



**STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES**

**GENERAL PERMIT TO DISCHARGE UNDER THE
WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM
WPDES PERMIT NO. WI-S050075-1**

In compliance with the provisions of ch. 283, Wis. Stats., and chs. NR 151 and 216, Wis. Adm. Code, owners and operators of municipal separate storm sewer systems are permitted to discharge storm water from all portions of the

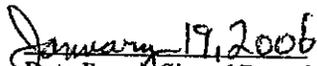
MUNICIPAL SEPARATE STORM SEWER SYSTEM

owned or operated by the municipality to waters of the state in accordance with the conditions set forth in this permit.

The Start Date of coverage under this permit shall be included in the Department letter sent to the municipality authorizing coverage under this general permit. The Department is required to charge an annual permit fee to owners and operators authorized to discharge under this permit in accordance with s. NR 216.08, Wis. Adm. Code.

State of Wisconsin Department of Natural Resources
For the Secretary

By 
Russell A. Rasmussen, Director
Bureau of Watershed Management
Division of Water


Date Permit Signed/Issued

PERMIT EFFECTIVE DATE: Jan. 19, 2006

EXPIRATION DATE: Dec. 31, 2010

TABLE OF CONTENTS

	PAGE
1. APPLICABILITY CRITERIA	
1.1 Permitted area	3
1.2 Authorized Discharges	3
1.3 Water Quality Standards	3
1.4 Outstanding and Exceptional Resource Waters	3
1.5 Impaired Water Bodies and Total Maximum Daily Load Requirements	4
1.6 Wetlands	5
1.7 Endangered and Threatened Resources	5
1.8 Historic Property	5
1.9 General Storm Water Discharge Limitations	5
1.10 Obtaining Permit Coverage	5
1.11 Public Access to Information including Notice of Intent	6
1.12 Public Comment and Request for Public Hearing on Notices of Intent	6
1.13 Transfers	6
1.14 Exclusions	6
2. PERMIT CONDITIONS	
2.1 Public Education and Outreach	7
2.2 Public Involvement and Participation	8
2.3 Illicit Discharge Detection and Elimination	8
2.4 Construction Site Pollutant Control	10
2.5 Post-Construction Storm Water Management	11
2.6 Pollution Prevention	12
2.7 Storm Water Quality Management	13
2.8 Storm Sewer System Map	14
2.9 Annual Report	14
2.10 Cooperation	15
3. COMPLIANCE SCHEDULE	15
4. STANDARD CONDITIONS	19
5. DEFINITIONS	22

1. APPLICABILITY CRITERIA

1.1 Permitted Area

This permit covers all areas under the ownership, control or jurisdiction of the permittee that contribute to discharges from a "municipal separate storm sewer system" or "MS4" that receives runoff from any of the following:

1.1.1 An "urbanized area", adjacent developing areas and areas whose runoff will connect to a municipal separate storm sewer regulated under subch. I of NR 216; or

1.1.2 An area associated with a municipal population of 10,000 or more and a population density of 1,000 or more per square mile, adjacent developing areas and areas whose runoff will connect to a MS4 regulated under subch. I of NR 216; or

1.1.3 An area that drains to a MS4 that is designated for permit coverage pursuant to s. NR 216.02(2) or 216.025, Wis. Adm. Code.

Note: "MS4" and "urbanized area" are defined in section 5 of this permit.

1.2 Authorized Discharges

This permit authorizes storm water point source discharges from the MS4 to waters of the state in the permitted area. This permit also authorizes the discharge of storm water co-mingled with flows contributed by process wastewater, non-process wastewater, and storm water associated with industrial activity, provided the discharges are regulated by other WPDES permits or are discharges which are not considered illicit discharges.

1.3 Water Quality Standards

1.3.1 This permit specifies the conditions under which storm water may be discharged to waters of the state for the purpose of achieving water quality standards contained in chs. NR 102 through 105 and NR 140, Wis. Adm. Code. For the term of this permit, compliance with water quality standards will be addressed by adherence to general narrative-type storm water discharge limitations and implementation of storm water management programs and practices.

1.3.2 This permit does not authorize water discharges that the Department, prior to authorization of coverage under this permit, determines will cause or have reasonable potential to cause or contribute to an excursion above any applicable water quality standards. Where such determinations have been made prior to authorization, the Department may notify the municipality that an individual permit application is necessary. However, the Department may authorize coverage under this permit where the storm water management programs required under this permit will include appropriate controls and implementation procedures designed to bring the storm water discharge into compliance with water quality standards.

1.4 Outstanding and Exceptional Resource Waters

1.4.1 The permittee shall determine whether any part of its MS4 discharges to an outstanding resource water (ORW) or exceptional resource water (ERW). ORWs and ERWs are listed in ss. NR 102.10 and 102.11, Wis. Adm. Code. An unofficial list of ORWs and ERWs may be found on the Department's Internet site at: <http://dnr.wi.gov/org/water/wm/wqs/>.

1.4.2 The permittee may not establish a new MS4 discharge of pollutants to an outstanding resource water (ORW) or an exceptional resource water (ERW) unless the storm water management programs required under this permit are designed to ensure that any new MS4 discharge of pollutants to an ORW or ERW will not exceed background levels within the ORW or ERW.

1.4.2.1 "New MS4 discharge of pollutants" means an MS4 discharge that would first occur after the permittee's start date of coverage under this permit to a surface water to which the MS4 did not previously discharge storm water, and does not include an increase in an MS4's discharge to a surface water to which the MS4 discharged on or before coverage under this permit.

1.4.3 If the permittee has an existing MS4 discharge to an ERW, it may increase the discharge of pollutants if the increased discharge would not result in a violation of water quality standards.

1.4.4 If the permittee has an existing MS4 discharge to an ORW, it may increase the discharge of pollutants provided all of the following are met:

1.4.4.1 The pollutant concentration within the receiving water and under the influence of the existing discharge would not increase as compared to the level that existed prior to coverage under this permit.

1.4.4.2 The increased discharge would not result in a violation of water quality standards.

1.5 Impaired Water Bodies and Total Maximum Daily Load Requirements

1.5.1 The permittee shall determine whether any part of its MS4 discharges to an impaired water body listed in accordance with section 303(d)(1) of the federal Clean Water Act, 33 USC §1313(d)(1)(C), and the implementing regulation of the US Environmental Protection Agency, 40 CFR §130.7(c)(1). Impaired waters are those that are not meeting applicable water quality standards. A list of Wisconsin impaired water bodies may be found on the Department's Internet site at: <http://dnr.wi.gov/org/water/wm/wqs/303d/303d.html>.

1.5.2 If the permittee's MS4 discharges to an impaired water body, the permittee shall include a written section in its storm water management program that discusses the management practices and control measures it will implement as part of its program to reduce, with the goal of eliminating, the discharge of pollutant(s) of concern that contribute to the impairment of the water body. This section of the permittee's program shall specifically identify control measures and practices that will collectively be used to try to eliminate the MS4's discharge of pollutant(s) of concern that contribute to the impairment of the water body and explain why these control measures and practices were chosen as opposed to other alternatives. Pollutant(s) of concern means a pollutant that is causing impairment of a water body.

1.5.3 After the permittee's start date of coverage under this permit, the permittee may not establish a new MS4 discharge of a pollutant of concern to an impaired water body or increase the discharge of a pollutant of concern to an impaired water body unless the new or increased discharge causes the receiving water to meet applicable water quality standards, or the Department has approved a total maximum daily load (TMDL) for the impaired water body.

1.5.4 The permittee shall determine whether its MS4 discharges to an impaired water body for which the Department has approved a TMDL. If so, the permittee shall assess whether the TMDL wasteload allocation for the MS4 is being met through the existing storm water management controls or whether additional control measures are necessary. The permittee's assessment of whether the TMDL wasteload allocation is being met shall focus on the adequacy of the permittee's storm water controls (implementation and maintenance). Approved TMDLs are listed on the Department Internet site at:
<http://dnr.wi.gov/org/water/wm/wqs/303d/index.html>.

1.5.5 The storm water management program developed under section 2 of this permit shall be revised as necessary to achieve and maintain compliance with any Department approved-TMDL wasteload allocation for an impaired water to which the MS4 discharges. The redesigned storm water management programs shall be implemented as soon as possible.

1.6 Wetlands

The permittee's MS4 discharge shall comply with the wetland water quality standards provisions in ch. NR 103, Wis. Adm. Code.

1.7 Endangered and Threatened Resources

The permittee's MS4 discharge shall comply with the endangered and threatened resource protection requirements of s. 29.604, Wis. Stats., and ch. NR 27, Wis. Adm. Code.

1.8 Historic Property

The permittee's MS4 discharge may not affect any historic property that is listed property, or on the inventory or on the list of locally designated historic places under s. 44.45, Wis. Stats., unless the Department determines that the MS4 discharge will not have an adverse effect on any historic property pursuant to s. 44.40 (3), Wis. Stats.

1.9 General Storm Water Discharge Limitations

The permittee may not discharge the following substances from the MS4 in amounts that have an unreasonable effect on receiving water quality or aquatic life:

1. Solids that may settle to form putrescence or otherwise objectionable sludge deposits.
2. Oil, grease, and other floating material that form noticeable accumulations of debris, scum, foam, or sheen.
3. Color or odor that is unnatural and to such a degree as to create a nuisance.
4. Toxic substances in amounts harmful to aquatic life, wildlife, or humans.
5. Nutrients conducive to the excessive growth of aquatic plants and algae to the extent that such growth is detrimental to desirable forms of aquatic life, creates conditions that are unsightly, or is a nuisance.
6. Any other substances that may impair, or threaten to impair, beneficial uses of the receiving water.

1.10 Obtaining Permit Coverage

1.10.1 In order to obtain coverage under this permit, the owner or operator of an MS4 shall submit a complete Notice of Intent (NOI) to the Department. The Department will make an NOI form available on its Internet site or a copy may be obtained by contacting the storm water

program at (608) 267-7694. The NOI shall be mailed to Wisconsin DNR, Storm Water Program – WT/2, PO Box 7921, Madison, WI 53707-7921 or as otherwise directed by the Department.

1.10.2 Coverage under this permit does not become effective until the Department sends the owner or operator a letter expressly authorizing coverage under this permit.

1.11 Public Access to Information including Notices of Intent

The Department will list on its storm water Internet site, for a period of at least 30 days, the NOIs that are received by the Department requesting coverage under this permit. This list will be accessible via: <http://dnr.wi.gov/org/water/wm/nps/stormwater/muni.htm>. Official Department records for individual municipalities are typically maintained in the office of the Department's regional storm water contact. To gain access to facility records, you should contact the appropriate regional contact, who is listed at: <http://dnr.wi.gov/org/water/wm/nps/stormwater/contact>. Or you may contact the Department's storm water program coordinator for assistance at (608) 267-7694.

1.12 Public Comment and Request for Public Hearing on Notices of Intent

All written comments received by the Department within 30 days of the NOI being initially listed on the Internet site will be considered along with the NOI and any other information on file to determine if coverage under this permit is appropriate. A public informational hearing may also be held if significant public interest is expressed. Requests for a public informational hearing must be filed within 30 days of the NOI being initially listed on the Department's Internet site, and must indicate the interest of the party filing the request and the reasons why a hearing is warranted. Comments and requests for public hearing must be mailed to: Wisconsin DNR, Storm Water Program – WT/2, P.O. Box 7921, Madison, WI 53707. The Department will evaluate comments and requests for public hearing to determine if there is sufficient interest to hold a public hearing prior to authorizing coverage under this permit.

1.13 Transfers

Coverage under this permit is not transferable to another municipality without the express written approval of the Department. If the permittee's MS4 is annexed into another municipality, the permittee shall immediately notify the Department by letter of such change. If the permittee ceases to own or operate any MS4 regulated under this permit, the Department may terminate its coverage under this permit.

1.14 Exclusions

The following are excluded from coverage (i.e. are not authorized) under this permit:

1.14.1 Combined Sewer and Sanitary Sewer Systems

Discharges of water from a sanitary sewer or a combined sewer system conveying both sanitary and storm water. These discharges are regulated under s. 283.31, Wis. Stats, and require an individual permit.

1.14.2 Agricultural Facilities and Practices

Discharges from "agricultural facilities" and "agricultural practices". "Agricultural facility" means a structure associated with an agricultural practice. "Agricultural practice" means beekeeping; commercial feedlots; dairying; egg production; floriculture; fish or fur farming; grazing; livestock raising; orchards; poultry raising; raising of grain, grass, mint and seed crops; raising of fruits, nuts and berries; sod farming; placing land in federal programs in return for payments in kind; owning land, at least 35 acres of which is enrolled in the conservation reserve

program under 16 USC 3831 to 3836; and vegetable raising.

1.14.3 Other Excluded Discharges

Storm water discharges from industrial operations or land disturbing construction activities that require separate coverage under a WPDES permit pursuant to subchs. II or III of ch. NR 216, Wis. Adm. Code. For example, while storm water from industrial or construction activity may discharge from an MS4, this permit does not satisfy the need to obtain any other permits for those discharges. This exclusion does not apply to the permittee's responsibility to regulate construction sites within its jurisdiction in accordance with sections 2.4 and 2.5 of this permit.

1.14.4 Indian Country

Storm water discharges within Indian Country. The federal Clean Water Act requires that owners and operators of storm water discharges within Indian Country in Wisconsin to obtain permit coverage directly from the United States Environmental Protection Agency.

