



CITY OF STOUGHTON
DEPARTMENT OF
PLANNING & DEVELOPMENT
381 East Main Street, Stoughton, WI. 53589

(608) 873-6619 www.ci.stoughton.wi.us

RODNEY J. SCHEEL
DIRECTOR

March 26, 2015

DNR South Central Region
Attention: Storm Water Program
3911 Fish Hatchery Road
Madison, WI 53711

Re: Annual Report under MS4 General Permit

Dear Mr. Rortvedt:

I am submitting the City of Stoughton's Annual Report that is due March 31, 2015. Please let me know if there is any additional information necessary to be submitted.

I can be reached at (608) 873-6619.

Sincerely,
City of Stoughton

A handwritten signature in black ink that reads "Rodney J. Scheel". The signature is written in a cursive style with a large initial 'R'.

Rodney J. Scheel
Director of Planning & Development

Enclosure

cc. Mayor Donna Olson (via email)

Due by March 31, 2015

Notice: Pursuant to s. NR 216.07(8), Wis. Adm. Code, an owner or operator of a Municipal Separate Storm Sewer System (MS4) is required to submit an annual report to the Department of Natural Resources (DNR) by March 31 of each year to report on activities for the previous calendar year. This form is being provided by the DNR for the user's convenience. Personal information collected will be used for administrative purposes and may be provided to the extent required by Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.].

This form is for reporting on activities undertaken in calendar year 2014.

Instructions: Complete each section of the form that follows. If additional space is needed to respond to a question, attach additional pages. Provide descriptions that explain the program actions taken to comply with the general permit. Complete and submit the annual report by March 31, 2015, to the appropriate address indicated on the last page of this form.

SECTION I. Municipal Information			
Name of Municipality City of Stoughton		Facility ID No. (FIN) 39025	
Mailing Address 381 E. Main Street	City Stoughton	State WI	ZIP Code 53589
County(s) in which Municipality is located	Municipality Type: (select one) <input type="radio"/> County <input checked="" type="radio"/> City <input type="radio"/> Village <input type="radio"/> Town <input type="radio"/> Other (specify)		

SECTION II. Municipal Contact Information			
Name of Municipal Contact Person Rodney Scheel		Title Director of Planning & Development	
Mailing Address (if different from above) Same	City	State WI	ZIP Code
Email rjscheel@ci.stoughton.wi.us	Phone Number (include area code) (608) 873-6619	Fax Number (include area code) (608) 873-5519	

SECTION III. Certification		
<p><i>I hereby certify that I am an authorized representative of the municipality covered under MS4 General Permit No. WI-S050075-2 for which this annual report is being submitted and that the information contained in this document and all attachments were gathered and prepared under my direction or supervision. Based on my inquiry of the person or persons under my direction or supervision involved in the preparation of this document, to the best of my knowledge, the information is true, accurate, and complete. I further certify that the municipality's governing body or delegated representatives have reviewed or been apprised of the contents of this annual report. I understand that Wisconsin law provides severe penalties for submitting false information.</i></p>		
Authorized Representative Printed Name Rodney Scheel	Authorized Representative Title Director of Planning & Development	
Signature of Authorized Representative	Date	
Email rjscheel@ci.stoughton.wi.us	Phone Number (include area code) (608) 873-6619	Fax Number (include area code) (608) 873-5519

SECTION IV. General Information		
<p>a. Describe what efforts the municipality has undertaken to invite the municipal governing body, interest groups, and the general public to review and comment on the annual report.</p> <p>The 2014 Annual Report is posted on the City's website for review and comment throughout the year. This report along with other Stormwater Management information can be found on the City's website under the "Residents" tab, or by selecting "Departments", "Planning & Development", "Stormwater Management". The Annual Report will be presented to the City's Public Works Committee. The Public is offered a "Public Comment" period at every Common Council meeting where the public can be heard on any City topic, including stormwater management issues. The Common Council is presented with stormwater management projects for budget approval.</p>		

SECTION IV. General Information (continued)

b. Describe how elected and municipal officials and appropriate staff have been kept apprised of the municipal storm water discharge permit and its requirements.

Internally, staff monitor changing requirements and practices to meet permit goals. Public works staff carry out stormwater management practices by street sweeping, inlet cleaning, leaf pick up, etc and track efforts for annual reporting. Leadership reinforces these practices through reports to City committees and the Common Council. Committees and Common Council members are included in discussions during project design review/approvals and how the projects can impact stormwater capacity, quality and impacts on our Permit. Annually, the budget for stormwater management and construction projects is reviewed and approved by the Common Council. Budget preparation time provides an opportunity to educate the elected body about the annual permit requirements and expectations for implementation.

c. Has the municipality prepared its own municipal-wide storm water management plan? Yes No

If yes, title and date of storm water management plan:

"Stormwater Master Plan" - May 2000; "Stormwater Management Plan and Total Suspended Solids Reduction Plan" - May 2006; "Stormwater Management Plan Amendment" - July 2007; "Virgin Lake Area Rehabilitation Report" - October 2007 (Draft); Stormwater Management Plan Appendix A - Updated December 2010

d. Has the municipality entered into a written agreement with another municipality or a contract with another entity to perform one or more of the conditions as provided under section 2.10 of the general permit? Yes No

If yes, describe these cooperative efforts:

(1) The City of Stoughton has a written agreement with Dane County Land Conservation for review and inspection services related to activities in the City that require construction site erosion control and/or post-construction stormwater management according to Chapter 10, Article IV of the City of Stoughton Code of Ordinances.
(2) The City joined the Madison Area Municipal Stormwater Partnership (MAMSWaP) in 2008. Our participation focuses on the information and education component of our permit, however, exposure to the group allows the City to remain current with other aspects of stormwater management efforts being undertaken by other members. We continue to actively participate in the I & E subcommittee of MAMSWaP. City staff attended 9 such meetings in 2014.

e. Does the municipality have an internet website? Yes No

If yes, provide web address:

<http://www.cityofstoughton.com>

If the municipality has an internet website, is there current information about or links provided to the MS4 general permit and/or the municipality's storm water management program? Yes No

If yes, provide web address:

<http://www.cityofstoughton.com> Go to the "Residents" tab at the top of the page and then "Stormwater Management" or by going to the Department of Planning & Development area of the website at <http://www.cityofstoughton.com/planning> Alternatively, you can use www.ci.stoughton.wi.us to access the same material.

SECTION V. Permit Conditions

a. **Minimum Control Measures:** For each of the permit conditions listed below, provide a description of the implementation of each program element, the status of meeting measurable goals, and compliance with permit schedule in section 2.11 of the MS4 general permit. Provide an evaluation of program compliance with the general permit, the appropriateness of identified best management practices, and progress towards achieving identified measurable goals. Be specific in describing the actions that have been taken during the reporting year to implement each permit condition and whether measurable goals have been met, including any data collected to document a measurable goal. Also, explain the reasons for any variations from the compliance schedule in the MS4 general permit.

SECTION V. Permit Conditions (continued)

- Public Education and Outreach

A copy of the City Stormwater Information & Education Program can be viewed at: www.cityofstoughton.com under the "Residents" tab and scroll down to "Stormwater Management".

(1) The City publishes notices in the local paper informing the public on proper management of leaves and grass clippings. 131,000 "Love Your Lakes & Rivers" inserts were included in newspapers throughout Dane County in 2014.

(2) The City sent out a newsletter to all addresses in the City of Stoughton 2 times in 2014. A sampling of titles included in the newsletters include: "Put Your Sidewalk and Driveway on a Low-Salt Diet"; "Save Money - Use Less Salt This Winter"; Healthy Yards...Healthy Lakes and Streams"; "Yard Waste Site"; "Curbside Brush Collection"; "Spring Leaf Collection"; "Grass Clippings"; "Is It Really Flushable?".

(3) The City of Stoughton is a member of the Madison Area Municipal Stormwater Partnership's (MAMSWaP) I & E Subcommittee to fulfill our Education and Outreach requirements. City Staff participated in 9 meetings of the MAMSWaP group in 2014. A copy of the MAMSWaP's Information and Education Work Plan for 2014 is attached.

(4) The City plays the "Dane Waters" DVD approximately 20 times a month on our local cable station, WSTO.

(5) The "Dane Waters" DVD can be seen 24 hours a day on the City's main web page at www.cityofstoughton.com.

(6) The City of Stoughton posted approximately 12 yard signs on city-owned property with the message "Love Your Lakes, Don't Leaf Them".

(7) The City of Stoughton distributed coasters to local restaurants and bars with the message "Love Your Lakes, Don't Leaf Them".

(8) The City website contains links to MyFairLakes.com and danewaters.com. In 2014, we had several information articles such as: "How to Build a Rain Garden"; "Rain Barrels: An Old Idea Made New Again"; "Lawn Watering"; "Leaf Management 101" and "Illicit Discharge Detection and Elimination (EPA)".

- Public Involvement and Participation

The City of Stoughton's I & E program is the main vehicle driving public involvement and participation. Public meetings are held as necessary to involve the public in projects that are the result of WPDES permit requirements. As a member of MAMSWaP, we are participating with the group under their I & E Work Plan. The City notifies the public of activities required by the WPDES permit and encourages input and participation from the public regarding these activities by publishing notices for meetings of all City committees. Examples of such committees include: Public Works; Common Council; Planning Commission; Parks & Recreation and the River Task Force.

- Illicit Discharge Detection and Elimination

City of Stoughton Public Works and Inspection Staff watch for irregular discharges when cleaning storm inlets or conducting other field work. Inspections were completed in September 2014. There were no illicit discharges reported for 2014.

SECTION V. Permit Conditions (continued)

- Construction Site Pollutant Control

The City of Stoughton Building Inspector monitors one and two family dwelling construction projects after rainfall events and while conducting other inspections on these sites. The city contracts with Dane County Land Conservation to conduct stormwater and erosion control reviews on all projects that are not one and two family dwellings. In 2014, they conducted 172 inspections and made 30 contacts by email, verbally or via telephone. There were no non-compliance notices issued, nor were there any recommendations made for enforcement action.

- Post-Construction Storm Water Management

The City revised its Stormwater and Erosion Control Ordinances to comply with NR 151. The WDNR and Dane County reviewed and published in May, 2006, and updated in 2013. Ordinances adequately address post-construction stormwater management. The City performs routine maintenance on all City-owned or managed properties. Routine maintenance activity for stormwater facilities includes mowing, removing volunteer tree growth, repairing erosion, and removing obstructions to stormwater flow and is completed concurrent with other City maintenance activity. Required maintenance for private stormwater facilities is covered in Section 10-129 of the City of Stoughton Municipal Ordinances.

- Pollution Prevention

Catch Basin Cleaning: The City of Stoughton cleans inlet grates and inspects catch basins weekly. Each inlet and catch basin in the City is inspected at least once per year. Catch basins are cleaned at least once per year.

Street Sweeping: The City performs street sweeping activity from March through November each year, depending on the weather. The Downtown area is swept every Friday morning while the rest of the City streets are swept once per month. The City uses one mechanical broom sweeper and one vacuum type sweeper.

De-icing, etc: The City uses salt or a mixture of sand and salt as necessary. On average, the City uses approximately 250 pounds of salt per lane mile and 10 gallons of brine per ton. Salt in solid form is pre-wetted prior to application. Since 2011, the City introduced a beet juice solution to use prior to snow events to reduce the amount of salt used.

Yard Waste: The City collects yard waste curbside for 3 weeks in the Spring (normally during April) and 6 weeks in the Fall (scheduled between mid-October and December 1st). There is also a City site at which residents can drop off their own yard waste. The City uses 2 leaf vacuum trucks. Leaf and grass clippings that the City collects are used by local organic farmers.

The City started a new turf management program in 2013 to assist with controlling weeds and promoting healthy turf grasses for athletic fields in city parks and other city owned properties. Fertilizing and weed control applications are contracted out and applied only to areas identified through turf assessments.

In 2014, the City collected the following in our pollution prevention efforts: Curbside leaf pickup: 1120 tons; Street Sweeping: 1692 cubic yards; Yard Waste - Grass clippings & leaves at Drop-off Site: 1645 cubic yards.

b. Winter Road Management Activities (Optional reporting for 2014):

Provide the name, title, and phone number for the individual(s) with overall responsibility for winter roadway maintenance.

Karl Manthe, Street Superintendent, (608) 873-6303

Describe the types of products used for winter road management (e.g. deicing, pre-wetting, salting, etc.).

The Street Department uses a variety of products, including a salt brine mix for anti-icing and pre-wetting salt. Rock salt is used as the primary product for melting ice and snow from streets. When temperatures are below 15 degrees, some sand is added to salt to assist with traction.

SECTION V. Permit Conditions (continued)

Describe the type of equipment used to apply the products.

There are 9 patrol trucks equipped with tailgate spreaders and pre-wet tanks to apply pre-wet salt to the pavement. There is also one 1,000 gallon tank on a patrol truck for anti-icing streets before snow events.

Report the amount of product used per month.

January: Salt - 332 tons; Salt/Sand mix - 73 tons; Salt brine - 1,500 gallons; Blended brine - 900 gallons
February: Salt - 130 tons; Salt/Sand mix - 107 tons; Salt brine - 300 gallons; Blended brine - 680 gallons
March: Salt - 104 tons; Salt/Sand mix - 3 tons; Salt brine - 0 gallons; Blended brine - 220 gallons
November: Salt - 90 tons; Salt/Sand mix - 9 tons; Salt brine - 0 gallons; Blended brine - 950 gallons
December: Salt - 24 tons; Salt/Sand mix - 3 tons; Salt brine - 0 gallons; Blended brine - 0 gallons

Report the snow disposal locations, if snow is hauled away.

Snow is hauled to an empty city-owned lot on S. Fourth Street

Describe any anti-icing, equipment calibration, and salt reduction strategies considered.

The Street Department is constantly reviewing their snow and ice removal operations for efficiencies and to conserve product. The Department has also attended training workshops to learn valuable information on salt use. The Fleet Manager works with the equipment vendor to calibrate equipment, and anti-icing is only done on arterial streets and hills.

Describe any other additional measurable data or information that the permittee used to evaluate its winter road management activities.

The Street Department checks pavement temperatures to make sure the correct product is applied.

c. Municipal facility(s) (Optional reporting for 2014):

Provide an inventory of municipally owned or operated structural storm water management facility(s), include: Location of each facility and contact information for the individual(s) with overall responsibility for each facility.

Describe the housekeeping activities and best management practices installed to reduce or eliminate storm water contamination.

Discuss recommendations for improvements to current storm water management practices at the facility(s) and a timeline for installation and/or implementation of these recommendations.

Describe the municipal facility(s) employee training on storm water pollution prevention provided.

Describe the spill prevention and response procedures in place at the municipal facility(s).

d. Storm Water Quality Management: Has the municipality completed a pollutant-loading analysis to assess compliance with the 20% TSS reduction developed urban area performance standard? Yes No

If yes, provide the following: Model used WinSLAM Version 9.40 Reduction (%) 41.8

If no, include a description of any actions the municipality has undertaken during 2014 to help achieve the 20% standard.

SECTION V. Permit Conditions (continued)

Has the municipality completed an evaluation of all municipal owned or operated structural flood control facilities to determine the feasibility of retrofitting to increase TSS removal? Yes No

If yes, describe:

e. **Best Management Practices Maintenance:** Does the municipality have a maintenance program for installed storm water best management practices? Yes No

If yes, describe the maintenance program and any maintenance activities that have occurred for best management practices in 2014. If available, attach any additional information on the maintenance program.

See attached materials.

f. **Storm Sewer System Map:** Describe any changes or updates to the storm sewer system map made in the reporting year. Provide an updated map if any changes occurred during the reporting year.

No updates in 2014. The system map is available on our website at <http://www.cityofstoughton.com>. Go to the "Residents" tab at the top of the page and then "Stormwater Management" or by going to the Department of Planning & Development area of the website at <http://www.cityofstoughton.com/planning>

SECTION VI. Fiscal Analysis

a. Provide a fiscal analysis that includes the annual expenditures for 2014, and the budget for 2014 and 2015. A table to document fiscal information is provided on page 9.

See completed table.

b. What financing/fiscal strategy has the municipality implemented to finance the requirements of the general permit?

Storm water utility General fund Other _____

c. Are adequate revenues being generated to implement your storm water management program to meet the permit requirements? Yes No

Please provide a brief summary of your financing/fiscal strategy and any additional information that will assist the Department in understanding how storm water management funds are being generated to implement and administer your storm water management program.

The City has a Stormwater Utility which is funding stormwater management activities in Stoughton. The fee is based on impervious area. Each single-family residential property is assigned 1 ERU (equivalent runoff unit) that equals 3,105 square feet of impervious surface. Other properties are assigned an ERU value based on their impervious surface.

SECTION VII. Inspections and Enforcement Actions

Note: If an ordinance listed below has previously been submitted and has not been amended since that time, a copy does not need to be submitted again. If the ordinance was previously submitted, indicate such in the space provided.

a. As of the date of this annual report, has the municipality updated or revised its construction site pollutant control ordinance in accordance with subsection 2.4.1 of the general permit? Yes No If yes, attach copy or provide web link to ordinance:

You can find the ordinance section in Ch. 10 by going to www.municode.com. A copy is also attached.

b. As of the date of this annual report, has the municipality updated or revised its post-construction storm water management ordinance in accordance with subsection 2.5.1 of the general permit? Yes No

If yes, attach copy or provide web link to ordinance: You can find the ordinance section in Ch. 10, www.municode.com

c. As of the date of this annual report, has the municipality updated or revised its illicit discharge detection and elimination ordinance in accordance with subsection 2.3.1 of the general permit? Yes No If yes, attach copy or provide web link to ordinance:

You can find the ordinance section in Ch. 10 by going to www.municode.com. A copy is also attached.

d. As of the date of this annual report, has the municipality adopted any other ordinances it has deemed necessary to implement a program under the general permit (e.g., pet waste ordinance, leaf management/yard waste ordinance, parking restrictions for street cleaning, etc.)? Yes No If yes, attach copy or provide web link to ordinance:

We have identified several such nuisance ordinances enforced in Chapter 58 by going to www.municode.com.

SECTION VII. Inspections and Enforcement Actions (continued)

e. Provide a summary of available information on the number and nature of inspections and enforcement actions conducted during the reporting period to ensure compliance with the ordinances described in a. to d. above.

The City of Stoughton Building Inspector monitors one and two family dwelling construction projects after rainfall events and while conducting other inspections on these sites. The city contracts with Dane County Land Conservation to conduct stormwater and erosion control reviews on all projects that are not one and two family dwellings. In 2014, they conducted 172 inspections and made 30 contacts by email, verbally or via telephone. There were no non-compliance notices issued, nor were there any recommendations made for enforcement action.

SECTION VIII. Water Quality Concerns

a. Does any part of the MS4 discharge to an outstanding resource water (ORW) or exceptional resource water (ERW) listed under s. NR 102.10 or 102.11, Wis. Adm. Code? (A list of ORWs and ERWs may be found on the Department's Internet site at:

<http://dnr.wi.gov/topic/surfacewater/orwerw.html>)

Yes

No

If yes, list:

b. Does any part of the MS4 discharge to an impaired waterbody listed in accordance with section 303(d)(1) of the federal Clean Water Act, 33 USC § 1313(d)(1)(C)? (A list of the most current Wisconsin impaired waterbodies may be found on the Department's Internet site at: <http://dnr.wi.gov/water/impairedsearch.aspx?status=303d>)

Yes

No

If yes, complete the following:

- Impaired waterbody to which the MS4 discharges:

The Yahara River

- Description of actions municipality has taken to comply with section 1.5.2 of the MS4 general permit for discharges of pollutant(s) of concern to an impaired waterbody:

The City of Stoughton utilizes the following practices to reduce sediment and phosphorus contributions to the Yahara River (Dane County requirements limit the availability and use of phosphorus fertilizer products which assists in the reduction of phosphorus in the Yahara River):

Catch Basin Cleaning: The City of Stoughton cleans inlet grates and inspects catch basins weekly. Each inlet and catch basin in the City is inspected at least once per year. Catch basins are cleaned at least once per year.

Street Sweeping: The City performs street sweeping activity from March through November each year, depending on the weather. The Downtown area is swept each Friday morning while the rest of the City streets are swept once per month. The City uses one mechanical broom sweeper and one vacuum type sweeper.

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The City started a new turf management program in 2013 to assist with controlling weeds and promoting healthy turf grasses for athletic fields in city parks and other city owned properties. Fertilizing and weed control applications are contracted out and applied only to areas identified through turf assessments.

c. Identify any known water quality improvements in the receiving water to which the MS4 discharges during the reporting period.

Other than re-development projects within the City that must meet State and Local stormwater requirements, none.

SECTION VIII. Water Quality Concerns (continued)

d. Identify any known water quality degradation in the receiving water to which the MS4 discharges during the reporting period and what actions are being taken to improve the water quality in the receiving water.

No known water quality degradation into Yahara River. Stormwater management practices identified in this report are used to improve water quality.

SECTION IX. Proposed Program Changes

Describe any proposed changes to the storm water management program being contemplated by the municipality for 2015 and the schedule for implementing those changes. Proposed program changes must be consistent with the requirements of the general permit.

SECTION X. Other

Any other additional information the permittee would like to provide in the Annual Report regarding their storm water program?

Fiscal Analysis Table. Complete the fiscal analysis table provided below.

Program Element	Annual Expenditure 2014	Budget		Source of Funds
		2014	2015	
Public Education and Outreach	15,824	18,069		Stormwater Utility Fee
Public Involvement and Participation	26,492	32,097		Stormwater Utility Fee
Illicit Discharge Detection and Elimination	15,210	18,445		Stormwater Utility Fee
Construction Site Pollutant Control	27,283	31,471		Stormwater Utility Fee and permit fees
Post-Construction Storm Water Management	32,911	48,861		Stormwater Utility Fee and permit fees
Pollution Prevention	149,035	180,305		Stormwater Utility Fee with offsetting permit funds from yard waste site permit revenue
Storm Water Quality Management (including pollutant-loading analysis)	24,992	30,277		Stormwater Utility Fee
Storm Sewer System Map	5,428	6,613		Stormwater Utility Fee
Other:				

NORTHERN REGION COUNTIES			WEST CENTRAL REGION COUNTIES		
Ashland	Langlade	DNR Service Center	Adams	Marathon	DNR Service Center
Barron	Lincoln	Attn: Storm Water Program	Buffalo	Monroe	Attn: Storm Water Program
Bayfield	Oneida	5301 Rib Mountain Rd.	Chippewa	Pepin	5301 Rib Mountain Rd.
Burnett	Polk	Wausau, WI 54401	Clark	Pierce	Wausau, WI 54401
Douglas	Price	Phone: (715) 359-4522	Crawford	Portage	Phone: (715) 359-4522
Florence	Rusk		Dunn	St. Croix	
Forest	Sawyer		Eau Claire	Trempealeau	
Iron	Taylor		Jackson	Vernon	
	Vilas		Juneau	Wood	
	Washburn		La Crosse		

NORTHEAST REGION COUNTIES			SOUTH CENTRAL REGION COUNTIES		
Brown	Marquette	DNR Northeast Region	Columbia	Jefferson	DNR South Central Region
Calumet	Menominee	Attn: Storm Water Program	Dane	LaFayette	Attn: Storm Water Program
Door	Oconto	2984 Shawano Ave.	Dodge	Richland	3911 Fish Hatchery Rd.
Fond du Lac	Outagamie	Green Bay, WI 54313	Grant	Rock	Fitchburg, WI 53711
Green Lake	Shawano	Phone: (920) 662-5100	Green	Sauk	Phone: (608) 275-3266
Kewaunee	Waupaca		Iowa		
Manitowoc	Waushara				
Marinette	Winnebago				

SOUTHEAST REGION COUNTIES		
Kenosha	Sheboygan	DNR Service Center
Milwaukee	Walworth	Attn: Storm Water Program
Ozaukee	Washington	141 NW Barstow Street,
Racine	Waukesha	Room 180
		Waukesha, WI 53188
		(262) 574-2100

Municipal Stormwater Permit – Annual Report

Collection Totals for 2014

Wood Chips – 200 tons

Leaves (vacuumed) – 6,400 yards = 1,120 tons

Yardwaste (grass clippings, leaves) – 1,645 yards = 288 ton

Street Sweepings – 420 yards (Pelican Sweeper), 1272 yards (Whirlwind Sweeper) –
Total Sweeping – 1,692 yards

Salt Usage - 680 tons

Salt & Sand – 264 tons

Brine – 1,800 gallons

Brine Blended – 2,750 gallons

Save Money—Use Less Salt This Winter

Salt and sand contribute greatly to lake and stream pollution. Once it's spread on parking lots, streets, sidewalks and driveways, it's on its way to the nearest lake or stream and cannot be recovered. Fifty pounds of salt (one large bag) can pollute 10,000 gallons of water—which is equivalent to one teaspoon in a five-gallon bucket of water. Municipalities are working to cut salt use while still keeping streets safe. So, let's all save money this winter with these helpful tips and help the lakes and streams at the same time.

