2015

STANDARD OPERATING PROCEDURE – COMPLAINT RESPONSE

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Public Health Madison and Dane County
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INTRODUCTION

This standard operating procedure (SOP) was written to serve as a step-by-step manual on how to deal with threats to surface water quality in the City of Madison. The procedures can also be used for addressing issues outside Madison. However, Dane County's Code of Ordinances does not provide Public Health Madison and Dane County (PHMDC) with surface water protection authority similar to MGO 7.46. Thus, Dane County surface water violations are referred to the Wisconsin Department of Natural Resources (DNR) for follow-up.

Investigations are initiated by citizen complaints, referrals from other City and Dane County Departments and outside agencies, and serendipitous observations by Health Department staff. Complaints involving individual citizens focus on education in proper disposal practices and environmental consequences if they are not used. Referral of individuals for prosecution is generally reserved for repeat violations or cases where the offense is so egregious that it warrants a fine.

When a business is involved in a complaint, it is handled differently due to a greater potential for repeat violations. Business types that have a history of violations (carpet cleaners, pressure washers, restaurant vent cleaners) are sent an annual letter describing best management practices (BMP's) and the consequences of not using them. Thus, violations from commercial operators are considered deliberate actions and are usually referred to the City Attorney's Office for prosecution.

This SOP provides a look at the issues that should be addressed for any type of illicit discharge encountered. Photographs are included to demonstrate the visual clues that are typically encountered during an investigation. If a complaint is received regarding a particular type of violation, the user can click on the subject in the table of contents to access that section. A flow chart is included to assist inexperienced investigators in ensuring proper resolution of most water quality threats.

History of Illicit Discharge Enforcement in PHMDC

Public Health Madison and Dane County investigates citizen complaints and referrals from other City and Dane County Departments and outside agencies regarding illicit discharges and spills of potentially polluting substances. Complaints involving individual citizens focus on education in proper disposal practices and environmental consequences if they are not used. Referral of individuals for prosecution is generally reserved for repeat violations or cases where the violation is so egregious that it warrants a fine. When a complaint involves a business, it is handled differently due to a greater potential for repeat violations. While an individual homeowner may commit a violation once during a home maintenance project, a contractor may continually violate if they do not use or understand best management practices or follow the proper disposal procedures.

In 1996, we started sending annual warning letters to area carpet cleaners advising them of proper waste disposal practices. We have since expanded this mailing to include concrete contractors, pressure washing contractors, and lawn care businesses. The letters serve as the first step in due process so we refer all letter recipients for prosecution when they violate Madison General Ordinance (MGO) 7.46 (attached). The penalty section of MGO 7.46 was changed circa 2009 from $25-$500 to $50-$2000. Additional deterrence is afforded by imposition of clean-up costs.

Prior to 2005, violations that warranted a fine were referred to the Wisconsin Department of Natural Resources (DNR) for citation under Wisconsin State Statute §29.601(3). We referred our first case to the City Attorney's Office in 2005 and began phasing out reliance on the DNR for penalties. Note that City clean-up costs were assessed to responsible parties when possible.

We referred 23 cases in 2014. Most of the violations were committed by contractors who had received our warning letter. During this same time, one of our warning letters was returned from a contractor. A handwritten note was included, lauding our efforts. However, the author (a lawn care contractor), felt the fines were too low to provide a deterrent. This is a sentiment we have heard from other conscientious contractors in the past.

The citation process was amended when the penalty section of MGO 7.46 was adjusted. An escalator clause was added that provides for fines of $303 for the first violation, $681 for the second violation within five years, and $1311 for all subsequent violations within five years.

Consider the following points to aid in determining the appropriateness of a fine.

1. Did the responsible party (RP) receive a warning letter?

- All parties receiving annual BMP notification should be cited for any violation. If the RP had controls in place, the investigator will have to assess the cause and magnitude of the control failure. A warning may be suitable in some instances.

2. Is the RP a commercial operation?
   - Keep in mind that commercial operations are likely to repeat the violation many times.
   - Some industries may not deal with storm water or related waste disposal issue routinely. A warning may be effective in these instances.
3. Did the RP illegally discharge waste because it was more convenient than proper disposal?
   - Convenience dumping should be cited. An exception may be made for a small volume of relatively innocuous material.
4. Are there considerable clean-up costs?
   - While it may seem unnecessary to cite an RP when they will receive a large bill for clean-up operations, a citation may still be appropriate as a penalty. Repeat violations or releases that were exacerbated by the RP's inaction demonstrate a need for increased deterrence.
5. Is it reasonable to expect that the RP knew or should have known the impacts/illegality of their actions?
   - This question can best be answered by interviewing the RP.
6. Is there a high probability the RP will repeat the violation?
   - This question can best be answered by interviewing the RP.
7. Did the release cause measurable environmental impacts?
   - Take samples and consult with the supervisor and chemist if this is unclear.
   - Aesthetics should also be considered. A lingering stench or discoloration should be evaluated.
8. Was the release accidental?
   - Accidental releases should not be cited unless the discharge was foreseeable.
   - A release caused by poor maintenance is not an accidental release.