1.14.5 Non-MS4 Discharge

Storm water discharges that do not enter an MS4.

2. PERMIT CONDITIONS

The permittee shall establish written, measurable goals for achieving compliance with the programs developed under sections 2.1 through 2.6 in accordance with the compliance schedule contained in section 3 of this permit. The following permit conditions apply to the permittee, unless the Department issues a written determination that a condition is not appropriate under the circumstances. For example, where the permittee owns all of the land that drains to its MS4, it may be unnecessary to develop erosion control and storm water management ordinances since they are used to enforce against other landowners of construction and post-construction sites.

2.1 Public Education and Outreach

The permittee shall implement a public education and outreach program to increase the awareness of storm water pollution impacts on waters of the state to encourage changes in public behavior to reduce such impacts. The program shall establish measurable goals and, at a minimum, include the following elements:

2.1.1 Promote detection and elimination of illicit discharges and water quality impacts associated with such discharges from municipal separate storm sewer systems.

2.1.2 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.

2.1.3 Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides.

2.1.4 Promote the management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance the ecological value of waterways.

2.1.5 Promote infiltration of residential storm water runoff from rooftop downspouts, driveways and sidewalks.

2.1.6 Inform and where appropriate educate those responsible for the design, installation, and maintenance of construction site erosion control practices and storm water management facilities on how to design, install and maintain the practices.

2.1.7 Identify businesses and activities that may pose a storm water contamination concern, and where appropriate, educate specific audiences on methods of storm water pollution prevention.

2.1.8 Promote environmentally sensitive land development designs by developers and designers.

2.2 Public Involvement and Participation

The permittee shall implement a program to notify the public of activities required by this permit and to encourage input and participation from the public regarding these activities. This program shall include measurable goals for public involvement and participation and comply with applicable state and local public notice requirements.

2.3 Illicit Discharge Detection and Elimination

The permittee shall develop, implement and enforce a program to detect and remove illicit connections and discharges to the MS4. The program shall include measurable goals and include all of the following:

2.3.1 An ordinance or other regulatory mechanism to prevent and eliminate illicit discharges and connections to the MS4. At a minimum, the ordinance or other regulatory mechanism shall:

2.3.1.1 Prohibit the discharge, spilling or dumping of non-storm water substances or materials into waters of the state or the MS4.

2.3.1.2 Identify non-storm water discharges or flows that are not considered illicit discharges. Non-storm water discharges that are not considered illicit discharges include 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, fire fighting and discharges authorized under a WPDES permit unless identified by the permittee as significant source of pollutants to waters of the state.

2.3.1.3 Establish inspection and enforcement authority.

Note: Chapter NR 815, Wis. Adm. Code, regulates injection wells including storm water injection wells. Construction or use of a well to dispose of storm water directly into groundwater is prohibited under s. NR 815.11(5), Wis. Adm. Code.

2.3.2 Initial field screening at all major outfalls during dry weather periods. At a minimum, field screening shall be documented and include:

2.3.2.1 Visual Observation - A narrative description of visual observations including color, odor, turbidity, oil sheen or surface scum, flow rate and any other relevant observations

regarding the potential presence of non-storm water discharges or illicit dumping.

2.3.2.2 Field Analysis - If flow is observed, a field analysis shall be conducted to determine the presence of illicit non-storm water discharges or illicit dumping. The field analysis shall include sampling for pH, total chlorine, total copper, total phenol and detergents, unless the permittee elects instead to use detergent, ammonia, potassium and fluoride as the indicator parameters. Other alternative indicator parameters may be authorized by the Department in writing.

Note: Detergent, ammonia, potassium and fluoride indicator parameters provide a better screening tool to identify whether the flow is contaminated with sanitary or wastewater, and also whether the source is a tap water or a natural source of water. The Center for Watershed Protection (CWP) has illicit discharge identification and elimination guidance available at http://www.cwp.org/idde_verify.htm. The CWP guidance includes illicit discharge field sampling guidance developed by Robert Pitt from the University of Alabama on how best to detect illicit discharges including recommended indicator parameters and associated levels of detection.

2.3.2.2.1 Field screening points shall, where possible, be located downstream of any source of suspected illicit activity.

2.3.2.2.2 Field screening points shall be located where practicable at the farthest manhole or other accessible location downstream in the system. Safety of personnel and accessibility of the location shall be considered in making this determination.

2.3.3 On-going dry weather field screening of outfalls during the term of the permit. Outfalls that will be evaluated on an on-going basis and the field screening frequency shall be identified. Consideration shall be given to hydrological conditions, total drainage area of the site, population density of the site, traffic density, age of the structures or buildings in the area, history of the area and land use types. A description of this on-going field screening program shall be submitted to the Department in accordance with section 3.3.4.

2.3.4 Procedures for responding to known or suspected illicit discharges. At a minimum, procedures shall be established for:

2.3.4.1 As soon as possible, investigating portions of the MS4 that, based on the results of field screening or other information, indicate a reasonable potential for containing illicit discharges or other sources of non-storm water discharges.

2.3.4.2 Responding to spills that discharge into and/or from the MS4 including tracking and locating the source of the spill if unknown.

2.3.4.3 Preventing and containing spills that may discharge into or are already within the MS4.

2.3.4.4 Notifying the Department immediately in accordance with ch. NR 706, Wis. Adm. Code, in the event that the permittee identifies a spill or release of a hazardous substance, which has resulted or may result in the discharge of pollutants into waters of the state. The Department shall be notified via the 24-hour toll free spill hotline at 1-800-943-0003. The

permittee shall cooperate with the Department in efforts to investigate and prevent such discharges from polluting waters of the state.

2.3.4.5 To the maximum extent practicable, eliminating leakage from sanitary conveyance systems into the MS4.

2.3.4.6 Providing the Department with advance notice of the time and location of dye testing within a MS4. (Because the dye may get reported to the Department as an illicit discharge or spill, the Department requires prior notification of dye testing.)

2.3.5 The permittee shall take appropriate action to remove illicit discharges from its MS4 system as soon as possible. If it will take more than 30 days to remove an illicit connection, the Department shall be contacted to discuss an appropriate action and/or timeframe for removal.

2.3.6 In the case of an illicit discharge that originates from the permittee's permitted area and that discharges directly to a municipal separate storm sewer or property under the jurisdiction of another municipality, the permittee shall notify the affected municipality within one working day.

2.3.7 The name, title and phone number of the individual(s) responsible for responding to reports of illicit discharges and spills shall be included in the illicit discharge response procedure and submitted to the Department in accordance with section 3.3.2.

2.4 Construction Site Pollutant Control

Each permittee shall develop, implement and enforce a program to reduce the discharge of sediment and construction materials from construction sites. The program shall establish measurable goals and include:

2.4.1 An ordinance or other regulatory mechanism to require erosion and sediment control at construction sites and establish sanctions to ensure compliance. Note that Appendix A of ch. NR 152, Wis. Adm. Code, contains a construction site model ordinance. At a minimum, the ordinance or other regulatory mechanism shall establish or include:

2.4.1.1 Applicability and jurisdiction.

2.4.1.1.1 It shall apply to all construction sites with one acre or more of land disturbance, and to sites of less than one acre if they are part of a larger common plan of development or sale under the jurisdiction of the permittee.

2.4.1.1.2 It does not have to apply to construction sites that are listed under s. NR 216.42(2) to (11), Wis. Adm. Code, except that it shall apply to construction sites listed under s. NR 216.42 (4) and (9) where erosion control authority has been delegated to the permittee by the Wisconsin Department of Commerce.

2.4.1.1.3 If the permittee is a city, village, county or town and does not have authority from the Wisconsin Department of Commerce (Commerce) to regulate erosion control at public buildings and places of employment, the permittee shall request such authority from Commerce pursuant to s. 101.1205(4), Wis. Stats., **within 18 months after the start date**. If Commerce delegates to the permittee the authority to regulate erosion control at public buildings and places of employment, the permittee shall exercise such

authority as soon as possible.

2.4.1.2 Erosion and sediment control criteria, standards and specifications equivalent to those approved by the Department. Department erosion and sediment control standards are available through the Department's storm water Internet site at:
<http://dnr.wi.gov/org/water/wm/nps/stormwater.htm>.

2.4.1.3 Construction site performance standards equivalent to or more restrictive than those in ss. NR 151.11 and 151.23, Wis. Adm. Code.

2.4.1.4 Erosion and sediment control plan requirements for landowners of construction sites equivalent to those contained in s. NR 216.46, Wis. Adm. Code.

2.4.1.5 Inspection and enforcement authority.

2.4.1.6 Requirements for construction site operators to manage waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site so as to reduce adverse impacts to waters of the state.

2.4.2 Procedures for construction site inspection and enforcement of erosion and sediment control measures. At a minimum, the procedures shall establish:

2.4.2.1 Municipal departments or staff responsible for construction site inspections and enforcement.

2.4.2.2 Construction site inspection frequency.

2.4.2.3 Construction site inspection documentation.

2.4.2.4 Enforcement mechanisms that will be used to obtain compliance.

2.4.3 Procedures for receipt and consideration of information submitted by the public.

Note: A town may demonstrate to the Department that an adequate county ordinance that meets the requirements of this permit is administered and enforced within its town and then the town could be excused from having to adopt its own ordinance.

2.5 Post-Construction Storm Water Management

The permittee shall develop, implement and enforce a program to require control of the quality of discharges from areas of new development and redevelopment, after construction is completed. The program shall establish measurable goals and include:

2.5.1 An ordinance or other regulatory mechanism to regulate post-construction storm water discharges from new development and redevelopment. Note that Appendix B of ch. NR 152, Wis. Adm. Code, contains a post-construction site model ordinance. At a minimum, the ordinance or other regulatory mechanism shall establish or include:

2.5.1.1 Applicability and jurisdiction that shall apply to construction sites with one acre or more of land disturbance, and sites of less than one acre if they are part of a larger common

plan of development or sale under the jurisdiction of the permittee.

2.5.1.2 Design criteria, standards and specifications equivalent to technical standards or the Wisconsin Storm Water Manual approved by the Department. The Department-approved technical standards shall take precedence over the Wisconsin Storm Water Manual. The Department-approved technical standards and the Wisconsin Storm Water Manual are available at <http://dnr.wi.gov/org/water/wm/nps/stormwater/techstds.htm>.

2.5.1.3 Post-construction performance standards equivalent to or more restrictive than those in ss. NR 151.12 and 151.24, Wis. Adm. Code.

2.5.1.4 Storm water plan requirements for landowners of construction sites equivalent to those contained in s. NR 216.47, Wis. Adm. Code.

2.5.1.5 Long-term maintenance requirements for landowners and other persons responsible for long-term maintenance of post-construction storm water control measures.

2.5.1.6 Inspection and enforcement authority.

2.5.2 Procedures that will be used by the permittee to ensure the long-term maintenance of storm water management facilities.

Note: A town may demonstrate to the Department that an adequate county ordinance that meets the requirements of this permit is administered and enforced within its town and then the town could be excused from having to adopt its own ordinance.

2.6 Pollution Prevention

Each permittee shall develop and implement a pollution prevention program that establishes measurable goals for pollution prevention. The program shall include:

2.6.1 Routine inspection and maintenance of municipally owned or operated structural storm water management facilities to maintain their pollutant removal operating efficiency.

2.6.2 Routine street sweeping and cleaning of catch basins with sumps where appropriate.

2.6.3 Proper disposal of street sweeping and catch basin cleaning waste.

2.6.4 If road salt or other deicers are applied by the permittee, no more shall be applied than necessary to maintain public safety.

Note: The DOT "Highway Maintenance Manual", chapter 35, contains guidance on application of road salt and other deicers that can be used to determine whether not application is necessary and what application rate is appropriate for deicing and ice prevention. This information is held on a secured server and users must first register with the state of Wisconsin to obtain an ID and password. You can learn more about getting connected to this secured server at: <http://www.dot.wisconsin.gov/business/extranet/>. The Wisconsin Department of Transportation (DOT) highway salt storage requirements are contained in ch. Trans 277, Wis. Adm. Code.

2.6.5 Proper management of leaves and grass clippings, which may include on-site beneficial

reuse as opposed to collection.

2.6.6 Storm water pollution prevention planning for municipal garages, storage areas and other sources of storm water pollution from municipal facilities.

2.6.7 Application of lawn and garden fertilizers on municipally controlled properties, with pervious surfaces over 5 acres each, in accordance with a site-specific nutrient application schedule based on appropriate soil tests.

2.6.8 Education of appropriate municipal and other personnel involved in implementing this program.

2.6.9 Measures to reduce municipal sources of storm water contamination within source water protection areas. Wisconsin's source water assessment program information is available at: <http://www.dnr.state.wi.us/org/water/dwg/swap/index.htm>.

2.7 Storm Water Quality Management

The permittee shall develop and implement a municipal storm water management program. This program shall achieve compliance with the developed urban area performance standards of s. NR 151.13(2), Wis. Adm. Code, for those areas of the municipality that were not subject to the post-construction performance standards of s. NR 151.12 or 151.24. The program shall include:

2.7.1 To the maximum extent practicable, implementation of storm water management practices necessary to achieve a 20% reduction in the annual average mass of total suspended solids discharging from the MS4 to surface waters of the state as compared to implementing no storm water management controls, by March 10, 2008. The permittee may elect to meet the 20% total suspended solids standard on a watershed or regional basis by working with other permittee(s) to provide regional treatment that collectively meets the standard.