- Always use a shovel first, especially if the pavement temperature is 32°F or more—don't waste money on deicers.
- Reserve deicers for ice, not snow. Shovel as soon as possible so that wet, heavy snow doesn't have the opportunity to turn to ice.
- All salt is not created equal. Various types of deicers perform differently at different temperature ranges. The most common and cheapest is sodium chloride ("rock salt"), but doesn't work when the pavement is colder than 15°F. Magnesium chloride and calcium chloride cost more, but you'll use less and it works in colder temps.
- Consider getting a pavement thermometer (~\$30) to help determine pavement temperatures, which can vary widely depending on how much sun shines on your driveway. (Plus, they're kind of fun to play with.)
- Measure your sidewalk and driveway so you know how much you need. A general guideline is to use 1-3 cups of salt per 1,000 square feet. Save money by using only what is needed.
- Apply liquid salt to the pavement before the storm and shovel a little while it's snowing. After the storm, shovel before using any salt. Most times, you won't need any. Use deicers on ice, don't waste it on snow.
- You can use 30% less deicer if you wet your salt with some water before applying it.
- While salt is sometimes mixed with sand to keep the sand from freezing into a solid block, it's not a good idea to use both at the same time on your sidewalk. The salt will melt the ice, but when it refreezes, the sand will be frozen below the surface where it can't do any good. Choose one or the other. Try removing the ice by hand first before using either sand or salt.
- If you have an area that tends to ice up, consider making it a priority to remedy next summer so you won't need to deice in the future.

Be a "Label Reader"!

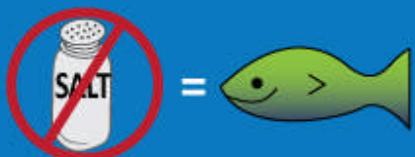
Read the label on the ice melt product so that you know exactly what you are spending your hard-earned cash on. If the bag doesn't say otherwise, it's probably sodium chloride, but you're better off using something that says exactly what's in the bag. Some products claiming to be "green" or "pet safe" are

**Love Your Lakes,
Don't Them**

Using less **salt** on your sidewalk and driveway this winter shows your love for the lakes.

If you must use a deicer, use it sparingly and make sure you read the label for application rates & environmental effects.

Don't use salt when you can use a shovel.



Learn more at
myfairlakes.com

simply chloride compounds. You can always ask for the Material Safety Data Sheet (MSDS) for the product—it will show percentages so that you can see if you are paying for pretty packaging of rock salt. And while you’re reading, be sure to follow the application rates. You need much less of some products than others, so be sure not to waste money by over applying.

Labeled as:	Works Down to:	Approximate Cost	Pros/Concerns
Calcium Chloride	-25°F	\$35 for 50 pounds	Use much less than rock salt, chloride impacts; may damage concrete
Magnesium Chloride	5°F	\$30-\$35 for 50 pounds; \$15-\$20 for 20 pounds	less toxic than calcium chloride and less damaging to concrete and pavement, but may corrode metals over time
Sodium Chloride (“rock salt”)	15°F	\$6 for 25 pound bag	Chloride impacts
Calcium Magnesium Acetate (CMA)	25 °F	\$20 for 50 pounds	No chlorides; less toxic
Potassium Chloride	25°F		need to use more than rock salt; works slower than calcium chloride, safer on concrete
Sand	No melting effect	\$5 for a 20 lb bag	Not a deicer; for traction only; do not use with salt; accumulates in streets, lakes and streams; needs to be swept up, easily tracked into buildings

Urea and Amide/Glycol are other deicing products that are chloride free and touted as pet/kid/environmentally friendly, but generally are not as effective as chlorides. However, when combined with shoveling first, can be a useful alternative.

The Madison Area Municipal Storm Water Partnership is working with the Rock River Stormwater Group to reduce the amount of pollution making its way to our lakes and streams. The Yahara chain of lakes and the Yahara River both ultimately drain to the Rock River. Both groups thank you for helping to Renew the Rock by reducing stormwater pollution throughout the Rock River area. Learn more at www.myfairlakes.com and www.renewtherock.com.



Clean Water Starts at Home

Tip # 7: Winter Walkways Worth their Salt?

As snow season draws near, consider this: sodium chloride (NaCl) is the most common form of salt used for de-icing roads and walkways. It is used so much that it has become a water pollutant. It is very difficult and costly to remove it once it is in the water, so prevention is very important.

Here are ways to reduce winter salt use and still have safe walking areas:

Remove snow **during** a snowstorm instead of waiting until the end.

Think “anti-icing.”

Treat **before** a storm to help prevent ice buildup so less de-icer is needed.

Alternatives:

- Sand - for traction is safe and effective, but sweep up excess
- Liquid magnesium chloride, calcium chloride, potassium chloride (all 3 work better than regular salt in colder temps), calcium magnesium acetate and potassium acetate.
 - Do Not apply if ice has already formed, or in rainy, sleety, blowing conditions, nor if snowfall is more than 1-inch per hour.
 - Concrete may require specialized use or product

Brand name alternatives are:
Zero Ice Melt, Quik Joe's Ice Melt, Ice Away, Hydro-melt, Ace Hardware's salt mix.

Too costly?
Try using sand for traction as an alternative

After storms; use as little de-icer as possible:

The closest salt substitute is potassium acetate

Sand - safe for pets and children (but sweep up excess whenever possible).

Remember, regular salt is not effective at temperatures below 15 degrees (F). Sand, liquid magnesium chloride, calcium chloride, potassium chloride work at colder temperatures.

Agencies are actively using new methods on roads like anti-icing using liquid chemicals that lower the freeze-point and so delay the formation of ice. This requires knowing how cold the pavement will get and if it will freeze in order to determine the best time for chemical application. The chemicals then remain effective until washed away by rain, fog, or humidity. Chemicals used for anti-icing include magnesium chloride and potassium acetate. Each has different environmental impacts. Research continues for new cost-effective ways to have safe roads in winter.

For a video of winter salting tips at home, go to: <http://moourl.com/wintersaltvideo>

SNOW AND ICE REMOVAL REQUIREMENTS

Sec. 64-13. Snow and ice removal.

- (a) The occupant or owner of any lot or parcel abutting on a public sidewalk shall remove therefrom by 9:00 a.m. on the second day following a snowfall, all snow, dirt, rubbish or refuse matter, and sprinkle ice with a material to prevent slipping. (For example: a snowfall occurs on Monday, the occupant or owner would have until 9:00 a.m. Wednesday). If the occupant or owner does not comply with this section, the street commissioner or designee may issue a citation and may cause the work to be done and the expense reported to the city finance director, who shall annually enter such expense on the tax roll as a special tax against the lot or parcel of land. The owner or occupant shall also be subject to a forfeiture for each violation of this section, with penalties as set forth in section 1-3. Each day a violation continues shall constitute a separate violation.
- (b) No snow or ice removed from private property shall be deposited in the public ways in areas expected to be cleared by the city. This would include, but would not be limited to, pushing snow or ice across a public roadway or sidewalk; pushing or carrying and depositing snow or ice on a public way expected to be maintained for pedestrian or vehicular traffic; and the blowing or throwing of snow or ice onto a pedestrian or vehicular area. Violation of any of these provisions may result in penalties as set forth in section 1-3. Each day a violation continues shall constitute a separate violation. If the occupant or owner does not comply with this section, the street commissioner may cause the work to be done and the expense reported to the city clerk who shall annually enter such expense on the tax roll as a special tax against the lot or parcel of land.
- (c) No snow or ice shall be deposited on private property without the owners consent. Violation of this provision may result in penalties as set forth in section 1-3. Each day the violation continues shall constitute a separate violation.



You Can Help Lakes and Streams during Winter

It's very important to continue to pick up after your pet all year long, especially during winter. If you don't pick up pet waste right away, it can soon be encased in snow and ice, ready to be carried away with melt water when it warms up. Grassy areas that would normally allow water to soak in are frozen during winter, so they're more like a parking lot greatly increasing the surface area from which runoff flows. So, the bacteria and nutrients found in pet waste are much more likely to make their way to the nearest storm drain. And contrary to common belief, rain and melting snow that goes into storm drains does not go to the sewage treatment plant. Rather, it goes to the nearest lake or stream. So, be sure to continue to scoop the poop this winter and do your part to help keep lakes and streams free of pet waste. For more ideas on how you can help lakes and streams near you, go to www.myfairlakes.com.

SPRINGTIME BRINGS MORE THAN FLOWERS WITH THOSE SHOWERS

While this winter feels as though it will never end, eventually, the snow and ice will melt and there will be spring showers. The rain and snow melt flows across streets, driveways, parking lots and rooftops and transports sand, salt, last fall's leaves, oil, trash and many other pollutants directly to storm drains, which eventually ends up in our lakes and streams.

Some mistakenly think that water running off streets goes into a sewage treatment plant. But the truth is that it goes right to our lakes and streams.

You Can Help

There are many things each of us can do to prevent storm water pollution.

- 9 Use salt sparingly during the winter.
- 9 Sweep up any excess salt or sand left over from the snow shoveling season.
- 9 Clean up pet waste year round—bury it properly or put it in the garbage.
- 9 Keep cars well maintained repairing leaks; but consider walking, public transportation or riding a bike whenever you can.
- 9 Direct rainwater away from paved areas to lawns or gardens where it can soak in.
- 9 Keep leaves and grass clippings out of the street. Compost yard waste, debris and leaves.
- 9 Get a soil test before applying fertilizer to your lawn. Don't pay for something you don't need. If a test shows that your lawn does need fertilizer, apply it according to directions and carefully clean up any spills on paved surfaces.
- 9 Wash your car on the lawn or at a car wash that sends its used water to the sewage treatment plant.
- 9 Prevent soil erosion.
- 9 Don't let anything but rain go down the storm drain or into the ditch.



Go to www.myfairlakes.com for more ideas on how you can help our lakes and streams.

Give Your Lawn a Checkup Before You Fertilize

After a long winter under a deep blanket of snow, your lawn is finally visible again, matted and brown. You may be thinking about spring cleaning and maintenance, including an application of fertilizer to ensure lush, green grass this summer. Before you fertilize, test your soil to see what your lawn needs. You may be wasting your time and money, and sending excess nutrients to local waterways where they feed algae and damage fish habitat, if you don't test first.

If your soil already has the right balance of nitrogen, phosphorous and potassium, you don't need to fertilize. To figure out your lawn's needs, send in a soil sample to be tested. The University of Wisconsin has a soil testing lab right in Madison. Any Wisconsin soil can be submitted for analysis at a cost of \$15/sample. A sample is two cups of soil collected in multiple places from the top 4 inches of your lawn. The laboratory will return a report for each sample indicating soil pH, percent organic matter, phosphorus and potassium analysis. It will also provide recommendations on the addition of lime (for pH) and fertilizer.

Right now is a great time to test—you should have your results in time for a spring application, *if* one is recommended. You'll find everything you need on the UW soil lab website <http://uwlab.soils.wisc.edu/lawn-garden/> (or google "UW soil testing"), including the submission form and sampling instructions.

Keep your lawn healthy and our area waters clean year round by:

- leaving grass clippings on the lawn
- selecting fertilizers with no phosphorus (unless your soil test results show it's needed; it's the law here in Dane County)
- avoiding weed and feed products
- calibrating fertilizer spreaders correctly
- keeping fertilizer off of paved surfaces
- choosing fertilizers with at least 25%- 50% of the nitrogen in slow release form



Sample soil test report, http://uwlab.soils.wisc.edu/files/forms/lag_sample.pdf

Samples Analyzed By:
UW Soil & Plant Analysis Lab
8452 Mineral Point Road
Verona, WI 53593
(608) 262-4364

SOIL TEST REPORT LAWN & GARDEN

COOPERATIVE EXTENSION
University of Wisconsin-Extension
University of Wisconsin-Madison
Department of Soil Science

Lab Number: 54321

Date received: 8/1/2007

Account: 555800

Client: Bucky Badger

County: Dane

Date processed: 8/10/2007

Send to:

Bucky Badger

Area Type
Lawn/Established

Area Designation
Lawn

RECOMMENDATIONS

Lime to Apply

No soil pH adjustment is recommended.

Fertilizer to Apply

Based on the results of your soil analysis, we recommend the following fertilizer program.

Using the following grid, apply the recommended fertilizers using the spreader setting shown on the fertilizer bag.

Type of turf fertilizer	May 1-15	July 1-15	September 1-15	October 15-30
General high N	A	B	C*	D
Starter high P				
Winterizer high K				D

Follow rates/spreader settings on the fertilizer bag.

A-D: Apply 1 lb actual N/1,000 ft²

D: Apply winterizer grade to build K levels for one year then revert to general fertilizer

* Skip the September application if you mulch mow.

Cultural and Management Tips

Use only fertilizers manufactured specifically for application on turfgrass.

Sweep up any fertilizer accidentally applied to paved surfaces.

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Lawn Watering

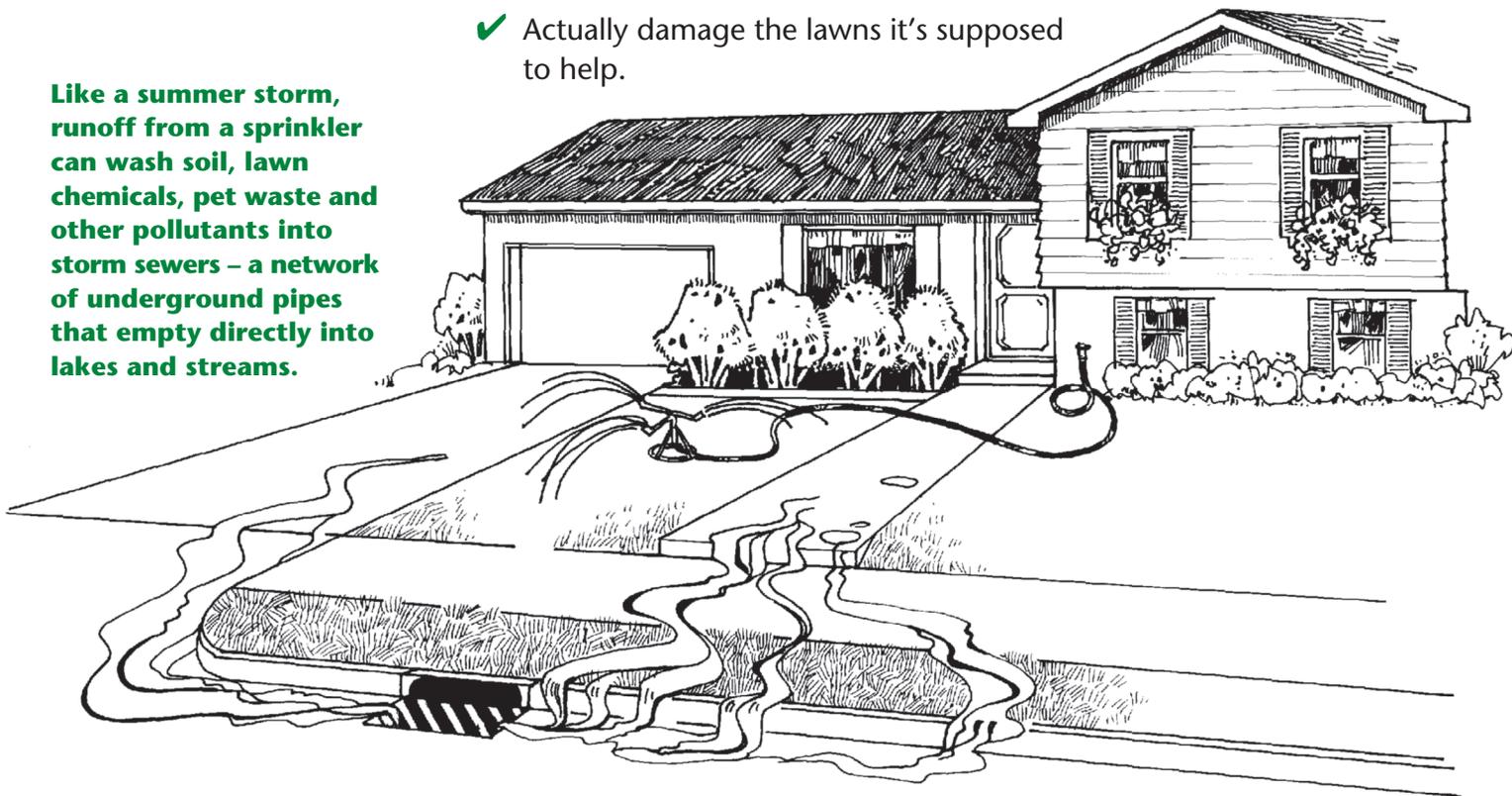
A SERIES OF WATER QUALITY FACT SHEETS FOR RESIDENTIAL AREAS

For decades, American cities and suburbs have grown and spread into the surrounding countryside. With this growth has come an unprecedented seeding and sodding of the landscape – literally millions of acres have been turned into bluegrass lawns. For many homeowners, the residential lawn is the symbol of a well-tended property.

Unfortunately, keeping the lawn emerald-green, barefoot-soft and dandelion-free requires a significant amount of attention, and can have serious impacts on lakes, streams and groundwater. Water from a sprinkler flowing down one driveway might not seem like a big problem. But careless watering on hundreds of lawns can:

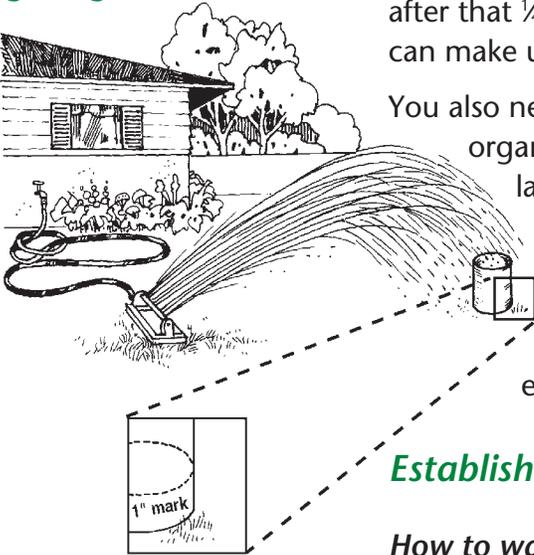
- ✓ Wash pollutants into lakes and streams.
- ✓ Deplete water supplies.
- ✓ Actually damage the lawns it's supposed to help.

Like a summer storm, runoff from a sprinkler can wash soil, lawn chemicals, pet waste and other pollutants into storm sewers – a network of underground pipes that empty directly into lakes and streams.



Because lawn watering can have far-reaching effects, there is growing interest among horticulturists, environmentalists, public utility managers and homeowners in how to water correctly. This publication offers practical lawn watering tips that will save water, help keep our lakes and streams clean, and produce healthy, attractive lawns.

A container with a once-inch mark placed under your sprinkler will help gauge how much water your lawn is getting.



A healthy lawn requires about one inch of water per week. As a general rule, apply the water all at once rather than in several light waterings. Before you water, do some arithmetic. If it just rained $\frac{1}{4}$ inch, you probably only need to apply $\frac{3}{4}$ inch with the sprinkler. Use common sense, however, and consider the weather forecast. If there is a good chance of rain soon after that $\frac{1}{4}$ -inch rainfall, don't water at all. If the rain doesn't come, you can make up the difference.

You also need to know your lawn. For example, sandy soils with little organic matter will require more water, heavy clay soils less. Sloping lawns are normally drier than level, low-lying ones. Lawns under large trees, especially during cool weather, may need little or no watering. Avoid watering during the middle of the day when evaporation rates are highest and the water you use will do the least good. Early morning watering will minimize evaporation and help newly seeded areas through the day's heat.

Established lawns

How to water

- It's best to water established lawns at the rate of one inch per week, applied all at one time to promote deep rooting. Frequent, light waterings favor shallow roots and plants unable to tolerate dry periods.
- Water early in the morning. If watering is done in the evening, grass stays wet all night, thus increasing risk of disease.

Keep in mind...

- Established, healthy lawns can survive several weeks of dormancy during summer with little or no water.
- Watering early in the morning puts less strain on public water supplies because the peak load is during evening.
- Excess water can keep the soil too moist, which damages roots.

If you use sod instead of seed...

How to water

- ✓ Soak newly laid sod with one inch of water. Use a marked container to measure the amount applied.
- ✓ Water lightly every other day for two weeks after sodding. When grass is established, water according to the guidelines for established lawns.

Keep in mind...

- ✓ Excess water can drown sod in poorly drained areas, or cause erosion between or under pieces of sod on slopes.

Newly seeded grass

How to water

- Mulch newly seeded areas with straw, marsh hay or lawn clippings to reduce evaporation from the soil surface.



- Light watering every other day is generally sufficient as long as the soil was moist at seeding time.
- Water less frequently when the grass reaches two inches high.

Keep in mind...

- Overwatering can wash away seeds, cause seeds to rot before they germinate, increase the chances of disease, or slow the growth of new grass.
- Grasses in Wisconsin lawns grow best in cool weather. Plant seed in spring (late April to mid-May) or fall (late August to mid-September) when it's cooler and more rain can be expected.
- When selecting seed, consider bluegrass and fescue mixes, which tend to be more drought-tolerant than ryegrasses.

Let grass grow taller

- To promote deep rooting and lawns that tolerate dry conditions, mow grass no shorter than two inches.
- Taller grass shades the soil surface, thus reducing evaporation and sprouting of weed seeds.

Use chemicals wisely

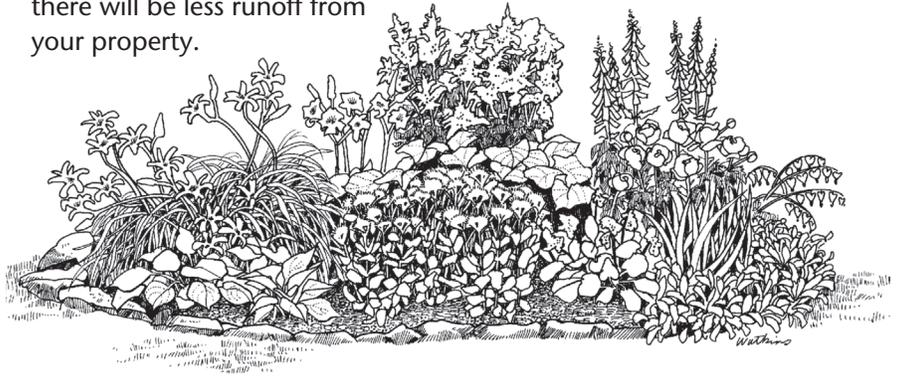
- Proper fertilizing promotes deep roots and drought tolerance. Improper fertilizing can have the opposite effect.
- Don't fertilize a dry lawn – high concentrations of nutrients tend to draw moisture out of grass.
- Control weeds to reduce competition for soil moisture. This may be done by hand, or with careful use of broad-leaf herbicides.

Consider the weather

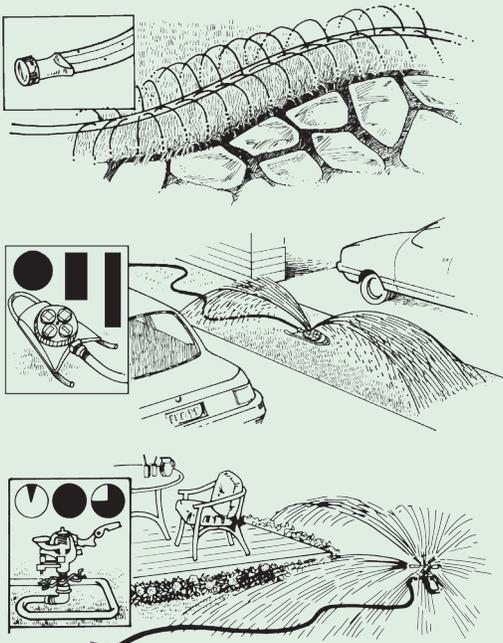
- Don't mow during the heat of day, especially when conditions are hot and dry; newly cut grass blades lose water quickly.
- Don't water if a one-inch rainstorm has occurred in the last week. Also, postpone watering if the forecast calls for rain in the next few days.

Be creative

- Plan and establish a landscape that has less lawn and requires less water and maintenance. Consider plant groupings that include drought-tolerant species and organic mulches that help keep the soil moist.
- Direct downspouts away from foundations and driveways to planting beds and lawns where the water can soak in. Besides more efficient use of water, there will be less runoff from your property.



- Learn to live with temporary brown-outs. A few weeks of dormancy will not hurt the roots of a healthy lawn.



Tips on sprinklers and efficient watering

Hardly anyone has a perfectly rectangular or circular lawn. Fortunately, there are many sprinkler types to deal with odd angles. (A few are shown here.) Over time, savings on your water bill will pay for the investment on several types. Other tips for efficient watering include:

- ✓ Consider a timed sprinkler, which automatically shuts off after a desired rate of application.
- ✓ Use a sprinkling can or hand-held hose to specifically target small areas where use of a sprinkler is wasteful.
- ✓ Aerate your lawn to improve water penetration and reduce runoff.
- ✓ Avoid using a conventional sprinkler on the strip of lawn between the sidewalk and street. Runoff from this area travels quickly and directly to the gutters and storm sewer. A soaker hose might be the best option.
- ✓ Don't forget to turn the sprinkler off! Forgetfulness can result in a trail of water flowing from your property.

**WE'VE ALL
SEEN IT ...**

While everyone recognizes that this is a waste of water, other problems caused by careless watering are harder to see. Water flowing down the gutter often carries soil, pet waste, lawn chemicals and other pollutants into storm sewers, which empty into nearby streams and lakes.



Sprinkler runoff makes a natural problem worse. While occasional midsummer rainstorms wash pollutants into lakes and streams, careless lawn watering can create a “rain-storm” every day throughout the summer. This additional runoff occurs during the hottest weather and low water conditions in streams and lakes – prime conditions for growth of nuisance algae and aquatic weeds.

**...that trail
of water
flowing in
the gutter
on a clear
day.**

Water running off your yard can also erode soil from adjacent undeveloped lots, waterlog sensitive plants, or wash away fertilizers that have been recently applied to lawns and gardens. We can all help minimize these problems by following the common-sense tips in this fact sheet. The result will be healthier lawns and cleaner water.