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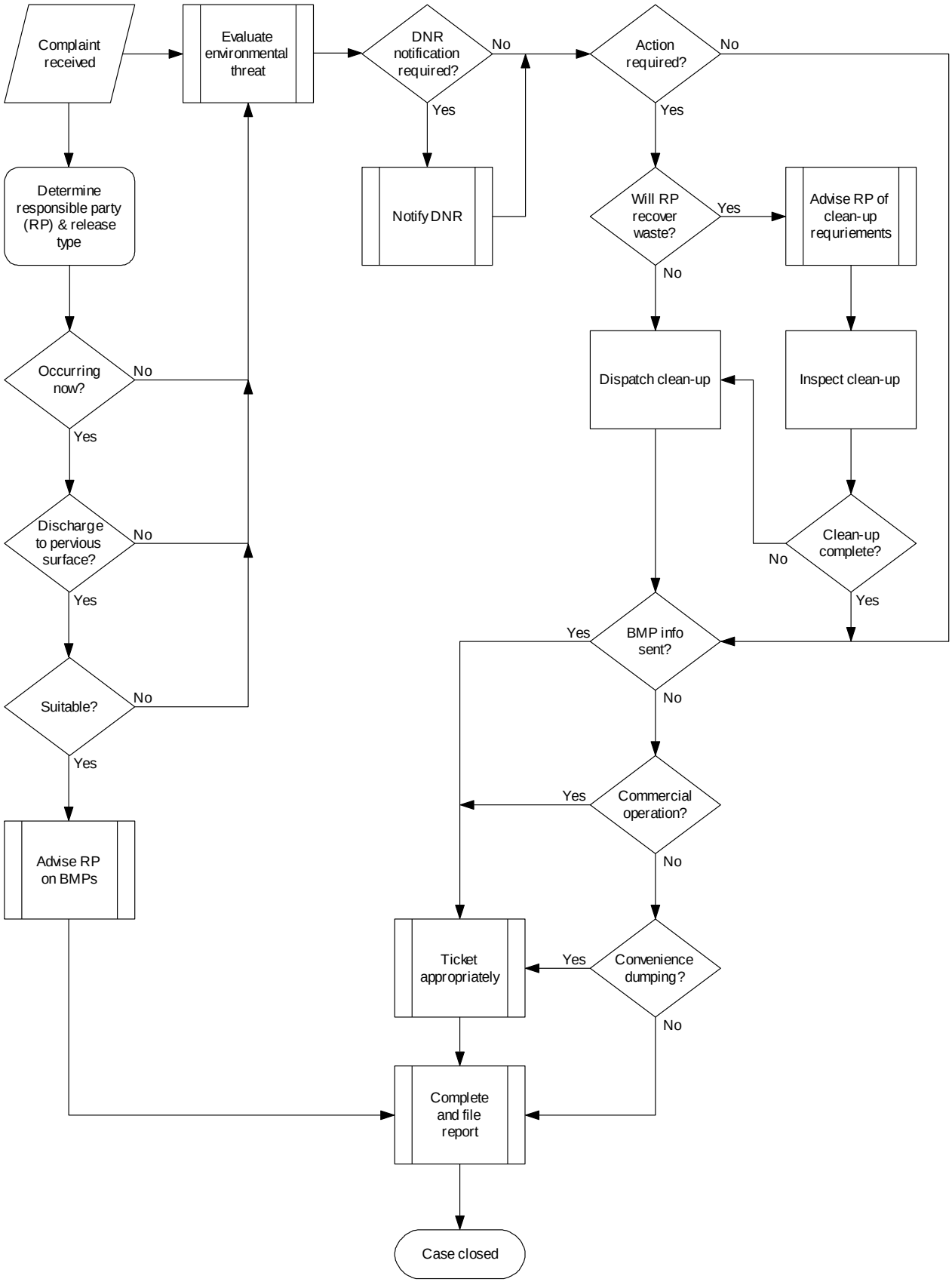
1. Complaint Response Process

1.1. Flow Chart



2. Reporting Process

2.1. Complaint Entry

2.1.1. Complaints are entered in Accela at intake.

2.1.2. Log in by going to: HTTPS://AV.CITYOFMADISON.COM
- Agency: madison (lower case)
- User Name: heXXX (your Health Dept ID)
- Password: your Health Dept password

2.1.3. In the record panel:
- Click the "New" button.
- Group: select "Enforcement".
- Type: select "Health".
- Subtype: select "Complaint".

2.1.4. Scroll past the "Parcel" section. This data will be automatically entered for all complaints that are assigned an address.
- Enter the complainant information. The only field that MUST be entered is "Last Name". Enter "anon" if this information is not available, or the complainant wishes to remain anonymous.
- Enter the address of the problem site.
- Click the "Get Parcel & Owner" button. Accela will auto fill the required parcel and owner information.

2.1.5. Enter the complaint details in the "Narrative" section.

2.1.6. Select "General Env Health" from the drop down menu for "Program belongs to".

2.1.7. Under "Water Quality" select the category or categories that are applicable.

2.1.8. In the "Record Detail" panel, under "Created by Department" select "Licensing – Health Department Environmental Protection".
- Choose the same category for the "Assigned to Department"

2.1.9. Select the appropriate staff person from the drop down menus for "Created by Staff" and "Assigned to Staff".

2.1.10. Click the "Submit" button.

2.1.11. Highlight the newly created complaint in the "Record" panel.
- In the "My Navigation" pane select "Workflow". This will open a new panel below the "Record" panel.
- Under "Workflow Tasks", "Intake" should be in red font.
- Click the red "Intake".
- Select "Pending Investigation" from the "Status" drop down menu.
- Click "Submit"

2.1.12. The complaint has now been assigned and an e-mail notice sent to the supervisor and the assigned investigator.

2.2. Investigation entry

- Highlight the case number in the "Record" panel.

- Click on “Workflow” in the “My Navigation” pane.
- Click on the red “Investigation” under “Workflow Tasks”.
- Enter the “Status” and comments then click “Submit”.

2.3. Document and photo attachment:

- Highlight the case number in the “Record” panel.
- Click on “Documents” in the “My Navigation” pane.
- Select “New” from the “Manage Documents” drop down menu.
- Click on the “Add” button.
- Click “Select File”.
- Double click on a file to select it.
- Click “Finish”.
- Click the “Save” button.

2.4. Closing a file:

- A file will close when the status is changed to “follow-up complete”, “No violation”, or “Referred”.
- This can be confirmed by checking for “Closed” in red font, in the workflow pane.
- When a file is closed, notify the supervisor so the final closing action can be taken (supervisor’s sign-off after review).

3. DNR Notification Process

Notify the DNR spills coordinator, Mike Schmoller, at 608-275-3303 whenever any of the following conditions are encountered:

- A release may present a fire, explosion, or other safety hazard.
- A release may adversely impact air, land, or water of the state.
- A release may cause chronic/acute human health impacts.
- A release of greater than 1 gallon of gasoline onto a pervious surface or that runs off an impervious surface.
- A release of greater than 5 gallons of any other petroleum product onto a pervious surface or that runs off an impervious surface.
- A release of greater than 250 pounds of dry fertilizer.
- A release of greater than 25 gallons of liquid fertilizer.
- A release of pesticide that would cover more than 1 acre if applied according to label directions.
- A release will generate lingering visual effects that will compel citizens to contact the DNR for follow-up.

4. Best Management Practices

This group of BMPs is meant as a quick reference for the most common issues and some widely accepted ways of dealing with them. Each case is unique and proper waste management may vary.

4.1. Concrete

- Concrete waste is usually generated during wet cutting (slurry), tool clean-up, or chute washout.
- The preferred method for slurry containment is to capture the material with a wet-vacuum near the point of generation.
- Wet cutting should be done using just enough water to minimize dust. Slurry cannot be allowed to flow down the gutter.
- Slurry can be stockpiled in the gutter and recovered after it has dried.
- Tool clean-up and chute washout waste should be containerized. Optimally, polymer can be added to harden the waste and wastewater. The hardened material can be disposed of as solid waste.
- If a polymer hardener is not used, the waste water must be allowed to evaporate, it cannot be decanted to a pervious surface.
- It is the responsibility of the concrete contractor to provide a chute washout facility.