Note: Pursuant to s. NR 151.13(2), Wis. Adm. Code, the total suspended solids reduction requirement increases to 40% by March 10, 2013. The 20% and 40% total suspended solids reduction requirements are applied to runoff from areas of urban land use and are not applicable to agricultural or rural land uses and associated roads. Additional MS4 modeling guidance for modeling the total suspended solids control is given on the Department's Internet site at: <http://dnr.wi.gov/org/water/wm/nps/stormwater/techstds.htm>.

2.7.2 Evaluation of all municipal owned or operated structural flood control facilities to determine the feasibility of retrofitting to increase total suspended solids removal from runoff.

2.7.3 Assessment of compliance with s. NR 151.13(2), Wis. Adm. Code, by conducting a pollutant-loading analysis using a model such as SLAMM, P8 or equivalent methodology approved by the Department. At a minimum, the average annual total suspended solids and phosphorus loads to the MS4 shall be determined for the cumulative discharge from all outfalls for the controls and no controls conditions. For purposes of evaluating the modeling, pollutant loads from grouped drainage areas as modeled shall be reported. The modeling shall calculate the theoretical annual average mass of total suspended solids generated for the entire area served by a MS4 within the permittee's jurisdiction with no controls or BMPs applied. Modeling to reflect the current state of controls and BMPs shall be judged against the no controls condition to determine the percent of reduction. A storm water infiltration system is considered to be a

control or BMP. Controls and BMPs that exist at the time of permit issuance may be used to achieve this reduction. This pollutant level reduction applies to total suspended solids only.

Note: It is recommended that the pollutant-loading analysis be conducted as soon as possible. This analysis is needed to provide the permittee with information on which BMPs are needed to meet the implementation date of March 10, 2008.

2.8 Storm Sewer System Map

The permittee shall develop and maintain a MS4 map. The municipal storm sewer system map shall include:

- 2.8.1 Identification of waters of the state, name and classification of receiving water(s), identification of whether the receiving water is an ORW, ERW or listed as an impaired water under s. 303(d) of the Clean Water Act, storm water drainage basin boundaries for each MS4 outfall and municipal separate storm sewer conveyance systems.
- 2.8.2 Identification of any known threatened or endangered resources, historical property and wetlands, as defined in sections 1.6 through 1.8 of this permit, which might be affected.
- 2.8.3 Identification of all known MS4 outfalls discharging to waters of the state and other MS4s. Major outfalls shall be uniquely identified.
- 2.8.4 Location of any known discharge to the MS4 that has been issued WPDES permit coverage by the Department. A list of WPDES permit holders in the permittee's area may be obtained from the Department.
- 2.8.5 Location of municipally owned or operated structural storm water management facilities including detention basins, infiltration basins, and manufactured treatment devices. If the permittee will be taking credit for pollutant removal from privately-owned facilities, they must be identified.
- 2.8.6 Identification of publicly owned parks, recreational areas and other open lands.
- 2.8.7 Location of municipal garages, storage areas and other public works facilities.
- 2.8.8 Identification of streets.

2.9 Annual Report

The permittee shall submit an annual report to the Department in accordance with section 3.10 of this permit. The permittee shall invite the municipal governing body, interest groups and the general public to review and comment on the annual report. The annual report shall include:

- 2.9.1 The status of implementing the permit requirements, status of meeting measurable program goals and compliance with permit schedules.
- 2.9.2 A fiscal analysis which includes the annual expenditures and budget for the reporting year, and the budget for the next year.
- 2.9.3 A summary of the number and nature of inspections and enforcement actions conducted

to ensure compliance with the required ordinances.

2.9.4 Identification of any known water quality improvements or degradation in the receiving water to which the permittee's MS4 discharges. Where degradation is identified, identify why and what actions are being taken to improve the water quality of the receiving water.

2.9.5 A duly authorized representative of the permittee shall sign and certify the annual report and include a statement or resolution that the permittee's governing body or delegated representatives have reviewed or been apprised of the content of the annual report. A signed copy of the annual report and other required reports shall be submitted to the appropriate Department regional storm water contact or to the Wisconsin DNR, Storm Water Program – WT/2, PO Box 7921, Madison, WI 53707-7921. Section 3.10 of this permit contains the date by which annual reports shall be submitted to the Department.

2.10 Cooperation

The permittee may, by written agreement, implement this permit with another municipality or contract with another entity to perform one or more of the conditions of this permit. For example, if a county is implementing and enforcing an adequate storm water ordinance(s) within a town, the town would then not have to adopt its own ordinance. However, the permittee is ultimately responsible for compliance with the conditions of this permit.

3. COMPLIANCE SCHEDULE

The permittee's programs under section 2 shall be submitted to the Department for review. The Department intends to review the program within the 6-month period prior to implementation to verify compliance with the requirements of this permit. The permittee shall comply with the specific permit conditions contained in section 2 according to following schedule:

3.1 Public Outreach and Education

The permittee shall submit the proposed public education and outreach program to the Department within **18 months of the start date** of permit coverage. The permittee shall implement the public education and outreach program within **24 months of the start date**.

3.2 Public Involvement and Participation

The permittee shall submit the proposed public involvement and participation program to the Department within **18 months of the start date** of permit coverage. The permittee shall implement the public involvement and participation program within **24 months of the start date**.

3.3 Illicit Discharge Detection and Elimination

3.3.1 The permittee shall submit the proposed illicit discharge and elimination ordinance to the Department within **24 months of the start date** of permit coverage. The permittee shall adopt the illicit discharge and elimination ordinance within **30 months of the start date**.

3.3.2 The permittee shall submit the proposed illicit discharge response procedures to the Department within **24 months of the start date** of permit coverage. The permittee shall implement the illicit discharge response procedures within **30 months of the start date**.

3.3.3 The permittee shall complete initial field screening within **36 months of the start date**

of permit coverage.

3.3.4 The permittee shall submit the proposed on-going field screening program to the Department **within 36 months of the start date** of permit coverage. The permittee shall implement the on-going field screening program **within 48 months of the start date**.

3.4 Construction Site Pollutant Control

3.4.1 The permittee shall submit the proposed construction site pollutant control ordinance to the Department **within 18 months of the start date** of permit coverage. The permittee shall adopt the construction site pollutant control ordinance **within 24 months of the start date**. If revision to any existing construction site pollutant control ordinance is necessary, the existing ordinances shall continue to be enforced until the revised ordinance becomes effective.

3.4.2 The permittee shall submit the proposed construction site inspection and enforcement procedures to the Department **within 18 months of the start date** of permit coverage. The permittee shall implement the construction site inspection and enforcement procedures **within 24 months of the start date**.

3.5 Post-Construction Storm Water Management

3.5.1 The permittee shall submit the proposed post-construction storm water management ordinance to the Department **within 18 months of the start date** of permit coverage. The permittee shall adopt the post-construction storm water management ordinance **within 24 months of the start date**. If revision to any existing post-construction storm water management ordinance is necessary, the existing ordinances shall continue to be enforced until the revised ordinance becomes effective.

3.5.2 The permittee shall submit the proposed long-term maintenance procedures to the Department **within 18 months of the start date** of permit coverage. The permittee shall implement the long-term maintenance procedures **within 24 months of the start date**.

3.6 Pollution Prevention

The permittee shall submit the proposed pollution prevention program to the Department **within 24 months of the start date** of permit coverage. The pollution prevention program shall be implemented **within 30 months of the start date**.

3.7 Storm Water Quality Management

The permittee shall complete the evaluation of flood control structures and assessment of compliance and submit the results to the Department by **March 10, 2008 or within 24 months of the start date** of permit coverage.

3.8 Storm Sewer System Map

The permittee shall submit the MS4 map to the Department **within 24 months of the start date** of permit coverage.

3.9 Amendments

The permittee shall amend a program required under this permit as soon as possible if the permittee becomes aware that it does not meet a requirement of this permit. The permittee shall amend its

program if notified by the Department that a program or procedure is insufficient or ineffective in meeting a requirement of this permit. The Department notice to the permittee may include a deadline for amending and implementing the amendment.

3.10 Annual Report

The permittee shall submit an annual report for each calendar year by **March 31st of the following year**. However, an annual report does not have to be submitted after the initial calendar year of permit coverage. The first annual report sent to the Department shall report on the previous 2 calendar years of permit coverage.

3.11 Reapplication for Permit Coverage

To retain authorization to discharge after the expiration date of this permit, the permittee shall apply for reissuance of this permit in accordance with the requirements of s. NR 216.09, Wis. Adm. Code, at least 180 days prior to this permit's expiration date.

COMPLIANCE SCHEDULE SUMMARY

PERMIT CONDITION	ACTIVITY	DUE TO DNR	IMPLEMENT
Public Education and Outreach – Section 3.1	Submit public education and outreach program	Within 18 months of the start date	Within 24 months of the start date
Public Involvement and Participation – Section 3.2	Submit public involvement and participation program	Within 18 months of the start date	Within 24 months of the start date
Illicit Discharge Detection and Elimination – Section 3.3	1. Submit illicit discharge ordinance	Within 24 months of the start date ✓	Within 30 months of the start date
	2. Submit illicit discharge response procedures	Within 24 months of the state date ✓	Within 30 months of the state date
	3. Complete initial field screening		Within 36 months of the start date
	4. Submit on-going field screening	Within 36 months of the start date	Within 48 months of the start date
Construction Site Pollutant Control – Section 3.4	1. Submit construction site pollutant control ordinance	Within 18 months of the start date	Within 24 months of the start date
	2. Submit construction site inspection and enforcement procedures	Within 18 months of the start date	Within 24 months of the start date
Post-Construction Storm Water Management – Section 3.5	1. Submit post-construction storm water management ordinance	Within 18 months of the start date	Within 24 months of the start date
	2. Submit long-term maintenance procedures	Within 18 months of the start date	Within 24 months of the start date
Pollution Prevention – Section 3.6	Submit pollution prevention program	Within 24 months of the start date ✓	Within 30 months of the start date
Storm Water Quality Management – Section 3.7	1. Submit evaluation of flood control structures	By March 10, 2008 or within 24 months ✓ after start date	
	2. Submit assessment of compliance	By March 10, 2008 or within 24 months ✓ after start date	
MS4 Map – Section 3.8	Submit MS4 map	Within 24 months of the state date ✓	
Annual Report – Section 3.10	Submit annual report	By March 31 of each year*	
Reapplication for Permit Coverage – Section 3.11	Submit reapplication	By March 31, 2009	

***Note:** An annual report does not have to be submitted after the initial calendar year of permit coverage. The first annual report sent to the Department shall report on the previous 2 calendar years of permit coverage.

4. STANDARD CONDITIONS

The conditions in s. NR 205.07(1) and (3), Wis. Adm. Code, are incorporated by reference in this permit. The permittee shall be responsible for meeting these requirements, except for s. NR 205.07(1)(n), which does not apply to facilities covered under general permits. Some of these requirements are outlined below in sections 4.1 through 4.18. Requirements not specifically outlined below can be found in s. NR 205.07(1) and (3), Wis. Adm. Code.

4.1 Duty to Comply: The permittee shall comply with all conditions of the permit. Any act of noncompliance with this permit is a violation of this permit and is grounds for enforcement action or withdrawal of permit coverage under this permit and issuance of an individual permit. If the permittee files a request for an individual WPDES permit or a notification of planned changes or anticipated noncompliance, this action by itself does not relieve the permittee of any permit condition.

4.2 Enforcement Action: The Department is authorized under s. 283.89 and 283.91, Wis. Stats., to utilize citations or referrals to the Department of Justice to enforce the conditions of this permit. Violation of a condition of this permit is subject to a fine of up to \$10,000 per day of the violation.

4.3 Compliance Schedules: Reports of compliance or noncompliance with interim and final requirements contained in any compliance schedule of the permit shall be submitted in writing within 14 days after the scheduled due date, except that progress reports shall be submitted in writing on or before each schedule date for each report. Any report of noncompliance shall include the cause of noncompliance, a description of remedial actions taken, and an estimate of the effect of the noncompliance on the permittee's ability to meet the remaining scheduled due dates.

4.4 Noncompliance

4.4.1 Upon becoming aware of any permit noncompliance that may endanger public health or the environment, the permittee shall report this information by a telephone call to the Department regional storm water specialist within 24 hours. A written report describing the noncompliance shall be submitted to the Department regional storm water specialist within 5 days after the permittee became aware of the noncompliance. The Department may waive the written report on a case-by-case basis based on the oral report received within 24 hours. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

4.4.2 Reports of any other noncompliance not covered under STANDARD CONDITIONS sections 4.3, 4.4.1, or 4.6. shall be submitted with the annual report. The reports shall contain all the information listed in STANDARD CONDITIONS section 4.4.1.

4.5 Duty to Mitigate: The permittee shall take all reasonable steps to minimize or prevent any adverse impact on the waters of the state resulting from noncompliance with the permit.

4.6 Spill Reporting: The permittee shall immediately notify the Department, in accordance with ch. NR 706, Wis. Adm. Code, in the event of a spill or accidental release of hazardous substances which has resulted or may result in a discharge of pollutants into waters of the state. The Department shall be notified via the 24-hour spill hotline (1-800-943-0003).