Thinking things through

In the end, lawn watering is probably governed more by one’s point of view than anything else.

For example, a dry lawn has a blue-green color and does not spring back when you walk on it (your footprints remain). A lawn during mid-summer dormancy is a brownish green. To some people, neither of the above is acceptable. However, except under extreme circumstances, even the natural brown-out does no harm. And no amount of mid-summer watering will allow our cool season grasses to look as good as they do during spring or fall. By September, in fact, lawns that were watered throughout the

summer generally look no better than lawns that weren’t. In other words, a naturally brown lawn in August is not a sign of neglect.

Those who want the green look throughout the summer can benefit from the lawn watering tips inside. Those who are inclined to simply wait out the seasonal changes can be confident that they’re not going to harm a healthy lawn.

Above all, heed the suggestions and restrictions of your local water utility during droughts. If you have a private well, don’t jeopardize neighborhood supplies by unnecessary watering.

This publication is available from county UW-Extension offices, Cooperative Extension Publications – 1-877-947-7827, and from DNR Service Centers.

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DNR WT-530-99
R-09-99-10M-30-S**

**UW
Extension**



Rain Barrels: An Old Idea Made New Again

Rain barrels help conserve water and make your plants happier.

Residential irrigation can account for 40% of at-home water consumption in a city. This can be a problem, particularly in summer when water shortages are most likely as the majority of outdoor water use occurs. Capturing rainwater from your roof top is a smart way to lower your water bill, help lakes, streams and rivers and lessen pressure on municipal water supplies.

A rain barrel or cistern is collects rain from your rooftop. The rain barrel is positioned under the downspout of a building to collect the rain that falls on that building's roof to be used later for lawn and garden watering or washing cars or windows—activities that would normally use tap water.

Why use a rain barrel?

- Rain barrels help decrease groundwater demand during the hot summer months, which means less water needs to be pumped, treated to drinking water standards and then pumped to households. Less pumping also means less electricity (for pumping) is used during critical summer periods. And, of course, saves you money on your water bill.
- Rain water is "soft" water, free of chlorine, fluoride, lime and calcium. Plants prefer the pH of rain water.
- Municipalities save on operating costs when less water is used, and in the long run it saves a great deal on infrastructure costs as this translates to fewer new wells, pumping stations and treatment facilities need to be built.
- Just one quarter inch of rainfall runoff from the average roof will fill a 55-gallon barrel. Attach a hose to the spigot or put your watering can under the spigot to use the water wherever you want.
- Collecting and using rainwater helps our lakes and streams, because storm water would otherwise run off into the storm sewers, carrying with it pollutants such as oil, bacteria, nutrients and more directly to lakes and streams.
- When cities use less municipal water, the impact on the environment is reduced as well. Drawing water from an aquifer, lake or river faster than it is naturally regenerated can adversely affect every living creature in the area.

Helpful Tips:

- If you don't have a model that uses a diverter, be sure to use a screen to keep mosquitoes, leaves and other debris out of the barrel and water.
- Use an overflow hose or other device to direct excess water away from house foundation when the barrel is full. Install a rain garden and direct overflow from your rain barrel and downspout to the rain garden.
- Monitor the barrel to ensure intakes and overflows aren't blocked and that it is not becoming a home for mosquitoes.
- Direct your home's downspouts to a grassy area away from your home's foundation if you don't have them directed to a rain barrel, rather than allowing storm water to flow to the street gutter.
- During the winter, make sure the rain barrel is drained and disconnected.

Water stored in a rain barrel or cistern is not potable, and should not be used as drinking water.

Rain Barrel Resources

Rain barrels are usually about 40-60 gallons. You can purchase commercially made ones, but many local groups sell them. You can also make your own if you have a barrel. The simple parts are available at any hardware store.

Leaf Management 101



1. Compost your leaves.

Mix leaves with other compostable items and spread it on your gardens next year.



2. Chop up leaves with your lawn mower.

Leaf fragments won't kill your grass, and this replaces one fertilizer application.



3. Use leaves as mulch for gardens.

Leaves provide nutrients and winter protection to your vegetable and flower gardens.

4. Keep the street clean.
If you pile leaves for collection, don't put them in the gutter.



These simple steps will save you money while keeping our waterways free of nutrients that leach out of leaves as they break down. *Feed your lawns & gardens, not our lakes & rivers.*

Love Your Lakes & Rivers Don't Leaf Them



cleanwaterbrightfuture.org

myfairlakes.com



Keep leaves out of the street.

Show your love for the lakes by placing this in your window or pick up a yard sign through myfairlakes.com.

Building a Rain Garden

What is a Rain Garden?

Rain gardens are specially designed gardens that collect and infiltrate stormwater from driveways, and heavily compacted lawns.

They can be as manicured or natural as the gardener chooses, and though typically planted with native vegetation, ornamentals certainly may be used for variety.

Building a rain garden is a great way for individuals to get involved in improving our lakes and rivers.



Why Plant a Rain Garden?

Rain & melted snow run off our roofs, driveways & yards, into our streets, through the storm system, and eventually to our lakes & rivers. This water is untreated and carries all sorts of pollutants such as leaves, grass, oil, salt, fertilizer, pet waste, and pesticides. Rain gardens retain the water before it leaves your yard and keep the pollutants in the garden, where they can be absorbed into the soil.

Rain gardens have the potential to soak up significantly more water than a regular lawn, improving water quality, replenishing groundwater, and reducing the chances for localized flooding.

They also happen to be beautiful and provide habitat for beneficial critters: birds, bees, butterflies, & dragonflies.



Learn more @ myfairlakes.com

Left: Prairie Dropseed

Center: Spiderwort

Right: Prairie Blazingstar

All photos graciously submitted by J. Bertolacini

Rain Gardens: step by step

Designing the Garden x x x + + x x + + x x + x + x + x + x + x + x

Choosing the location of your garden can seem a little daunting to some. You will want to stay 10 feet from your house's foundation to avoid seepage. The best location would likely be fairly close to your downspouts if you intend to direct roof water to your garden. Make your garden as big as you are willing and able to maintain. There are some rules of thumb, but you can always change it if you feel it's too small or too big.

Site Preparation x x x + + x x + + x x + x + x + x + x + x + x + x + x + x

The amount of preparation required depends on your soil. If your soil is easy to dig into and water drains fairly quickly, you likely only need to remove any grass and create a 6-8 inch depression to allow water to pond temporarily. If your soil is hard, you will want to remove a few extra inches of soil and add compost to help loosen it up and improve infiltration before planting. Amazingly, some plants can push their roots through the toughest soils, and open up small channels to allow water to soak in. Look into "clay busters" if you have exceptionally bad soils.

Planting x x x + + x x + + x x + x + x + x + x + x + x + x + x + x

Plant selection can also be confusing, but have fun with it. If design properly, a rain garden will not hold water for very long, and so "wetland plants" may not be the best option. Instead select native plants that can handle a fluctuation in water levels. Talk to your local greenhouse about what plants they recommend or see below for some suggestions.

Pick & Choose or Select Your Own

○ Full Sun (6+ hrs) ● Part Sun (3-6 hrs) ● Full Shade (0-3 hrs)

		Prairie Blazingstar ○	
		Lanceleaf Coreopsis ○	
		Purple Coneflower ○ ●	
		Spiderwort ○ ●	
		Canada Anemone ○ ●	
		Nodding Onion ○	
		Virginia Mountain Mint ○ ●	
		Butterflyweed ○ ●	
		Anise Hyssop ○ ●	
		Marsh Phlox ○ ●	
		Black-Eyed Susan ○ ●	
		Columbine ○ ● ●	
		Orange Coneflower ○ ●	
		Wild Geranium ○ ● ●	
		Sky Blue Aster ○ ●	
		Woodland Phlox ● ●	
		Calico Aster ○ ● ●	
		Monkey Flower ●	
		False Rue Anemone ●	
		Zig Zag Goldenrod ● ●	
GRASSES/SEDGES			
Common Oak Sedge, Sideoats Gramma Grass, Little Bluestem, Prairie Dropseed, Silky Wild Rye			
May	June	July	Aug. Sept. Oct.

Bloom times may vary.

Stormwater Experts Ask Area Residents to Help Keep Lakes and Rivers Clean

One of the many ways that municipalities work to keep storm water runoff clean is to detect and remove improper discharges of water into their systems of storm drains, greenways, ponds, and storm ditches. Nutrients, toxic substances, and other debris impair freshwater ecosystems by accelerating algae growth, disrupting aquatic vegetation and damaging fisheries and wildlife habitat.

Sometimes called “illicit discharge detection and elimination” this is important work to keep area waters clean. Member communities in the Madison Area Municipal Storm Water Partnership prohibit illicit discharges in compliance with the provisions of ch. 283, Wisconsin Statutes, and chs. NR 151 and 216, Wisconsin Administrative code, and their storm water discharge permit issued by the Wisconsin Department of Natural Resources. Working together, the 21 communities in the partnership also provide public education on proper management practices for possible sources of storm water pollution including automobiles, pet waste, hazardous chemicals, yard waste, garden fertilizers and other household refuse.

A scientific survey of residents in the central Dane County area conducted in 2013 (http://www.myfairlakes.com/pdf/MAMSWaP_Report_2013-2014.pdf) showed that 40% of residents either don't know what happens to storm water runoff when it leaves their neighborhood, or believe that it goes to a sewage treatment plant. The survey also found that a substantial percentage of respondents do not know who to contact to report storm water runoff pollution problems. Storm water partner communities want you to know how to help improve the quality of storm water runoff!

Encourage erosion control by adopting storm water-friendly practices that reduce runoff. Support the installation of permeable pavement, storm water detention ponds and rain garden projects in your neighborhood. Look for suspicious activity such as overflow from septic tanks, carwash/laundry wastewater and other forms of sanitary surcharges. Please report improper disposal of automobile and household products, pet waste and leaves. If you witness an illegal discharge or see anyone pouring oils, paint, concrete wash water, or hazardous materials into a storm drain inlet, ditch or stream, please call your municipal stormwater experts immediately. Visit www.myfairlakes.com today for information on your local municipal contact.

The Madison Area Municipal Storm Water Partnership is working with the Rock River Stormwater Group to reduce the amount of pollution making its way to our lakes and streams. The Yahara chain of lakes and the Yahara River both ultimately drain to the Rock River. Both groups thank you for helping to Renew the Rock by reducing stormwater pollution throughout the Rock River area. Learn more at www.myfairlakes.com and www.cleanwatersbrightfuture.org.

October 2014

Love Our Lakes and Rivers: Compost Leaves - Don't Place Them near the Gutter

Another change in the season means the flaming colors of fall are beginning to blanket the treetops above. The delicious briskness in the air and migrating birds are now accompanied by spectacular shades of falling leaves all around us. Despite their vibrant colors, it's important to remember the water quality threats that leaves pose to Dane County lakes, rivers and streams. Amber piles of yard waste in the street during harvest season bring the green hue of algae blooms to our waters the following summer.

If you love the abundance of water resources we have been blessed with here in Dane County; Don't Leaf the Lakes! Keeping nutrient-rich grass clippings, leaves and other yard waste away from the street is the easiest way to help keep our waters clean. Otherwise wind and water direct stormwater runoff through leaves piled in the street. Even if the leaves never end up in the storm drain, a nutrient-rich "tea" is created when runoff passes through these leaves, and then drains into lakes and streams. These nutrients fertilize and promote algae growth.

Preliminary results from a four-year federal state and research project in our area show that phosphorus concentrations in runoff are much higher in fall in areas where municipalities do not conduct leaf pickup or street sweeping programs. Leaf removal from municipal streets is therefore a critical element in our phosphorus reduction work.

Instead of piling leaves in the street, consider composting your leaves and skipping municipal leaf collection all together. Take advantage of yard waste by making it an asset for

Madison Area Municipal Storm Water Partnership

c/o Dane County Land & Water Resources Department, 5201 Fen Oak Drive, Room 234, Madison, WI 53718-8827
Phone 608-224-3746 Fax 608-224-3745 hartwig@countyofdane.com www.myfairlakes.com

your lawn and garden as a natural fertilizer. Compost leaves or use your lawn mower to mulch leaves directly onto your lawn. Minimize waste by spreading the mulch around trees, shrubs and gardens on your property. If you opt for municipal leaf collection and disposal, keep leaves on the terrace, not the street. Contact your local municipality for specific information on curbside pick-up dates and collection guidelines so that your leaves are at the curb for as short a time as possible.

No matter how far we live from the water's edge, storm drains or ditches near us lead to the nearest lake or stream, so each of us shares the responsibility of limiting nutrient growth in our lakes by keep leaves out of the street. Show your love for our lakes by displaying your very own "Love Your Lakes, Don't Leaf Them" yard sign. For more information, or to obtain yard signs visit www.myfairlakes.com or call 608-224-3764. Visit your local town/village/city hall and inquire about helpful tips, flyers and signs that emphasize the importance of eliminating algae-feeding nutrients from entering storm drains.

Love Your Lakes
& Rivers
Don't Leaf Them

cleanwaterbrightfuture.org

myfairlakes.com



Keep leaves out of the street.

Show your love for the lakes by placing this in your window or pick up a yard sign through myfairlakes.com.

The Madison Area Municipal Storm Water Partnership is working with the Rock River Stormwater Group to reduce the amount of pollution making its way to our lakes and streams. The Yahara chain of lakes and the Yahara River both ultimately drain to the Rock River. Both groups thank you for helping to Renew the Rock by reducing stormwater pollution throughout the Rock River area. Learn more at www.myfairlakes.com and www.renewtherock.com.

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October 2014

Town, Village and City Actions Keep Water Clean

In central Dane County, towns, villages, cities, Dane County and UW-Madison work together to limit pollution entering waterways from storm water runoff. These municipal efforts meet state and federal permitting requirements and maintain healthy freshwater ecosystems. One of the most important ways they do this is by detecting and removing improper discharges of water into their systems of storm drains, pipes, greenways, ponds and storm ditches. These “illicit discharge” programs keep nutrients, toxic substances, metals, oils and grease, solvents, harmful microbes, and other debris from harming natural communities of fish, plants, insects and other beneficial organisms.

Some examples of illegal discharges to the stormwater conveyance system are indirect connections, such as leaks of wastewater from crushed or collapsed sanitary sewer pipes, or from defective septic tanks. Other illegal discharges are direct unpermitted wastewater pipe connections, such as from a commercial car wash or dishwasher or laundry wastewater, into the storm drain system. Other illicit discharges include illegal dumping of cleaning chemicals, paint, automotive fluids, and discharges of human waste from boats and recreational vehicles. These are a problem because, unlike wastewater that flows to a wastewater treatment plant, storm water flows to waterways without any treatment and may carry pollutants that degrade water quality.

One of the ways that municipalities identify and eliminate these pollution sources is by conducting regular inspections to identify potential illegal connections to their storm water conveyance systems. For example, municipal inspectors check to see if liquid is flowing in storm water outfalls, even when it hasn’t rained for quite awhile. This flow in dry weather could indicate that nearby indoor plumbing is illegally connected to the storm drainage system. The inspectors follow up on citizen complaints of strong, unusual odors and stains.

Municipalities also find the source of spills by checking manholes along the drainage system to identify where a discharge enters the system, clean them up, encourage voluntary compliance, and may fine a deliberate violator when appropriate. Municipal staff look for things that most residents don’t think about, such as leaking garbage dumpsters, particularly those that

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contain decomposing food waste. One great new practice being used in our area is the effective use of concrete washout boxes (see photo), which provide a great alternative to illegal dumping in the storm drain inlet. All of these actions are important, because these are sources of pollution that ultimately drain to our lakes, streams and wetlands.



Area residents can help keep our waters clean by reporting anyone pouring something into a storm drain inlet, ditch or stream. The Madison Area Municipal Storm Water Partnership website, www.myfairlakes.com, can direct you to your local contact.

This article is brought to you by the Madison Area Municipal Storm Water Partnership, working with the Rock River Stormwater Group to reduce the amount of pollution making its way to our lakes and streams. The Yahara chain of lakes and the Yahara River both ultimately drain to the Rock River. Both groups thank you for helping to Renew the Rock by reducing stormwater pollution throughout the Rock River area. Learn more at www.myfairlakes.com and www.renewtherock.com.

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October 2014

Water Quality Experts Ask for Help with “Illicit Discharges”

Residents, businesses and municipalities in our area are working to keep our lakes and rivers clean by keeping pollution out of the stormwater system. People sometimes dump things on the ground or into storm sewers that can harm our waters. When anything other than clear stormwater ends up in the stormwater system, water quality experts start using fancy terms like “illicit discharges” and “hazardous substance spills.” For a good rule of thumb for judging whether what you’re seeing is a problem, just think about how upset a parent would be if a child spilled that material into the family aquarium or swimming pool. If mom or dad would be mad, there’s a good chance you could be witnessing an “illicit discharge.” Residents and businesses can help make or keep our waters fishable and swimmable by correcting or reporting such pollution to the appropriate contacts.

Some illicit discharges are one-time events and are easy to recognize as a problem. Consider, for example, a ruptured oil pipeline or liquid manure spill, or even someone dumping paint down a storm drain. These need to be cleaned up immediately, and municipalities and Wisconsin Department of Natural Resources staff have procedures for dealing with such toxic spills. Other illicit discharges are ongoing problems and are often harder to recognize. Examples include a failed, leaking septic system or a workshop floor drain that is connected to the stormwater system instead of the wastewater sewer system.

What can area residents do? First, consider your own house, especially if you have an older home. Do you have any waste pipes from inside the house that go anywhere other than your sewer or septic line when they leave the house? If so, you probably have an illicit discharge problem – look for ways to redirect those pollutants to your wastewater system.

Second, pay attention in your neighborhood. Watch for signs that someone has dumped something inappropriate into a storm drain, ditch, waterway, or onto the ground – oil, paint, cleaning solvents, anything other than clean water. If you do spot such pollution, take a picture and then contact your local municipal contact or Wisconsin DNR contact to report the pollution. Visit www.myfairlakes.com today for information on your local municipal contact. DNR’s spill hotline information is available at <http://dnr.wi.gov/topic/spills/>

Third, tell your community leaders and municipal contact that you support policies and practices that reduce and clean runoff, such as installation of pervious pavement, construction site erosion control measures and other stormwater best management practices.

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As a society, we have made great strides over the past 50 years in our efforts to stop polluting our lakes and rivers. We've corrected many of the worst problems, such as the direct discharge of untreated industrial and municipal wastewater into rivers. But our waterways are still not as clean as we'd like because of stormwater pollution. Please do your part to help keep our stormwater runoff clean and clear, and downstream waters fishable and swimmable.

This article is brought to you by the Madison Area Municipal Storm Water Partnership, working with the Rock River Stormwater Group to reduce the amount of pollution making its way to our lakes and streams. The Yahara chain of lakes and the Yahara River both ultimately drain to the Rock River. Both groups thank you for helping to Renew the Rock by reducing stormwater pollution throughout the Rock River area. Learn more at www.myfairlakes.com and www.renewtherock.com.

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Stormwater Phase II Final Rule

Illicit Discharge Detection and Elimination Minimum Control Measure

Stormwater Phase II Final Rule Fact Sheet Series

Overview

1.0 – Stormwater Phase II Final Rule: An Overview

Small MS4 Program

2.0 – Small MS4 Stormwater Program Overview

2.1 – Who's Covered? Designation and Waivers of Regulated Small MS4s

2.2 – Urbanized Areas: Definition and Description

Minimum Control Measures

2.3 – Public Education and Outreach

2.4 – Public Participation/ Involvement

2.5 – Illicit Discharge Detection and Elimination

2.6 – Construction Site Runoff Control

2.7 – Post-Construction Runoff Control

2.8 – Pollution Prevention/Good Housekeeping

2.9 – Permitting and Reporting: The Process and Requirements

2.10 – Federal and State-Operated MS4s: Program Implementation

Construction Program

3.0 – Construction Program Overview

3.1 – Construction Rainfall Erosivity Waiver

Industrial "No Exposure"

4.0 – Conditional No Exposure Exclusion for Industrial Activity

This fact sheet profiles the Illicit Discharge Detection and Elimination minimum control measure, one of six measures the operator of a Phase II regulated small municipal separate storm sewer system (MS4) is required to include in its stormwater management program to meet the conditions of its National Pollutant Discharge Elimination System (NPDES) permit. This fact sheet outlines the Phase II Final Rule requirements and offers some general guidance on how to satisfy them. It is important to keep in mind that the small MS4 operator has a great deal of flexibility in choosing exactly how to satisfy the minimum control measure requirements.

What Is An "Illicit Discharge"?

Federal regulations define an illicit discharge as "...any discharge to an MS4 that is not composed entirely of stormwater..." with some exceptions. These exceptions include discharges from NPDES-permitted industrial sources and discharges from fire-fighting activities. Illicit discharges (see Table 1) are considered "illicit" because MS4s are not designed to accept, process, or discharge such non-stormwater wastes.

Why Are Illicit Discharge Detection and Elimination Efforts Necessary?

Discharges from MS4s often include wastes and wastewater from non-stormwater sources. A study conducted in 1987 in Sacramento, California, found that almost one-half of the water discharged from a local MS4 was not directly attributable to precipitation runoff. A significant portion of these dry weather flows were from illicit and/or inappropriate discharges and connections to the MS4.

Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, or paint or used oil dumped directly into a drain). The result is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

Table 1

Sources of Illicit Discharges
Sanitary wastewater
Effluent from septic tanks
Car wash wastewaters
Improper oil disposal
Radiator flushing disposal
Laundry wastewaters
Spills from roadway accidents
Improper disposal of auto and household toxics

What Is Required?

Recognizing the adverse effects illicit discharges can have on receiving waters, the Phase II Final Rule requires an operator of a regulated small MS4 to develop, implement and enforce an illicit discharge detection and elimination program. This program must include the following:

- A storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;
- Through an ordinance, or other regulatory mechanism, a prohibition (to the extent allowable under State, Tribal, or local law) on non-stormwater discharges into the MS4, and appropriate enforcement procedures and actions;
- A plan to detect and address non-stormwater discharges, including illegal dumping, into the MS4;
- The education of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste; and
- The determination of appropriate best management practices (BMPs) and measurable goals for this minimum control measure. Some program implementation approaches, BMPs (i.e., the program actions/activities), and measurable goals are suggested below.

Does This Measure Need to Address All Illicit Discharges?

No. The illicit discharge detection and elimination program does not need to address the following categories of non-stormwater discharges or flows unless the operator of the regulated small MS4 identifies them as significant contributors of pollutants to its MS4:

- Water line flushing;
- Landscape irrigation;
- Diverted stream flows;
- Rising ground waters;
- Uncontaminated ground water infiltration;
- Uncontaminated pumped ground water;
- Discharges from potable water sources;
- Foundation drains;
- Air conditioning condensation;
- Irrigation water;
- Springs;
- Water from crawl space pumps;

- Footing drains;
- Lawn watering;
- Individual residential car washing;
- Flows from riparian habitats and wetlands;
- Dechlorinated swimming pool discharges; and
- Street wash water.

What Are Some Guidelines for Developing and Implementing This Measure?

The objective of the illicit discharge detection and elimination minimum control measure is to have regulated small MS4 operators gain a thorough awareness of their systems. This awareness allows them to determine the types and sources of illicit discharges entering their system; and establish the legal, technical, and educational means needed to eliminate these discharges. Permittees could meet these objectives in a variety of ways depending on their individual needs and abilities, but some general guidance for each requirement is provided below.

The Map

The storm sewer system map is meant to demonstrate a basic awareness of the intake and discharge areas of the system. It is needed to help determine the extent of discharged dry weather flows, the possible sources of the dry weather flows, and the particular waterbodies these flows may be affecting. An existing map, such as a topographical map, on which the location of major pipes and outfalls can be clearly presented demonstrates such awareness.

EPA recommends collecting all existing information on outfall locations (e.g., review city records, drainage maps, storm drain maps), and then conducting field surveys to verify locations. It probably will be necessary to walk (i.e., wade through small receiving waters or use a boat for larger waters) the streambanks and shorelines for visual observation. More than one trip may be needed to locate all outfalls.

Legal Prohibition and Enforcement

EPA recognizes that some permittees may have limited authority under State, Tribal or local law to establish and enforce an ordinance or other regulatory mechanism prohibiting illicit discharges. In such a case, the permittee is encouraged to obtain the necessary authority, if possible.

The Plan

The plan to detect and address illicit discharges is the central component of this minimum control measure. The plan is dependant upon several factors, including the permittee's available resources, size of staff, and degree and character of its illicit discharges. As guidance only, the four steps of a recommended plan are outlined below:

1 Locate Problem Areas

EPA recommends that priority areas be identified for detailed screening of the system based on the likelihood of illicit connections (e.g., areas with older sanitary sewer lines). Methods that can locate problem areas include: visual screening; water sampling from manholes and outfalls during dry weather; the use of infrared and thermal photography, cross-training field staff to detect illicit discharges, and public complaints.

2 Find the Source

Once a problem area or discharge is found, additional efforts usually are necessary to determine the source of the problem. Methods that can find the source of the illicit discharge include: dye-testing buildings in problem areas; dye- or smoke-testing buildings at the time of sale; tracing the discharge upstream in the storm sewer; employing a certification program that shows that buildings have been checked for illicit connections; implementing an inspection program of existing septic systems; and using video to inspect the storm sewers.

3 Remove/Correct Illicit Connections

Once the source is identified, the offending discharger should be notified and directed to correct the problem. Education efforts and working with the discharger can be effective in resolving the problem before taking legal action.