4.2. Carpet Cleaning Waste

- All waste water must be discharge to the sanitary sewer.
- Discharges of any water from a carpet cleaning storage tank or machine are illegal.
- Discharges of clean water to the storm system require a license under MGO 7.47, and are site-specific. Mobile operations are not issued permits.

4.3. Used Cooking Oil

- Releases of used cooking oil should be recovered with absorbents.
- Absorbents must be collected as soon as recovery is complete.
- Absorbents must be collected before any storm event that may flush them to the storm sewer.
- Heavy residual cooking oil can be removed with a degreaser. However, the degreaser must be recovered and cannot be flushed to the storm sewer. Further, the degreaser residue must be rinsed off and the rinsate recovered.

4.4. Wash Water

- If quality or quantity of the release may cause adverse impacts, engineering should be contacted for removal from the storm sewer.

- If residuals left on an impervious surface are also a concern, the material can be flushed to the storm sewer when engineering begins recovery operations.

4.5. Paint Waste

- Paint tool clean-up should be performed indoors so the wastewater is directed to the sanitary sewer.
- If clean-up is done outdoors, the waste should be containerized and disposed of in the sanitary sewer.
- Partial cans of paint can be securely stored with the lids off so the paint dries, and then discarded with the trash.

4.6. Used Motor Oil

- Used motor oil spilled on an impervious surface should be recovered the same as used cooking oil.
- Soil contaminated with motor oil should be excavated. It can be treated as solid waste.
- For oil dumped in a flowing or partially submerged storm sewer, an absorbent boom should be placed over the outfall to capture any residue that engineering cannot recover.

4.7. Outdoor Washing

- See the DNR fact sheet on outdoor washing at: http://dnr.wi.gov/topic/wastewater/documents/59153_fs.pdf for BMPs.

4.8. Automotive Fluid Leaks

- Pooled liquids should be recovered with an absorbent.
- Minor leaks can be captured on a scrap of carpet or corrugated cardboard. However, the material must be discarded before it is saturated.
- Any absorbent used must be recovered before any rain event.

5. Ticket Writing Procedure

5.1 Consult the History of Illicit Discharge Enforcement document at the end of this SOP when considering the need for a citation.

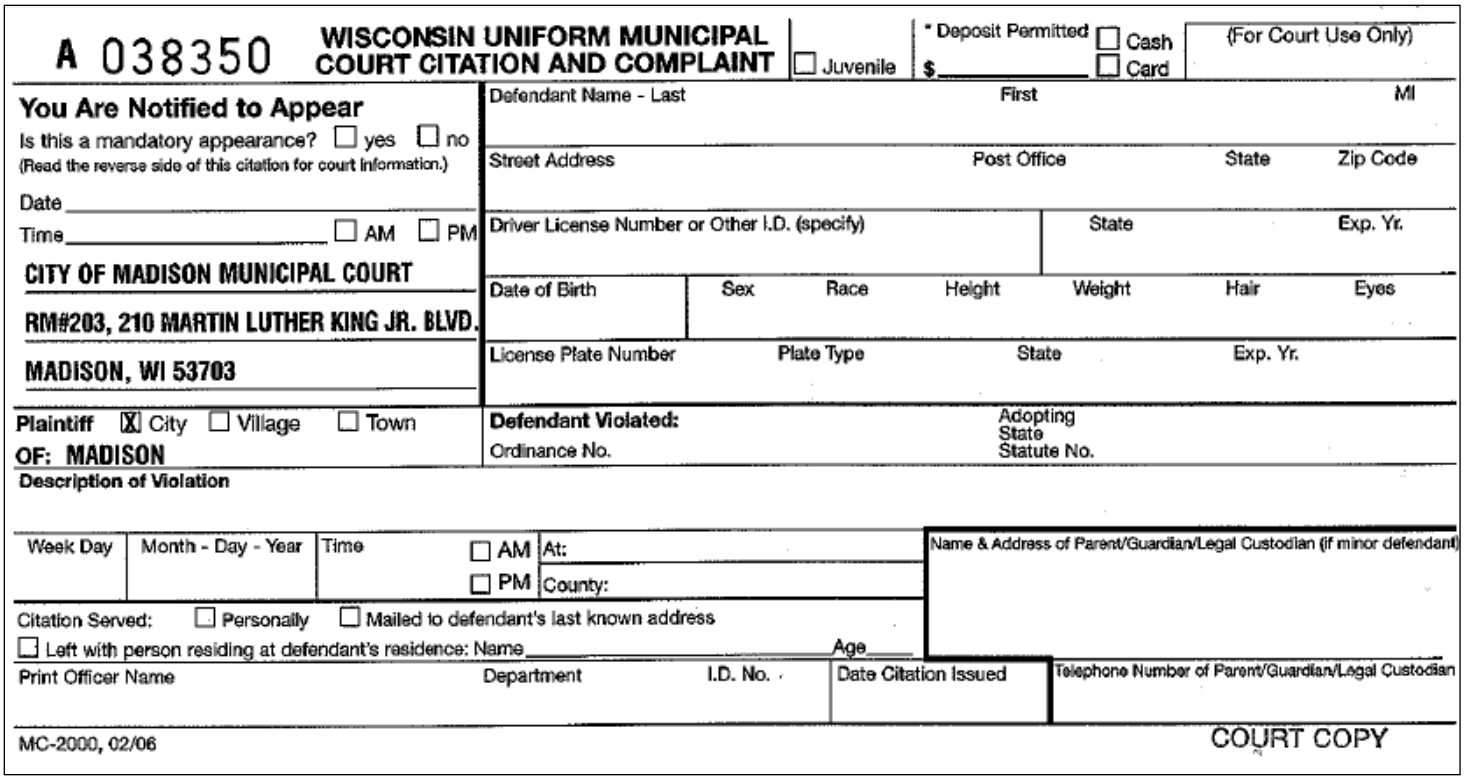
5.2 Contractors that receive an annual warning letter are cited, unless there are mitigating circumstances.

5.3 Check the RP table for past offenses by the violator.

5.4 Inform the RP of the pending citation either in person or by phone.

5.5 Figure 1 displays a standard citation form. The following instructions describe the required information starting with the “Juvenile” check box and proceeding left to right, top to bottom.

Figure 1 City of Madison citation form.