4.7 Proper Operation and Maintenance: The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the municipality to achieve compliance with the conditions of the permit and the storm water management plan. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with conditions of this permit.

4.8 Bypass: The permittee may temporarily bypass storm water treatment facilities if necessary for maintenance, or due to runoff from a storm event which exceeds the design capacity of the treatment facility, or during an emergency.

4.9 Duty to Halt or Reduce Activity: Upon failure or impairment of storm water management practices identified in the storm water management program, the permittee shall, to the extent practicable and necessary to maintain permit compliance, modify or curtail operations until the storm water management practices are restored or an alternative method of storm water pollution control is provided.

4.10 Removed Substances: Solids, sludges, filter backwash or other pollutants removed from or resulting from treatment or control of storm water shall be stored and disposed of in a manner to prevent any pollutant from the materials from entering the waters of the state, and to comply with all applicable federal, state, and local regulations.

4.11 Additional Monitoring: If a permittee monitors any pollutant more frequently than required by the permit, the results of that monitoring shall be reported to the Department in the annual report.

4.12 Inspection and Entry: The permittee shall allow authorized representatives of the Department, upon the presentation of credentials, to:

4.12.1 Enter upon the municipal premises where a regulated facility or activity is located or conducted, or where records are required to be maintained under the conditions of the permit;

4.12.2 Have access to and copy, at reasonable times, any records that are required under the conditions of the permit;

4.12.3 Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under the permit; and

4.12.4 Sample or monitor at reasonable times, for the purposes of assuring permit compliance, any substances or parameters at any location.

4.13 Duty to Provide Information: The permittee shall furnish the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking or reissuing the permit or to determine compliance with the permit. The permittee shall also furnish the Department, upon request, copies of records required to be kept by the permittee.

4.14 Property Rights: The permit does not convey any property rights of any sort, or any

exclusive privilege. The permit does not authorize any injury or damage to private property or an invasion of personal rights, or any infringement of federal, state or local laws or regulations.

4.15 Other Information: Where the permittee becomes aware that it failed to submit any relevant facts in applying for permit coverage or submitted incorrect information in any plan or report sent to the Department, it shall promptly submit such facts or correct information to the Department.

4.16 Records Retention: The permittee shall retain records of all monitoring information, copies of all reports required by the permit, and records of all data used to complete the notice of intent for a period of at least 5 years from the date of the sample, measurement, report or application.

4.17 Permit Actions: Under s. 283.35, Wis. Stats., the Department may withdraw a permittee from coverage under this general permit and issue an individual permit for the municipality if: (a) The municipality is a significant contributor of pollution; (b) The municipality is not in compliance with the terms and conditions of the general permit; (c) A change occurs in the availability of demonstrated technology or practices for the control or abatement of pollutants from the municipality; (d) Effluent limitations or standards are promulgated for a point source covered by the general permit after the issuance of that permit; or (e) A water quality management plan containing requirements applicable to the municipality is approved. In addition, as provided in s. 283.53, Wis. Stats., after notice and opportunity for a hearing this permit may be suspended, modified or revoked, in whole or in part, for cause.

4.18 Signatory Requirements: All applications, reports or information submitted to the Department shall be signed by a ranking elected official, or other person authorized by those responsible for the overall operation of the MS4 and storm water management program activities regulated by the permit. The representative shall certify that the information was gathered and prepared under his or her supervision and, based on report from the people directly under supervision that, to the best of his or her knowledge, the information is true, accurate, and complete.

4.19 Attainment of Water Quality Standards after Authorization: At any time after authorization, the Department may determine that the discharge of storm water from a permittee's MS4 may cause, have the reasonable potential to cause, or contribute to an excursion of any applicable water quality standard. If such determination is made, the Department may require the permittee to do one of the following:

4.19.1 Develop and implement an action plan to address the identified water quality concern to the satisfaction of the Department.

4.19.2 Submit valid and verifiable data and information that are representative of ambient conditions to demonstrate to the Department that the receiving water or groundwater is attaining the water quality standard.

4.19.3 Submit an application to the Department for an individual storm water discharge permit.

5. DEFINITIONS

Definitions for some of the terms found in this permit are as follows:

- 5.1 Controls Condition** means a surface-water pollutant-loading analysis that includes pollutant reductions from storm water management practices.
- 5.2 Department** means the Wisconsin Department of Natural Resources.
- 5.3 Erosion** means the process by which the land's surface is worn away by the action of wind, water, ice or gravity.
- 5.4 Hazardous substance** means any substance which may pose a substantial present or potential hazard to human health or the environment because of its quantity, concentration or physical, chemical or infectious characteristics.
- 5.5 Illicit Connection** means any man-made conveyance connecting an illicit discharge to a MS4.
- 5.6 Illicit Discharge** means any discharge to a MS4 that is not composed entirely of storm water except discharges authorized by a WPDES permit or other discharge not requiring a WPDES permit such as landscape irrigation, individual residential car washing, fire fighting and similar discharges.
- 5.7 Infiltration** means the entry and movement of precipitation or runoff into or through soil.
- 5.8 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.
- 5.9 Jurisdiction** means the area where the permittee has authority to enforce its ordinance(s) or otherwise has authority to exercise control over a particular activity of concern.
- 5.10 Land Disturbing Construction Activity** means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover that may result in storm water runoff and lead to increased soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes, but is not limited to, clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities.
- 5.11 Maximum Extent Practicable or MEP** means a level of implementing management practices in order to achieve a performance standard or other goal 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.
- 5.12 Major Outfall** means a municipal separate storm sewer outfall that meets one of the following criteria:
- 5.12.1** A single pipe with an inside diameter of 36 inches or more or equivalent conveyance (cross sectional area of 1,018 square inches) which is associated with a drainage area of more than 50 acres.

- 5.12.2** A single pipe with an inside diameter of 12 inches or more or equivalent conveyance (cross sectional area of 113 square inches) which receives storm water runoff from land zoned for industrial activity with 2 or more acres of industrial activity, but not land zoned for industrial activity that does not have any industrial activity present.
- 5.13** **Municipality** means any city, town, village, county, county utility district, town sanitary district, town utility district, school district or metropolitan sewage district or any other public entity created pursuant to law and having authority to collect, treat or dispose of sewage, industrial wastes, storm water or other wastes.
- 5.14** **Municipal Separate Storm Sewer System 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 all of the following criteria:
- 5.14.1** Owned or operated by a municipality.
 - 5.14.2** Designed or used for collecting or conveying storm water.
 - 5.14.3** Which is not a combined sewer conveying both sanitary and storm water.
- 5.15** **No Controls Condition** means a surface water pollutant-loading analysis that does not include pollutant reductions from existing storm water management practices including, but not limited to, infiltration systems.
- 5.16** **Outfall** means the point at which storm water is discharged to waters of the state or leaves one municipality and enters another.
- 5.17** **Permittee** means the owner or operator of a MS4 authorized to discharge storm water into waters of the state.
- 5.18** **Permitted Area** refers to the areas of land under the jurisdiction of the permittee that drains into a MS4, which is regulated under a permit issued pursuant to subch. I of NR 216, Wis. Adm. Code.
- 5.19** **Redevelopment** means areas where development is replacing older development.
- 5.20** **Riparian Landowners** are the owners of lands bordering lakes and rivers.
- 5.21** **Sediment** means settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its original location.
- 5.22** **Start Date** is the initial date of permit coverage, which is specified in the Department letter authorizing coverage under this permit.
- 5.23** **Storm Water Management Practice** means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.
- 5.24** **Storm Water Pollution Prevention Planning** refers to the development of a site-specific

plan that describes the measures and controls that will be used to prevent and/or minimize pollution of storm water.

5.25 Structural Storm Water Management Facilities are engineered and constructed systems that are designed to provide storm water quality control such as wet detention ponds, constructed wetlands, infiltration basins and grassed swales.

5.26 Urbanized Area means a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people, as determined by the U.S. bureau of the census based on the latest decennial federal census.

5.27 Waters of the State include surface waters, groundwater and wetlands.

5.28 WPDES Permit means a Wisconsin Pollutant Discharge Elimination System permit issued pursuant to ch. 283, Wis. Stats.

Appendix B
Runoff Curve Numbers

SEWRPC LAND USE CODE	LAND USE DESCRIPTION	CURVE NUMBERS			
		HYDROLOGIC SOIL GROUP			
		A	B	C	D
RESIDENTIAL					
111	Single Family Residential	54	70	80	85
111L	Low Density Residential	54	70	80	85
111M	Medium Density Residential	61	75	83	87
111X	High Density Residential	77	85	90	92
111S	Suburban Density Residential	46	65	77	82
120	Two Family Residential	61	75	83	87
141	Multi-Family Residential	77	85	90	92
142	Multi-Family Residential	77	85	90	92
150	Multi-Family Residential	77	85	90	92
199	Residential Land Under Development	61	75	83	87
COMMERCIAL					
210	Commercial	89	92	94	95
210H	Commercial Unused Lands	39	61	74	80
220	Commercial Non-intensive	81	88	91	93
299	Commercial Land Under Development	89	92	94	95
INDUSTRIAL					
310	Industrial	81	88	91	93
310H	Industrial Unused Lands	39	61	74	80
340	Industrial	81	88	91	93
340H	Industrial Unused Lands	39	61	74	80
360	Industrial - Extractive	63	77	85	88
399	Industrial Land Under Development	81	88	91	93
TRANSPORTATION					
411	Motor Vehicle Transportation	98	98	98	98
414	Motor Vehicle Transportation	98	98	98	98
418	Motor Vehicle Transportation	98	98	98	98
425	Motor Vehicle Transportation	98	98	98	98
426	Motor Vehicle Transportation	98	98	98	98
430	Parking Areas	98	98	98	98
431	Parking Areas	98	98	98	98
432	Parking Areas	98	98	98	98
433	Parking Areas	98	98	98	98
434	Parking Areas	98	98	98	98
435	Parking Areas	98	98	98	98
436	Parking Areas	98	98	98	98
437	Parking Areas	98	98	98	98
441	Railway Transportation	81	88	91	93
441G	Railway Transportation - Wetlands	78	78	78	78
443	Railway Transportation	81	88	91	93
445	Railway Transportation	81	88	91	93
463	Airway Transportation	81	88	91	93
465	Airway Transportation	81	88	91	93
485	Airway Transportation	81	88	91	93
499	Transportation Land Under Development	98	98	98	98
COMMUNICATION AND UTILITIES					
510	Communication and Utilities	89	92	94	95
510H	Communication and Utilities Unused Lands	39	61	74	80
599	Communication and Utilities Land Under Development	89	92	94	95
GOVERNMENT AND INSTITUTIONAL					
611	Institutional	81	88	91	93
612	Institutional	81	88	91	93
641	Institutional	81	88	91	93
641H	Institutional Unused Lands	39	61	74	80

		CURVE NUMBERS			
SEWRPC LAND USE CODE	LAND USE DESCRIPTION	HYDROLOGIC SOIL GROUP			
		A	B	C	D
642	Institutional	81	88	91	93
661	Institutional	81	88	91	93
662	Institutional	81	88	91	93
662H	Institutional Unused Lands	39	61	74	80
681	Cemeteries	39	61	74	80
682	Cemeteries	39	61	74	80
699	Government and Institution Land Under Development	81	88	91	93
RECREATIONAL					
711	Recreational	39	61	74	80
712	Recreational	39	61	74	80
731	Recreational	39	61	74	80
732	Recreational	39	61	74	80
781	Recreational	39	61	74	80
782	Recreational	39	61	74	80
799	Recreation Land Under Development	39	61	74	80
AGRICULTURAL					
811	Cropland	67	78	85	89
815	Pasture	39	61	74	80
816	Pasture	39	61	74	80
820	Orchards and Nursery	32	58	72	79
841	Special Agriculture	67	78	85	89
871	Farm Building	59	74	82	86
OPEN LANDS					
910	Wetlands - Vegetated	78	78	78	78
921	Open Space	39	61	74	80
922	Open Space	39	61	74	80
930	Land Fills and Dumps	89	89	89	89
940	Woodlands	30	55	70	77
950	Surface Water	100	100	100	100

Source: R. A. Smith National, Inc., 2009.