4 Document Actions Taken

As a final step, all actions taken under the plan should be documented. This illustrates that progress is being made to eliminate illicit connections and discharges. Documented actions should be included in annual reports and include information such as: the number of outfalls screened; any complaints received and corrected; the number of discharges and quantities of flow eliminated; and the number of dye or smoke tests conducted.

Educational Outreach

The Center for Watershed Protection and Robert Pitt (2004) researched the most cost-effective and efficient techniques that can be employed to identify and correct inappropriate discharges. Data from Montgomery County, Maryland, was analyzed and it was determined that staff identify and correct about six inappropriate discharges per year as a result of regular screening. By contrast, over 185 inappropriate discharges are corrected each year in Montgomery County as a direct result of citizen complaints and calls to a storm water compliant hotline. Public education and labeling of outfalls and other storm drain infrastructure is an important element of establishing a successful citizen hotline. Outreach to public employees, businesses, property owners, the general public, and elected officials regarding ways to detect and eliminate illicit discharges is an integral part of this minimum measure.

Suggested educational outreach efforts include:

- Developing *informative brochures, and guidances* for specific audiences (e.g., carpet cleaning businesses) and school curricula;
- Designing a program to *publicize and facilitate public reporting* of illicit discharges;
- *Coordinating volunteers* for locating, and visually inspecting, outfalls or to stencil storm drains; and
- Initiating *recycling programs* for commonly dumped wastes, such as motor oil, antifreeze, and pesticides.

What Are Appropriate Measurable Goals?

Measurable goals, which are required for each minimum control measure, are intended to gauge permit compliance and program effectiveness. The measurable goals, as well as the BMPs, should reflect the needs and characteristics of the operator and the area served by its small MS4. Furthermore, they should be chosen using an integrated approach that fully addresses the requirements and intent of the minimum control measure.

EPA has developed a Measurable Goals Guidance for Phase II MS4s that is designed to help program managers comply with the requirement to develop measurable goals. The guidance presents an approach for MS4 operators to develop measurable goals as part of their stormwater management plan. For example, an MS4 could establish a measurable goal of responding to all complaints received by the citizen complaint hotline within 24 hours to minimize water quality impacts or recurrent dumping. A complaint tracking system could be used to log response and enforcement activity.

The educational outreach measurable goals for this minimum control measure could be combined with the measurable goals for the Public Education and Outreach minimum control measure (see Fact Sheet 2.3).

Sources

Center for Watershed Protection and R. Pitt. 2004. Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments. Center for Watershed Protection, Ellicott City, MD, and University of Alabama, Birmingham, AL.

Maryland Department of the Environment, Water Management Administration. 1997. *Dry Weather Flow and Illicit Discharges in Maryland Storm Drain Systems*. Baltimore, Maryland.

U.S. EPA Office of Water. 1993. *Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems: A User's Guide*. EPA/600/R-92/238. Washington, D.C.

Wayne County Rouge River National Wet Weather Demonstration Project. 1997. *Guidance for Preparing a Program for the Elimination of Illicit Discharges*. Wayne County, Michigan.

For Additional Information

Contacts

☞ U.S. EPA Office of Wastewater Management
<http://www.epa.gov/npdes/stormwater>
 Phone: 202-564-9545

☞ Your NPDES Permitting Authority. Most States and Territories are authorized to administer the NPDES Program, except the following, for which EPA is the permitting authority:

Alaska	Guam
District of Columbia	Johnston Atoll
Idaho	Midway and Wake Islands
Massachusetts	Northern Mariana Islands
New Hampshire	Puerto Rico
New Mexico	Trust Territories
American Samoa	

☞ A list of names and telephone numbers for each EPA Region and State is located at <http://www.epa.gov/npdes/stormwater> (click on “Contacts”).

Reference Documents

☞ EPA's Stormwater Web Site

<http://www.epa.gov/npdes/stormwater>

- Stormwater Phase II Final Rule Fact Sheet Series
- Stormwater Phase II Final Rule (64 FR 68722)
- National Menu of Best Management Practices for Stormwater Phase II
- Measurable Goals Guidance for Phase II Small MS4s
- Stormwater Case Studies
- And many others

☞ Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments

http://www.cwp.org/idde_verify.htm

[Back to Web Site](#)

City of Stoughton

Street Talks

STREET TALKS

Hope you all had an enjoyable summer; it's time to start thinking about putting the mower away and dusting off the snow shovels. Hopefully we don't experience the same cold and snowy winter as last year.

In this article you will also find important information on services provided by the Street Department and helpful hints to prepare you for the winter. In this edition you will find helpful information on Christmas Tree Collection, electronic-waste drop off site, winter parking regulations, and snow removal.

We want your feedback, is this information beneficial? What else will you like to see published in Street Talks? Let us know by calling 873-6303 or email at kmanthe@ci.stoughton.wi.us

Recycling News

The City of Stoughton is working with local residents and businesses to raise awareness about reducing the use of plastic single use bags. The City will be doing an educational campaign to inform residents about changing the way they get their store products bagged.

To kick start the effort to reduce plastic single use bags, please consider purchasing re-useable bags (most stores offer a .5 cent per bag rebate) that you can use over and over or ask for paper when out shopping. Plastic single use bags are not good for the environment and this is your chance to help out and protect the environment.

If you do use plastic single use bags, please recycle properly and return them to the store and place in recycling containers, usually located just inside the entrance/exit door.

****PLEASE READ – IMPORTANT INFORMATION****

- **To report a pothole, please call the Street Department 873-6303**
- **Yardwaste Site is closed for the year and will re-open Thursday April 2, 2015**
- **Fall Leaf Collection completed for year. Look for Spring Leaf Collection Schedule in future Tower Times Publications**

Snow Emergency: A snow emergency is handled differently in the City of Stoughton. Most area communities have alternate side parking daily from mid November to mid April. Stoughton institutes alternate side parking only when a snow emergency is called. A snow emergency is called when 3 inches or more of snow is **forecasted** or 3 inches or more has fallen or as conditions warrant (ice storm, etc). The snow emergency lasts for 3 days and vehicle owners must abide with alternate side parking during this time frame. Notifications are made on the three (3) local television channels, most local radio channels, posted on city web page, and message on street department voice mail system. You can also sign up for direct email notifications on city web page. It's really helpful to move your vehicle(s) completely off the street if possible; it makes for a better plowed street and improves plowing time efficiency and you don't have to shovel snow to get your vehicle out.

Snow Removal from Driveways/Sidewalks: Our snow plow operators take a lot of pride in cleaning the snow off the streets. Nothing looks better than a freshly plowed street! So please, when you clean your driveways and sidewalks of snow do not blow or throw snow back into the street (city ordinance 64-13 (b))

prohibits this). Please deposit your snow on your front yard; it can use the extra moisture and keeps it off the street. Let us know if you witness anyone violating this ordinance.

Sand/Salt Mixture: A salt/sand mixture is available **only for city residents** at the Street Department at 515 S. Fourth Street. Bring your own small container/pail. The salt/sand box is located along Fourth Street.

Christmas Collection Schedule: Crews will be out from Monday January 5th to Friday January 30th collecting Christmas Trees. Make sure tree stand, all lights and ornaments are removed. Trees must be at the curbside and not buried in the snow. Wreaths and roping must have all wire removed.

E-Waste Drop-off: The E-waste collection has been a very successful program, thanks to the residents for bringing in their E-waste items to be properly disposed. This service is **available only to City of Stoughton residents**. City residents can still bring their e-waste items to Street Department during normal business hours to be properly disposed. **City residents will need to check in at the Street Department office and show ID to verify city residency**. If you have any questions, please contact us at (608) 873-6303. At this time there is no fee charged to drop off acceptable items.

List of Acceptable Items

- Televisions
- Desktop Computers
- Laptops
- Printers, scanners, copiers
- Fax machines
- Video display devices, monitors
- Keyboards, mice, hard drives, flash drives, external modems & other computer devices
- DVD, VCR, DVR & Video

NOTE: With computers make sure to remove all personal information or take out the hard drive and destroy it.

NOTE: No Microwaves- they can be placed out at the end of the month for bulky item collection.

Encumbrance Permits: An encumbrance permit is required if you are going to leave a dumpster or POD in the street or city right-of-way for more than 2 hours. Permits can be obtained at the Street Department office or online at www.ci.stoughton.wi.us and click on street department tab and then permits link. Cost is \$25 dollars and the permit is good for 30 days, when it can be renewed for another \$25 dollars.

Mailbox Placement: To reduce the chances that your mailbox may be hit by a snow plow during winter, you still have time to move your mailbox and follow US Postal regulations and place your mailbox 40-42 inches above the road surface and back 6 inches from the curb with the door down. Following these guidelines will increase productivity by snow plow operators.

Refuse & Recycling Cart Placement: Still have a few residents that don't follow guidelines for proper cart placement. **John's Disposal Service Inc. and the City of Stoughton request and require that carts not be placed in the street, but instead place refuse carts on the terrace or your driveway approach.** Please place cart(s) a minimum of 2 feet apart at the end of your driveway or terrace area. Please do not set carts too close to mailboxes, trees, and light poles. Keeping the carts out of the street also allows street crews to effectively sweep streets, vacuum leaves and plow snow during the fall and winter season.

These articles will be published in Tower Times issues and placed on the city street department web site at www.ci.stoughton.wi.us with time related information. While on the web site, check out Frequently Asked Questions.

In closing, in the last addition of "Street Talks" I asked for your help with communicating with your neighbors about policies, collection schedules or letting us know about these violations. I want to **"Thanks"** to all the residents who contacted us, it was very helpful for us to be able to reach out to residents who were not aware or were just plain not following guidelines. So please continue to communicate with your neighbors and let them know about city policies, schedules, and guidelines.

Feel free to call me with any questions; I hope you find some helpful information.

Until the next time, finish those fall chores and bundle up for winter J

Sincerely,

Karl Manthe

Street Superintendent Karl Manthe

608-873-6303

kmanthe@ci.stoughton.wi.us

Multiple files are bound together in this PDF Package.



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- [Zoning Administration](#)
- [Planning Maps](#)

Storm Water Management in Stoughton

Storm water affects each of us in different ways. Water quality and flood damage protection are key issues to evaluate when creating Stoughton's strategy for storm water management. Stoughton operates under a WPDES Permit issued by the Wisconsin Department of Natural Resources.



Review the various resources to see how you can make a difference.

[My Fair Lakes](#) - Information on how to help Dane County area lakes and streams

[Dane Waters](#) - Learn how to improve Dane County's water resources by reducing negative impacts of storm water from urban areas in this video entitled "Dane Waters, A Reflection of Us All"

[Hazardous substance spills](#) - Wisconsin DNR outline for spill reporting requirements



- [TIPS FOR USING LESS SALT THIS WINTER](#)
- [WINTER WALKWAYS WORTH THEIR SALT?](#)
- [PET WASTE IN WINTER](#)
- [SNOW AND ICE REMOVAL REQUIREMENTS](#)
- [8 WAYS TO LOVE YOUR LAKES](#)
- [STORMWATER INFORMATION & EDUCATION PROGRAM](#)
- [WPDES PERMIT - STOUGHTON](#) The WPDES permit authorizes and regulates the discharge of stormwater from the City of Stoughton's storm sewer system to waters of the State, as required by ch. NR 216. Wis. Adm. Code. The City obtained this permit in 2006.
- [EPA FACT SHEET ON ILLICIT DISCHARGE](#) Illicit discharge is any discharge to the City's storm sewer system that

Railroad Corridor
Redevelopment Plan
Future Urban Development
Areas (FUDA)

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is not composed entirely of storm water, except for discharges allowed under a WPDES permit or other discharges allowed locally. As a result of these illicit connections, contaminated wastewater enters into storm drains or directly into local water ways without receiving treatment from a wastewater treatment plant.

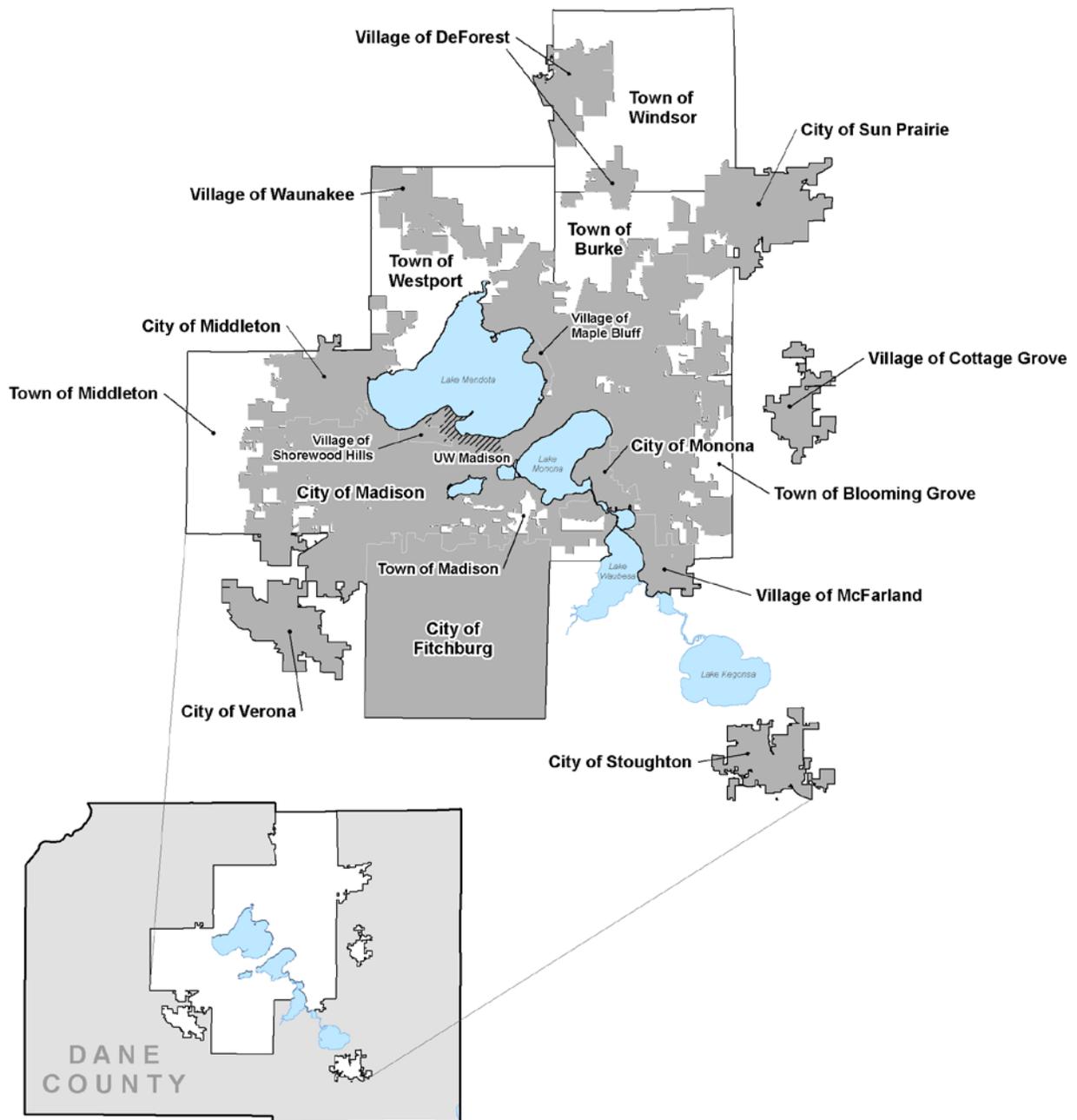
-  [2013 ANNUAL STORMWATER REPORT](#)
-  [2012 ANNUAL STORMWATER REPORT](#)
-  [2011 ANNUAL STORMWATER REPORT](#)
-  [2010 ANNUAL STORMWATER REPORT](#)
-  [2009 ANNUAL STORMWATER REPORT](#)
-  [2008 ANNUAL STORMWATER REPORT](#)
-  [2006 & 2007 ANNUAL STORMWATER REPORT](#)
-  [STORM SEWER SYSTEM MAP](#)

[FOR MORE INFORMATION](#)

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Madison Area Municipal Storm Water Partnership Information & Education Plan 2014-2018

Acknowledgements

The Madison Area Municipal Storm Water Partnership's (MAMSWaP) 2014-2018 Information and Education (I&E) Plan was developed by the MAMSWaP I&E Committee. Their expertise, input and municipal cooperation was crucial for plan development and will continue to play an integral role in addressing storm water runoff in Dane County. Thank you to everyone who helped.

MAMSWaP I&E Municipalities

<u>Cities</u>	<u>Villages</u>	<u>Towns</u>	<u>Other</u>
Fitchburg	Cottage Grove	Blooming Grove	Dane County
Madison	DeForest	Burke	UW-Madison
Middleton	Maple Bluff	Madison	
Monona	McFarland	Middleton	
Stoughton	Shorewood Hills	Westport	
Sun Prairie	Waunakee	Windsor	
Verona			

I&E Committee Members Contributing to the 2014-2018 I&E Plan

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INTRODUCTION

In order to comply with the storm water discharge permit regulations contained in NR 216, Wisconsin Administrative Code, 21 municipal entities in central Dane County developed this information and education (I&E) plan as part of their permit applications (see inside front cover for list of municipalities and inside back cover for a map).

The Wisconsin Department of Natural Resources and the United States Environmental Protection Agency (EPA) have identified the importance of informing and educating municipalities, the construction trades, professional service providers and residents about storm water pollution. Storm water pollution control is most effectively implemented when people understand the impact of storm water pollution, its sources and the actions that can be taken to control it.

The goal of the municipal storm water discharge permit program is to reduce adverse impacts to water quality in our lakes and streams from urban sources of storm water runoff. The project area addressed in this plan is rich in water resources that have been negatively affected by storm water runoff. The goals identified in this plan will direct MAMSWaP's I&E activities for the next five years to address storm water pollution.

Regulatory Requirements for Information and Education

Outreach is an important feature of a comprehensive and effective storm water management program. For municipalities that require a municipal storm water discharge permit, an I&E program is not only a good idea, it is required. Wisconsin's storm water regulations for municipalities under Subchapter I of NR 216, Wis. Adm. Code, require the development and implementation of an I&E program to facilitate the proper management of materials and behaviors that may pollute storm water. The program must direct the process for the distribution of appropriate information and public outreach to increase awareness of storm water impacts on waters of the state. Additionally, the new performance standards for developed urban areas contained in Subchapter III of NR 151, Wis. Adm. Code, require local governments of such areas to develop and implement a public I&E program to assist in reducing polluted runoff.

The types of activities and behaviors the regulatory programs are intended to address include improper disposal of waste and dumping of materials, effective construction-site erosion control and long-term storm water management, lawn and garden fertilizer and pesticide application, yard waste management and disposal, pet waste disposal and other business and household practices that may contaminate storm water runoff. This plan is designed to address all these activities and will meet the regulatory requirements for an effective I&E program.

This plan focuses on urban storm water from central Dane County municipalities. Agricultural runoff is therefore not addressed in this plan, but is a component of several local, state and federal programs and is included in Subchapter II of NR 151.

Dane County’s Erosion Control and Stormwater Management Ordinance sets standards for the quality and the quantity of storm water runoff from areas where alterations to the landscape and the creation of impervious surfaces result in changes in the amount and quality of water flowing off the site. Where appropriate, this plan integrates NR 216 requirements with those of the Dane County Erosion Control and Stormwater Management Ordinance (Dane County Ordinances Chapter 14 <http://danedocs.countyofdane.com/webdocs/pdf/ordinances/ord014.pdf>).

Resource Reasons for an I & E Plan

Dane County is rich in water resources that have been adversely impacted by storm water runoff. The Yahara River/Lake Mendota and the Yahara River/Lake Monona watersheds make up the largest urban and urbanizing land area as well as the largest population in the permit area, which also includes portions of the Six Mile and Pheasant Branch, Black Earth Creek, Upper Sugar River and Upper Koshkonong Creek watersheds.

Storm water runoff during rainfall and snow and ice melt events from construction sites, residential yards, paved streets, parking lots and building rooftops often deliver pollutants such as sediment, oil, grease, bacteria, pesticides, nutrients, salt and toxic metals to area lakes and rivers. These pollutants are often present in quantities that may result in unsightly and toxic algae blooms, beach closings from high bacteria counts, fish kills, fish consumption advisories, covering of fish spawning areas from excess sedimentation and more.

Siltation is the largest cause of impaired water quality in our nation's rivers and the third largest cause of impaired water quality in lakes. It is estimated that 80 percent of the phosphorus and 73 percent of the nitrogen in streams is associated with eroded sediment from construction and other activities (EPA, 1999).¹ Increased urbanization has resulted in more connected impervious surfaces that cause hydrologic changes such as flashy and erosive peak stream flows, thermal impacts and reduced base flow. Research has shown that once the land use draining to a stream has greater than ten percent connected imperviousness, the stream begins to deteriorate (Schueler, 1994).² The *Phosphorus Loading and Lake Response Analyses for the Yahara Lakes*³ report prepared for the Yahara CLEAN project has specific recommendations for sediment and phosphorus reductions.

Many water resources in the area are not meeting the state's water quality standards. Wisconsin's most recent impaired waters list⁴ includes waters in the following project area watersheds:

- Yahara River and Lake Mendota
- Black Earth Creek
- Yahara River and Lake Kegonsa
- Upper Sugar River
- Badfish Creek
- Nine Springs Creek (added in 2004)

¹ U.S. EPA. Oct. 1999. Report to Congress on the Phase II Storm Water Regulations.

² Schueler, T.R. 1994. "The Importance of Imperviousness." *Watershed Protection Techniques*. 1(3).

³ Lathrop, R.C., Carpenter, S.R., Dec 2011

http://danedocs.countyofdane.com/webdocs/PDF/capd/2012_postings/Publications/P_Loading_Yahara_Lathrop.pdf

⁴ Current impaired waters list at http://dnr.wi.gov/topic/impairedwaters/2012IR_IWList.html

Beaches included on the impaired waters list include Bernie's, Brittingham, James Madison, Olbrich, Olin, and Vilas.

Improved understanding of the impacts of storm water runoff and knowledge of current regulations and best management practices will help to achieve these goals and mitigate the effects of urban storm water runoff pollution from the permit area. Examples of best management practices that are promoted through the information and education efforts include good housekeeping practices such as street sweeping, proper waste handling, effective erosion and sediment control measures, nutrient management and infiltration techniques such as rain gardens.

The effects of polluted storm water runoff are subtle and not well understood by much of the public. Pollutants are often not highly visible and come from a variety of diffuse sources. It may be difficult for the myriad of residents to understand how their actions can all add up and lead to degraded local rivers and lakes. But research shows that once people understand the consequences of their actions, they are more receptive to acquiring knowledge and skills to change their behavior.

Rock River Basin TMDL

The majority of the MAMSWaP area is in the Rock River Basin. The Wisconsin Department of Natural Resources developed a Total Maximum Daily Load (TMDL) for both the Upper and Lower Rock River Basins, which were approved by the EPA in 2011. The TMDL provides a quantitative analysis of the amount of sediment and/or phosphorus that the waterbodies can receive from both point and nonpoint sources and still meet water quality standards. The MAMSWaP I&E Committee cooperatively works with the Education and Outreach Sector Team on common behavior change goals.

I&E Plan Development and Implementation

Assisted by the expertise of environmental education experts, the MAMSWaP I&E Committee reviewed the previous two five-year plans as well as plans of other storm water consortiums statewide to develop the 2014-2018 plan.

The long-term oversight and funding strategy for the I&E plan implementation used during the 2003-2008 and 2009-2103 permits cycle will again be employed during 2014-2018. Each municipality has committed funding for plan implementation, detailed in the Intergovernmental Agreement in the Appendix. The intergovernmental agreement has been updated to reflect programmatic funding changes and to allow for the addition of municipalities that were not previously part of the outreach effort.

Levels of financial contributions from each MAMSWaP municipality are based on population according to 2010 census data. Dane County and UW-Madison contributions were not based on population, as that would double count municipal populations. MAMSWaP approved the financial contribution schedule, which is included in the Intergovernmental Agreement.

The half-time Storm Water Education Coordinator position, created by the Intergovernmental Agreement and housed at the Dane County Land & Water Resources Department's Office of Lakes & Watersheds, will continue to staff the I&E Committee, prepare annual work plans and coordinate implementation of this plan with oversight provided by the I&E Committee and provide materials to

MAMSWaP municipalities for their use. I&E Plan implementation progress reports will continue to be a regular agenda item for the MAMSWaP quarterly meetings.

Different from the two previous five-year plans, specific actions to achieve plan goals will be included in annual work plans instead of the five-year plan, including those that must be completed by the municipalities.

Audiences

Outreach programs are designed to meet the educational needs of specific audiences. These audiences may be determined by where they live, the work they do, their contribution to the problem and their ability to make behavioral changes that can lead to achieving the storm water program's goals. Outreach programs are tailored to meet each audience's unique needs for specific topics or skills using the delivery method that best meets their learning styles or goals. The list below identifies audiences in the MAMSWaP area.

