Public Health
MADISON & DANE COUNTY
Healthy people. Healthy places.

Illicit Discharge Guide for Field Staff

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INTRODUCTION

This guide was written to assist City of Madison field staff in identifying and reporting threats to surface water quality. Many commercial operations engage in illegal disposal practices to save time and money. Although these activities are prohibited, they are often overlooked, or are not recognized as a source of lake water quality degradation. Your assistance is vital to our effort to increase awareness of and deterrence from the illegal water quality threats described below.

Each section contains: a description of typically encountered activities with photographs; a priority level; and a brief description of how the contaminant affects the surface waters. A flow chart is included to assist in determination of the need to report a possible violation.

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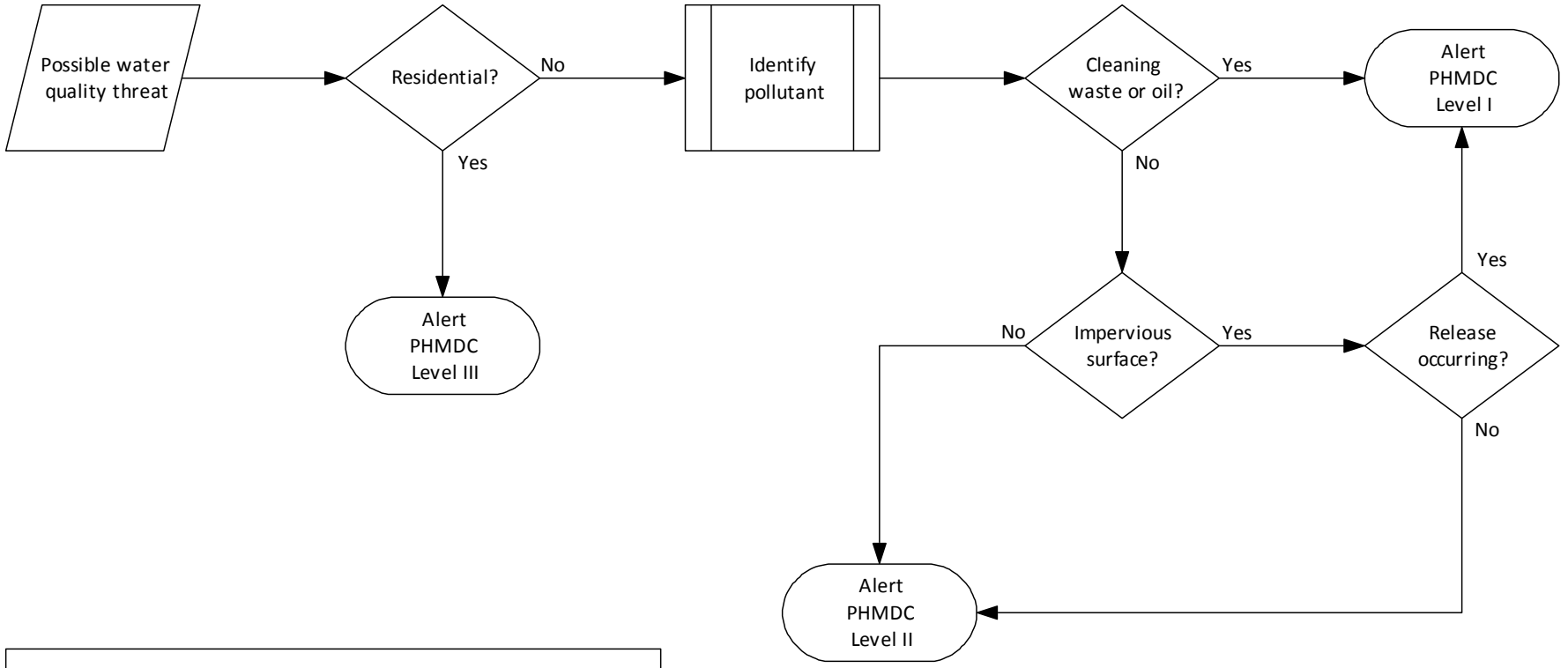

Level I: Material to be contained and removed ASAP

Level II: Material should be removed before a rain

Level III: Prevent future occurrences

Notification

Priority Level

There are three priority levels for notifying Public Health Madison and Dane County (PHMDC). They are assigned based on pollution potential. Level I violations have the greatest potential to degrade surface water. These violations typically involve dumping/disposal directly into the storm sewer or onto an impervious surface where it will be easily conveyed to the storm sewer or lake.