Appendix C
Proposed Conditions Runoff Curve Numbers

SEWRPC LAND USE CODE	LAND USE DESCRIPTION	CURVE NUMBERS			
		HYDROLOGIC SOIL GROUP			
		A	B	C	D
RESIDENTIAL					
R-1	Countryside Single Family Residential District	46	65	77	82
R-2	Estate Single Family Residential District	54	70	80	85
R-3	Suburban/Estate Single Family Residential District	57	72	81	86
R-4	Suburban Single Family Residential District	61	75	83	87
R-5	Urban Single Family Residential District	61	75	83	87
R-6	Village, Hamlet & Lakefront Res. No. Conservancy	77	85	90	92
R-8	Medium Density Urban Residential District	77	85	90	92
R-9	High Density Urban Residential District	77	85	90	92
RC	Res. Cluster Development Single-Family Res. District	54	70	80	85
199	Residential Land Under Development	61	75	83	87
COMMERCIAL					
B-1	Neighborhood Business District	89	92	94	95
B-2	Community Business District	89	92	94	95
B-3	Highway Corridor Business District	89	92	94	95
B-4	Highway Corridor Business District	89	92	94	95
BP	Business Park District	81	88	91	93
CB	Community Business District	89	92	94	95
HC	Highway Corridor Business District	89	92	94	95
NB	Neighborhood Business District	89	92	94	95
VHB	Village Hamlet Business District	89	92	94	95
PO	Professional Office District	81	88	91	93
INDUSTRIAL					
M-1	Limited Industrial District	81	88	91	93
M-2	General Industrial District	81	88	91	94
M-3	Quarrying and Extractive District	81	88	91	93
GOVERNMENT AND INSTITUTIONAL					
I-1	Institutional District	81	88	91	93
RECREATIONAL					
PR-1	Park and Recreational District	39	61	74	80
AGRICULTURAL					
A-1	Agricultural Preservation District	67	78	85	89
A-2	General Agricultural District	32	58	72	79
OPEN LANDS					
WETLAND	Wetlands - Vegetated	78	78	78	78
WATER	Surface Water	100	100	100	100
C-1	Lowland Resource Conservancy District	78	78	78	78
C-2	Upland Resource Conservancy District	39	61	74	80

Source: R. A. Smith National, Inc., 2009.

Town of Salem Stormwater Management Plan
Hydrologic Parameters

* Areas 20 acres or less adjacent to a municipality - not modeled

Subbasin	Area	Existing and Future Tc (hours)	Existing 2008 CN	Future 2020 CN
BC-7(see FR-3)				
BC-11A-1*	13.9		82	90
BC-11A-2*	6.7		77	90
BC-11E	137.3	1.04	80	83
BC-12	321.0	1.10	76	80
CP-1	388.5	1.60	79	81
CP-2	321.6	1.66	80	88
CP-3	172.8	1.09	75	80
CP-4	71.8	1.25	81	82
CP-5	72.3	1.07	85	83
CP-6	43.2	0.79	86	84
CP-7	98.4	1.54	81	87
CP-8	75.2	0.84	75	77
CP-9	147.5	0.87	81	79
CP-10	116.7	1.39	80	81
CP-11	42.9	1.60	85	81
CP-12	112.2	1.61	77	83
CP-13	1543.2	2.79	85	84
CR-1	362.7	2.14	79	83
CR-2	61.6	0.67	80	83
CR-3	77.9	1.11	75	76
CR-4	76.2	0.70	78	79
CR-5	69.2	0.78	81	87
CR-6	56.0	0.78	80	87
CR-7	520.2	1.61	79	86
CR-8	43.2	1.15	73	75
CR-9	175.8	1.29	75	76
CR-10	792.5	1.72	77	77
CR-11	85.4	0.68	74	74
CS-1	199.2	1.03	88	87
DGC-1A-INT	159.7	1.31	79	80
DGC-2	393.0	1.58	79	80
DGC-3C	142.8	1.23	79	79
DGC-4	350.7	0.73	87	87
FOX.RIVER	110.0	0.81	78	79
FR-1	795.3	3.28	74	77
FR-2	138.4	2.28	78	76
FR-3 and BC-7	438.6	0.86	77	79
FR-4 and FR-6	670.0	1.76	75	77
FR-5- Silver Lk *	13.6		76	83
FR-6 (see FR-4)				
FR-7	331.9	0.51	74	74
FR-8	78.2	2.46	77	77
FR-9	176.4	1.57	77	81
FR-10	552.8	1.14	78	77
FR-11	64.7	1.12	84	87
FR-12	464.7	0.28	77	76

Subbasin	Area	Existing and Future	Existing 2008	Future 2020
		Tc (hours)	CN	CN
HL-1	18.4		78	91
HL-2	126.7	0.85	80	87
HL-3	239.9	2.27	79	80
HL-4	74.3	0.92	80	82
HL-5	132.9	1.55	76	79
HL-6	95.5	0.75	77	80
HL-7	75.4	1.04	76	80
HL-8	88.5	0.89	81	89
HL-9	38.3	0.63	85	91
HL-10	202.8	1.02	92	92
ML-1	111.8	1.22	79	80
ML-2	206.9	0.86	86	86
PL-1	74.8	0.49	48	50
PL-2	523.8	2.93	75	76
RL-1	93.9	0.66	79	81
RL-2	97.0	1.38	78	78
RL-3	144.1	0.93	86	84
SB-3	67.4	0.75	86	84
SB-5B-1	76.1	1.48	79	80
SB-5B-2	21.4	0.69	80	81
SB-5C	383.3	2.06	78	82
SB-6	39.0	0.85	77	75
SB-7A	78.4	1.30	81	83
SB-7B-1	122.6	1.03	76	77
SB-7B-2	231.6	1.05	79	80
SB-7B-3	163.3	0.54	81	80
SL-1	474.9	2.43	79	81
SL-2	433.5	2.31	72	76
SL-3	74.3	1.03	70	76
SL-4	202.1	1.49	80	84
SL-5	155.1	1.30	79	90
SL-6	485.1	1.87	76	77
SL-7	362.9	2.53	75	79
SL-8	164.0	0.65	73	83
SL-9 Silver Lk*	20.0		75	80
SL-10	129.4	1.78	69	70
SL-11	835.7	0.75	88	88
TC-7A	192.3	2.57	77	76
TC-7B	610.6	4.46	78	77
TC-9A	100.9	1.39	78	80
TC-9B	98.3	1.37	80	81
TC-10	29.2	0.92	87	85
TC-11	107.8	1.40	80	84
TC-12A	311.8	1.22	78	79
TC-12B	233.0	1.22	79	83
TC-12C	39.5	0.64	77	77
TC-12D	19.9	0.65	80	82
TC-13A	350.1	1.80	79	84
TC-13B	165.1	1.33	77	77
TC-13C	124.0	1.41	76	76
VL-1	315.0	1.08	83	84

20648.5

Results of Hydrologic Modeling
Des Plaines River Watershed

Subbasin	2-year						10-year					25-year					100year				
	2000 Land Use		2020 Land Use		Volume	2000 Land Use		2020 Land Use		Volume	2000 Land Use		2020 Land Use		Volume	2000 Land Use		2020 Land Use		Volume	
	Area	Volume	Discharge	Volume	Discharge	Change	Volume	Discharge	Volume	Discharge	Change	Volume	Discharge	Volume	Discharge	Change	Volume	Discharge	Volume	Discharge	Change
(acres)	(ac-ft)	(cfs)	(ac-ft)	(cfs)	%	(ac-ft)	(cfs)	(ac-ft)	(cfs)	%	(ac-ft)	(cfs)	(ac-ft)	(cfs)	%	(ac-ft)	(cfs)	(ac-ft)	(cfs)	%	
BC-11E	137.3	10.73	62	12.69	76		19.82	120	22.43	138		27.29	167	30.27	187		42.03	260	45.54	281	
BC-12	321.0	19.72	104	25.08	140		38.87	221	46.33	270		55.06	320	63.80	375		87.66	517	98.26	580	
		30.45		37.77		24%	58.69		68.76		17%	82.35		94.07		14%	129.68		143.80		11%
DGC-1A	159.7	11.77	57	12.48	61		22.09	113	23.05	118		30.62	158	31.74	164		47.55	247	48.88	254	
DGC-2	393.0	28.97	121	30.71	130		54.36	241	56.73	253		75.36	340	78.11	353		117.01	533	120.30	548	
DGC-3C	142.8	10.53	53	10.53	53		19.75	106	19.75	106		27.38	149	27.38	149		42.52	233	42.52	233	
DGC-4	350.7	40.03	315	40.03	315		66.94	528	66.94	528		88.12	692	88.12	692		128.66	1003	128.66	1003	
		91.31		93.75		3%	163.14		166.47		2%	221.49		225.35		2%	335.73		340.36		1%
HL-2	126.7	9.90	67	14.46	103		18.29	128	24.19	173		25.18	179	31.84	228		38.78	278	46.48	330	
HL-3	239.9	17.69	56	18.74	60		33.18	111	34.63	117		46.00	157	47.68	163		71.42	246	73.43	254	
HL-4	74.3	5.81	37	6.50	42		10.73	71	11.65	78		14.77	99	15.83	107		22.74	154	24.00	162	
HL-5	132.9	8.17	33	9.80	41		16.09	70	18.38	82		22.80	103	25.49	116		36.29	167	39.57	183	
HL-6	95.5	6.24	44	7.46	55		12.10	92	13.79	106		17.01	132	18.98	148		26.86	211	29.23	230	
HL-7	75.4	4.63	25	5.89	34		9.13	54	10.88	66		12.93	78	14.99	92		20.59	127	23.08	143	
HL-8	88.5	7.32	48	11.18	77		13.32	91	18.20	125		18.22	125	23.67	161		27.84	192	34.07	229	
HL-9	38.3	3.94	34	5.34	47		6.77	60	8.47	74		9.02	79	10.89	94		13.37	117	15.45	131	
HL-10	202.8	29.71	186	29.71	186		46.51	288	46.51	288		59.40	365	59.40	365		83.68	507	83.68	507	
		93.41		109.10		17%	166.11		186.70		12%	225.34		248.76		10%	341.58		369.00		8%
ML-1	111.8	8.24	42	8.74	45		15.46	83	16.14	87		21.44	117	22.22	121		33.29	182	34.22	187	
ML-2	206.9	22.43	158	22.43	158		38.02	270	38.02	270		50.35	358	50.35	358		74.06	522	74.06	522	
		30.67		31.16		2%	53.48		54.15		1%	71.79		72.57		1%	107.35		108.28		1%
SB-3	67.4	7.31	57	6.57	50		12.38	97	11.46	90		16.40	129	15.37	121		24.13	188	22.94	180	
SB-5B-1	76.1	5.61	25	5.95	27		10.53	49	10.98	52		14.59	69	15.13	72		22.66	108	23.29	111	
SB-5B-2	21.4	1.67	13	1.77	14		3.09	25	3.22	26		4.25	35	4.41	36		6.55	54	6.73	55	
SB-5C	383.3	26.63	90	33.53	119		50.76	182	60.12	221		70.87	260	81.69	303		110.94	412	123.83	461	
SB-6	39.0	2.55	16	2.25	14		4.94	34	4.51	31		6.95	49	6.44	45		10.97	78	10.34	73	
SB-7A	78.4	6.49	32	7.25	37		11.80	61	12.81	67		16.14	84	17.29	91		24.66	130	26.00	137	
SB-7B-1	122.6	7.53	41	8.02	45		14.85	88	15.53	93		21.03	128	21.84	134		33.48	208	34.48	214	
SB-7B-2	231.6	17.07	97	18.10	104		32.03	191	33.43	201		44.41	268	46.03	279		68.95	421	70.89	433	
SB-7B-3	163.3	13.51	126	12.76	118		24.58	236	23.57	225		33.62	323	32.46	312		51.37	494	49.99	481	
		88.37		96.18		9%	164.96		175.63		6%	228.27		240.63		5%	353.69		368.49		4%