A 038350 **WISCONSIN UNIFORM MUNICIPAL COURT CITATION AND COMPLAINT** ☐ Juvenile * Deposit Permitted $_____ ☐ Cash ☐ Card (For Court Use Only)

You Are Notified to Appear
Is this a mandatory appearance? ☐ yes ☐ no
(Read the reverse side of this citation for court information.)
Date _____
Time _____ ☐ AM ☐ PM
CITY OF MADISON MUNICIPAL COURT
RM#203, 210 MARTIN LUTHER KING JR. BLVD.
MADISON, WI 53703

Defendant Name - Last | First | MI
Street Address | Post Office | State | Zip Code
Driver License Number or Other I.D. (specify) | State | Exp. Yr.
Date of Birth | Sex | Race | Height | Weight | Hair | Eyes
License Plate Number | Plate Type | State | Exp. Yr.

Plaintiff ☒ City ☐ Village ☐ Town
OF: MADISON
Defendant Violated:
Ordinance No.
Adopting State Statute No.
Description of Violation

Week Day | Month - Day - Year | Time ☐ AM ☐ PM | At: | County:
Name & Address of Parent/Guardian/Legal Custodian (if minor defendant)
Citation Served: ☐ Personally ☐ Mailed to defendant's last known address
☐ Left with person residing at defendant's residence: Name _____ Age ____
Print Officer Name | Department | I.D. No. | Date Citation Issued | Telephone Number of Parent/Guardian/Legal Custodian

MC-2000, 02/06 COURT COPY

- Deposit permitted -- this is the base deposit found in MGO 108(3)(a) plus all mandatory court costs. For MGO 7.46 violations the amount entered should be: 1st offense: $303; 2nd within 5 years: $681; 3rd and subsequent within 5 years: $1311.
- Appearance is not mandatory for these citations so check the "no" box.
- The defendant is the individual or company that committed the violation. The middle initial is not necessary. For companies/corporations, enter the name in its entirety. Be sure spelling is correct.
- Pick a court date for the initial appearance that is 4-6 weeks out. The date must be a Tuesday or Wednesday at 8:30 am.
- Provide the defendant's entire home address. If citing a company/corporation, enter their mailing address.
- Driver's license number or state identification information is not required.
- Date of Birth, physical description and vehicle information are not required.

- "Defendant Violated:" must be provided. Enter the chapter, section and the appropriate subsection i.e. 7.46(3) for illegal dumping and 7.46(8) for improper storage.
- "Adopting State Statute No." is not required.
- Provide a description of the violation that is sufficient to serve notice to the defendant.
- Provide the exact date and approximate time the violation occurred. If the time is unknown, the case must be referred to the attorney's office for a long form complaint.
- Enter the location of the violation.
- Citations may be personally served, or mailed. Check the appropriate box.
- Enter your personal information. You must have an ID number to issue citations. Consult the supervisor to obtain a number from the police department.
- Enter the date the citation was issued.
- Enter pertinent information on the back of the ticket in the "Incident Report" section. This is the information the Attorney's Office will use if the case goes to court. Photographs can be stapled to the back.

6. ILLICIT DISCHARGES

6.1. Concrete Waste

6.1.1. Problem:

All concrete waste results in prohibited levels of suspended solids. Of greater concern however, is the caustic nature of the dissolved components of the slurry. Concrete wash water typically has a pH near 12. Concrete waste also contains elevated concentrations of toxic trace metals.

6.1.2. Investigation:

Illicit discharges of concrete waste are typically generated by: wet cutting; chute washout; or tool cleanup. Filtering with fabric or sand berms does not treat the high pH or the toxic metals contained in the slurry. ALL CONCRETE WASTE SHOULD BE CONTAINED AND REMOVED FROM THE SITE. There should little concrete residue in the gutter, nor should there be any concrete deposited on any permeable surface.

Photo 1 Intentional wash down of wet cut slurry without containment or retrieval.

- Ascertain the identity of the responsible party (RP). Contractors usually identify their sidewalk installations by stamping their name into the concrete. City Engineering staff can identify any contractor working in the right of way. On private property, the owners can be held responsible if they are unwilling to divulge the name of the contractor.
- Photo-document as much as possible.

6.1.3. Enforcement:

- All concrete contractors are sent BMP information every spring, so all cases should be cited. For violations where the time of occurrence is unknown, refer to the City Attorney's Office.
- Inform the site foreman, or the contractor's management when citing or referring to the City Attorney.
- Require the RP to clean up any concrete waste that can be recovered. If liquids have entered the storm sewer, contact City Engineering for removal.

Photo 2: Concrete truck chute washout.

Photo 3: Concrete slurry splashed onto sidewalk by passing vehicles.

6.2. Illegal Dumping

Illegal dumping incidents typically involve the disposal of waste in a storm sewer inlet or street gutter.

6.2.1. Carpet cleaning waste

6.2.1.1. Problem:

Carpet cleaning waste can contain high levels of phosphorus, sediments, cleansers, and oxygen demand.

6.2.1.2. Investigation:

Carpet cleaning waste is usually discharged to the gutter or directly over an inlet. However, discharge to a permeable surface is also prohibited. If a carpet cleaner is observed discharging ANY water, inform them that their actions are illegal and must be stopped immediately. If they claim they are discharging clean water, inform them that they are required to have a site specific permit to do so.

- Record the business name, operator name, and vehicle license plate number.
- Collect hair and fiber samples and waste water if possible.
- Photo-document as much as possible

Photo 4: Hair and carpet fibers in gutter.

- If the RP has left the site, obtain the above information from the complainant or the property owner. Inform the property owner of their potential liability if a RP is not named.
- Canvass the area for possible witnesses if needed.
- Check department records to determine if the business has received our best management practices information.
- Contact the manager; ask if they received our letter (if applicable).
- Ask for a written copy of their waste disposal practices.

Photo 5: Discharge of carpet cleaning waste water to storm sewer inlet.

6.2.1.3. Enforcement:

Cite the RP if they have received a warning letter. Issue a second/third offense citation to repeat offenders to increase the fine imposed.

6.2.2. Used cooking oil

6.2.2.1. Problem:

Vegetable/cooking oils are high in biological oxygen demand.

6.2.2.2. Investigation:

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 6: Staining caused by dumping of used cooking oil in storm sewer.