Construction Professionals: Developers, Consultants, Home Builders, Contractors, Architects, Landscapers, Engineers, Plumbers, Concrete Companies, Snow Removal Contractors, including those that plan and develop land, are involved in new construction and redevelopment, and other relevant contractors or businesses that are involved in the development, redevelopment, construction and maintenance of homes, subdivisions, and commercial/industrial properties

Educational: K-12 Students and Staff, Student/youth groups (4-H, scouts), College Students and Staff, Campus Staff and Groundskeepers, Professors, School Administration

Residential and Private Sector: Homeowners, Neighborhood Associations, Groups/Clubs (watershed associations, friends groups, garden clubs, civic group such as Rotary, etc.), Auto Owners, Pet Owners, Tenants, Landlords, DIY (Car Washing, Oil Changing, Home Improvement and Maintenance), Property Owners, Managers and Maintenance Staff, Private Commercial and Industrial Properties (restaurants, gas stations, dry cleaners, printers, painters, corporate campuses, retail sites, boat cleaning and storage, mobile cleaning operations, lawn care and snow removal contractors, etc.), Business Owners and Staff, Facility Managers, Golf Courses, and anyone involved with other building management including maintenance of storm water ponds or other facilities or have runoff from fertilizers, pesticides, heavy metals, petroleum products and other chemicals.

Public Sector: County, City, Village and Town Elected Officials, Municipal Staff, Municipal Administration, Facility Managers(including planning, zoning, building inspection, land conservation, parks, public works, building inspection or other committees and departments with land use or land management responsibilities)

Occasional Users: Tourists, Swimmers, Anglers, Competitive Athletes, Recreational Vehicles (ATVs, Snowmobiles, PWCs, Boats, etc.) and others that occasionally use the local water resources.

Program Effectiveness

Program effectiveness must be evaluated to determine whether it is worth the time, energy and resources invested in the outreach program. Programs that rely solely on enforcement or monetary incentives have not been successful. Research has shown that a strong outreach program must be

used to complement other means. This is especially true when enforcement is spotty, penalties light and the audience is vast.⁵

Outreach is just one part of the storm water permit process. It is critical that all aspects of the program be looked at as a whole. If storm water goals and implementation are unrealistic, then the success of the education program is unlikely, no matter how well conceived.

Part of the answer to whether an education program will be successful is based on the change in behavior expected. A well-written and well-executed I&E plan identifies behavior changes need to positively impact storm water quantity and quality. Outreach programs that focus on behaviors likely to be adopted are more successful than those that are difficult or expensive. Information is also a powerful tool that provides audiences with appropriate materials and activities to become more knowledgeable and empowered to take action.

When target audiences are asked to do things that are difficult, different or expensive, they are unlikely to comply without additional incentives. To decide if an expected behavior is likely to be adopted and, thus, if an educational plan is to be successful, the plan should address the following criteria.

- The expected behavior should provide an observable consequence if practiced correctly (i.e., people can actually see that they are making a difference).
- The expected behavior should be similar to existing behavior.
- The behavior should be low cost in terms of time, money or energy.

⁵ UWEX 1989 Metropolitan Milwaukee study

PERMIT REQUIREMENTS, GOALS AND DESIRED OUTCOMES

Permit Requirements

The Madison Area Municipal Storm Water Partnership (MAMSWaP) Information and Education (I&E) Plan reflects the requirements of the NR 216 permit, focusing on reducing urban storm water runoff, improving urban storm water quality and eliminating illicit discharges. WPDES Permit Number WI-S058416-3 (effective July 1, 2009 – June 30, 2014) states the following in Section C, page 9. WPDES Permit Number WI-S050075-1 (Village of Cottage Grove and City of Stoughton) has similar language.

C. STORM WATER MANAGEMENT PROGRAM REQUIREMENTS

(1) *PUBLIC EDUCATION AND OUTREACH: Each Co-permittee shall:*

- (a) *Continue to be a member of the Madison Area Municipal Storm Water Partnership (MAMSWaP) information and education program. Alternatively, if a co-permittee discontinues to be a member of the MAMSWaP information and education program, then they must develop and implement a work plan on their own that meets the requirements of section C.(1) of this permit.*
- (b) *Participate in the implementation of the Madison Area Municipal Storm Water Partnership (MAMSWaP) Information and Education Plan 2009-2013 (January 2009) prepared on behalf of the co-permittees (herein known as the information and education plan). By December 1 of each year, the co-permittees shall collectively develop a work plan to guide implementation of the information and education plan for the following calendar year. The information and education plan shall establish measureable goals and, at a minimum, include the following elements:*
 1. *Promote detection and elimination of illicit discharges and water quality impacts associated with such discharges from municipal separate storm sewer systems.*
 2. *Inform and educate the public about the proper management of materials that may cause storm water pollution from sources including automobiles, pet waste, household hazardous waste and household practices.*
 3. *Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides.*
 4. *Promote the management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways.*
 5. *Promote infiltration of residential storm water runoff from rooftop downspouts, driveways and sidewalks.*
 6. *Educate those responsible for the design, installation, and maintenance of the construction site erosion control practices and storm water management facilities on how to design, install and maintain the practices.*
 7. *Educate private businesses on methods of storm water pollution prevention.*
 8. *Promote environmentally sensitive land development designs by developers and designers.*

The MAMSWaP I&E Plan seeks to meet or exceed these minimum requirements and elements by developing and implementing a coordinated, regional outreach effort using consistent messages among and between communities to reduce the quantity and improve the quality of urban storm water runoff and identify and eliminate illicit discharges.

Goals and Desired Outcomes

The long-term goals and desired outcomes detail the knowledge and skills needed in order to meet the required permit elements. The following long-term goals are directly related and grouped under each of the eight elements identified in Section C.(1)(b) of the Permit (listed on p. 7).

C.(1)(b)(1). Promote detection and elimination of illicit discharges and water quality impacts associated with such discharges from municipal separate storm sewer systems.

People that live, work and/or recreate in central Dane County will:

- be able to identify illicit discharges (e.g., yard waste, oil, grease, sediment, soap, pet waste or other substance deposited into a storm drain structure or overland drainage);
- understand the environmental consequences and negative impacts of illicit discharges and storm water on water quality;
- know not to dump material into inlet structures, streets or any other conveyance; and
- know whom to contact for enforcement and remedy when a potential water quality problem is found.

Municipal staff will understand how to respond appropriately when residents report an observed illicit discharge or other water quality problem

C.(1)(b)(2). Inform and educate the public about the proper management of materials that may cause storm water pollution from sources including automobiles, pet waste, household hazardous waste and household practices.

People that live, work and/or recreate in central Dane County will understand:

- the impacts of their actions on water quality;
- how to prevent water pollution;
- the importance of minimizing storm water runoff;
- how storm water quantity impacts surface water, habitat and groundwater;
- the difference between sanitary sewers and storm water drainage systems;
- the effects of impervious surface on runoff (temperature, quantity, pollutants)
- why municipalities need to implement storm water management programs requiring resources (money, staff) to install and maintain BMPs and manage storm water programs;
- know where to get information on effective storm water and erosion control practices and take action, such as directing downspouts to pervious areas, reducing impervious areas, using the storm water and rain garden curriculum where appropriate; installing rain gardens and rain barrels and using proper lawn care and landscaping techniques around their home or business, participate in water quality action projects such as stream clean-ups, Take a Stake in Waters events, storm drain marking, science fair projects, etc.

C.(1)(b)(3). Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides.

Through the Love Your Lakes and Rivers, Don't Leaf Them Program, people that live, work and/or recreate in central Dane County will understand how yard waste can contribute to water pollution and practices that minimize water pollution from yard waste and will follow correct and applicable management practices in their work. The program has historically included yard signs, brochures, coasters, press releases, inserts into local papers, articles for club and municipal newsletters, promoting the annual compost bin sale, rain barrels, and radio, TV and newspaper PSAs and paid advertising.

C.(1)(b)(4). Promote the management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways.

Through the Plan Dane! Cost-Share Program, people that live, work and/or recreate in central Dane County will understand how proper management of shorelines with native plantings minimizes erosion and water pollution, and will know where to get information on effective planting design and maintenance. The program has historically included press releases, workshops, brochures, and newsletter articles targeting riparian owners.

C.(1)(b)(5). Promote infiltration of residential storm water runoff from rooftop downspouts, driveways and sidewalks.

Through the Plan Dane! Cost-Share Program, homeowners in central Dane County will understand how rain gardens and rain barrel overflow can help storm water from rooftops, driveways and sidewalks can infiltrate. Besides obtaining native plants at less than half of retail price, the focal point of this program has historically been sharing information about downspout disconnect at the workshop, a how-to brochure, articles and press releases and one-on-one sharing of information.

C.(1)(b)(6). Educate those responsible for the design, installation, and maintenance of the construction site erosion control practices and storm water management facilities on how to design, install and maintain the practices.

Municipalities (staff, elected officials, their consultants, etc.) will:

- hire engineering firms that understand and use proper storm water retrofitting;
- encourage “green developments;”
- evaluate and utilize appropriate BMPs;
- communicate standards to landowners, developers, contractors and consultants;
- review plans and enforce standards in plans;
- provide demonstrations of new and innovative practices that meet or exceed standards;
- suggest designs that minimize erosion from construction sites;
- understand:
 - storm water rules and regulations,
 - why proper municipal storm water practices are important, and
 - what is required to achieve behavior change, which includes a combination of education, proper planning and enforcement;
- communicate standards to landowners, developers, contractors and consultants;
- review plans and enforce standards in plans; and

- provide demonstrations of new and innovative practices that meet or exceed standards.

Construction Professionals (consultants, developers, contractors and builders) will:

- evaluate opportunities to reduce imperviousness and increase infiltration and recharge;
- understand that there are runoff standards, the resources needed to install and maintain BMPs including cost, time and difficulty and see BMPs as necessary, functional, and marketable.;
- understand and support local and state storm water standards and other requirements;
- prepare plat and site designs that minimize erosion and storm water runoff, and meet or exceed local and state storm water and design standards;
- provide accurate information to developers and municipalities on practices to meet standards including innovative practices based on emerging science and engineering knowledge.;
- will install and maintain effective erosion control and storm water management practices;
- follow plans and not interfere with site storm water and erosion controls and will follow construction sequencing plans to protect storm water quality and prevent regulatory concerns;
- understand the financial and other benefits of complying with erosion control and storm water requirements;
- understand elements of and implement low-impact/conservation design developments and other innovative erosion control and storm water management techniques; and
- market developments based in part on storm water compliance and benefits of storm water practices.

Homeowners and their contractors will be able to explain the importance of using effective storm water management and erosion control practices and will properly install and maintain effective practices.

The SWEC will work with the North American Stormwater and Erosion Control Association to further investigate partnering opportunities to best reach target audiences and fill any gaps in existing training programs.

C.(1)(b)(7). Educate private businesses on methods of storm water pollution prevention.

Private business owners and staff will:

- evaluate opportunities to reduce imperviousness and increase infiltration and recharge.
- understand that there are runoff standards, and support local and state storm water standards and other requirements to protect surface water quality.
- understand that BMPs are necessary, functional, and marketable, and the financial and environmental benefits of complying with erosion control and storm water requirements.

- install and maintain effective storm water management practices
- not interfere with site storm water and erosion to protect storm water quality and prevent regulatory concerns.

Property owners and managers will

- understand storm water rules and regulations, will understand why proper storm water practices are important, and will utilize appropriate BMPs.
- be aware of and utilize appropriate good housekeeping practices that apply to their property (e.g. garbage collection, de-icing, lawn care/landscaping practices, yard waste disposal, vehicle fluid management, salt pile protection, etc.)

During retrofitting and redevelopment, homeowners, landlords and business owners will install practices to decrease volume and peak flow and improve water quality.

Homeowners, landlords and business owners will recognize and choose developments and/or hire contractors who will meet or exceed performance standards leading to an increased demand for quality developments that meet performance standards including reducing contaminants and imperviousness and increasing infiltration.

The SWEC will work with the North American Stormwater and Erosion Control Association to further investigate partnering opportunities to best reach target audiences and fill any gaps in existing training programs.

C.(1)(b)(8). Promote environmentally sensitive land development designs by developers and designers.

Municipalities will encourage “green developments.”

Construction Professionals will

- prepare plat and site designs that minimize erosion and storm water runoff, and meet or exceed local and state storm water and design standards.
- understand elements of and implement low-impact/conservation design developments and other innovative erosion control and storm water management techniques.

Homeowners and their contractors will be able to explain the importance of using effective storm water management and erosion control practices and will properly install and maintain effective practices.

The SWEC will work with the North American Stormwater and Erosion Control Association to further investigate partnering opportunities to best reach target audiences and fill any gaps in existing training programs.

Annual Work Plans

Potential projects will be considered each fall for the coming year’s annual work plan based on several factors, including that year’s project funding, opportunities to leverage MAMSWaP’s outreach with the work of other partners and the relative annual importance of each nonpoint pollution source listed as part of the WPDES permit requirements C.(1)(b).

As the Storm Water Education Coordinator’s work plan is developed each year, potential partners will be identified to help with development and implementation of activities. Funding will be sought

from sources beyond contributing municipalities, including Urban Nonpoint Source and Storm Water Grants from DNR.

Annual Tasks

There are some administrative tasks and ongoing programs that must be performed every year that are essential to the program and need to be accounted for in the annual work plan. Following is a partial list of those tasks.

1. Quarterly reporting to member municipalities
2. Biennial reporting to DNR.
3. Billing municipalities and track payments.
4. Developing annual work plan.
5. Updating and maintaining the www.myfairlakes.com website.
6. Continuing road salt and deicing education materials and program.
7. Continuing to work with the Earth Gauge Partnership.
8. Continuing to promote North American Stormwater and Erosion Control Association Wisconsin Chapter events.
9. Developing and distributing articles to municipalities, friends groups, community groups and neighborhood association newsletters.
10. Developing and providing presentations (PowerPoint, slides, overheads, etc.) focused on audience interests/concerns.
11. Continuing to maintain and use existing list serves and distribution lists to disseminate info.
12. Continuing to provide organizations and community groups assistance and partnering with projects (presentations, displays etc. for communities).
13. Continuing to promote and support storm drain marking programs with supplies and other materials.
14. Promoting the storm water curriculum developed for MAMSWaP.
15. Publicizing training for building inspectors, contractors and staff.
16. Publicizing the availability of the Dane County Erosion Control and Stormwater Management Manual.
17. Promoting and distributing DVD and CD.
18. Promoting use of Enviroscope model including finding instructional how-to video for potential demonstrators.
19. Continuing to coordinate outreach with the Rock River Stormwater Group.
20. Coordinating efforts with MMSD as appropriate regarding the adaptive management pilot project and Yahara WINs in the Yahara Watershed.

Urban area actions from the Yahara CLEAN Report www.yaharaportal.org/sites/default/files/CLEAN_Report_090910.pdf will be implemented where appropriate.

EVALUATION

Evaluation is an important component of the Information and Education (I&E) Plan. It begins when the program is planned, is incorporated into each step of implementation, and is emphasized at critical points. Evaluation will be an ongoing process to measure the effectiveness of both the individual activities and the overall plan in increasing knowledge that could lead to positive behavior changes. Evaluation will also provide a mechanism for obtaining feedback from the target audiences on how to improve subsequent education activities.

The *Trends in Storm Water-Related Perceptions, Knowledge and Practices Plus Implications For Education Outreach, A Study Based on 2009 and 2003 Survey Data From Select Dane County Communities Final Report (Final Report)*, conducted in 2009, was used to develop outreach projects for the 2014-2018 five-year outreach plan as well as annual work plans. Data from the survey conducted in 2013 will be used to develop future annual work plans and can be found on www.myfairlakes.com.

The *Final Report* reminds us that there are many factors contributing to changes in the public's attitudes and behaviors associated with mitigating the negative effects of storm water runoff and that findings cannot be linked to the actions of any one person, group or program as they were not studied. However, practices associated with composting leaves and keeping leaves out of the streets increased by approximately 10% from 2003 to 2009. Continued improvements to the Love Your Lakes, Don't Leaf Them program appear to have increased participation since 2009. While data might suggest increasing reluctance to install rain gardens, the 2009 survey showed that 64% were willing to install or wanting more information on rain gardens. Not reflected in the 2009 *Final Report* is that the Plant Dane! program participation has remained quite stable and workshop attendance has increased since 2009.

Not surprisingly, survey data suggested that target audiences were not actively searching for information about storm water issues and practices. Rather, they were more likely to notice relevant information as news and/or articles in local print newspapers. While few appear to use the myfairlakes.com website as a place to learn about storm water impacts, analytical data show spikes in website use during the Plant Dane! and Love Your Lakes, Don't Leaf Them campaigns. Informal education venues, such as events set up by individual municipalities, appear to be effective. Increased publicity of local governments efforts to improve water quality also appear to be effective.

While data showed low usage of myfairlakes.com, reasons for underutilization of the site are not well understood and were not examined. After the 2009 survey was completed, the website was redesigned to be more attractive and user friendly. Since links from external sites increase rankings on search engines, it is vitally important that member municipalities link to myfairlakes.com so that information on the site appears prominently in results.

Use of social networking sites, listservs, blogs, electronic magazines, pod casts, YouTube and other electronic media was relatively low through 2009, but appears to be increasing since then according

to analytic data. Continued examination of internet tools is warranted since trends change as quickly as technology. Information on the website must be kept up to date regardless of trends.

Outreach strategies need to be opportunistic and flexible, providing easily accessed educational materials regarding practices and behaviors, allowing for rapid responses as well as adequate resources to support rapid responses. Annual work plans will take into account not only the results of the 2009 and 2013 surveys, but also experiences from implementation of previous work plans and activities.

The I&E plan is a product of a continuous planning and evaluation process. The primary evaluation vehicle will be a statistically significant survey conducted at the conclusion of the implementation of this five-year plan. The 2013 survey, funded through programmatic funds from municipalities, was implemented to determine the knowledge of urban stormwater pollution issues among residents in the project area. Additional follow up surveys will be conducted at the end of the next five-year permit period to evaluate the effectiveness of the I&E plan in increasing knowledge levels. Data gained from the surveys will be used to help redirect educational efforts, as necessary.

The I&E Committee will continue to provide oversight during implementation of the 2014-2018 I&E plan. As activities are planned and materials developed, the I&E Committee will review them and provide feedback as needed, continuing to focus the I&E efforts on those activities required by the permit language. Additional feedback will be obtained from the audiences of some of the individual education activities, providing useful information on how the actions can be improved during the course of the implementing the plan.

APPENDIX

Intergovernmental Agreement to Fund a Position Responsible for Storm Water Information, Education and Outreach Coordination for the Madison Area Municipal Storm Water Partnership (MAMSWaP)

THIS INTERGOVERNMENTAL AGREEMENT, hereinafter referred to as this “Agreement,” made and entered into by, between and among the Cities of Fitchburg, Madison, Middleton, Monona, Stoughton, Sun Prairie and Verona; the Villages of Cottage Grove, DeForest, Maple Bluff, McFarland, Shorewood Hills and Waunakee; the Towns of Blooming Grove, Burke, ~~Dunkirk~~, Madison, Middleton, Westport and Windsor; Dane County; and the University of Wisconsin–Madison, hereinafter referred to individually as “Party” and collectively as the “Parties,” which will include other municipalities that may join after this Agreement has been signed by the Parties listed.

WITNESSETH:

WHEREAS, many of the Parties entered into a Cooperative Agreement to jointly apply for a storm water discharge permit, hereinafter referred to as the “Permit”, under Chapter NR 216 of the Wisconsin Administrative Code in April, 2000; and

WHEREAS, this group intends to work cooperatively on storm water information, education and outreach, notwithstanding the fact that there may not be a continuing group Permit; and

WHEREAS, one of the required work elements of each Party’s NR 216 permit is the operation of an information, education and outreach program; and

WHEREAS, many of the Parties previously signed an agreement to jointly develop, coordinate and implement an information, education and outreach program from May 2004 through April 2009 and May 2009 through December 2013; and

WHEREAS, the materials and products that result from this joint effort are expressly developed for the Parties to partially fulfill their information and education permit obligations; and

WHEREAS, the Parties agree, pursuant to sec. 66.0301, and Ch. 36, Wis. Stats. to obtain the services of a half-time employee of Dane County to provide information, education and outreach services to partially meet the requirements and components of each Party’s NR 216 Stormwater Discharge Permit as detailed in the Madison Area Municipal Storm Water Partnership 2014-2018 Storm Water Information, Education and Outreach Plan.

NOW, THEREFORE, in consideration of the above premises and the covenants of the Parties hereinafter set forth, the receipt and sufficiency of which is hereby acknowledged by each Party for itself, the Parties agree to the following:

1. Dane County shall maintain a half-time position (1,040 hours annually or as many hours as funding allows), hereinafter referred to as the "Position," in its Land & Water Resources Department's (LWRD) Office of Lakes & Watersheds (OLW) to provide information, education and outreach services in furtherance of the storm water management programs conducted under each Party's permit. If any party fails to make their respective contribution by the due date as required by Exhibit A, the Party may be suspended from receiving services under this agreement and may be subjected to a breach of contract claim by Dane County or any other Party.

The Position shall be funded by the Parties as set forth in Exhibit A. Fees are based on 2010 Census population data. When a municipality wishes to join the information, education and outreach plan effort, it shall pay the amount set forth in Exhibit A based on its population from 2010 Census data. If a municipality joins mid-year, its amount will not be prorated. Additional municipalities' contributions shall not lessen the amount of the Parties' contributions set forth in Exhibit A, but shall be utilized for salary, benefits, and programmatic expenses directly related to the MAMSWaP. The municipality wishing to join the effort shall sign onto this Agreement and be afforded the benefits of the information, education and outreach program that are made available to all Parties.

Dane County shall provide annual documentation of direct and indirect expenses incurred with staffing the I&E position. Costs would include direct salary and benefits of staff and supervisors as well as indirect costs such as work space and support. This report for prior year shall be presented to agreement signatories on or before March 31 annually.

Should the Position become vacant, Dane County shall take all reasonable measures to assure that it is filled or its duties reassigned. During the time the Position is vacant, the LWRD OLW's Watershed Management Coordinator shall assign other equivalent staff to complete the duties of the Position and shall notify all Parties in writing.

2. The Parties shall continue to operate and maintain the Information and Education Committee, hereinafter referred to as I&E Committee, previously created under the Madison Area Municipal Storm Water Partnership. The I&E Committee shall provide guidance and oversight to the Position, which is directly supervised by the LWRD OLW's Watershed Management Coordinator. The five-year outreach plan developed by the I&E Committee will direct the Position's activities.

The materials and products that result from this joint effort are expressly developed for the Parties to partially fulfill their Information and Education permit obligations.

The I&E Committee shall meet a minimum of four (4) times per year. The I&E Committee shall consist of representatives of the Parties to this Agreement. The Position shall staff the I&E Committee. There is no maximum number of members for the I&E Committee. Any

- representative of a Party to this Agreement may be a member of the I&E Committee. At a minimum, the I&E Committee shall be comprised of one representative from Dane County, one representative from UW-Madison, one representative from City of Madison, one representative from remaining Party cities, one representative from villages, and one representative from towns (for a total of six (6)). The I&E Committee shall continue to solicit the advice and consultation of the Wisconsin Department of Natural Resources and the University of Wisconsin Cooperative Extension.
3. The entire agreement of the Parties is contained herein and this Agreement supersedes any and all oral agreements and negotiations between the Parties relating to the subject matter hereof. The Parties expressly agree that this Agreement shall not be amended in any fashion except in writing, executed by all Parties.
 4. Upon execution by all Parties, this Agreement shall become effective, superseding the previous agreement that was in place through December 2013, and shall end December 31, 2018 unless the Parties agree to a longer period. This Agreement may be amended and extended at any time upon the mutual agreement of all of the Parties.
 5. Dane County shall invoice each of the Parties the amount set forth in Exhibit A commencing January 1, 2014 and every January 1 for years 2015, 2016, 2017 and 2018. Invoices are payable in 30 days.
 6. **TERMINATION OF AGREEMENT**
 In the event that any Party determines that it is in its best interest to terminate participation in this cooperative agreement with Dane County and all other Parties to this Agreement for storm water information, education and outreach, the Party may do so at any time by taking the following action:
 - A) The Party shall send written correspondence to the Dane County LWRD OLW Watershed Management Coordinator and the Wisconsin Department of Natural Resources indicating its desire to terminate participation in this Agreement.

 This correspondence shall include an official resolution or documented action indicating that the requested termination has been authorized by a governmental body possessing the legal authority required to terminate this Agreement, and that the signatories to this correspondence are duly authorized to sign a correspondence terminating their participation in this Agreement.
 - B) Upon receipt of this correspondence, the Dane County LWRD OLW Watershed Management Coordinator shall deem the requesting party removed from the information and education joint agreement at the end of the year in which the request is made.
 7. In the event that a Party withdraws and terminates its participation in this Agreement, the withdrawing Party shall be responsible for its financial contribution with regard to this Agreement until December 31 of the year the Party withdraws. No partial refund based on the date of withdrawal by the Party shall be given.

When a withdrawing Party is no longer financially responsible under this paragraph, the cost shall be re-apportioned among the remaining Parties based upon each Party's respective proportional contribution as set forth in Exhibit A if the termination results in the funding contribution total to be less than \$20,000 for programmatic expenses plus the amount needed to fund the Position's salary and benefits for the year following the time of termination.

8. **NON DISCRIMINATION**

In performance of services under this Agreement, the parties agree not to discriminate against any employee or applicant because of race, religion, marital status, age, color, sex, handicap, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, political beliefs, or student status.

9. **PERFORMANCE**

Each Party to this Agreement hereby certifies that it possesses the legal authority required to enter into this Agreement, and that the signatories to this Agreement are duly authorized to sign and that its designated representatives are authorized to act in matters pertaining to this Agreement and to provide required reports and file data as may be required.

10. **THIRD PARTY RIGHTS**

This agreement is intended to be solely between the parties hereto. No part of this Agreement shall be construed to add, supplement, amend, or repeal existing rights, benefits or privileges of any third party or parties. Nothing contained herein is intended as a waiver by any party of the defenses and immunities contained within the Wisconsin Statutes, including Sec. 893.80.