Appendix
Results of Hydrologic Modeling
Fox River Watershed

Subbasin	2-year						10-year					25-year					100-year				
	2000 Land Use		2020 Land Use		Volume	2000 Land Use		2020 Land Use		Volume	2000 Land Use		2020 Land Use		Volume	2000 Land Use		2020 Land Use		Volume	
	Area	Volume	Discharge	Volume	Discharge	Change	Volume	Discharge	Volume	Discharge	Change	Volume	Discharge	Volume	Discharge	Change	Volume	Discharge	Volume	Discharge	Change
(acres)	(ac-ft)	(cfs)	(ac-ft)	(cfs)	%	(ac-ft)	(cfs)	(ac-ft)	(cfs)	%	(ac-ft)	(cfs)	(ac-ft)	(cfs)	%	(ac-ft)	(cfs)	(ac-ft)	(cfs)	%	
CP-1	388.5	28.64	119	32.14	136		53.74	233	58.48	256		74.50	329	79.98	355		115.67	517	122.20	547	
CP-2	321.6	25.13	102	38.63	167		46.42	197	63.74	278		63.92	275	83.39	363		98.44	429	120.88	523	
CP-3	172.8	9.96	52	13.50	76		19.98	113	24.94	145		28.51	165	34.35	203		45.79	271	52.89	315	
CP-4	71.8	5.94	31	6.28	33		10.81	58	11.26	60		14.78	80	15.30	83		22.58	122	23.20	126	
CP-5	72.3	7.44	44	6.68	39		12.78	77	11.81	71		17.03	103	15.94	97		25.24	152	23.98	145	
CP-6	43.2	4.68	35	4.21	31		7.94	60	7.34	55		10.51	80	9.85	75		15.46	116	14.70	111	
CP-7	98.4	8.14	36	11.23	51		14.81	67	18.78	86		20.26	93	24.73	113		30.95	142	36.10	165	
CP-8	75.2	4.34	27	4.92	32		8.69	60	9.53	66		12.41	87	13.40	95		19.93	142	21.15	151	
CP-9	147.5	12.20	82	10.87	71		22.20	155	20.40	141		30.37	213	28.29	198		46.40	327	43.91	309	
CP-10	116.7	9.12	43	9.65	46		16.85	83	17.57	87		23.19	115	24.03	119		35.72	178	36.71	183	
CP-11	42.9	4.41	19	3.55	15		7.58	34	6.46	28		10.11	45	8.83	39		14.98	67	13.49	60	
CP-12	112.2	7.34	29	10.37	45		14.21	61	18.33	82		19.99	88	24.74	111		31.55	141	37.21	167	
CP-13	1543.2	158.75	454	150.53	427		272.79	793	262.29	761		363.59	1059	351.81	1025		538.76	1565	525.24	1528	
CP Total		286.08		302.57		6%	508.80		530.92		4%	689.17		714.62		4%	1041.47		1071.67		3%
CR-1	362.7	26.74	89	33.52	115		50.17	174	59.24	211		69.55	246	79.97	287		107.99	388	120.30	434	
CR-2	61.6	4.81	38	5.69	47		8.89	74	10.06	84		12.24	102	13.58	114		18.86	158	20.43	171	
CR-3	77.9	4.49	23	4.79	25		9.01	51	9.43	53		12.85	74	13.36	77		20.64	121	21.27	125	
CR-4	76.2	5.29	40	5.62	43		10.09	81	10.54	85		14.09	114	14.61	119		22.05	180	22.69	185	
CR-5	69.2	5.72	42	7.90	60		10.42	78	13.21	100		14.25	108	17.39	131		21.77	165	25.39	189	
CR-6	56.0	4.38	31	6.39	48		8.08	60	10.69	81		11.13	84	14.07	106		17.14	130	20.55	153	
CR-7	520.2	38.35	158	56.39	250		71.95	315	95.58	429		99.75	443	126.60	569		154.87	696	186.21	833	
CR-8	43.2	2.18	10	2.49	12		4.54	24	5.00	27		6.58	36	7.13	40		10.76	61	11.45	66	
CR-9	175.8	10.14	46	10.80	50		20.33	102	21.29	108		29.01	149	30.15	156		46.59	244	48.01	252	
CR-10	792.5	51.81	198	51.81	198		100.40	409	100.40	409		141.18	585	141.18	585		222.86	935	222.86	935	
CR-11	85.4	4.61	33	4.61	33		9.42	74	9.42	74		13.55	110	13.55	110		21.95	181	21.95	181	
CR Total		158.53		190.02		20%	303.29		344.85		14%	424.18		471.59		11%	665.48		721.09		8%
CS-1	199.2	23.93	149	22.74	141	-5%	39.48	246	38.02	237	-4%	51.65	321	50.05	311	-3%	74.87	461	73.08	451	-2%
FR-1	795.3	42.95	96	52.00	121		87.71	212	100.75	250		126.15	315	141.68	360		204.41	524	223.64	578	
FR-2	138.4	9.62	30	8.50	26		18.33	61	16.76	55		25.59	86	23.74	79		40.06	137	37.79	129	
FR-3	438.6	28.68	183	32.33	212		55.56	381	60.66	421		78.13	547	84.11	593		123.34	875	130.58	928	
FR-4 6	670.0	38.62	140	43.80	164		77.46	304	84.88	338		110.56	445	119.36	486		177.55	734	188.41	783	
FR-7	331.9	17.92	156	17.92	156		36.61	348	36.61	348		52.65	516	52.65	516		85.31	854	85.31	854	
FR-8	78.2	5.11	15	5.11	15		9.91	31	9.91	31		13.93	44	13.93	44		21.99	71	21.99	71	
FR-9	176.4	11.53	47	14.59	63		22.35	97	26.55	118		31.43	139	36.32	163		49.61	223	55.49	252	
FR-10	552.8	38.40	203	36.14	188		73.21	412	70.03	392		102.21	585	98.48	562		159.99	925	155.45	898	
FR-11	64.7	6.31	36	7.39	43		11.00	64	12.35	73		14.75	87	16.26	95		22.02	129	23.74	138	
FR-12	464.7	30.38	397	28.55	369		58.87	809	56.27	769		82.78	1149	79.70	1104		130.68	1816	126.89	1765	
FOX RIVER	110.0	7.64	52	8.11	56		14.57	105	15.21	110		20.34	148	21.09	154		31.84	233	32.75	240	
FR Total		237.16		254.45		7%	465.56		489.98		5%	658.51		687.31		4%	1046.78		1082.04		3%

Subbasin	Area (acres)	2-year					10-year					25-year					100year				
		2000 Land Use		2020 Land Use		Volume	2000 Land Use		2020 Land Use		Volume	2000 Land Use		2020 Land Use		Volume	2000 Land Use		2020 Land Use		Volume
		Volume (ac-ft)	Discharge (cfs)	Volume (ac-ft)	Discharge (cfs)	Change %	Volume (ac-ft)	Discharge (cfs)	Volume (ac-ft)	Discharge (cfs)	Change %	Volume (ac-ft)	Discharge (cfs)	Volume (ac-ft)	Discharge (cfs)	Change %	Volume (ac-ft)	Discharge (cfs)	Volume (ac-ft)	Discharge (cfs)	Change %
PL-1 INT	74.8	0.09	0	0.19	0		1.07	2	1.41	4		2.40	11	2.92	16		5.91	43	6.76	53	
PL-2	523.8	30.20	75	32.18	81		60.56	161	63.42	169		86.43	236	89.84	247		138.81	389	143.03	402	
PL Total		30.29		32.37		7%	61.63		64.83		5%	88.83		92.76		4%	144.72		149.79		4%
RL-1	93.9	6.92	55	7.77	63		12.99	108	14.13	119		18.01	151	19.33	163		27.96	236	29.54	249	
RL-2	97.0	6.74	31	6.74	31		12.85	62	12.85	62		17.94	89	17.94	89		28.07	141	28.07	141	
RL-3	144.1	15.62	103	14.06	91		26.48	177	24.49	163		35.07	235	32.85	220		51.58	344	49.05	328	
RL Total		29.28		28.56		-2%	52.31		51.47		-2%	71.01		70.12		-1%	107.61		106.66		-1%
SL-1	474.9	35.01	105	39.28	120		65.68	206	71.48	227		91.07	291	97.77	315		141.39	459	149.38	487	
SL-2	433.5	20.42	56	26.63	80		43.35	134	52.49	168		63.37	204	74.35	245		104.60	347	118.37	399	
SL-3	74.3	3.03	14	4.57	25		6.71	37	9.00	54		9.97	58	12.74	78		16.78	102	20.29	126	
SL-4	202.1	15.79	70	19.71	91		29.17	135	34.35	160		40.17	187	46.07	217		61.86	291	68.79	324	
SL-5	155.1	11.43	55	20.60	108		21.45	110	33.09	174		29.74	155	42.78	223		46.18	243	61.12	315	
SL-6	485.1	29.81	105	31.72	113		58.74	222	61.46	234		83.20	321	86.42	336		132.46	523	136.41	540	
SL-7	362.9	20.92	58	26.75	78		41.96	125	50.19	155		59.88	184	69.59	218		96.17	303	108.04	343	
SL-8	164.0	8.28	60	15.16	127		17.23	140	26.79	229		24.98	209	36.16	309		40.85	348	54.40	462	
SL-10	129.4	4.89	15	5.27	17		11.07	40	11.68	43		16.61	64	17.37	67		28.24	114	29.23	118	
SL-11	835.7	100.39	787	100.39	787		165.63	1303	165.63	1303		216.70	1698	216.70	1698		314.11	2437	314.11	2437	
SL Total		249.97		290.08		16%	460.99		516.16		12%	635.70		699.95		10%	982.65		1060.13		8%
TC-7A	192.3	12.57	35	11.82	33		24.36	72	23.28	69		34.26	104	32.98	99		54.08	167	52.51	162	
TC-7B	610.6	42.42	79	39.92	73		80.86	158	77.35	150		112.89	224	108.77	215		176.72	356	171.70	345	
TC-9A	100.9	7.01	32	7.88	37		13.36	65	14.56	71		18.66	92	20.05	99		29.20	145	30.89	154	
TC-9B	98.3	7.68	36	8.13	39		14.19	70	14.80	74		19.54	98	20.24	101		30.09	151	30.92	155	
TC-10	29.2	3.33	22	3.00	20		5.57	38	5.16	35		7.34	50	6.88	46		10.71	72	10.19	69	
TC-11	107.8	8.42	39	10.52	50		15.56	75	18.32	90		21.43	105	24.58	122		33.00	164	36.69	182	
TC-12A	311.8	21.66	109	22.99	118		41.29	221	43.13	232		57.65	313	59.79	325		90.24	494	92.83	508	
TC-12B	233.0	17.18	88	21.53	115		32.23	173	38.06	208		44.68	243	51.37	281		69.37	380	77.28	422	
TC-12C	39.5	2.58	20	2.58	20		5.00	42	5.00	42		7.04	60	7.04	60		11.11	96	11.11	96	
TC-12D	19.9	1.56	13	1.74	15		2.87	24	3.12	27		3.96	34	4.24	36		6.09	52	6.43	55	
TC-13A	350.1	25.81	97	34.15	136		48.42	194	59.51	244		67.14	273	79.81	329		104.23	430	119.16	492	
TC-13B	165.1	10.79	50	10.79	50		20.92	104	20.92	104		29.41	149	29.41	149		46.43	238	46.43	238	
TC-13C	124.0	7.62	33	7.62	33		15.01	71	15.01	71		21.27	103	21.27	103		33.86	167	33.86	167	
TC Total		168.64		182.67		8%	319.65		338.23		6%	445.25		466.44		5%	695.13		720.00		4%
VL-1	315.0	29.11	169	30.73	180	6%	51.45	308	53.54	322	4%	69.45	418	71.81	433	3%	104.48	629	107.21	645	3%