- Whenever there is an indication that oil has entered the storm sewer, examine access structures to determine the need for removal of waste by a vactor crew.
- Minor spills – Clean-up of a minor spill is a difficult call. If the spill is small enough, an absorbent can be used to clean up most of the waste; clay cat litter, or even paper towels will work.
- If an absorbent is applied, it must be collected as soon as it has taken up the waste to prevent it washing into the storm sewer during a rain event.
- Pooled liquid or extensive, heavy tracking (see photo 7) require thorough clean-up. Pooled liquid must be recovered with an absorbent. Heavily tracked pavement must be cleaned in small sections with a degreaser, and then the degreaser must be recovered. Then the area must be flushed. The waste water generated by flushing must be contained and recovered. There must not be any degreaser residue remaining. Caution the responsible party that improper or sloppy clean-up will

Photo 7: Overfilled bulk container. The flowing oil was tracked throughout the parking lot by delivery trucks.

exacerbate the problem and may result in the added expense of a City crew cleaning the area properly.

- Storm water displacement – If storm water runoff is allowed to flow into an open bulk grease storage container (e.g. gutter overflow) it will displace the oil and cause a yellow layer of grease on the surface of the runoff (see Photo 8). Eyewitness accounts are usually the best evidence as storm water will have washed away most releases. Check downstream storm sewer structures for oil. If a layer of oil is present, have a Vactor crew dispatched for clean-up.
- Spillage by waste hauler – A spill created by a waste hauler is difficult to prove. For minor stains, remind the waste generator of the fate of spilled cooking grease. If the spill was large enough to cause pooling or tracking, recovery efforts should be made. The location of a spill/stain may be the only information available to determine the responsible party. Require the waste hauler to apply and recover absorbent when the location of the spill is clearly not associated with bulking the waste. In all other situations require the waste generator to perform clean-up. If

Photo 8: Storm water displacement of used cooking oil from a bulk container.

the spill is in the street, require immediate application and recovery of absorbent so the material is not crushed and scattered by traffic.

6.2.2.3. Enforcement:

Issue a warning for a first offense if the RP provides timely and thorough clean-up. If deliberate dumping occurred, staining indicates poor housekeeping, or for repeat violations, issue a citation. Issue a repeat offense citation, to increase the fine imposed, when appropriate.

6.2.3. Wash water

6.2.3.1. Problem:

Used wash water can contain nutrients, sediments, or toxins.

6.2.3.2. Investigation:

Disposing of dirty mop water by dumping the water out the back door is a common practice at bars and restaurants. Ponding water or staining will be evident if this is occurring.

- Check the nearest storm sewer inlet for food scraps or mop fibers.

Photo 9: Disposal of dirty mop water out back door of restaurant.

- Contact the manager. Ask to see their indoor drain for mop water disposal. Check for signs of disposal occurring there (spillage, fibers).
- Issue clean-up orders as appropriate and issue a warning that future violations will be prosecuted.

6.2.3.3. Enforcement:

- For other situations, refer for prosecution if records indicate this violation has occurred in the past, or evidence suggests that this is a recurring violation.

6.2.4. Paint and paint clean up waste

6.2.4.1. Problem:

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.

6.2.4.2. Investigation:

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) illegal disposal of paint in trash cans;
4) paint sprayers emptied over a storm inlet.

When a discharge to the storm sewer has been discovered, evaluate the need for clean-up immediately. Sprayer waste will usually be dry. If this is the case, no further clean-up is necessary. If there is liquid in sufficient quantity to recover, notify City Engineering staff for removal.

Identification of the RP can usually be made by observation of freshly painted surfaces nearby. If traffic markings were freshly painted, contact City Engineering staff for identification of the contractor/department. Otherwise, check for fresh paint on a structure. Question the property owner for identification of the RP. A property owner that is reluctant to divulge the RP is usually the RP. Inform them that they can be held liable in the absence of an identified RP.

Illegal disposal of paint in the trash occurs when a full or partial can of paint is put in a trash bin. When the truck picks up the waste, the can is crushed in the compactor. If there is enough paint, it will seep out of the truck along the route. There is usually no evidence of the RP in these cases, as the paint may be old and not related to any recent painting, or released too far from the disposal site.

6.2.4.3. Enforcement:

- If clean-up by City Engineering is required, relay RP information to City Engineering staff for billing.
- Cite commercial operations as appropriate.

Photo 10: Dumping of leftover paint from roller tray.

Photo 11: Paint sprayer discharge.

Photo 12: Telltale staining from paint tool washing.

Photo 13: Oil base paint discharge from garbage truck.

6.2.5. Used motor oil

6.2.5.1. Problem:

Used motor oil contains numerous toxic substances including PAH's and heavy metals from engine wear.

6.2.5.2. Investigation:

Used motor oil or anti-freeze can be dumped by "parking lot mechanics". If used oil is dumped into a partially submerged storm sewer, it will float down stream across the surface of the water. It can thus flow out of an outfall without a discharge to flush it from the pipe. Oil deposited in a dry storm sewer may not appear as a sheen on a surface water for days or weeks.

Lacking an eye witness, identifying a RP is very difficult. Assess the volume of oil dumped and deploy an absorbent boom, or contact City Engineering staff for clean-up as appropriate.

6.2.5.3. Enforcement:

Cite the RP if the dumping was deliberate. Provide City Engineering staff with RP identification if City clean-up was performed.

6.3. Restaurant Vent Cleaning and Other Outdoor Washing

6.3.1. Problem:

Outdoor washing waste can contribute nutrients, oxygen demand, oil, grease, and toxic cleansers to surface waters.

6.3.2. Investigation:

Illicit discharges associated with outdoor washing typically involve restaurant vent cleaning. Occasionally, other outdoor washing activities such as fleet vehicle washing, commercial car washing, and pressure washing of structures are encountered. The state regulations for outside washing can be found in the DNR general permit at the following address: http://dnr.wi.gov/topic/wastewater/documents/59153_permit.pdf.