11. **EXECUTION IN COUNTERPART**

Each Party to this Agreement acknowledges that this Agreement may be executed in counterparts by duly authorized signatories and that the final contract and the cumulative counterpart signature pages shall be considered an original document with the full force and effect as if one copy of the contract was circulated to all parties for signature.

IN WITNESS WHEREOF, the Cities of Fitchburg, Madison, Middleton, Monona, Stoughton, Sun Prairie and Verona; the Villages of Cottage Grove, DeForest, Maple Bluff, McFarland, Shorewood Hills and Waunakee; the Towns of Blooming Grove, Burke, ~~Dunkirk~~, Madison, Middleton, Westport and Windsor; Dane County; and the University of Wisconsin–Madison, hereto have caused this Agreement to be executed by their proper officers.

EXHIBIT A
FINANCIAL CONTRIBUTIONS TOWARD A POSITION RESPONSIBLE FOR STORM WATER INFORMATION, EDUCATION AND OUTREACH

The contributions per Party listed below for 2013 assume a half-time (1,040 hours annually) annual salary and benefits package of approximately \$40,000 based on the 2013 rate of pay for the Position, and a base annual programmatic budget of \$20,000 for information, education and outreach materials and supplies. Any funds received that are not used for salary and benefits package will be carried forward and available for programmatic expenses in the following year.

The Salary and Benefits paid for the position in the 2nd and subsequent years shall be based upon a 5% annual increase as shown in the following example (rounded to next highest dollar): year one (1) contribution \$1000, year two (2) \$1000 + \$1000*(0.05) = \$1050.00, year three (3) = \$1050 + \$1050*(0.05) = \$1103.

The programmatic budget for implementing the information and education plan is \$20,000 annually. The programmatic budget shall be increased at 5% per year using the same process described above for the Salary and Benefits portion of this EXHIBIT A.

Billing invoice amounts reflecting salary and benefits and programmatic funds shall be reviewed by the I&E Committee. If the accumulated programmatic balance exceeds \$20,000 in any given year, the I&E Committee has discretion to credit member municipalities with written notice sent to all Parties in the Agreement.

Additional increases to the salary (in the case of a reclassification of Position incumbent) or programmatic budgets are allowed provided the budget amendment is approved by the I&E Committee and written notice sent to all Parties in this Agreement.

Any proposed changes shall be sent by July 1 of the year preceding the proposed change so that municipalities have adequate time to budget for the additional costs. Additional costs shall be apportioned among the Parties based upon their respective proportional contribution as set forth herein.

The Position shall pursue grant opportunities wherever possible to supplement the programmatic budget and shall be responsible for submittal of those grant requests on behalf of the Parties to this Agreement.

MUNICIPALITY	2010 Population	January-December 2013 Fee	category
Dane County*, **	N/A	\$1,562	
UW-Madison*	N/A	\$3,123	5
City of Madison	233,209	\$12,493	1
City of Sun Prairie	29,364	\$6,989	2
City of Fitchburg	25,260	\$6,989	2
City of Middleton	17,442	\$4,685	3
City of Stoughton	12,611	\$3,890	4
Village of Waunakee	12,097	\$3,890	4
City of Verona	10,619	\$3,890	4
Village of DeForest	8,936	\$3,123	5
City of Monona	7,533	\$3,123	5

Village of McFarland	7,808	\$3,123	5
Town of Windsor	6,345	\$3,123	5
Town of Madison	6,279	\$3,123	5
Village of Cottage Grove	6,192	\$3,122	5
Town of Middleton	5,877	\$3,122	5
Town of Westport	3,950	\$1,562	6
Town of Burke	3,284	\$1,562	6
Town of Dunkirk	1,945	\$1,562	6
Town of Blooming Grove	1,815	\$1,562	6
Village of Shorewood Hills	1,565	\$1,562	6
Village of Maple Bluff	1,313	\$1,562	6
TOTAL		\$78,742	
Adjusted TOTAL less Dunkirk's contribution		\$77,180	

*Contribution not based on population.

**Dane County contributes in-kind with office space, computer, phone, fax, and other overhead as well as supervision.

MUNICIPALITY	2013 Invoice	2014 Invoice	2015 Invoice	2016 Invoice	2017 Invoice	2018 Invoice	Cat-egory	2010 pop-ulation
Dane County	*	*	*	*	*	*	5	N/A
UW-Madison	\$3,123	\$3,279	\$3,443	\$3,615	\$3,796	\$3,985	5	N/A
City of Madison	\$12,493	\$13,118	\$13,774	\$14,462	\$15,185	\$15,945	1	233,209
City of Sun Prairie	\$6,989	\$7,338	\$7,705	\$8,090	\$8,495	\$8,920	2	29,364
City of Fitchburg	\$6,989	\$7,338	\$7,705	\$8,090	\$8,495	\$8,920	2	25,260
City of Middleton	\$4,685	\$4,919	\$5,165	\$5,423	\$5,694	\$5,979	3	17,442
City of Stoughton	\$3,890	\$4,084	\$4,288	\$4,503	\$4,728	\$4,964	4	12,611
Village of Waunakee	\$3,890	\$4,084	\$4,288	\$4,503	\$4,728	\$4,964	4	12,097
City of Verona	\$3,890	\$4,084	\$4,288	\$4,503	\$4,728	\$4,964	4	10,619
Village of DeForest	\$3,123	\$3,279	\$3,443	\$3,615	\$3,796	\$3,985	5	8,936
City of Monona	\$3,123	\$3,279	\$3,443	\$3,615	\$3,796	\$3,985	5	7,533
Village of McFarland	\$3,123	\$3,279	\$3,443	\$3,615	\$3,796	\$3,985	5	7,808
Town of Windsor	\$3,123	\$3,279	\$3,443	\$3,615	\$3,796	\$3,985	5	6,345
Town of Madison	\$3,123	\$3,279	\$3,443	\$3,615	\$3,796	\$3,985	5	6,279
Village of Cottage Grove	\$3,123	\$3,279	\$3,443	\$3,615	\$3,796	\$3,986	5	6,192
Town of Middleton	\$3,123	\$3,279	\$3,443	\$3,615	\$3,796	\$3,986	5	5,877
Town of Westport	\$1,562	\$1,640	\$1,722	\$1,808	\$1,899	\$1,993	6	3,950
Town of Burke	\$1,562	\$1,640	\$1,722	\$1,808	\$1,899	\$1,993	6	3,284
Town of Dunkirk	\$1,562	\$1,640	\$1,722	\$1,808	\$1,899	\$1,994	6	1,945
Town of Blooming Grove	\$1,562	\$1,640	\$1,722	\$1,808	\$1,899	\$1,993	6	1,815
Village of Shorewood Hills	\$1,562	\$1,640	\$1,722	\$1,808	\$1,899	\$1,993	6	1,565
Village of Maple Bluff	\$1,562	\$1,640	\$1,722	\$1,808	\$1,899	\$1,993	6	1,313
Adjusted totals	\$77,178	\$81,036	\$85,088	\$89,343	\$93,810	\$98,500		
		\$79,396	\$83,366	\$87,535	\$91,911	\$96,506		

**The Parties agree that Dane County does not invoice itself, but rather contributes in-kind with office space; phone, computer, printer and other equipment; internet access; Information Management and other staff support; access to vehicles; supervision; and other overhead.*

Category	2010 Census Population
1	>50,000
2	20,000-49,999
3	15,000-19,999
4	10,000-14,999
5	5,000-9,999
6	<5,000

Municipal Responsibilities

It is not enough for municipalities to merely be an actively paying contributor to the Partnership. There are specific actions each municipality must do. For example, while MAMSWaP has created a useful website, each municipality needs to link to www.myfairlakes.com. Other examples include:

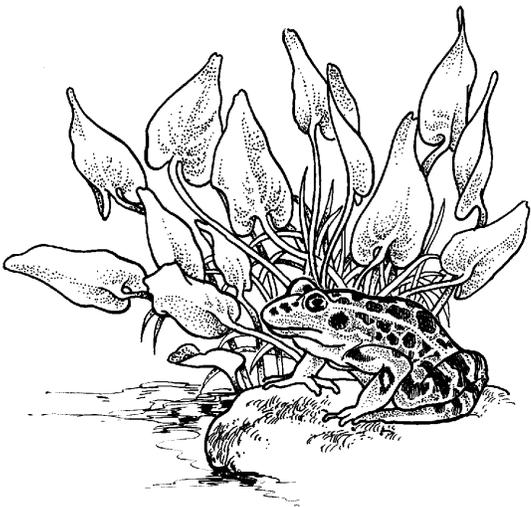
- using provided articles and other information in municipal newsletters or utility bill inserts,
- using displays,
- providing information on municipal web sites,
- issuing press releases to local newspapers, and
- implementing storm drain marking programs.

Municipalities must document in their reports to DNR how they have used the materials developed by the I&E Committee.

Municipal Contacts

Fitchburg (city)	Rick Eilertson, P.E., Environmental Engineer, City of Fitchburg, 5520 Lacy Road, Fitchburg, WI 53711-5318; 608-270-4264; rick.eilertson@fitchburgwi.gov
Madison (city)	Greg Fries, P.E., Principal Engineer, City of Madison Engineering Division, City-County Building, Room 115, 210 Martin Luther King Jr. Blvd., Madison, WI 53703; 608-267-1199; gfries@cityofmadison.com
Middleton (city)	Gary Huth, P.E., Assistant City Engineer, City of Middleton Public Works Dept., 7426 Hubbard Ave., Middleton, WI 53562; 606-827-1070; ghuth@ci.middleton.wi.us
Monona (city)	Daniel Stephany, Director of Public Works & Utilities, City of Monona, 5211 Schluter Road, Monona, WI 53716; 608-222-2525; dstephany@ci.monona.wi.us
Stoughton (city)	Rodney Scheel, Director of Planning & Development, 381 East Main St., Stoughton, WI 53589; 608-873-6619; rscheel@ci.stoughton.wi.us
Sun Prairie (city)	Daryl Severson, City Engineer, City of Sun Prairie, 300 E. Main St., Sun Prairie, WI 53590; 608-837-3050; Dseverson@sun-prairie.com
Verona (city)	Ron Rieder, Director of Public Works, City of Verona, 410 Investment Ct., Verona, WI 53593-8749; 608-845-6695; ron.rieder@ci.verona.wi.us
Cottage Grove (village)	Jim Hessling, Director of Public Works, Village of Cottage Grove, 225 Bonnie Road, Cottage Grove, WI 53527, 608-839-5813, jhessling@village.cottage-grove.wi.us ,
DeForest (village)	Deane Baker, Public Works/Parks Coordinator, Village of DeForest, 205 DeForest Street, PO Box 510, DeForest, WI 53532; 608-846-6761; Bakerd@vi.deforest.wi.us

Maple Bluff (village)	Tom Schroeder, Pub Works Superintendent, Village of Maple Bluff, 18 Oxford Place, Madison, WI 53704; 608-244-3048; tschroeder@villageofmaplebluff.com
McFarland (village)	Allan Coville, Director of Public Works, Village of McFarland, 5915 Milwaukee St., McFarland, WI 53558; 608-838-8287; allan.coville@mcfarland.wi.us
Shorewood Hills (village)	Karl Frantz, DPW, Village of Shorewood Hills, 810 Shorewood Blvd., Madison, WI 53705; 608-267-2680; kfrantz@shorewood-hills.org
Waunakee (village)	Kevin Even, P.E., Village Engineer/DPW, Village of Waunakee, 500 W. Main St., Waunakee, WI 53597; 608-849-6276; keven@vil.waunakee.wi.us
Blooming Grove (town)	Mike Wolf, Town Administrator, Town of Blooming Grove, 1880 S. Stoughton Road, Madison, WI 53716; 608-223-1104; BGAdmin@BLMGROVE.com
Burke (town)	Brenda Ayers, Town Clerk/Treasurer, Town of Burke, 5365 Reiner Rd., Madison, WI 53718; 608-825-8420; townofburke@verizon.net
Madison (town)	Rick Rose, P.E., Public Works Director, Town of Madison, 2120 Fish Hatchery Rd., Madison, WI 53713; 608-210-7260; roserr@town.madison.wi.us
Middleton (town)	David Shaw, Town Administrator, 7555 West Old Sauk Road, Verona, WI 53593; 608-833-5887; tnmid@chorus.net
Westport (town)	Tom Wilson, Town Administrator, Town of Westport, 5387 Mary Lake Rd., Waunakee, WI 53597; 608-849-4372; twilson@townofwestport.org
Windsor (town)	Kevin Richardson, PE, Town Engineer, Town of Windsor, 4084 Mueller Road, DeForest, WI 53532; 608-846-3854; fax 608-846-2328; kevin@windsorwi.gov
Dane County	Sue Jones, Watershed Management Coordinator, Dane County Office of Lakes and Watersheds, 5201 Fen Oak Drive, Rm 234, Madison, WI 53718-8827; 608-224.3764, jones.susan@countyofdane.com
UW–Madison	Marisa Trapp, Environmental Compliance Specialist, UW-Madison Safety Department, 30 East Campus Mall., Madison, WI 53715; 608-262-2407; mtrapp@fpm.wisc.edu



ARTICLE IV. - EROSION CONTROL AND STORMWATER MANAGEMENT

Sec. 10-121. - Authority.

This article is adopted under the authority of Wis. Stats. § 62.234.

(Code 1986, § 20.00; Ord. No. 0-21-06, § 1, 5-9-2006)

Sec. 10-122. - Definitions.

As used in this article:

Affected means that a regulated activity has significantly:

- (1) Caused negative impacts on water quality or the use or maintenance of land or business; or
- (2) Endangered health, safety or general welfare.

Agricultural means related to or used for the production of food and fiber, including but not limited to general farming, livestock and poultry enterprises, grazing, nurseries, horticulture, viticulture, truck farming, forestry, sod production, cranberry productions and wild crop harvesting and includes lands used for on-site buildings and other structures necessary to carry out such activities.

Average annual rainfall means measured precipitation in Madison, Wisconsin between March 12 and December 2, 1981.

Bank erosion means the removal of soil or rock fragments along the banks or bed of a stream channel resulting from high flow after rain events.

Best management practice means a practice, technique or measure that is an effective, practical means of preventing or reducing soil erosion or water pollution, or both, from runoff both during and after land development activities. These can include structural, vegetative or operational practices.

Cold water community means surface waters capable of supporting a community of cold water fish and other aquatic life, or serving as a spawning area for cold water fish species (Wis. Adm. Code. NR 102.04(3) (a)).

Connected imperviousness means an impervious surface that is directly connected to a separate storm sewer or water of the state via an impervious flow path.

Construction site erosion control means preventing or reducing soil erosion and sedimentation from land disturbing activity.

Direct conduits to groundwater means wells, sinkholes, swallets, fractured bedrock at the surface, mine shafts, nonmetallic mines, tile inlets discharging to groundwater, quarries, or depressional groundwater recharge areas over shallow fractured bedrock.

Effective infiltration area means the area of the infiltration system that is used to infiltrate runoff and does not include the area used for site access, berms or pretreatment.

Erosion and soil erosion means the detachment and movement of soil or rock fragments by water, wind, ice or gravity.

Excavation means any act by which organic matter, earth, sand, gravel, rock or any other similar material is cut into, dug, quarried, uncovered, removed, displaced, relocated or bulldozed and shall include the resulting conditions.

Existing development means buildings and other structures and impervious area existing prior to August 22, 2001.

Fill means any act by which earth, sand, gravel, rock or any other material is deposited, placed, replaced, pushed, dumped, pulled, transported or moved to a new location and shall include the resulting conditions.

Financial security instrument means a surety bond, performance bond, maintenance bond, irrevocable letter of credit or similar guarantees submitted to the local approval authority to ensure that requirements of this article are carried out in compliance with the stormwater management plan.

Gully erosion means a severe loss of soil caused by or resulting in concentrated flow of sufficient velocity to create a defined flow channel.

Heavily disturbed site means a site where an area of land is subjected to significant compaction due to the removal of vegetative cover or earthmoving activities, including filling.

Hydrologic soil group (HSG) has the meaning used in the runoff calculation methodology promulgated by the United States Natural Resources Conservation Service Engineering Field Manual for Conservation Practices.

Impervious surface means any land cover that prevents rain or melting snow from soaking into the ground, such as roofs (including overhangs), roads, sidewalks, patios, driveways and parking lots. For purposes of this article, all road, driveway or parking surfaces, including gravel surfaces, shall be considered impervious, unless specifically designed to encourage infiltration and approved by the local approval authority.

Infiltration, for the purposes of this article, refers to any precipitation that does not leave the site as surface runoff.

Infiltration system means a device or practice such as a basin, trench, rain garden or swale designed specifically to encourage infiltration, but does not include natural infiltration in pervious surfaces such as lawns, redirecting of rooftop downspouts onto lawns or minimal infiltration from practices such as swales or road side channels designed for conveyance and pollutant removal only.

Land conservation committee or LCC means the Dane County Land Conservation Committee created under Wisconsin Statutes § 92.06.

Land disturbing activities means any land alterations or disturbances that may result in soil erosion, sedimentation or change in runoff including but not limited to removal of ground cover, grading, excavating and filling of land.

Lightly disturbed site means a site where an area of land is subjected to minor compaction due to the limited removal of vegetative cover or earthmoving activities.

Local approval authority means the municipal staff, agency or contracted entity charged by the local unit of government with responsibility for enforcing stormwater and erosion control ordinances, and specifically includes the city planning department.

Local land division ordinance means any county, city, village or town ordinance adopted under Wis. Stats. ch. 236 to regulate the division of land.

Local zoning ordinance means any county, city, village or town ordinance adopted under Wis. Stats. §§ 59.69, 59.692, 59.693, 60.61, 60.62, 61.351, 61.354, 62.23, 62.231, or 62.234 of the to regulate the use of land.

Maximum extent practicable (MEP) means a level of implementing best management practices in order to achieve a performance standard specified in this chapter which takes into account the best available technology, cost effectiveness and other competing issues such as human safety and welfare, endangered and threatened resources, historic properties and geographic features. MEP allows flexibility in the way to meet performance standards and may vary based on the performance standard and site conditions.

New development means any of the following activities:

- (1) Structural development, including construction of a new building or other structures;
- (2) Expansion or alteration of an existing structure that results in an increase in the surface dimensions of the building or structure;
- (3) Land disturbing activities; or
- (4) Creation or expansion of impervious surface.

Nonerosive velocity means a rate of flow of stormwater runoff, usually measured in feet per second, that does not erode soils. Nonerosive velocities vary for individual sites, taking into account topography, soil type and runoff rates.

Peak flow means the maximum rate of flow of water at a given point in a channel, watercourse, or conduit resulting from the predetermined storm or flood.

Pervious surface means any land cover that permits rain or melting snow to soak into the ground.

Plan means an erosion control plan required by [section 10-125](#) or a stormwater management plan required by [section 10-126](#).

Plan review agency means the municipal staff, agency or qualified contracted entity charged by the local unit of government with responsibility for reviewing stormwater and erosion control plans under the local stormwater and erosion control ordinance.

Plat review officer means the municipal staff, agency or contracted entity charged by the local unit of government with responsibility for reviewing land divisions, certified survey maps or subdivision plats or any combination thereof under Wis. Stats. ch. 236.

Post-development means the extent and distribution of land cover types anticipated to occur under conditions of full development of the submitted plan. The term "post-development" is used to match pre-development and post-development stormwater peak flows as required by this article.

Pre-development means the extent and distribution of land cover types present before the initiation of the proposed land development activity, assuming that all land uses prior to land disturbing activity are in "good" condition as described in the Natural Resources Conservation Service Technical Release 55, "Urban Hydrology for Small Watersheds" (commonly known as TR-55). The term "pre-development" is used to match pre-development and post-development stormwater peak flows as required by this article. In a situation where cumulative impervious surface created after August 21, 2001 exceeds the 20,000 square foot threshold, the predevelopment conditions shall be those prior to the proposed land disturbance.

Recharge means the portion of the average annual rainfall that infiltrates the soil and becomes groundwater. Recharge does not include evaporation, transpiration, or runoff from the site.

Redevelopment means any construction, alteration or improvement exceeding 4,000 square feet of land disturbance performed on sites where the existing site is predominantly developed as commercial, industrial, institutional or multifamily residential uses. Projects may include a mix of redevelopment and new impervious surfaces. New impervious surfaces added as a result of redevelopment are subject to subsection [10-126\(1\)](#).

Runoff curve number (RCN) has the meaning used in the runoff calculation methodology promulgated by the United States Natural Resources Conservation Service Engineering Field Manual for Conservation Practices.

Sediment means solid earth material, both mineral and organic, that is in suspension, is being transported or has been moved from its site of origin by air, water, gravity or ice, and has come to rest on the earth's surface at a different site.

Sedimentation means the deposition of eroded soils at a site different from the one where the erosion occurred.

Sheet and rill erosion means a loss of soil caused by sheet flow or shallow concentrated flow, and characterized by an absence of channeling or a relatively uniform loss across the exposed upper layer of the soil or shallow irregular scouring of the soil surface.

Site means the bounded area described in an erosion control plan or stormwater management plan.

Slope means the net vertical rise over horizontal run, expressed as a percentage, which represents a relatively homogeneous surface incline or decline over the area disturbed.

Soil loss rate means the rate, usually measured in tons per acre per year, at which soil is transported beyond the perimeter of a given control site and which occurs as a result of sheet and rill erosion. The term "soil loss rate" does not apply to soil movement resulting from concentrated flow such as gully or bank erosion.

Storm events means the precipitation amounts that occur over a 24-hour period that have a specified recurrence interval for Dane County, Wisconsin. For example, one-year, two-year, ten-year and 100-year storm events mean the precipitation amounts that occur over a 24-hour period that have a recurrence interval of one, two, ten and 100 years, respectively.

Stormwater means the flow of water which results from, and which occurs during and immediately following, a rainfall, snow melt or ice melt event.

Stormwater management means any measures taken to permanently reduce or minimize the negative impacts of stormwater runoff quantity and quality after land development activities.

Stormwater runoff means the waters derived from rains falling or snow melt or ice melt occurring within a drainage area, flowing over the surface of the ground and collected in channels, watercourses or conduits.

Street reconstruction means removal and replacement of the road subgrade, where existing stormwater conveyance systems are modified.

Structure means any human made object with form, shape and utility, either permanently or temporarily attached to, placed upon, or set into the ground, stream bed or lake bed.

Unnecessary hardship means that circumstance where special conditions, which were not self-created, affect a particular property and make strict conformity with regulations unnecessarily burdensome or unreasonable in light the purposes of this article.

(Code 1986, § 20.01; Ord. No. 0-21-06, § 1, 5-9-2006; Ord. No. 0-01-07, § 1, 1-9-2007; Ord. No. 0-18-2013, § 1, 8-13-2013)

Cross reference— Definitions generally, § 1-2.

Sec. 10-123. - Legislative findings.

- (a) The common council finds that construction site erosion and uncontrolled stormwater runoff from land disturbing and land development activities have significant adverse impacts upon regional water resources and the health, safety, property and general welfare of the community, and diminish the public enjoyment and use of natural resources. Specifically, soil erosion and stormwater runoff can:
- (1) Carry sediment, nutrients, pathogens, organic matter, heavy metals, toxins and other pollutants to regional lakes, streams and wetlands;
 - (2) Diminish the capacity of water resources to support recreational and water supply uses and a natural diversity of plant and animal life;
 - (3) Clog existing drainage systems, increasing maintenance problems and costs;
 - (4) Cause bank and channel erosion;
 - (5) Increase downstream flooding;
 - (6) Reduce groundwater recharge, which may diminish stream base flows and lower water levels in regional lakes, ponds and wetlands;
 - (7) Contaminate drinking water supplies;
 - (8) Increase risk of property damage and personal injury; and
 - (9) Cause damage to agricultural fields and crops.
- (b) The common council also finds that effective sediment and stormwater management depends on proper planning, design and timely installation of conservation and management practices and their continuing maintenance.

(Code 1986, § 20.02; Ord. No. 0-21-06, § 1, 5-9-2006)

Sec. 10-124. - Purpose and intent.

- (a) The purpose of this article is to set forth the minimum requirements for construction site erosion control and stormwater management that will diminish threats to public health, safety, public and private property and natural resources of the city.
- (b) This article is intended to regulate construction site erosion and stormwater runoff, to accomplish the following objectives:
- (1) Promote regional stormwater management by watershed;
 - (2) Minimize sedimentation, water pollution from nutrients, heavy metals, chemical and petroleum products and other contaminants, flooding and thermal impacts to the water resources of the city;
 - (3) Promote infiltration and groundwater recharge;
 - (4) Protect functional values of natural water courses and wetlands;
 - (5) Provide a single, consistent set of performance standards that apply to all developments within the city and are consistent with the standards set forth by the county;
 - (6) Achieve an 80 percent reduction in sediment load rates to the county waters compared to no controls for all new development, a 40 percent reduction in sediment load rates compared to no controls for all redevelopment and street reconstruction and a 20 percent reduction in sediment load rates compared to no controls for existing developments;
 - (7) Ensure no increase in temperature of stormwater post-construction in order to protect cold water communities;
 - (8) Ensure no increase in the rate of surface water drainage from sites during or after construction; and

- (9) Protect public and private property from damage resulting from runoff or erosion.

(Code 1986, § 20.03; Ord. No. 0-21-06, § 1, 5-9-2006)

Sec. 10-125. - Applicability of requirement for erosion control permits.