TOWN OF SALEM
EXISTING CONTROLS POLLUTANT LOADING ANALYSIS
November 1, 2008

SUBBASIN NAME	LAND USE TYPE	SOIL TYPE	AREA (Ac)	RUNOFF VOLUME (cf/yr)	PARTICULATE SOLIDS YIELD (lbs/yr)	PARTICULATE PHOSPHOROUS (lbs/yr)
BC-11A-INT	LOW DENSITY RESIDENTIAL	CLAY	0.14	2,309.89	23.38	0.08
BC-11A-INT	OPEN SPACE UNDEVELOPED	CLAY	1.27	12,232.17	43.32	0.09
BC-11C	LOW DENSITY RESIDENTIAL	CLAY	4.96	76,958.94	776.10	2.62
BC-11C-INT	OPEN SPACE UNDEVELOPED	CLAY	1.67	15,970.16	56.37	0.11
BC-11C-INT	LOW DENSITY RESIDENTIAL	CLAY	0.80	12,940.02	130.48	0.44
BC-11E	STRIP COMMERCIAL	CLAY	0.38	27,597.70	186.45	0.36
BC-11E	LOW DENSITY RESIDENTIAL	CLAY	5.09	78,918.57	796.02	2.69
BC-11E	OPEN SPACE UNDEVELOPED	CLAY	4.98	46,001.89	160.59	0.32
BC-12	OPEN SPACE UNDEVELOPED	SILT	0.42	2,909.63	11.79	0.02
BC-12	LOW DENSITY RESIDENTIAL	CLAY	8.36	127,587.40	1,286.83	4.35
BC-12	OPEN SPACE UNDEVELOPED	CLAY	19.49	169,320.60	577.67	1.16
BC-7	LOW DENSITY RESIDENTIAL	SILT	0.47	6,240.95	61.08	0.20
DGC-4	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	56.02	1,279,814.00	10,345.99	31.71
DGC-4	STRIP COMMERCIAL	CLAY	0.01	737.11	4.81	0.01
DGC-4	OPEN SPACE UNDEVELOPED	CLAY	3.14	29,477.08	103.40	0.21
DGC-4	INSTITUTIONAL	CLAY	16.50	803,528.20	6,115.61	13.16
DGC-4	LOW DENSITY RESIDENTIAL	CLAY	0.26	4,259.71	42.86	0.14
DGC-4	PARK	CLAY	0.23	3,085.60	33.88	0.12
FOXRIVER	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	7.36	186,823.60	1,509.41	4.35
FOXRIVER	OPEN SPACE UNDEVELOPED	SILT	1.17	7,800.07	31.45	0.07
FOXRIVER	LOW DENSITY RESIDENTIAL	SILT	0.73	9,615.56	93.72	0.30
FOXRIVER	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	12.41	300,975.60	2,433.03	7.43
FOXRIVER	MEDIUM DENSITY RESIDENTIAL NO ALLEYS C&G	CLAY	30.35	867,785.10	7,008.11	21.19
FOXRIVER	OPEN SPACE UNDEVELOPED	CLAY	18.60	162,006.70	553.26	1.11
FOXRIVER	STRIP COMMERCIAL	CLAY	0.04	2,944.61	20.11	0.04
FOXRIVER	LOW DENSITY RESIDENTIAL	CLAY	1.35	21,641.06	218.25	0.74
LF-15	STRIP COMMERCIAL	CLAY	1.11	79,721.61	538.12	1.04
LF-15	OPEN SPACE UNDEVELOPED	CLAY	0.48	4,711.88	16.67	0.03
LF-16	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	4.06	103,060.60	832.66	2.40
LF-16	OPEN SPACE UNDEVELOPED	SILT	1.63	10,685.59	42.78	0.09
LF-16	STRIP COMMERCIAL	SILT	0.10	7,025.81	47.02	0.09
LF-16	LOW DENSITY RESIDENTIAL	SILT	0.05	698.85	6.83	0.02
LF-16	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	4.70	117,698.50	951.36	2.90
LF-16	OPEN SPACE UNDEVELOPED	CLAY	5.45	50,159.57	174.78	0.35
LF-17	LIGHT INDUSTRIAL	SAND	34.58	134,084.20	1,257.67	1.52
LF-17	INSTITUTIONAL	SAND	1.00	8,700.11	59.31	0.12
LF-17	OPEN SPACE UNDEVELOPED	SAND	1.19	15.13	0.12	0.00
LF-17	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	11.17	283,530.30	2,290.71	6.60
LF-17	OPEN SPACE UNDEVELOPED	SILT	20.09	108,119.70	413.60	0.85
LF-17	STRIP COMMERCIAL	SILT	5.03	326,574.80	2,164.95	4.15
LF-17	LIGHT INDUSTRIAL	SILT	30.05	1,513,858.00	14,743.44	18.72
LF-17	LOW DENSITY RESIDENTIAL	SILT	6.90	81,118.83	791.99	2.56
LF-17	PARK	SILT	0.01	99.03	1.10	0.00
LF-17	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	12.43	301,463.30	2,436.82	7.44
LF-17	OPEN SPACE UNDEVELOPED	CLAY	8.49	76,693.87	265.52	0.53
LF-17	PARK	CLAY	0.01	124.84	1.44	0.00
LF-17	STRIP COMMERCIAL	CLAY	1.68	120,001.80	809.72	1.56
LF-17	LOW DENSITY RESIDENTIAL	CLAY	5.51	85,212.60	859.40	2.90
LF-18	LIGHT INDUSTRIAL	SAND	16.19	86,800.98	815.37	0.98
LF-18	LOW DENSITY RESIDENTIAL	SAND	1.02	375.31	3.51	0.01
LF-18	OPEN SPACE UNDEVELOPED	SAND	14.46	0.00	0.00	0.00
LF-18	LIGHT INDUSTRIAL	SILT	2.89	154,795.20	1,515.03	1.92
LF-18	OPEN SPACE UNDEVELOPED	SILT	37.30	191,106.70	723.80	1.49
LF-18	MEDIUM INDUSTRIAL	SILT	0.08	3,969.39	41.35	0.05
LF-18	LOW DENSITY RESIDENTIAL	SILT	51.59	527,708.80	5,160.70	16.81
LF-18	LOW DENSITY RESIDENTIAL	CLAY	14.28	213,982.50	2,158.33	7.31
LF-18	MEDIUM INDUSTRIAL	CLAY	0.30	15,871.15	163.91	0.21
LF-18	OPEN SPACE UNDEVELOPED	CLAY	4.29	39,850.67	139.33	0.28
LF-18	STRIP COMMERCIAL	CLAY	3.38	239,036.10	1,610.90	3.11
LF-19	OPEN SPACE UNDEVELOPED	SAND	4.61	0.01	0.00	0.00
LF-19	STRIP COMMERCIAL	SILT	0.49	33,703.75	225.30	0.43
LF-19	LOW DENSITY RESIDENTIAL	SILT	43.90	455,230.30	4,451.25	14.49
LF-19	OPEN SPACE UNDEVELOPED	SILT	5.58	33,573.82	131.66	0.27
LF-19	STRIP COMMERCIAL	CLAY	3.01	213,229.90	1,437.27	2.78
LF-19	OPEN SPACE UNDEVELOPED	CLAY	17.10	149,569.80	511.50	1.02
LF-19	LOW DENSITY RESIDENTIAL	CLAY	0.24	3,937.18	39.81	0.13
LF-20	LIGHT INDUSTRIAL	SAND	0.01	268.99	2.52	0.00
LF-20	INSTITUTIONAL	SAND	0.22	2,858.16	19.45	0.04
LF-20	OPEN SPACE UNDEVELOPED	SILT	3.69	22,934.07	90.61	0.19
LF-20	LIGHT INDUSTRIAL	SILT	11.53	597,652.10	5,832.13	7.40
LF-20	STRIP COMMERCIAL	SILT	2.35	155,880.70	1,036.77	1.99
LF-20	MEDIUM INDUSTRIAL	SILT	1.36	65,069.06	677.71	0.83
LF-20	INSTITUTIONAL	SILT	0.09	4,428.10	33.37	0.07
LF-20	LOW DENSITY RESIDENTIAL	SILT	0.93	12,147.46	118.43	0.38
LF-20	MOBILE HOMES	SILT	3.28	128,957.50	850.39	2.15
LF-20	OPEN SPACE UNDEVELOPED	CLAY	0.57	5,572.63	19.83	0.04
LF-20	STRIP COMMERCIAL	CLAY	0.08	5,869.13	39.58	0.08
LF-20	MEDIUM INDUSTRIAL	CLAY	0.80	41,976.43	433.61	0.55
LF-21	OPEN SPACE UNDEVELOPED	SAND	0.84	15.64	0.12	0.00
LF-21	OPEN SPACE UNDEVELOPED	SILT	1.38	9,129.12	36.61	0.08
LF-21	STRIP COMMERCIAL	CLAY	1.29	92,458.22	624.46	1.21
LF-21	LOW DENSITY RESIDENTIAL	CLAY	20.48	302,803.30	3,054.01	10.36
LF-21	OPEN SPACE UNDEVELOPED	CLAY	12.37	109,862.00	378.01	0.76
LF-21	MOBILE HOMES	CLAY	1.00	40,776.03	271.60	0.70
LF-22	LIGHT INDUSTRIAL	SAND	2.28	21,645.97	203.92	0.25
LF-22	OPEN SPACE UNDEVELOPED	SAND	4.40	2.07	0.02	0.00
LF-22	PARK	SAND	5.81	300.62	2.96	0.01
LF-22	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	7.17	181,999.60	1,470.42	4.24
LF-22	OPEN SPACE UNDEVELOPED	SILT	103.28	478,199.00	1,772.53	3.63
LF-22	STRIP COMMERCIAL	SILT	1.03	69,778.35	465.28	0.89
LF-22	MEDIUM INDUSTRIAL	SILT	0.12	5,932.85	61.85	0.08
LF-22	LIGHT INDUSTRIAL	SILT	1.54	83,557.70	818.75	1.04
LF-22	DUPLEX	SILT	2.63	59,102.08	454.45	1.31
LF-22	LOW DENSITY RESIDENTIAL	SILT	35.92	377,821.40	3,693.54	12.02
LF-22	MOBILE HOMES	SILT	2.98	117,625.90	775.61	1.96
LF-22	PARK	SILT	1.40	14,137.22	149.42	0.48
LF-22	LOW DENSITY RESIDENTIAL	CLAY	4.54	70,634.61	712.48	2.41
LF-22	OPEN SPACE UNDEVELOPED	CLAY	15.69	137,759.70	471.82	0.94

SUBBASIN NAME	LAND USE TYPE	SOIL TYPE	AREA (Ac)	RUNOFF VOLUME (cf/yr)	PARTICULATE SOLIDS YIELD (lbs/yr)	PARTICULATE PHOSPHOROUS (lbs/yr)
LF-22	PARK	CLAY	0.66	8,735.33	95.97	0.33
LF-22	MEDIUM INDUSTRIAL	CLAY	1.35	70,499.20	728.05	0.93
LF-22	LIGHT INDUSTRIAL	CLAY	0.13	7,534.00	74.09	0.10
LF-25	OPEN SPACE UNDEVELOPED	SILT	0.66	4,509.87	18.24	0.04
LF-25	LOW DENSITY RESIDENTIAL	SILT	5.15	61,724.90	602.61	1.94
LF-25	SCHOOL	SILT	0.13	5,825.30	44.43	0.11
LF-25	LOW DENSITY RESIDENTIAL	CLAY	0.77	12,450.56	125.69	0.42
LF-25	SCHOOL	CLAY	0.12	5,667.72	44.07	0.11
LF-25	OPEN SPACE UNDEVELOPED	CLAY	0.75	7,292.35	25.87	0.05
LF-26	LOW DENSITY RESIDENTIAL	SILT	24.65	266,255.60	2,601.97	8.45
LF-26	OPEN SPACE UNDEVELOPED	S	24.78	131,330.50	500.82	1.03
LF-26	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	S	11.56	293,430.90	2,370.72	6.83
LF-26	STRIP COMMERCIAL	S	0.11	7,724.16	51.52	0.10
LF-26	LIGHT INDUSTRIAL	S	1.47	79,819.28	782.01	0.99
LF-26	INSTITUTIONAL	S	4.05	187,379.10	1,405.01	2.93
LF-26	PARK	S	21.15	178,191.70	1,894.34	6.17
LF-26	SCHOOL	S	10.15	417,306.70	3,157.08	7.79
LF-26	OPEN SPACE UNDEVELOPED	CLAY	15.54	136,468.30	467.60	0.94
LF-26	PARK	CLAY	18.42	220,680.80	2,431.64	8.34
LF-26	INSTITUTIONAL	CLAY	0.24	12,268.69	93.96	0.20
LF-26	SCHOOL	CLAY	11.15	502,005.80	3,889.13	9.87
LF-26	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	0.51	13,436.34	108.60	0.33
LF-26	LOW DENSITY RESIDENTIAL	CLAY	14.79	221,356.80	2,232.74	7.57
LF-27	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	10.84	275,141.30	2,222.95	6.40
LF-27	OPEN SPACE UNDEVELOPED	SILT	3.26	20,450.64	80.99	0.17
LF-27	STRIP COMMERCIAL	SILT	2.10	139,722.30	929.68	1.78
LF-27	MEDIUM INDUSTRIAL	SILT	1.09	52,370.09	545.57	0.67
LF-27	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	8.55	210,051.20	1,697.88	5.18
LF-27	OPEN SPACE UNDEVELOPED	CLAY	6.40	58,528.27	203.51	0.41
LF-27	SCHOOL	CLAY	0.95	44,199.63	343.45	0.87
LF-27	STRIP COMMERCIAL	CLAY	1.67	119,287.60	805.15	1.56
LF-27	INSTITUTIONAL	CLAY	0.30	15,312.91	117.09	0.25
LF-28	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	3.00	76,148.05	615.22	1.77
LF-28	OPEN SPACE UNDEVELOPED	SILT	0.43	2,981.79	12.05	0.03
LF-28	STRIP COMMERCIAL	SILT	0.42	28,962.78	193.64	0.37
LF-28	INSTITUTIONAL	SILT	0.23	11,209.18	84.44	0.18
LF-28	LOW DENSITY RESIDENTIAL	SILT	0.93	12,146.98	118.43	0.38
LF-28	PARK	CLAY	0.17	2,285.84	25.08	0.09
LF-28	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	6.58	163,049.00	1,317.92	4.02
LF-28	OPEN SPACE UNDEVELOPED	CLAY	1.27	12,232.44	43.32	0.09
LF-28	STRIP COMMERCIAL	CLAY	0.14	10,243.29	69.48	0.13
LF-28	MEDIUM INDUSTRIAL	CLAY	0.59	31,039.53	320.72	0.41
LF-28	INSTITUTIONAL	CLAY	0.24	12,268.69	93.96	0.20
LF-28	LOW DENSITY RESIDENTIAL	CLAY	0.04	661.27	6.78	0.02
SB-2A	OPEN SPACE UNDEVELOPED	CLAY	14.99	131,874.60	452.14	0.91
SB-2A	LOW DENSITY RESIDENTIAL	CLAY	21.92	323,297.70	3,260.77	11.07
SB-2A	SCHOOL	CLAY	0.45	21,081.54	163.84	0.41
SB-2A	MEDIUM INDUSTRIAL	CLAY	0.69	36,251.90	374.58	0.48
SB-2A	PARK	CLAY	0.19	2,548.65	28.01	0.10
SB-2B	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	2.18	55,346.26	447.06	1.29
SB-2B	OPEN SPACE UNDEVELOPED	SILT	0.05	362.48	1.45	0.00
SB-2B	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	4.88	122,069.30	986.60	3.01
SB-2B	OPEN SPACE UNDEVELOPED	CLAY	18.64	162,364.20	554.37	1.11
SB-2B	LOW DENSITY RESIDENTIAL	CLAY	14.20	212,837.30	2,146.87	7.28
SB-2B	LOW DENSITY RESIDENTIAL C&G	CLAY	0.05	806.18	8.82	0.03
SB-2C	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	20.99	532,766.90	4,304.45	12.40
SB-2C	OPEN SPACE UNDEVELOPED	SILT	4.23	26,014.73	102.62	0.21
SB-2C	STRIP COMMERCIAL	SILT	0.34	23,532.52	157.46	0.30
SB-2C	INSTITUTIONAL	SILT	0.72	34,563.72	260.22	0.54
SB-2C	SCHOOL	SILT	0.29	12,910.13	98.32	0.24
SB-2C	LOW DENSITY RESIDENTIAL	CLAY	29.52	430,625.80	4,342.93	14.75
SB-2C	LOW DENSITY RESIDENTIAL C&G	CLAY	0.07	1,104.15	12.22	0.04
SB-2C	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	79.40	1,782,104.00	14,406.82	44.19
SB-2C	OPEN SPACE UNDEVELOPED	CLAY	125.23	988,520.10	3,289.98	6.54
SB-2C	STRIP COMMERCIAL	CLAY	7.67	535,372.40	3,602.03	6.97
SB-2C	SCHOOL	CLAY	11.20	504,169.80	3,905.85	9.92
SB-2C	DUPLEX	CLAY	0.07	2,049.70	15.76	0.05
SB-2C	INSTITUTIONAL	CLAY	1.08	54,570.41	416.86	0.89
SB-3	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	2.38	60,422.77	488.08	1.41
SB-3	OPEN SPACE UNDEVELOPED	SILT	0.42	2,909.28	11.78	0.02
SB-3	PARK	CLAY	3.61	45,965.81	505.51	1.72
SB-3	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	37.43	871,087.90	7,041.83	21.56
SB-3	OPEN SPACE UNDEVELOPED	CLAY	3.86	35,993.02	126.05	0.25
SB-5A	LOW DENSITY RESIDENTIAL	CLAY	8.38	127,874.80	1,289.79	4.36
SB-5A	OPEN SPACE UNDEVELOPED	CLAY	2.58	24,375.16	85.71	0.17
SB-5A	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	8.23	202,443.30	1,636.50	4.99
SB-5A	DUPLEX	CLAY	0.11	3,215.39	24.72	0.07
SB-5B	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	7.39	182,395.90	1,474.46	4.50
SB-5B	LOW DENSITY RESIDENTIAL	CLAY	10.74	162,531.50	1,639.48	5.55
SB-5B	OPEN SPACE UNDEVELOPED	CLAY	3.41	31,935.42	111.96	0.23
SB-5C	LOW DENSITY RESIDENTIAL	CLAY	3.09	48,593.96	490.13	1.65
SB-7B	OPEN SPACE UNDEVELOPED	CLAY	22.93	197,766.40	672.86	1.34
SB-7B	LOW DENSITY RESIDENTIAL	CLAY	144.47	1,955,856.00	19,729.00	67.33
SB-7B	LOW DENSITY RESIDENTIAL C&G	CLAY	12.78	204,093.20	2,224.41	7.44
SB-7B	DUPLEX	CLAY	10.31	276,619.70	2,127.01	6.44
TC-1	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	7.35	186,553.80	1,507.30	4.34
TC-1	OPEN SPACE UNDEVELOPED	SILT	18.22	98,850.73	378.68	0.78
TC-1	STRIP COMMERCIAL	SILT	2.10	139,730.20	929.72	1.78
TC-1	MEDIUM INDUSTRIAL	SILT	0.14	6,904.58	71.80	0.09
TC-1	LOW DENSITY RESIDENTIAL	SILT	19.10	209,675.10	2,048.62	6.65
TC-1	INSTITUTIONAL	SILT	0.71	34,096.96	256.68	0.53
TC-1	MULTI-FAMILY RESIDENTIAL NO ALLEYS	SILT	1.67	64,071.39	399.38	1.00
TC-1	SCHOOL	SILT	0.99	43,208.33	328.83	0.81
TC-1	OPEN SPACE UNDEVELOPED	CLAY	22.48	194,122.30	660.79	1.32
TC-1	STRIP COMMERCIAL	CLAY	4.32	304,392.80	2,050.56	3.96
TC-1	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	12.06	292,791.10	2,366.83	7.23
TC-1	INSTITUTIONAL	CLAY	7.10	350,342.80	2,670.01	5.74
TC-1	LOW DENSITY RESIDENTIAL	CLAY	50.26	717,793.80	7,238.75	24.62
TC-1	LOW DENSITY RESIDENTIAL C&G	CLAY	0.13	2,089.63	22.59	0.08
TC-1	MULTI-FAMILY RESIDENTIAL NO ALLEYS	CLAY	6.00	250,224.80	1,591.05	4.15
TC-1	SCHOOL	CLAY	19.04	849,142.40	6,572.91	16.70
TC-1	MEDIUM INDUSTRIAL	CLAY	0.23	12,171.18	125.65	0.16
TC-1	DUPLEX	CLAY	0.27	7,841.74	60.24	0.18