All area pressure washing/vent cleaning companies are sent an annual letter describing proper disposal practices. Waste water from any outdoor washing should be directed to a grassy area. For areas where this is not practical, the washer must use the following Best Management Practices (BMP's):

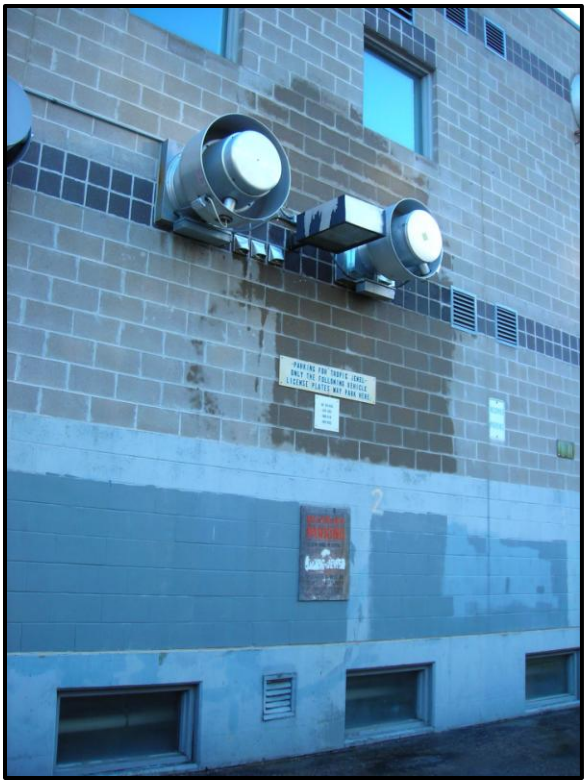
1. Detain the wash water enough to allow suspended solids to settle, or filter suspended solids from the waste stream.
2. Properly dispose of settled or filtered solids.
3. Use only biodegradable detergents containing less than 0.5% phosphate.
4. Use of detergents must be minimized. The waste stream must be free of visible foam.
5. Oil and grease from kitchen ventilation systems must be removed before the wastewater reaches the storm sewer system.

Additional BMP's are described in the DNR fact sheet: http://dnr.wi.gov/topic/wastewater/documents/59153_fs.pdf.

Restaurant vent cleaning is essentially a degreasing operation. As such, it is ineffective without soap or caustic agents. Many vent cleaners will partially dismantle the venting system for cleaning. It is common for them to take various pieces of the vent outdoors for washing. This should be discouraged. Waste from washing the vent system indoors will be directed to the sanitary sewer, while outdoor washing creates an unnecessary waste disposal issue. When washing outdoors, many contractors are tempted to use the nearest storm sewer inlet as a convenient dumping site.

- Check the water quality of any storm sewer structure that may have received waste.
- If the contractor is still on site during the investigation, find out if they have added anything to the wash water.
- Confirm with field tests of the waste water.

Photo 14: Restaurant vent cleaning resulting in waste water discharge to storm sewer.



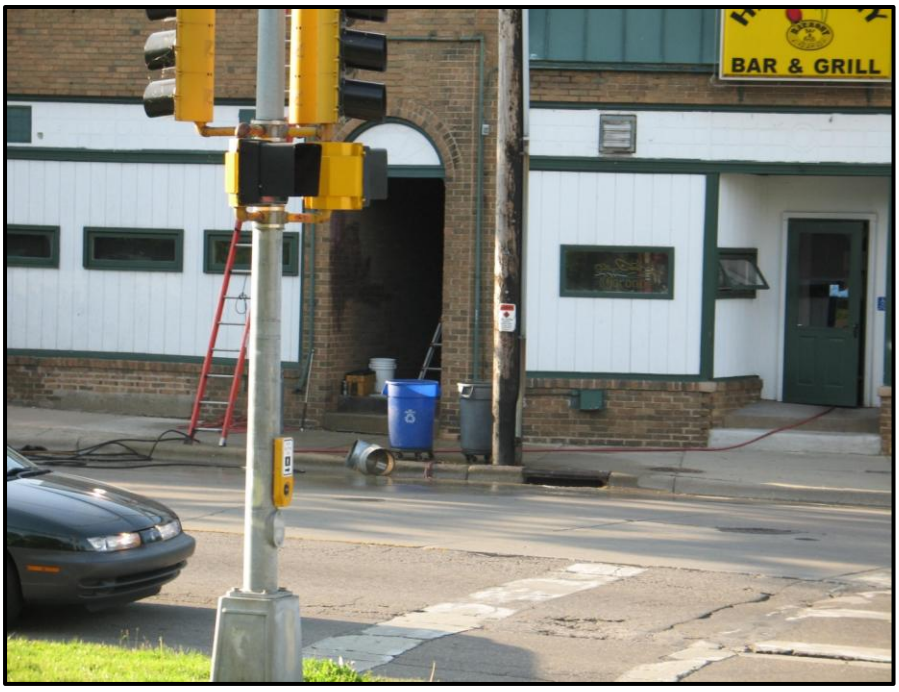
- Use field conductivity to quickly characterize the waste. Conductivity of city water ranges from 500-1000 µmhos/cm. Unless the site is in the service area for UW 14, (UW14 has a conductivity of about 1000 µmhos/cm) consider a waste water conductivity >1000 µmhos/cm indicative of an additive to the wash water.

- Pressure washing of structures must also follow the above rules. Additionally, if the structure is painted, pressure washing cannot be performed without certification that the paint is lead-free. If lead-free certification has not been obtained, stop the operation and refer the matter to the Public Health Madison and Dane County Sanitarians.
- Compliance for outside washing of fleet vehicles is usually accomplished by directing the activity to a permeable area.

6.3.3. Enforcement:

Cite any commercial cleaning operation that has allowed their waste stream to flow onto an impervious surface without the above BMP's, or into the storm sewer system.

Photo 15: Dismantled restaurant vent cleaned in the street.



6.4. Dumpster Leachate

6.4.1. Problem:

Garbage leachate is very high in oxygen demand and nutrients and may also have high concentrations of heavy metals.

6.4.2. Investigation:

Dumpster leachate usually becomes a problem during the summer months. Garbage dumpsters, particularly grocery store dumpsters, contain food wastes that begin to break down under anaerobic conditions. The heat of summer increases the rate of decomposition. Additionally, the increase in availability of fresh fruits and vegetables translates to more spoiled produce being discarded. Microbial decomposition of readily available starches and sugars from produce accelerates at summer temperatures, resulting in acidic byproducts that eventually dissolve the dumpster, creating a leak.

Once the nutrient rich organic acids start flowing from a dumpster, they can dissolve other materials, including the concrete slab under the dumpster. Even if the leachate dries in the sun and stops flowing, every rain event dissolves the dried residue, allowing further dissolution of pollutants and flushing them to surface waters.

Evidence of past leaks is readily apparent. Stains will persist where minor leaks routinely occur. Chronic, severe leaks are evident by concrete etching. In either

case, a lack of waste material or pooled liquid does not necessarily indicate a leak was detected and corrected. Rain may have dissolved and washed away the waste, therefore, inspections should be performed after an extended period of warm, dry weather.