Level II violations lack the immediate threat that level-one violations pose. However, any level II violation observed before an impending rain should be upgraded to level-one notification. This threat level typically involves stains or residues on impervious surfaces or dumping on grassy areas.

Level III issues involve homeowners. These violations are usually small in volume, and are one-time events so they pose only minimal risk to the environment. Although a homeowner dumping used motor oil in a sewer inlet poses an immediate threat and notification should be prioritized accordingly. Note: apartment complexes are commercial ventures and violations at these properties should not be grouped with residential issues.

Observation Information

Obviously, the more information the field observer can gather, the better our decision-making process and response will be. However, an approximate location and general type of violation is enough to start the investigative process.

When time and safety considerations allow, the following prioritized list contains information that may increase our ability to issue a citation.

1. Location: address or intersection
2. Type of violation i.e. dumping in an inlet, fresh concrete stain in the gutter.
3. Observer's contact information.
4. License plate number or company name on vehicle.
5. Physical description of the responsible party.
6. Picture; include violation and company vehicle if possible.

Contact Information

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Violation Descriptions

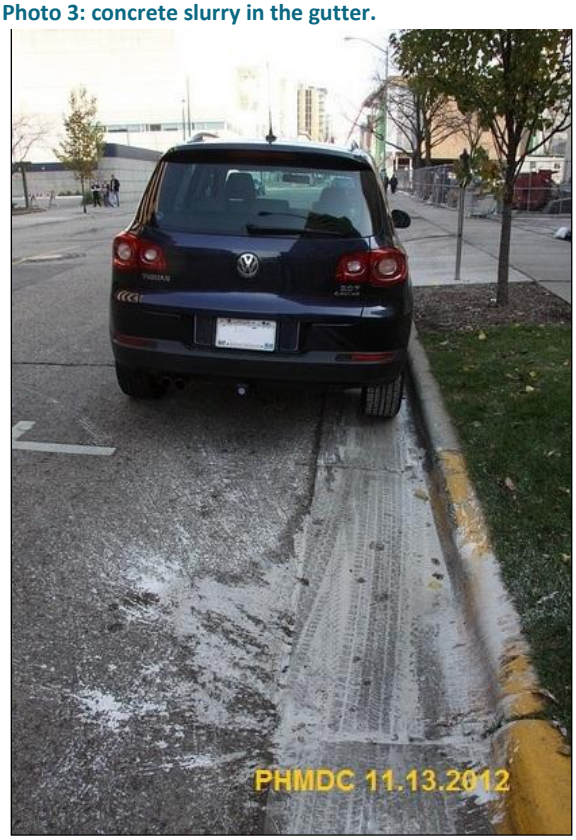
Concrete

Concrete waste is usually generated during wet cutting (produces slurry), tool clean-up, or chute washout. Slurry cannot be allowed to flow down the gutter. It can, however, be dammed up and allowed to dry, then collected. Tool clean-up and cement-truck chute washout waste must be containerized.

Photo 1: concrete slurry running down the sidewalk. The concrete saw is circled in red.

Photo 2: concrete-truck chute washout. Chute was washed in the circled area. Note the pile of coarse material. Contaminated wastewater flowed to storm sewer.

Photo 3: concrete slurry in the gutter.



Priority

Concrete waste that has dried in the gutter is priority 3. Concrete waste that is flowing down the gutter, or active chute or tool washing activities are priority 2. Flowing concrete waste that is causing a visible plume in a lake or river is priority 1.

Water quality issues

Discharges with a pH greater than 9.0 are prohibited. Concrete waste is highly alkaline and typically has a pH of 11-12. It is harmful to aquatic life. It is also high in suspended solids and will cause lake water to become turbid (visible as a white plume). It also contains elevated levels of toxic heavy metals.

Used Cooking Oil

Many restaurants amass large quantities of waste cooking oil and store it in on-site bulk containers. This creates several avenues for the introduction of oil into the storm sewer system.

1) Dumping of used oil in a storm sewer inlet.
2) Spillage during transfer of used oil to the bulk container.
3) Over filling of the bulk container.
4) Uncovered bulk container allowing storm water to displace stored oil.
5) Spillage during pick up by the waste handler.