Unless expressly exempted by section 10-127, an erosion control permit under section 10-129 shall be required and all construction site erosion control provisions of this article shall apply to any of the following activities in the city:

- (1) Land disturbing activity in excess of 4,000 square feet.
- (2) Land disturbing activity on a slope of greater than 12 percent.
- (3) Land disturbing activity that involves the excavation or filling, or a combination of excavation and filling, in excess of 400 cubic yards of material.
- (4) Land disturbing activity that disturbs more than 100 lineal feet of road ditch, grass waterway or other land area where surface drainage flows in a defined open channel; including the placement, repair or removal of any underground pipe, utility or other facility within the cross section of the channel.
- (5) Any new public or private roads or access drives longer than 125 feet.
- (6) Development that requires a subdivision plat, as defined in section 66-2.
- (7) Land disturbing activity that disturbs less than 4,000 square feet of land, including the installation of access drives, that the local approval authority determines to have a high risk of soil erosion or water pollution, or that may significantly impact a lake, stream or wetland area. Examples of activities with a high risk of soil erosion or water pollution may include, but are not limited to, land disturbance on erodible soil or disturbance adjacent to lakes, rivers, streams or wetlands. All such determinations made by the local approval authority shall be in writing, unless waived by the applicant.

(Code 1986, § 20.04; Ord. No. 0-21-06, § 1, 5-9-2006)

Sec. 10-126. - Applicability of requirement for stormwater control permits.

Unless otherwise exempted by section 10-127, a stormwater control permit under section 10-129 shall be required and all stormwater management provisions of this article shall apply to any of the following activities within the city:

- (1) Any development after August 22, 2001, that results in the cumulative addition of 20,000 square feet of impervious surface to the site;
- (1m) Agricultural development that creates new impervious surface area exceeding 20,000 square feet of on the site;
- (2) Any development that requires a subdivision plat, as defined in the applicable local land division ordinance(s);
- (3) Any development that requires a certified survey map, as defined in the applicable local ordinance(s); for property intended for commercial or industrial use;
- (4) Redevelopment, as defined in section 10-122;
- (5) Other land development activities, including, but not limited to redevelopment or alteration of existing buildings and other structures, that the local approval authority determines may significantly increase downstream runoff volumes, flooding, soil erosion, water pollution or property damage or significantly impact a lake, stream or wetland area. All such determinations shall be made in writing unless waived by the applicant.

(Code 1986, § 20.05; Ord. No. 0-21-06, § 1, 5-9-2006)

Sec. 10-127. - Exemptions and clarifications.

(a) The following activities are exempt from all requirements of this article:

- (1) Any activity directly related to the planting, growing and harvesting of agricultural crops except the construction of a building or other structure.

(b) The following activities are exempt from the construction site erosion control provisions of section 10-125

- (1) One-family and two-family dwelling units regulated under the Wisconsin Uniform Dwelling Code. Land disturbing activities in excess of one acre, or not associated with the construction of a dwelling, are not exempt from this article.
- (2) Projects specifically exempted from local erosion control ordinances under state or federal statute. It is the responsibility of the landowner to demonstrate such exemption with documentation acceptable to the local approval authority.
- (3) Projects subject to an approved shoreland erosion control permit under chapter 11.
- (4) Municipal road or county highway projects not exempted under subsection 10-127(b)(2) are exempt from subsection 10-131(b)(3) where all the following conditions are met:
 - a. The purpose of the project is only to meet current state or federal design or safety guidelines;
 - b. All activity takes place within existing public right-of-way;
 - c. All other requirements of section 10-131 are met; and
 - d. The project does not include the addition of new driving lanes.

(c) The following activities are exempt from the infiltration standards described in subsection 10-131(b)(5):

- (1) Redevelopment sites.
- (2) New development sites with less than ten percent connected imperviousness based on complete development of the post construction site, provided the cumulative area of all impervious surfaces is less than one acre.
- (3) Agricultural facilities and practices.
- (4) Areas where the infiltration rate of the soil is less than .6 inches/hour measured at the bottom of the proposed infiltration system where the soil layer is not easily removed or manipulated.
- (5) Parking areas and access roads less than 5,000 square feet for commercial and industrial development.
- (6) Roads in commercial, industrial, and institutional land uses, and arterial roads.

(Code 1986, § 20.06; Ord. No. 0-21-06, § 1, 5-9-2006; Ord. No. 0-18-2013, § 2, 8-13-2013)

Sec. 10-128. - Preliminary review letter.

- (a) *Purpose and intent.* A preliminary review letter provides a potential permit applicant with an initial simple evaluation of whether erosion and stormwater control standards can be met for a proposed site, lot layout and construction design. This review is intended to assist applicants in preparing general site plans and other submittals necessary to obtain an erosion control and stormwater permit. A preliminary review letter does not guarantee that an erosion or stormwater control plan will be approved or that a permit will be issued. Erosion and stormwater control plans and permit applications must meet all applicable standards and criteria for approval.
- (b) *Application procedure.*
- (1) The local approval authority may charge a fee to compensate for provision of the cost of the preliminary review letter process.
 - (2) Any person may apply for a preliminary review letter by submitting an application that contains the information required by the local approval authority.
 - (3) The local approval authority may require a preliminary review letter prior to accepting a petition for rezoning or conditional use application under applicable ordinances, or city planning staff may require a preliminary review letter prior to accepting an application for a certified survey map under applicable ordinances where the following apply:
 - a. The proposal would involve one or more acres within either the current or proposed boundaries of a commercial or industrial zoning district;
 - b. The proposed lot or rezone area configuration would necessitate driveways, access roads or other construction that would clearly require an erosion control plan and/or stormwater management plan under section 10-125 and/or 10-126
 - c. Natural features of the site including, but not limited to slope, soils, wetlands, or hydrology are such that, in the opinion of the city planning staff or a designated authority, substantial risk of erosion, flooding or other environmental or public safety hazard exists;
 - (4) Unless expressly waived by the applicant, decisions by the local approval authority to require a preliminary review letter shall be made in writing and shall detail the reasons why the authority believes there to be a substantial risk of erosion, flooding or hazard.

(Code 1986, § 20.07; Ord. No. 0-21-06, § 1, 5-9-2006)

Sec. 10-129. - Erosion and stormwater control permits and administration.

- (a) No activity meeting the criteria described in section 10-125 or section 10-126 shall occur and no building permits may be issued, until an erosion control and stormwater control permit is issued by the local approval authority.
- (b) The applicant must provide the following when requesting a permit:
- (1) Completed application form:
 - a. The application must be signed by the landowner or include a notarized statement signed by the landowner authorizing the applicant to act as the landowner's agent and bind the landowner to the terms of this article.
 - b. If a landowner appoints an agent to submit an application pursuant to subsection (b)(1)a. of this section, the landowner shall be bound by all of the requirements of this article and the terms of any permit issued to the agent.
 - (2) Fees as required by section 10-135
 - (3) Copy of preliminary review letter, as described in section 10-128, if applicable.
 - (4) If required by section 10-125, an erosion control plan meeting all the standards of section 10-130, or a simplified checklist as described in section 10-130
 - (5) If required by section 10-126, a stormwater management plan meeting all of the standards of section 10-131 and a draft maintenance agreement as described in subsection 10-131(a)(9).
 - (6) Copies of permits or permit applications or approvals required by any other governmental entity.
 - (7) A proposed timetable and schedule for completion and installation of all elements of approved erosion control and stormwater management plans and a detailed schedule for completion of construction.
 - (8) An estimate of the cost of completion and installation of all elements of the approved erosion control and stormwater management plans.
 - (9) Evidence of financial responsibility to complete the work proposed in the plan. The local approval authority may require a financial security instrument sufficient to guarantee completion of the project.
- (c) *Approval process.*
- (1) The local approval authority shall verify that the permit application is complete under subsection (b) of this section. The local approval authority or applicant shall forward the plan to the plan review agency for review and approval. The plan review staff shall review the plan for compliance with the standards identified in sections 10-130 and 10-131
 - (2) The plan review staff shall either approve the submitted plan or notify the local approval authority of any deficiencies. Staff engaged in this review and approval process shall be certified where appropriate by the Wisconsin Department of Commerce for this purpose.
 - (3) The local approval authority shall notify the applicant in writing of any deficiency in the proposed plan and the applicant shall be given an opportunity to correct any deficiency.
 - (4) Where installed stormwater practices will be privately-owned, an affidavit which describes the property by legal description, notifying future prospective purchasers of the existence of a stormwater permit issued under this article and applicable plan, timetables and potential liability imposed by subsection (h)(3) of this section for failure to bring the property into compliance with this article after notification, shall be recorded with the Dane County register of deeds prior to issuance of an erosion and stormwater control permit. Such information shall also be noted on every plat and certified survey map.
 - (5) Upon approval of the plan review agency, the erosion control or stormwater management permit shall be issued by the local approval authority after the applicant has met all other requirements of this article.
- (d) *Permit conditions.*

- (1) The plan shall be implemented prior to the start of any land disturbing activity and shall be maintained over the duration of the project. Stormwater components of the plan shall be maintained in perpetuity.
 - (2) The permittee is responsible for successful completion of the erosion control plan and the stormwater management plan. The permittee shall be liable for all costs incurred, including environmental restoration costs, resulting from noncompliance with an approved plan.
 - (3) Application for a permit shall constitute express permission by the permittee and landowner for the local approval authority to enter the property for purposes of inspection under subsection (e) of this section or curative action under subsection (h)(3) of this section. The application form shall contain a prominent provision advising the applicant and landowner of this requirement.
 - (4) All incidental mud-tracking off-site onto adjacent public thoroughfares shall be cleaned up and removed by the end of each working day using proper disposal methods.
 - (5) A copy of the approved permit and erosion control plan shall be kept on the project site, in a place readily accessible to contractors, engineers, local approval authority, inspection staff and other authorized personnel.
- (e) *Inspections.*
- (1) Application for a permit under this article shall constitute permission by the applicant and landowner for the local approval authority to enter upon the property and inspect during the construction phase prior to the inspections pursuant to subsections (e)(4) and (e)(6) of this section, as necessary to confirm compliance with the requirements of this article.
 - (2) As part of the plan approval process, the local approval authority shall determine the minimum number of inspections required to ensure compliance. The site of any regulated land disturbing activity shall be inspected once every 30 days, or more frequently as determined by the local approval authority during the construction phase with assistance from the plan review agency staff.
 - (3) The permittee shall notify the local approval authority within ten days after installation of all practices in an approved erosion control plan and achievement of soil stabilization. The permittee shall inspect the site weekly, and prior to every forecasted rain fall of one-half inch or greater.
 - (4) The local approval authority shall inspect the property to verify compliance with the erosion control plan within ten days of notification of soil stabilization.
 - (5) Within ten days after installation of all practices in an approved stormwater management plan, the permittee shall notify the local approval authority and submit drawings documenting construction. The person who designed the stormwater management plan for the permittee shall submit as-built certification to ensure that constructed stormwater management practices and conveyance systems comply with the specifications included in the approved plans. At minimum, as-built certification shall include a set of drawings comparing the approved stormwater management plan with what was constructed. Other information shall be submitted as required by the local approval authority.
 - (6) The local approval authority shall inspect the property to verify compliance within ten days of notification.
 - (7) Maintenance is the responsibility of the owner and facilities are subject to inspection and orders for repairs.
- (f) *Permit transfers.*
- (1) When a permittee and landowner act to transfer an interest in property subject to an approved plan prior to completion of the proposed steps to attain soil stabilization, the permittee must secure approval from the local approval authority.
 - (2) When a permittee and landowner transfer ownership, possession or control of real estate subject to either or both an uncompleted erosion control and a stormwater management plan, the successor in interest to any portion of the real estate shall be responsible to control soil erosion and runoff and shall comply with the minimum standards provided in this article.
 - (3) When ownership, possession or control of property subject to an uncompleted erosion control or stormwater management plan, or both, is transferred, the former owner (seller) shall notify the new owner (buyer) as to the current status of compliance with notice to the authority and provide a copy of the erosion control plan or stormwater management plan, or both.
 - (4) Transfers of interest in real estate subject to an approved, uncompleted plan may be conducted consistent with this article under any of the following arrangements:
 - a. The transferee shall file a new, approved erosion control or stormwater management plan, or both, with the authority.
 - b. The transferee shall obtain an approved assignment from the authority as subpermittee to complete that portion of the approved plan regulating soil erosion and runoff on the transferee's property.
 - c. The permittee shall provide the authority with a duly completed and executed continuing surety bond or certified check in an amount sufficient to complete the work proposed in the approved plan; at the time of transfer, the permittee may seek to reduce the surety bond or certified check to the appropriate amount to complete remaining work. If the transferor enters into escrow agreements with transferees to complete an approved plan, these funds shall be available to the authority to attain plan compliance. When an approved erosion control plan and, if required, a stormwater management plan is or are not completed as proposed, the authority may use the surety bond to complete remaining work to achieve plan compliance.
- (g) *Plan or permit amendments.* Any proposed modifications to approved plans, construction schedules or alterations to accepted sequencing of land disturbing site activities shall be approved by the local approval authority in consultation with the plan review agency prior to implementation of such changes. One permit revision is allowed at no charge. The second and subsequent revisions, to a maximum of five revisions, cost \$50.00 each.
- (h) *Violations and enforcement:*
- (1) Stop work order.
 - a. Whenever the local approval authority finds any noncompliance with the provisions of this article, the local approval authority shall attempt to communicate with the owner or person performing the work to obtain immediate and voluntary compliance if such person is readily available. If the owner or person performing the work is not readily available, that person refuses to voluntarily comply immediately or the noncompliance presents an immediate danger or will cause or threatens to cause bodily injury or damage to off-site property including, but not limited to off-site runoff, the local approval authority shall post in a conspicuous place on the

premises, a stop work order which shall cause all activity not necessary to correct the noncompliance to cease until noncompliance is corrected.

- b. The stop work order shall provide the following information:
 1. Date of issuance;
 2. Reason for posting;
 3. The signature of the inspector posting the card; and
 4. The address or legal description of the property.
 - c. It shall be a violation of this article for the unauthorized removal of the stop work order from the premises.
- (2) In addition to posting a stop work order, the local approval authority shall provide notification to the owner or contractor by personal service, written notice by certified mail, electronic mail or facsimile transmission.
 - a. The permittee, landowner and contractor shall have 24 hours from the time and date of notification by the local approval authority to correct any noncompliance with the plan when notification is by either personal communication of noncompliance to the owner or contractor or their respective agents or written notice sent by certified mail to the owner or the contractor.
 - b. If notice is not provided under subsection (h)(2)a of this section, the permittee and landowner shall have 72 hours to correct any noncompliance with the plan when notification is by posting notice in a conspicuous place on the site or sending notice by facsimile transmission to the owner or contractor.
 - (3) If any noncompliance is not corrected within the time periods specified in subsection (h)(2)a or (h)(2)b of this section, the permittee and landowner authorize the local approval authority to take any action, to perform any work or commence any operations necessary to correct conditions upon the subject property where notice of noncompliance has been issued to bring the property into conformance with plan requirements. The permittee and landowner further consent to reimburse the authority for the total costs and expenses of such actions and such reimbursement may be collected as a special charge upon the property for current services rendered as provided by law.
 - (4) If the permittee has filed an appeal under subsection 10-134(a)(1) prior to the expiration of the time for compliance under subsection (h) (2) of this section, the local approval authority may take action, perform work or correct conditions only to the extent necessary to protect against or correct an imminent hazard or a condition that will cause or threatens to cause personal injury or damage to off-site property.
- (i) *Penalties.*
- (1) Any person, firm, company or corporation, owner, occupant or other user of the premises who violates, or refuses to comply with, or resists the enforcement of, any of the provisions of this article shall be subject to a forfeiture of not less than \$200.00 nor more than \$1,000.00 and costs of prosecution. Each day that a violation exists shall constitute a separate offense, and such violations shall be prosecuted in municipal court.
 - (2) Any person who has the ability to pay any forfeiture entered against him under this article, but refuses to do so may be confined in the county jail until such forfeiture is paid, but in no event to exceed 30 days. In determining whether an individual has the ability to pay a forfeiture, all items of income and all assets may be considered regardless of whether or not such income or assets are subject to garnishment, lien or attachment by creditors.
- (j) *Timeframe and expiration.*
- (1) Erosion control plan timetables and construction schedules must begin within one year of the date of the application for permit is submitted.
 - (2) All applications for permit shall expire:
 - a. One year from the date the applicant is notified of an application deficiency, if the applicant has not submitted additional information to adequately address the deficiency within one year; or
 - b. Three years from the date of application.
 - (3) Erosion control permits shall expire:
 - a. Upon the stabilization date included in the approval plan and included in the analysis provided to meet the requirements of ten.
 - b. A maximum of three years after the permit is issued.

(Code 1986, § 20.08; Ord. No. 0-21-06, § 1, 5-9-2006; Ord. No. 0-18-2013, § 3, 8-13-2013)

Sec. 10-130. - Erosion control plan requirements.

- (a) *Plan materials.* Erosion control plans required under section 10-125 may include consideration of adjoining landowners' cooperative efforts to control transport of sediment and, except as specifically exempted in this section, shall include at a minimum the following information:
 - (1) Property lines, lot dimensions, and limits of disturbed area;
 - (2) Limits of impervious area including buildings. Include all public and private roads, interior roads, driveways, parking lots, and indicate type of paving and surfacing material;
 - (3) All natural and artificial water features including, but not limited to lakes, ponds, streams, (including intermittent streams), and ditches; and areas of natural woodland or prairie. The plan must show ordinary high-water marks of all navigable waters, 100-year flood elevations and delineated wetland boundaries. A certified flood zone determination and/or wetland delineation may be required at the applicant's expense;
 - (4) Cross sections of and profiles of channels, swales, and road ditches;
 - (5) Culvert sizes;
 - (6) Direction of flow of runoff;
 - (7) Watershed size for each drainage area;
 - (8) Design discharge for ditches and structural measures;
 - (9) Runoff velocities;
 - (10) Fertilizer and seeding rates and recommendations;

Time schedules for stabilization of ditches and slopes;

- (12) Description of methods by which sites are to be developed and a detailed land disturbance schedule including time schedules for stabilization of ditches and slopes;
 - (13) Provision for sequential steps mitigating erosive effect of land disturbing activities to be followed in appropriate order and in a manner consistent with accepted erosion control methodology suitable to proposed sites and amenable to prompt revegetation, including runoff calculations as appropriate;
 - (14) Provisions to prevent mud-tracking off-site onto public thoroughfares during the construction period;
 - (15) Provisions to disconnect impervious surfaces, where feasible;
 - (16) Provisions to prevent sediment delivery to, and accumulation in, any proposed or existing stormwater conveyance system;
 - (17) Copies of permits or permit applications required by any other unit of government or agency;
 - (18) Existing and proposed elevations (referenced to the National Geodetic Vertical Datum of 1929) and existing and proposed contours in the area, where deemed necessary; [and]
 - (19) Any other information necessary to reasonably determine the location, nature and condition of any physical or environmental features of the site.
- (b) *Simplified plan checklists.* Applicants may submit erosion control proposals using simplified checklists of standard erosion control practices, on a standard form approved by the local approval authority, wherever all of the following conditions exist:
- (1) The site does not exceed 20,000 square feet in area; and
 - (2) The slope of the land does not exceed six percent.
- (c) *Review of simplified plan checklists.* Simplified plan checklists shall be reviewed by the local approval authority for completeness and accuracy.
- (d) *Erosion control performance standards.*
- (1) Proposed design, suggested location and phased implementation of effective, practicable erosion control measures for plans shall be designed, engineered and implemented to achieve the following results:
 - a. Prevent gully and bank erosion;
 - b. Limit total off-site permissible annual aggregate soil loss for exposed areas resulting from sheet and rill erosion to an annual, cumulative soil loss rate not to exceed 7.5 tons per acre annually; and
 - c. Discharges from new construction sites must have a stable outlet capable of carrying designed flow as required in subsection 10-131(b)(3), at a non-erosive velocity. Outlet design must consider flow capacity and flow duration. This requirement applies to both the site outlet and the ultimate outlet to stormwater conveyance or waterbody.
 - (2) Plan compliance under subsection (d)(1) of this section shall be determined using the U.S. Natural Resources Conservation Service Technical Guide or another commonly accepted soil erosion methodology approved by the county conservationist, that considers season of year, site characteristics, soil erodibility and slope.
 - (3) Erosion control measures for plan approval need not attempt to regulate soil transportation within the boundaries of the applicant's site.

(Code 1986, § 20.09; Ord. No. 0-21-06, § 1, 5-9-2006)

Sec. 10-131. - Stormwater management plan requirements.

- (a) *Plan materials.* Stormwater management plans shall satisfy all of the requirements in subsection (b) of this section, and shall address at a minimum the following information:
- (1) A narrative describing the proposed project, including an implementation schedule for planned practices;
 - (2) Identification of the entity responsible for long-term maintenance of the project;
 - (3) A map showing drainage areas for each watershed area;
 - (4) A summary of runoff peak flow rate calculations, by watershed area, including:
 - a. Pre-existing peak flow rates;
 - b. Post-construction peak flow rates with no detention;
 - c. Post-construction peak flow rates with detention;
 - d. Assumed runoff curve numbers (RCNs); and
 - e. Time of concentration (Tc) used in calculations;
 - (5) A complete site plan and specifications, signed by the person who designed the plan. All plans shall be drawn to an easily legible scale, shall be clearly labeled and shall include, at a minimum, all of the following information:
 - a. Property lines and lot dimensions, including all existing and proposed buildings and setbacks;
 - b. All public and private roads, interior roads, driveways and parking lots. Show traffic patterns and type of paving and surfacing material;
 - c. All natural and artificial water features, including but not limited to lakes, ponds, streams (including intermittent streams), and ditches. Show ordinary high-water marks of all navigable waters, 100-year flood elevations and delineated wetland boundaries, if any. If not available, appropriate flood zone determination or wetland delineation, or both, may be required at the applicant's expense;
 - d. Depth to bedrock;
 - e. Depth to seasonal high water table;
 - f. The extent and location of all soil types as described in the Dane County Soil Survey, slopes exceeding 12 percent, and areas of natural woodland or prairie;
 - g. Existing and proposed elevations (referenced to the North American Vertical Datum of 1988, where available) and existing and proposed contours in the area requiring a grading and filling permit;
 - h. Elevations, sections, profiles and details as needed to describe all natural and artificial features of the project;

- i. Soil erosion control and overland runoff control measures, including runoff calculations as appropriate;
 - j. Detailed construction schedule;
 - k. Copies of permits or permit applications required by any other governmental entities or agencies;
 - l. Any other information necessary to reasonably determine the location, nature and condition of any physical or environmental features;
 - m. Location of all stormwater management practices;
 - n. All existing and proposed drainage features;
 - o. The location and area of all proposed impervious surfaces; and
 - p. The limits and area of the disturbed area.
- (6) Engineered designs for all structural management practices;
- (7) A description of methods to control oil and grease or written justification for not providing such control;
- (8) If required under subsection (b)(6) of this section, a description and plans to control temperature of runoff;
- (9) A maintenance plan and schedule for all permanent stormwater management practices as recorded on the affidavit required in subsection 10-129(c)(4);
- (10) A summary of infiltration calculations including:
- a. Pre-developed infiltration volume;
 - b. Calculated infiltration volume goal;
 - c. Achieved post development infiltration volume.
- (b) *Stormwater management performance standards.* Proposed design, suggested location and phased implementation of effective, practicable stormwater management measures for plans shall be designed, engineered and implemented to achieve the following results:
- (1) *Sediment control.*
- a. For new development, design practices to retain soil particles greater than five microns on the site (80 percent reduction) resulting from a one-year 24-hour storm event (2.5 inches over a 24-hour duration), according to approved procedures and assuming no sediment resuspension;
 - b. For redevelopment resulting in exposed surface parking lots and associated traffic areas, design practices to retain soil particles greater than 20 microns on the entire site (40 percent reduction) resulting from a one-year 24-hour storm event, according to approved procedures and assuming no sediment resuspension. Under no circumstances shall the site's existing sediment control level or trapping efficiency be reduced as a result of the redevelopment.
- (2) *Oil and grease control.* For all stormwater plans for commercial or industrial developments and all other uses where the potential for pollution by oil or grease, or both, exists, the first 0.5 inch of runoff will be treated using the best oil and grease removal technology available. This requirement may be waived by the plan reviewer only when the applicant can demonstrate that installation of such practices is not necessary.
- (3) *Runoff rate control.*
- a. The maximum runoff curve number (RCN) used in such calculations shall be those shown in Table 1:

Table 1. Maximum Pre-development Runoff Curve Numbers				
Runoff Curve Number	Hydrologic Soil Group*			
	A	B	C	D
Woodland	<u>30</u>	55	<u>70</u>	77
Grassland	39	61	71	<u>78</u>
Cropland	51	68	<u>78</u>	83

*When dual HSG are specified, the drained condition shall be assumed

- b. *Runoff rate control—design standards.* Except for redevelopment projects, all stormwater facilities shall be designed, installed and maintained to effectively accomplish the following:
 - 1. Maintain predevelopment peak runoff rates for the one-year, 24-hour storm event (2.5 inches over 24-hour duration).
 - 2. Maintain predevelopment peak runoff rates for the two-year 24-hour storm event (2.9 inches over 24-hour duration).
 - 3. Maintain predevelopment peak runoff rates for the ten-year 24-hour storm event (4.2 inches over 24-hour duration).
 - 4. Safely pass the 100-year 24-hour storm event (6.0 inches over 24 hours' duration).
- (4) *Outlets.* Discharges from new construction sites must have a stable outlet capable of carrying designed flow as required in subsection (b) (3)b of this section, at a nonerosive velocity. Outlet design must consider flow capacity and flow duration. This requirement applies to both the site outlet and the ultimate outlet to stormwater conveyance or waterbody.
- (5) *Infiltration.*
- a. For both residential and nonresidential developments, design practices to infiltrate sufficient runoff volume so that post-development infiltration volume shall be at least 90 percent of the pre-development infiltration volume, based upon average annual rainfall.
 - b. The maximum runoff curve number (RCN) used in such calculations shall be those specified in subsection (b)(3)a Table 1.