- Photograph the level of staining and etching if the dumpster isn't leaking.
- Collect a sample from the nearest catch basin. Conductivity, pH and dissolved oxygen levels will provide an indication of recent leakage. Conductivity > 1000 μmhos/cm; pH < 7.00; or dissolved oxygen < 4.0 mg/L are suggestive of a recent discharge of leachate.
- If any of these levels are found, or a rotten or septic odor is prominent, collect an unpreserved sample for biological oxygen demand (BOD).
- If the lab cannot run BOD, collect a preserved sample for chemical oxygen demand. Total phosphorus and nitrogen can be analyzed also.
- If a discharge of leachate is occurring, contact the store management immediately.
- Issue orders to correct the problem and to capture all discharges until the problem is corrected. Their first response should be containerizing the discharge.
- Photograph the discharge and its flow path to the storm sewer.
- If the flow path is substantial, order clean up. Clean up is best accomplished by washing down and collecting the wash water with a wet vacuum.
- If there is an accumulation of leachate in the storm sewer, contact City Engineering staff to get the material removed. If the Vactor truck is on site, the RP can coordinate flushing of the flow path and wash water collection with the Vactor crew.

Photo 16: Staining from chronic discharge of dumpster leachate.

6.4.3. Enforcement:

- Inform the manager that the business will be cited, and that future violations will result in higher fines.
- Issue the appropriate citation.

Photo 17: Severe concrete etching from acidic dumpster leachate.

6.5. Automotive Fluid Leaks

6.5.1. Problem:

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

6.5.2. Investigation:

Vehicular fluid leaks are ubiquitous. They become an issue when they are severe enough to create a heavy residue or pooling. Residues are not stains. Residues contain enough liquid to capture windblown dust and debris. If there is a thin layer of liquid, or if trapped detritus has absorbed some liquid, the problem should be corrected.

- Require the RP to apply and collect absorbent.
- Inform the RP of measures to minimize releases until the leak is repaired. A drip pan or a scrap of carpeting or cardboard can be used, but must be discarded before any rain event.
- Pooled fluids indicate a leak that cannot be allowed to continue. Issue orders to apply and collect absorbent.
- Warn the RP that any pooled liquid observed after clean up is a violation of MGO 7.46 and will be referred for prosecution (continuing violations should be referred, not cited. Inform RP of short-term minimization strategies to employ until repairs can be made.

Photo 18: Staining/residue: these spots contain enough residue to trap debris. Minimization steps should be taken.

6.5.3. Enforcement:

Referral for prosecution is reserved for cases where the RP is unresponsive to minimization and clean-up requirements.

Photo 19: Pooled automotive transmission fluid.

6.6. Hydraulic Fluid Leaks

6.6.1. Problem:

Hydraulic oils can contain oxygen demand, petroleum oils and metals.

6.6.2. Investigation:

Releases of hydraulic fluid usually come from garbage trucks or construction equipment.

- If the truck is a City vehicle, the Streets Department should have alerted City Engineering. Inform City Engineering staff of any leak from a City vehicle that has gone undetected.
- Engineering will respond with containment. If a commercial operation has been identified as the RP, have them contain and retrieve the waste.

- If they cannot respond quickly enough to prevent environmental damage, contact City Engineering staff for waste handling.
- Absorbents must be collected as soon as they have taken up the spilled liquids. Contaminated absorbents left on a roadway will be pulverized by traffic and washed to the storm sewer by rain. When this occurs, the original spill is transported to surface waters, and the environmental impact has been exacerbated by the addition of the particulate material contributed by the absorbent.

6.6.3. Enforcement:

Cite commercial operations if their response is not timely and thorough.

Photo 20: Hydraulic fluid leak from construction equipment; incomplete clean-up (absorbent must be collected).

6.7. Ammonia Leaks from Commercial Refrigeration

6.7.1. Problem:

Aqueous ammonia is highly toxic to aquatic life. Gaseous ammonia is a health hazard.

6.7.2. Investigation:

- Use caution whenever an ammonia spill is suspected. Gaseous ammonia is an explosion hazard in a confined space such as a storm sewer. If the odor of ammonia is easily detected at storm sewer structures, consider calling 911 immediately.
- Contact any near-by industry that uses commercial refrigeration to see if they are aware of an ammonia leak.
- Faint ammonia odors at storm sewer structures may indicate a minor leak or the leading edge of a large leak. The odor of ammonia is detectable at 5-50 ppm in air. Exposure to 300 ppm is immediately dangerous to health and life. If a barely detectable odor of ammonia is encountered at a storm sewer structure or outfall, the source can be traced by pH. Ammonia is basic and the pH will vary by concentration. To evaluate, lower the pH probe into the storm sewer; don't open the structure to grab a sample.
- Run a CHEMetrics ammonia test in the field (obtain the sample by peristaltic pump, not grab). Concentrations above 2-3 ppm should be removed by a Vactor crew.

6.7.3. Enforcement:

If the RP is identified, inform Engineering for billing.

6.8. Excessive Deicing Salt Application

6.8.1. Problem:

Over-application of deicing salts contributes to the rising chloride levels in the Yahara Lakes and in Madison's drinking water wells.

6.8.2. Investigation:

If the RP can be identified, ask that they collect the unused material.

6.8.3. Enforcement:

PHMDC has never referred a case of over application for prosecution. An excessive use of salt could be considered for prosecution under MGO 7.46, however.

6.9. Pet waste

Pet waste is a contributor to the nutrient and bacteria problems of the Madison lakes. Pet owners are required to immediately clean up after their pets except on their own property. Dog walkers are required to carry pet waste cleanup tools. See MGO 7.322 for complete restrictions. Refer violations to Public Health Madison and Dane County Animal Control.

7. LAKE WATER QUALITY

7.1. Fish Kills/Moribund Fish

7.1.1. Problem:

Fish kills can represent significant water quality issues. A kill can also be the initiator of a continuing cycle of die-offs.

7.1.2. Investigation:

Winter kill occurs when oxygen levels drop too low to support aquatic life. Ice cover prevents the diffusion of oxygen into the water. If enough nutrients and decomposing material are present, oxygen is consumed in sufficient quantities to lower dissolved oxygen levels below concentrations that fish require. In a confined space such as Warner Lagoon, fish cannot move out of the low oxygen zone, and die. Winter kills will become apparent in the spring when the ice melts.

Fish kills can also occur in a localized area as a result of a toxic discharge, or from rapidly changing conditions in a confined space. Discharges of ammonia or other hazardous chemicals will cause fish around an outfall to jump out of the water in an attempt to flee. This has only been observed when a large discharge, with a considerable ammonia concentration, is discharged near an area that fish frequent.

Photo 21 Brittingham fish kill 2009. Note varying stages of decay indicating several die-offs took place.