Photo 4: overfilled container leaking used cooking oil to storm sewer.

Photo 5: overfilled bulk container.

Priority
Staining that indicates a history of oil spillage is priority 3. Pooled oil on any impervious surface (usually the gutter) is priority 2. Oil discharging from an outfall or flowing down the gutter is priority 1.

Water Quality Issues
Vegetable/cooking oils are high in oxygen demand which can cause localized fish kills. They also provide nutrients to fuel algae blooms.

Photo 6: storm water displacement of used cooking oil from a bulk container.

Paint
Paint discharges occur in several forms:

1) clean-up of tools on an impervious surface;
2) dumping of leftover paint from a roller tray;
3) disposal of paint in trash cans;
4) paint sprayers emptied over a storm inlet.

Photo 7: telltale staining from paint tool washing.

Photo 8: dumping of leftover paint from a roller tray.

Photo 9: oil based paint discharge from garbage truck.

Priority
Paint stains on an impervious surface are priority 3. Paint or paint clean-up waste flowing in the gutter is priority 2.

Water Quality Issues
Paint can add volatile organics, metals, solids, and significant turbidity to storm water. If paint or paint clean up waste flows to a wet or flowing storm sewer structure, the material will not dry and can significantly degrade the storm water. Paint solids that dry in the gutter will eventually be abraded by traffic or weathered and washed into surface waters.

Carpet Cleaning Waste
Carpet cleaning waste is usually discharged to the gutter or directly into a storm sewer inlet. ALL discharges from carpet cleaning equipment to a paved surface are prohibited.

Priority
Active discharging of any liquids from a carpet cleaning vehicle or machine is priority 2.

Water Quality Issues
Carpet cleaning waste can contain high levels of phosphorus, sediments, cleansers, and oxygen demand. Phosphorus is a major factor in algae blooms.

Photo 10: discharge of carpet cleaning wastewater to storm sewer inlet.

Photo 11: discharge of carpet cleaning waste water to gutter.

Automotive Fluids

Vehicle fluid leaks become an issue when they are severe enough to flow or pool in cracks or the gutter. Absorbents applied to pooled fluid must be retrieved as soon as all of the free liquid has been taken up.

Priority

Abandoned absorbent that has been applied to a spill or leak is priority 3. Pooled or flowing fluids are a priority 2. Priority levels increase if rain is imminent.

Water Quality Issues

Automotive fluids can contribute oxygen demand, oils and toxic heavy metals to surface waters.

Photo 12: pooled transmission fluid in the gutter.

Photo 13: absorbent applied to a hydraulic fluid leak. Absorbent must be collected.

Cleaning Wastewater

Illegal cleaning wastewater discharges can result from many different activities. Any non-residential outdoor washing activity that discharges to an impervious surface needs to be evaluated. Dirty mop water is often dumped out the back door of bars and restaurants also.

Priority

Any outside washing activity where foam is evident is priority 2. Wet areas indicating outside washing had occurred (except residential) are priority 3. Homeowners performing outside washing activities are exempt unless they are using solvents or degreasers.

Water Quality Issues

Wash water can contain nutrients, sediments, or toxins.

Photo 14: dismantled restaurant vent cleaned in the gutter.