- c. If, when designing appropriate infiltration systems, more than two percent of the site is required to be used as effective infiltration area, the applicant may alternately design infiltration systems and pervious surfaces to meet or exceed the annual pre-development recharge rate. The annual pre-development recharge rate shall be determined from the Wisconsin Geological and Natural History Survey's 2009 report, *Groundwater Recharge in Dane County, Estimated by a GIS-Based Water-Balanced Model* or subsequent updates to this report, or by a site specific analysis using other appropriate techniques. If this alternative design approach is taken, at least two percent of the site must be used for infiltration.
- d. *Pre-treatment.* Before infiltrating runoff, pre-treatment shall be required for parking lot runoff and for runoff from new road construction in commercial, industrial, and institutional areas that will enter an infiltration system. The pretreatment shall be designed to protect the infiltration system from clogging prior to scheduled maintenance and to protect groundwater quality.
- e. *Prohibitions.* Notwithstanding subparagraphs a. through c., infiltration systems may not be installed in any of the following areas:
 - 1. Areas associated with tier 1 industrial facilities identified in section NR 216.21(2)(a), Wis. Admin. Code, including storage, loading, rooftop and parking.
 - 2. Storage and loading areas of tier 2 industrial facilities identified in section NR 216.21(2)(b), Wis. Admin. Code.
 - 3. Fueling and vehicle maintenance areas.
 - 4. Areas within 1,000 feet up gradient or within 100 feet down gradient of direct conduits to groundwater.
 - 5. Separation distances. Infiltration practices shall be located so that the characteristics of the soil and the separation distance between the bottom of the infiltration system and the elevation of seasonal high groundwater or the top of bedrock are in accordance with Table 2:

Source Area	Separation Distance	Soil Characteristics
Industrial, Commercial, Institutional Parking Lots and Roads	5 Feet or More	Filtering Layer
Residential Arterial Roads	5 Feet or More	Filtering Layer
Roofs Draining to Subsurface Infiltration Practices	1 Foot or More	Native or Engineered Soil with Particles Finer than Coarse Sand
Roofs Draining to Surface Infiltration Practices	Not Applicable	
All Other Impervious Source Areas	3 Feet or More	Filtering Layer

- 6. Areas with runoff from industrial, commercial and institutional parking lots, roads and residential arterial roads with less than five feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock.
- 7. Areas within 400 feet of a community water system well as specified in section NR 811.16(4), Wis. Admin. Code, for runoff infiltrated from commercial, industrial and institutional land uses or regional devices for residential development.
- 8. Areas where contaminants of concern, as defined in section NR 720.03(2), Wis. Admin. Code, are present in the soil through which infiltration will occur.
- f. *Alternate use of runoff.* Where alternate uses of runoff are employed, such as for toilet flushing, laundry or irrigation, such alternate use shall be given equal credit toward the infiltration volume required by this section.
- g. *Minimizing groundwater pollution.* According to ch. NR 151, Wis. Admin. Code, infiltration systems designed in accordance with this section shall, to the extent technically and economically feasible, minimize the level of pollutants infiltrating to groundwater and shall maintain compliance with the preventive action limit at a point of standards application in accordance with ch. NR 140, Wis. Admin. Code. However, if site-specific information indicates that compliance with the preventive action limit is not achievable, the infiltration system may not be installed or shall be modified to prevent infiltration to the maximum extent practicable.
- (6) *Thermal control.* The stormwater management plan shall include provisions and practices to reduce the temperature of runoff for sites located within the watershed of a river or stream identified by the Wisconsin Department of Natural Resources as:
 - a. A cold water community as identified through NR 102.04(3)(a), NR104, Wis. Admin. Code, and Class I, Class II, and Class III trout streams identified in "Wisconsin Trout Streams," DNR publication PUB-FH-806-2002 or its successor.
 - b. Rivers or streams proposed by the Wisconsin state department of natural resources as cold water communities and Class I, II, and III trout streams.
- (7) *Thermal control continued.* The stormwater management plan does not have to meet the requirement in subsection (b)(6) of this section if the applicant can justify by use of a model approved by the Dane County conservationist that practices are not necessary because the temperature increase of runoff from the site post-development will be zero.
- (8) *Thermal control continued.* A current list and maps of affected watersheds shall be available for reference at the office of the local approval authority and/or the plan review agency.
- (c) *Stormwater management goals.* The following standards shall be met whenever possible, and proposed design, suggested location and implementation of practices to meet these goals shall be included in plans:
 - (1) For existing development, design practices to retain soil particles greater than 40 microns on the site (20 percent reduction) resulting from a one-year 24-hour storm event, according to approved procedures, and assuming no sediment resuspension.

- (2) For street reconstruction, design practices to retain soil particles greater than 20 microns on the site (40 percent reduction) resulting from a one-year 24-hour storm event, according to approved procedures, and assuming no sediment resuspension.

(Code 1986, § 20.10; Ord. No. 0-21-06, § 1, 5-9-2006; Ord. No. 0-01-07, § 1, 1-9-2007; Ord. No. 0-18-2013, § 4, 8-13-2013)

Sec. 10-132. - Off-site stormwater management.

Off-site stormwater management is allowed, provided that provisions are made to manage stormwater by an off-site facility, and provided that all of the following conditions for the off-site facility are met:

- (1) The facility is in place;
- (2) The facility is designed and adequately sized to provide a level of stormwater control that at least meets the requirement standards of this article; and
- (3) The local approval authority is satisfied that the facility has a legally obligated entity responsible for its long-term operation and maintenance.

(Code 1986, § 20.11; Ord. No. 0-21-06, § 1, 5-9-2006)

Sec. 10-133. - Technical standards and specifications.

The design of all best management practices designed to meet the requirements of this article shall comply with the following technical standards:

- (1) Natural Resources Conservation Service's "Wisconsin Field Office Technical Guide, Chapter 4" or its successor.
- (2) Applicable construction or erosion control standards by the Wisconsin Department of Natural Resources;
- (3) Any other technical methodology approved by the Dane County conservationist.

(Code 1986, § 20.12; Ord. No. 0-21-06, § 1, 5-9-2006)

Sec. 10-134. - Appeals and variances.

(a) *Appeals.*

- (1) Any person aggrieved by any decision of the local approval authority pursuant to this article may appeal to the public works committee. Such appeal shall be taken within 30 days after the challenged decision. Notice of appeal setting forth the specific grounds for the appeal shall be filed with the local approval authority and the city clerk. The zoning administrator shall provide to the public works committee the record upon which the action appealed from was taken.
- (2) The public works committee shall fix a reasonable time for the hearing of the appeal and publish a class 2 notice thereof under Wis. Stats. ch. 985, as well as give due notice to the parties in interest, and decide the appeal within a reasonable time. Upon the hearing, any party may appear in person or by agent or attorney.
- (3) The public works committee may, in conformity with the provisions of this article, reverse or affirm, wholly or partly, or modify the order, requirement, decision or determination appealed from and may make such order, requirement, decision or determination as ought to be made and shall have all the powers of the officer from whom the appeal is taken.
- (4) The concurring vote of a majority of the public works committee shall be necessary to reverse the decision of the local approval authority.

(b) *Variances.*

- (1) An applicant may include in the application a request for a variance from the requirements of [section 10-130](#) or [section 10-131](#). No variance shall be granted unless the applicant demonstrates and the local approval authority, after consultation with the Dane County conservationist, finds that all of the following conditions are present:
 - a. Enforcement of the standards set forth in this article will result in unnecessary hardship to the landowner;
 - b. The hardship is due to exceptional physical conditions unique to the property;
 - c. Granting the variance will not adversely affect the public health, safety or welfare, nor be contrary to the spirit, purpose and intent of this article;
 - d. The project will have no impact upon any of the stated purposes as set forth in [section 10-123](#)
 - e. The applicant has proposed an alternative to the requirement from which the variance is sought that will provide equivalent protection of the public health, safety and welfare, the environment and public and private property;
 - f. The net cumulative effect of the variance will not impact downstream conditions; and
 - g. Existing regional facilities are shown to meet the performance standards of this article.
- (2) If all of the conditions set forth in subsection (b)(1) of this section are met, a variance may only be granted to the minimum extent necessary to afford relief from the unnecessary hardship, with primary consideration to water quality and impact downstream conditions.
- (3) A variance from the provisions of subsections [10-131\(b\)\(1\)](#), [\(b\)\(2\)](#) and [\(b\)\(6\)](#) may only be granted if:
 - a. The applicant has met the requirements of subsection (b)(1) of this section; and
 - b. The applicant will be denied all reasonable and beneficial use of the property if the variance is denied.
- (4) A person aggrieved by a variance determination by the local approval authority may appeal the decision to the public works committee pursuant to subsection (a) of this section.
- (5) A person aggrieved by a decision of the public works committee regarding a variance may appeal that decision to the board of appeals.

(Code 1986, § 20.13; Ord. No. 0-21-06, § 1, 5-9-2006)

Sec. 10-135. - Permit fees.

- (a) The erosion control and stormwater management permit fee shall be \$200.00.
- (b) The fee for a preliminary review letter shall be \$200.00. If a preliminary approval letter has been obtained, the erosion control and stormwater management base fee shall be waived.

- (c) For sites required to obtain an erosion control permit under section 10-125, there shall be an additional fee of \$0.004 per square foot of disturbed area.
- (d) For sites required to obtain a stormwater control permit under section 10-126, there shall be an additional fee of \$0.005 per square foot of impervious area and \$0.0025 per square foot of redeveloped impervious area.
- (e) The common council authorizes city administrative staff to modify the permit and fee amounts listed in this erosion control and stormwater management ordinance on January 1 of each year following the adoption of this article, based upon the CPI-U for the Midwest Region, size "d" as prepared by the Federal Department of Labor, so long as the cumulative interim percentage of inflation warrants an increase of \$5.00 or more on a round dollar amount and an increase to the next whole cent on amounts expressed in hundredths of a dollar. These amounts may also be modified by future council action.
- (f) *Late filing fee.* When an applicant or landowner begins work requiring a permit before obtaining the permit or appropriate approvals, the fees shall be doubled.

(Code 1986, § 20.14; Ord. No. 0-21-06, § 1, 5-9-2006)

Sec. 10-136. - Prohibited stormwater discharge and connection.

- (a) *Purpose:* The purpose of this section is to provide for the health, safety, and general welfare of the citizens of the city and to protect waters of the state through the regulation of illicit discharges to the municipal separate storm sewer system as required by federal and state law. This section establishes methods for controlling the discharge of pollutants into the municipal separate storm sewer system owned or operated by the city in order to comply with the requirements of the Clean Water Act, Chapter 283.33, Wis. Stats., and the Wisconsin Pollutant Discharge Elimination System municipal storm water discharge permit program under Chapter NR 216, Wis. Adm. Code.

The objectives of this section are:

- (1) To regulate the contribution of pollutants to the municipal separate storm sewer system associated with discharges from any user of the municipal storm sewer system.
- (2) To prohibit illicit connections and discharges to the municipal separate storm sewer system.
- (3) To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this section.

- (b) *Definitions:* For the purposes of this section, the following definitions are applicable:

Authorized agency means employees or designees of the director or directors of the municipal agency or agencies of the city designated to administer or enforce this section.

Illicit connection means any drain or conveyance, whether on the surface or subsurface, which allows the discharge of sanitary waste to the municipal separate storm sewer and any connections to the municipal separate storm sewer system from indoor drains and sinks.

Illicit discharge means any discharge to the municipal separate storm sewer system that is not composed entirely of storm water except discharges with a Wisconsin Pollutant Discharge Elimination System permit or other discharges allowed locally.

Municipal separate storm sewer or MS4 means a conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets the following criteria:

- a. Owned or operated by the City of Stoughton.
- b. Designed or used for collecting or conveying stormwater.
- c. Which is not a combined sewer conveying both sanitary wastewater and stormwater.
- d. Which is not part of a publicly owned wastewater treatment works that provides secondary or more stringent treatment.

Non-stormwater discharge means any discharge to the municipal separate storm sewer system that is not composed entirely of stormwater.

Stormwater means surface runoff and drainage of rainfall and snow or ice melt.

Waters of the state means those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, water courses, drainage systems and other surface water or groundwater, natural or artificial, public or private, within the state or under its jurisdiction, except those waters which are entirely confined and retained completely upon the property of a person.

- (c) *Applicability and enforcement:* This section shall apply to all discharges to the MS4 and to all activities that can reasonably be expected to result in a discharge to the MS4. The city shall administer, implement, and enforce the provisions of this section. Any powers granted or duties imposed upon the authorized agency may be delegated in writing by the mayor to persons or entities acting in the beneficial interest of or in the employ of the city.
- (d) *Minimum standards:* The standards set forth herein and promulgated pursuant to this section are minimum standards; therefore, this section does not intend nor imply that compliance by any person will ensure that there will be no contamination, or pollution, nor unauthorized discharges.
- (e) *Discharge prohibitions:*
 - (1) *Prohibition of illicit discharges.* No person shall discharge or cause to be discharged into the MS4 or waters of the state located within the city any materials, including, but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater. The commencement, conduct or continuance of any illicit discharge to the MS4 is prohibited. The following non-stormwater discharges or flows are generally not considered illicit discharges if done in a non-polluting manner: water line flushing, landscape irrigation, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn

watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool water, street wash water and fire fighting.

(2) *Prohibition of illicit connections.*

- a. The construction, use maintenance or continued existence of illicit connections to the MS4 is prohibited.
 - b. This prohibition expressly includes, without limitation, the continued use of illicit connections made prior to the adoption of this section, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
 - c. A person is considered to be in violation of this section if the person connects a line conveying sanitary waste to the MS4, or allows such a connection to continue.
- (f) *Monitoring of discharges and access to facilities:* The authorized agency shall be permitted to enter and inspect private or public facilities, subject to regulation under this section, as often as may be necessary to determine compliance with this section. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the authorized agency.
- (g) *Notification of spills:* Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation, has information of any known or suspected release of materials which are resulting or may result in illicit discharges or pollutants discharging into stormwater, the MS4, or water of the state, said person shall take all necessary steps to ensure the discovery, containment and cleanup of such release. In the event of such a release that includes hazardous materials, said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release including only non-hazardous materials, said person shall notify the authorized agency in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the authorized agency within three business days of the phone notice.
- (h) *Enforcement:* It shall be unlawful for any person to violate any provision of this section. Any person who fails to comply with the provisions of this section shall forfeit no less than \$100.00 nor more than \$500.00 and also pay fees and disbursements incurred in the prosecution of such violations. Each and every day during which a violation continues shall constitute a separate offense. The city may also institute appropriate action or proceedings to enjoin violations of this section.
- (i) *Severability:* The provisions of this section are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this section or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this section.

(Ord. No. 0-23-08, § 1, 10-14-2008)

Secs. 10-137—10-160. - Reserved.

Chapter 58 - PUBLIC NUISANCES

Sec. 58-1. - Public nuisances prohibited.

No person shall erect, contrive, cause, continue, maintain or permit to exist any public nuisance within the city.

(Code 1986, § 10.01)

Sec. 58-2. - Public nuisance defined.

A public nuisance is a thing, act, occupation, condition or use of property which shall continue for such length of time as to:

- (1) Substantially annoy, injure or endanger the comfort, health, repose or safety of the public.
- (2) In any way render the public insecure in life or in the use of property.
- (3) Greatly offend the public morals or decency.
- (4) Unlawfully and substantially interfere with, obstruct, or tend to obstruct or render dangerous for passage any street, alley, highway, navigable body of water or other public way or the use of public property.

(Code 1986, § 10.02)

Cross reference— Definitions generally, § 1-2.

Sec. 58-3. - Penalty.

Any person who shall violate any provision of this chapter or permit or cause a public nuisance shall be subject to section 1-3.

(Code 1986, § 10.08)

Sec. 58-4. - Open cisterns, wells, basements or other dangerous excavations prohibited.

No person shall have or permit on any premises owned or occupied by him any open cisterns, cesspools, wells, unused basements, excavations or other dangerous openings. All such places shall be filled, securely covered or fenced in such manner as to prevent injury to any person and any cover shall be of a design, size and weight that the cover cannot be removed by small children.

(Code 1986, § 9.02(7))

Sec. 58-5. - Abandoned or unattended iceboxes, etc., prohibited.

No person shall leave or permit to remain outside of any dwelling, building or other structure or within any unoccupied or abandoned building, dwelling or other structure under his control in a place accessible to children, any abandoned, unattended or discarded icebox, refrigerator or other container which has an airtight door or lid, snap lock or other locking device which may not be released from the inside without first removing such door or lid, snap lock or other locking device from the icebox, refrigerator or other container unless it is displayed for sale on the premises of the owner or his agent and is securely locked or fastened.

(Code 1986, § 9.02(8))

Sec. 58-6. - Abatement of public nuisances.

(a) *Enforcement.* The chief of police, the chief of the fire department, the building inspector, and

public works superintendent or designee shall enforce those provisions of this chapter that come within the jurisdiction of their offices, and they shall make periodic inspections and inspections upon complaint to ensure that such provisions are not violated. No action shall be taken under this section to abate a public nuisance unless the officer shall have inspected or caused to be inspected the premises where the nuisance is alleged to exist and have satisfied himself that a nuisance does in fact exist.

- (b) *Summary abatement.* If the inspecting officer shall determine that a public nuisance exists within the city and that there is great and immediate danger to the public health, safety, peace, morals or decency, the mayor may direct the proper officer to cause the public nuisance to be abated and charge the costs thereof to the owner, occupant or person causing, permitting or maintaining the nuisance, as the case may be.
- (c) *Abatement after notice.* If the inspecting officer shall determine that a public nuisance exists on private premises but that the nature of such nuisance is not such as to threaten great and immediate danger to the public health, safety, peace, morals or decency, he shall serve notice on the person causing or maintaining the nuisance to remove the nuisance within five days from date of notice. Notice shall be by posting on property or by mail. If such nuisance is not removed within such five days, the proper officer shall cause the nuisances to be removed as provided in subsection (b) of this section.
- (d) *Other methods not excluded.* Nothing in this chapter shall be construed as prohibiting the abatement of public nuisances by the city or its officials in accordance with law.

(Code 1986, § 10.06; Ord. No. 0-4-2012, § 1, 3-27-2012)

Sec. 58-7. - Cost of abatement.

In addition to any other penalty imposed by this chapter for the erection, contrivance, creation, continuance or maintenance of a public nuisance, the cost of abating a public nuisance by the city shall be collected as a debt from the owner, occupant or person causing, permitting or maintaining the nuisance, and if notice to abate the nuisance has been given to the owner, such cost shall be assessed against the real estate as a special charge.

(Code 1986, § 10.07)

Sec. 58-8. - Public nuisances affecting health.

The following acts, omissions, places, conditions and things are specifically declared to be public health nuisances, but such enumeration shall not be construed to exclude other health nuisances coming within the definition of section 58-2:

- (1) *Adulterated food.* All decayed, harmfully adulterated or unwholesome food or drink sold or offered for sale to the public.
- (2) *Unburied carcasses.*
 - a. *Nonhuman consumption.* Carcasses of animals, birds or fowl not intended for human consumption or food which are not buried or otherwise disposed of in a sanitary manner within 24 hours after death.
 - b. *Human consumption.* Dead animal carcasses intended for human consumption shall be removed within 96 hours of hanging and, to the extent possible, the carcasses shall be hung in a manner to minimize public view.
- (3) *Breeding places for vermin, etc.* Accumulations of decayed animal or vegetable matter, trash,

rubbish, rotting lumber, bedding, packing material, scrap metal or any material whatsoever in which flies, mosquitoes, disease-carrying insects, rats or other vermin may breed.

- (4) *Stagnant water.* All stagnant water in which mosquitoes, flies or other insects can multiply.
- (5) *Privy vaults and garbage cans.* Privy vaults and garbage cans which are not flytight.
- (6) *Noxious weeds.* All noxious weeds and other rank growth of vegetation. All grass and non-noxious weeds shall be maintained to a height not to exceed one foot. Undeveloped lots shall only be required to meet this requirement within ten feet of the street property lines (including terrace areas) and property lines of adjacent developed parcels. The exception to this requirement is natural lawns, which are designed and purposely cultivated to exceed one foot in height and specifically include common species of grasses and wild flowers native to North America.
- (7) *Water pollution.* The pollution of any public well or cistern, stream, lake, canal or other body of water by sewage, creamery or industrial wastes or other substances.
- (8) *Noxious odors, etc.* Any use of property, substances or things within the city emitting or causing any foul, offensive, noisome, nauseous, noxious or disagreeable odors, gases, effluvia or stenches extremely repulsive to the physical senses of ordinary persons which annoy, discomfort, injure or inconvenience the health of any appreciable number of persons within the city.
- (9) *Street pollution.* Any use of property which shall cause any nauseous or unwholesome liquid or substance to flow into or upon any street, gutter, alley, sidewalk or public place within the city.
- (10) *Storage of junk, etc.* The open storage of junk, refuse, litter, garbage and scrap or waste matter.
- (11) Reserved.
- (12) *Animal defecation.* All excreted animal feces which is not removed immediately and properly disposed of by burial or other suitable sanitary means by the person owning or having control of such animal.

(Code 1986, § 10.03; Ord. No. 0-20-10, § 1, 11-9-2010; Ord. No. 0-11-2013, 6-11-2013)

Sec. 58-9. - Public nuisances offending morals and decency.

The following acts, omissions, places, conditions and things are specifically declared to be public nuisances offending public morals and decency, but such enumeration shall not be construed to exclude other nuisances offending public morals and decency coming within the definition of section 58-2:

- (1) *Disorderly houses.* All disorderly houses, bawdy houses, houses of ill fame, gambling houses and buildings or structures kept or resorted to for the purpose of prostitution, promiscuous sexual intercourse or gambling.
- (2) *Unlicensed sale of liquor and beer.* All places where intoxicating liquor or fermented malt beverages are sold, possessed, stored, brewed, bottled, manufactured or rectified without a permit or license as provided for by chapter 14
- (3) *Continuous violation of city ordinances.* Any place or premises within the city where city ordinances or laws relating to public health, safety, peace, morals or welfare are openly, continuously, repeatedly and intentionally violated.

(Code 1986, § 10.04)

Sec. 58-10. - Public nuisances affecting peace and safety.

The following acts, omissions, places, conditions and things are declared to be public nuisances affecting peace and safety, but such enumeration shall not be construed to exclude other nuisances affecting public peace or safety coming within the definition of section 58-2:

- (1) *Signs, billboards, etc.* All signs and billboards, awnings and other similar structures over or near streets, sidewalks, public grounds or places frequented by the public so situated or constructed as to endanger the public safety.
- (2) *Illegal buildings.* All buildings erected, repaired or altered in violation of the provisions of chapter 10 relating to materials and manner of construction of buildings and structures within the city.
- (3) *Unauthorized traffic signs.* All unauthorized signs, signals, markings or devices placed or maintained upon or in view of any public highway or railway crossing which purport to be or may be mistaken as an official traffic control device, railroad sign or signal or which because of its color, location, brilliance or manner of operation interferes with the effectiveness of any such device, sign or signal.
- (4) *Obstruction of intersections.* All trees, hedges, billboards or other obstructions which prevent persons driving vehicles on public streets, alleys or highways from obtaining a clear view of traffic when approaching an intersection or pedestrian crosswalk.
- (5) *Tree limbs.* All limbs of trees which project over a public sidewalk which are less than nine feet or which are less than 14 feet above the surface of the street.
- (6) *Shrubs.* All shrubs or plantings adjacent to sidewalks which encroach the sidewalk.
- (7) *Hazardous trees.* All trees which are a menace to the public safety or are the cause of substantial annoyance to the general public.
- (8) *Dilapidated buildings.* All buildings or structures so old, dilapidated or out of repair as to be dangerous, unsafe, unsanitary or otherwise unfit for human use.
- (9) *Wires over streets.* All wires over streets, alleys or public grounds which are strung less than 15 feet above the surface thereof.
- (10) *Obstructions of streets and excavations.* All obstructions of streets, alleys, sidewalks or crosswalks and all excavations in or under the streets, alleys, sidewalks or crosswalks, except as permitted by ordinance or which, although made in accordance with such ordinances, are kept or maintained for an unreasonable or illegal length of time after the purpose thereof has been accomplished or do not conform to the permit.
- (11) *Unlawful assembly.* Any unauthorized or unlawful use of property abutting on a public street, alley or sidewalk or of a public street, alley or sidewalk which causes large crowds of people to gather, obstructing traffic and free use of the streets or sidewalks.
- (12) *Flammable liquids.* Repeated or continuous violations of ordinance or law relating to the storage of flammable liquids.
- (13) *Unsafe sidewalks.* The allowing of rainwater, ice or snow to fall from a building or structure upon a sidewalk without taking precautions to safeguard the public in using such sidewalks.
- (14) *Barbed wire fences.* Barbed wire fences located within three feet of a public sidewalk.

(Code 1986, § 10.05; Ord. No. 0-5-2012, § 1, 3-27-2012)