Rapidly changing water conditions can also cause fish kills. In the winter, fish routinely reside in storm sewers containing a warm discharge. We have observed fish in the Braxton Place access structure 1300 feet from Monona Bay. If water conditions change quickly when the fish are "trapped" a quarter mile from the lake, they may die from something as seemingly innocuous as a change in temperature. This is believed to be the cause of the fish kill observed at the Brittingham Shelter Outfall during the winter of 2009 (see Photo 21). Refer to the complaint file at: F:\He_Lab\Field\Complaints\2009\closed\012609 Brittingham Fish Kill for complete details.

Fish kills can also be caused by the bacterium *Flexibacter columnaris*, commonly referred to as columnaris. These infections usually occur during early summer. Moribund fish will display a white cottony growth. Outbreaks of columnaris are natural events.

7.1.3. Enforcement

Notify the DNR if a fish kill or outbreak of *F. columnaris* is observed.

7.2. Improper Storage of Potentially Polluting Substances

7.2.1. Problem:

Bulk storage of liquid wastes can be quickly transported to surface waters if accidentally released.

7.2.2. Investigation:

MGO 7.46 bans the unsecured storage of potential pollutants. Typical violations are unsecured 55-gallon drums, or open containers of automotive fluids.

- For 55-gallon drums, give the RP a reasonable amount of time to rectify the problem based on potential release hazard and disposal options.
- Order immediate corrective action for leaks or unsecure storage. Open automotive fluids require immediate action.
- Provide the RP with disposal options.

7.2.3. Enforcement:

Refer to the City Attorney's Office for prosecution if corrective action is not timely.

Photo 22: Unsecured concrete slurry waste.

Photo 24: Leaking drum of waste oil, could be tipped over due to slope, absorbent not cleaned up.

Photo 23: Unsecured waste automotive fluids.

7.3. Algae Blooms

7.3.1. Problem:

Algae blooms can create unsightly and fetid beach conditions. Blue-green algae may produce toxins that are harmful if large enough quantities are ingested or contact the skin.

7.3.2. Investigation:

The Yahara Lakes are eutrophic. When waters warm sufficiently, algae blooms will occur. A wind-blown shoreline can accumulate a dense mat of algae if the wind persists from the same direction. Blue-green algae generate the most complaints. They can vary in color from brown to bright, neon blue or green. They may appear like paint in the water. This is a natural occurrence. Advise complainant to avoid the bloom; no further EPU intervention is required.

7.3.3. Enforcement:

- If an algae complaint concerns a beach, notify the lab supervisor for assessment and beach closure.

- Direct the complainant to the Public Health-Madison and Dane County website for beach updates.

7.4. Trash

7.4.1. Problem:

Rain can wash large amounts of floatable trash into the storm sewers. It may be flushed from the sewer by runoff, or it may be contained in an access structure.

7.4.2. Investigation:

Sites with chronic floatable trash issues include:

AS 5938-129 @ Hauk and Marquette Streets – discharges to Starkweather Creek.
Triple outfall on Monona Bay @ Brittingham Park Shelter.
Double outfall on the north end of the north triangle of Monona Bay.
IN 5938-093@ Marquette and E Washington – discharges to Starkweather Creek.

The above sites can be checked when working in the area. Additional trash containing storm sewer structures may be discovered during illicit discharge detection and elimination (IDDE) investigations

7.4.3. Enforcement:

Contact City Engineering staff if an accumulation of trash is noted. A Vactor crew can retrieve the material from the lake or a storm sewer structure.

Photo 25: Trash and oil at Brittingham Park shelter outfall. A Vactor crew responded daily until the problem resolved.

7.5. Leaves/Grass Clippings in the Gutter

7.5.1. Problem:

Leaves and grass clippings deposited in the gutter will be washed to the lakes, adding substantially to the nutrient problem.

7.5.2. Investigation:

Homeowners will occasionally deposit leaves or grass clippings in the gutter, rather than on the terrace. If this activity is observed, advise the property owner that this contributes to the nutrient problem in the lakes. Ask them to remove the material from the gutter and place it on the terrace.

7.5.3. Enforcement:

MGO 7.32 prohibits the deposition of waste in the gutter. If voluntary compliance cannot be gained, consult the City Attorney's Office.

7.6. Improper Fertilizer Application

7.6.1. Problem:

Inappropriate fertilizer application can be washed into surface waters by runoff.

7.6.2. Investigation:

Overspray (application beyond the target area) of granular fertilizer on an impervious surface, or application of fertilizer under conditions that promote runoff is prohibited under MGO 7.48. Overspray must be recovered. Residents should be given a warning and the opportunity to correct the problem. Commercial applicators are required to correct the problem immediately. Photo-document the violation for referral.

7.6.3. Enforcement:

Commercial applicators should be referred to the City Attorney's Office for prosecution if the overspray is obvious by casual observation.

7.7. Coal Tar Seal Coat

7.7.1. Problem:

Asphalt sealant is a threat to water quality when it contains coal tar, or when a rain event occurs before it has properly dried. Coal tar sealants contain high levels of PAH's that are washed into surface water as the sealant ages.

7.7.2. Investigation:

Application of coal tar seal coats is prohibited in Dane County under Chapter 80.08; sales are severely restricted also. Coal tar sealant has a characteristic odor of creosote, but high quality asphaltic sealants may also contain higher amounts of volatiles that will produce a similar odor. A screening process for the presence of coal tar has been developed. See the coal tar file at: F:\He_Lab\Field\Ordinances\7.48\Coal tar for complete details.

Request a Material Safety Data Sheet (MSDS) from the applicator. If the field screen is inconclusive or if the MSDS does not list coal tar as an ingredient, perform a web search for the sealant manufacturer. Sealants from the east coast are more likely to contain coal tar.

Photo 26: Deposition of coal tar residue from tire abrasion on a freshly coated parking lot.

Illicit discharges of any asphalt sealants can occur if a contractor rushes to complete a job before a pending storm. If the sealant does not dry completely, rain can wash it off. If the waste can be retrieved, contact City Engineering for Vactor crew deployment. Illegal dumping of sealants may also occur if a contractor or property owner washes out a container or equipment and allows the waste to flow to the gutter.

7.7.3. Enforcement:

If a commercial sealant application containing coal tar has been confirmed, refer the violation to Dane County Corporate Council. Contractors who apply an asphalt seal coat before a storm should be referred for prosecution if runoff washed the material into the storm sewer. Illegal dumping caused by washout of containers or equipment is a judgment call. Use amount discharged, level of staining, and likely environmental impacts as guides.

Photo 27: Improper disposal of unused seal coat led to this release when the material leaked from a dumpster.