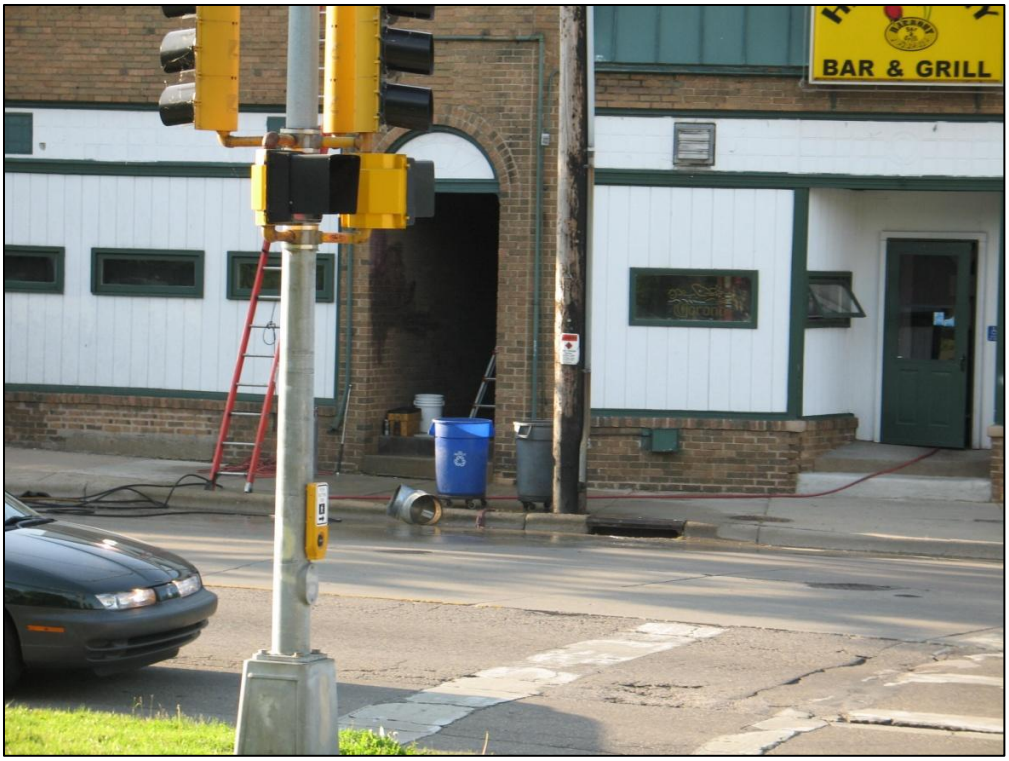
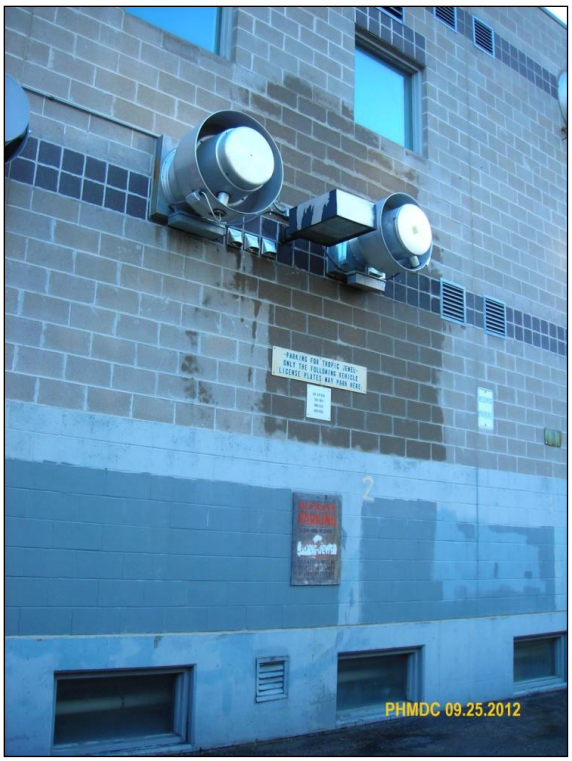


Photo 15: restaurant vent cleaning resulting in wastewater discharge to storm sewer.



Improper Storage of Polluting Material

Any material that has a potential to degrade surface water that is not stored securely should be reported. Used motor oil in an open container is the most commonly encountered violation, but things like used cooking oil in an open container or a rusty drum of unknown material should also be reported.

Photo 16: unsecured concrete slurry.

Priority

Unsecured storage violations are priority 3 unless rain is imminent, or there is a large volume of material (55 gallon drum).

Water Quality Issues

Bulk storage of liquid waste facilitates rapid transport to surface waters if there is a release.

Photo 17: leaking drum of motor oil; could be tipped over because of slope; leaking; absorbent not cleaned up.

Photo 18: unsecured waste automotive fluids.

Dumpster Leachate

Dumpster leachate usually becomes a problem during the summer months, particularly at grocery stores and restaurants. Discarded food wastes produce acidic byproducts as they break down (rot). If these organic acids leak from the dumpster, they can degrade surface waters.

Photo 19: staining from chronic leaking of dumpster leachate.

Priority

Staining in garbage dumpster areas is priority 3. Pooled liquid or a leaking dumpster is priority 2.

Water Quality Issues

Dumpster leachate is very high in oxygen demand. It also contains very high levels of nutrients.

Photo 20: pooled leachate and severe concrete etching from chronic dumpster leak.