStop work	•
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- Sec. 14-16.3 Criminal prosecution.
- Sec. 14-16.4 Administrative enforcement.
- Sec. 14-16.6 Rule-making powers.

The chief engineer shall be empowered to promulgate rules and regulations pursuant to HRS Chapter 91, for the implementation of the provisions of Articles 13 through 16 of this chapter. (Sec. 23-4.3, R.O. 1978 (1983 Ed.); Am. Ord. 90-71)

Be A Part Of The Solution

Most contractors have employee training programs. Usually these address such areas as health and safety training and fire protection. Training on storm water management and BMPs can be incorporated into these programs. Employees can be taught through 1) posters, employee meetings, courses, and bulletin boards about storm water management, potential contaminant sources, and prevention of contamination in surface water runoff, and 2) field training programs that show areas of potential storm water contamination and associated pollutants, followed by a discussion of site-specific BMPs by trained personnel.

Revised December 2007

www.cleanwaterhonolulu.com www.opala.org

Hot Spots

Construction/Demolition Debris

Construction and demolition materials include materials that result from construction, remodeling, repair or demolition of buildings, roads, or other structures. It includes, but is not limited to, wood, concrete, drywall, masonry, roofing, siding, structural metal, wire, insulation and asphalt.

Residents and businesses are encouraged to recycle construction, demolition and landclearing (CDL) debris. Most construction debris can have a practical use. There are many recycling options for clean wood, metals, concrete, asphalt and natural vegetation. Call the Environmental Concern Line at 768-3300 for more infomation on disposal/recycling.



Storage of Chemicals

Store pesticides, fertilizers, paints, solvents and other chemicals in original containers in covered locations. Chemicals must be stored on elevated surfaces - away from contact with the ground.



Report It, Who to Call

As a resident, you can make a difference, both on the job and in your community. When you're at home, share your knowledge with neighbors and family. As you drive to work, report any illegal discharge.

Spill Response (Hazard Evaluation and Emergency Response)

- Local (HFD): 911 (24/7)

State (HSERC): 586-4249 (business hours), 247-2191 (after hours)
To report illegal discharge that has already occurred, call 768-3300
NPDES permitting questions: 768-3242

Polluted runoff public outreach: 768-3248 (City), 586-4309 (State)