SUBBASIN NAME	LAND USE TYPE	SOIL TYPE	AREA (Ac)	RUNOFF VOLUME (cf/yr)	PARTICULATE SOLIDS YIELD (lbs/yr)	PARTICULATE PHOSPHOROUS (lbs/yr)
TC-10	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	0.99	25,130.81	203.00	0.58
TC-10	OPEN SPACE UNDEVELOPED	CLAY	2.96	27,846.71	97.77	0.20
TC-10	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	57.23	1,305,824.00	10,556.65	32.36
TC-10	STRIP COMMERCIAL	CLAY	3.23	228,598.90	1,540.70	2.98
TC-10	LOW DENSITY RESIDENTIAL	CLAY	1.49	23,833.12	240.39	0.81
TC-10	PARK	CLAY	0.03	409.34	4.51	0.02
TC-11	OPEN SPACE UNDEVELOPED	CLAY	22.20	191,738.00	652.71	1.30
TC-11	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	16.70	400,822.80	3,240.27	9.91
TC-11	INSTITUTIONAL	CLAY	3.70	184,215.80	1,405.42	3.02
TC-11	LOW DENSITY RESIDENTIAL	CLAY	0.32	5,223.70	52.74	0.18
TC-12	OPEN SPACE UNDEVELOPED	CLAY	39.43	331,695.00	1,120.06	2.23
TC-12	STRIP COMMERCIAL	CLAY	1.91	136,189.00	918.71	1.78
TC-12	CEMETERY	CLAY	0.02	290.65	3.41	0.01
TC-12	LOW DENSITY RESIDENTIAL	CLAY	121.71	1,664,080.00	16,784.80	57.25
TC-12	LOW DENSITY RESIDENTIAL C&G	CLAY	0.16	2,559.62	27.74	0.09
TC-12	PARK	CLAY	3.41	43,495.55	478.28	1.63
TC-13	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	72.54	1,841,254.00	14,876.03	42.86
TC-13	OPEN SPACE UNDEVELOPED	SILT	17.28	94,162.03	360.88	0.75
TC-13	STRIP COMMERCIAL	SILT	4.27	278,551.20	1,848.20	3.54
TC-13	INSTITUTIONAL	SILT	1.60	75,661.68	568.84	1.18
TC-13	LOW DENSITY RESIDENTIAL	SILT	24.73	267,248.50	2,611.52	8.48
TC-13	MULTI-FAMILY RESIDENTIAL NO ALLEYS	SILT	0.73	28,693.26	178.79	0.45
TC-13	MOBILE HOMES	SILT	0.03	1,295.16	8.44	0.02
TC-13	PARK	SILT	0.36	3,817.52	40.26	0.13
TC-13	LOW DENSITY RESIDENTIAL	CLAY	108.19	1,488,849.00	15,016.71	51.20
TC-13	OPEN SPACE UNDEVELOPED	CLAY	88.38	713,001.40	2,384.46	4.74
TC-13	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	2.93	74,416.38	601.35	1.83
TC-13	MEDIUM DENSITY RESIDENTIAL NO ALLEYS C&G	CLAY	6.46	184,710.70	1,491.72	4.51
TC-13	STRIP COMMERCIAL	CLAY	0.67	48,395.24	327.07	0.63
TC-13	PARK	CLAY	4.34	54,935.96	604.24	2.06
TC-13	MOBILE HOMES	CLAY	0.31	12,835.30	85.37	0.22
TC-2	LOW DENSITY RESIDENTIAL	SILT	0.79	10,367.76	101.24	0.32
TC-2	MEDIUM INDUSTRIAL	SILT	0.61	29,590.81	308.49	0.38
TC-2	OPEN SPACE UNDEVELOPED	SILT	2.49	15,903.10	63.21	0.13
TC-2	LOW DENSITY RESIDENTIAL	CLAY	3.42	53,628.44	540.91	1.83
TC-2	PARK	CLAY	5.93	74,268.13	817.17	2.79
TC-2	STRIP COMMERCIAL	CLAY	1.77	126,339.30	852.67	1.65
TC-2	MEDIUM INDUSTRIAL	CLAY	2.81	145,523.40	1,501.88	1.92
TC-2	OPEN SPACE UNDEVELOPED	CLAY	7.59	68,897.30	239.02	0.48
TC-3	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SAND	0.05	148.28	1.10	0.00
TC-3	STRIP COMMERCIAL	SAND	0.06	1,370.93	8.42	0.02
TC-3	LOW DENSITY RESIDENTIAL	SAND	2.05	518.58	4.96	0.01
TC-3	OPEN SPACE UNDEVELOPED	SAND	2.49	12.71	0.10	0.00
TC-3	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	70.56	1,791,009.00	14,470.10	41.69
TC-3	OPEN SPACE UNDEVELOPED	SILT	95.42	445,862.70	1,655.99	3.40
TC-3	STRIP COMMERCIAL	SILT	1.66	111,133.80	739.91	1.42
TC-3	LOW DENSITY RESIDENTIAL	SILT	40.87	425,850.00	4,163.71	13.55
TC-3	MULTI-FAMILY RESIDENTIAL NO ALLEYS	SILT	0.60	23,698.79	147.69	0.37
TC-3	PARK	SILT	32.40	264,250.90	2,811.88	9.17
TC-3	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	29.29	688,677.90	5,567.28	17.04
TC-3	MEDIUM DENSITY RESIDENTIAL NO ALLEYS WET POND	CLAY	0.54	14,210.96	61.51	0.19
TC-3	OPEN SPACE UNDEVELOPED	CLAY	32.29	274,052.00	927.46	1.85
TC-3	STRIP COMMERCIAL	CLAY	0.72	51,960.70	351.20	0.68
TC-3	LOW DENSITY RESIDENTIAL	CLAY	22.02	324,739.80	3,275.24	11.12
TC-3	LOW DENSITY RESIDENTIAL WET POND	CLAY	0.37	6,034.63	29.76	0.10
TC-3	PARK	CLAY	1.42	18,532.89	203.64	0.69
TC-3	MULTI-FAMILY RESIDENTIAL NO ALLEYS	CLAY	0.25	10,940.02	69.51	0.18
TC-4	MOBILE HOMES	SILT	9.38	353,234.70	2,331.33	5.92
TC-4	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	3.84	97,462.54	787.43	2.27
TC-4	STRIP COMMERCIAL	SILT	0.76	51,829.32	345.73	0.66
TC-4	LIGHT INDUSTRIAL	SILT	0.26	14,473.66	141.97	0.18
TC-4	INSTITUTIONAL	SILT	1.07	51,001.61	383.66	0.80
TC-4	LOW DENSITY RESIDENTIAL	SILT	12.16	137,593.60	1,343.84	4.35
TC-4	MULTI-FAMILY RESIDENTIAL NO ALLEYS	SILT	0.32	12,807.75	79.88	0.20
TC-4	OPEN SPACE UNDEVELOPED	SILT	6.96	41,082.86	160.32	0.33
TC-4	OPEN SPACE UNDEVELOPED	CLAY	18.94	164,843.10	562.76	1.13
TC-4	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	16.91	405,885.30	3,281.16	10.03
TC-4	STRIP COMMERCIAL	CLAY	0.59	42,659.79	288.53	0.56
TC-4	MOBILE HOMES	CLAY	24.86	941,630.20	6,279.61	16.27
TC-4	LOW DENSITY RESIDENTIAL	CLAY	4.77	74,085.41	747.36	2.53
TC-4	LIGHT INDUSTRIAL	CLAY	1.38	78,749.19	774.18	1.00
TC-5	OPEN SPACE UNDEVELOPED	SAND	2.44	12.89	0.10	0.00
TC-5	OPEN SPACE UNDEVELOPED	SILT	96.17	449,002.10	1,667.36	3.42
TC-5	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	49.59	1,258,730.00	10,169.61	29.30
TC-5	LOW DENSITY RESIDENTIAL	SILT	47.39	488,004.80	4,772.14	15.54
TC-5	STRIP COMMERCIAL	SILT	0.07	4,934.00	33.08	0.06
TC-5	MULTI-FAMILY RESIDENTIAL NO ALLEYS	SILT	1.62	62,217.50	387.87	0.97
TC-5	PARK	SILT	3.75	35,817.26	379.24	1.22
TC-5	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	201.05	4,256,521.00	34,414.99	105.88
TC-5	MEDIUM DENSITY RESIDENTIAL NO ALLEYS WET POND	CLAY	6.07	150,774.20	367.20	1.15
TC-5	OPEN SPACE UNDEVELOPED	CLAY	117.52	931,574.40	3,103.31	6.17
TC-5	OPEN SPACE UNDEVELOPED WET POND	CLAY	11.85	105,459.30	71.78	0.14
TC-5	LOW DENSITY RESIDENTIAL	CLAY	11.15	168,496.70	1,699.61	5.76
TC-5	LOW DENSITY RESIDENTIAL WET POND	CLAY	4.26	66,394.13	173.34	0.61
TC-5	PARK	CLAY	0.35	4,664.65	51.27	0.17
TC-5	MULTI-FAMILY RESIDENTIAL NO ALLEYS	CLAY	0.41	17,849.85	113.38	0.30
TC-5	STRIP COMMERCIAL	CLAY	0.38	27,597.59	186.45	0.36
TC-7	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	0.51	12,943.22	104.61	0.30
TC-7	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	0.10	2,679.05	21.64	0.07
TC-7	STRIP COMMERCIAL	CLAY	3.24	229,280.60	1,545.59	2.99
TC-7	MEDIUM INDUSTRIAL	CLAY	3.18	164,418.30	1,696.92	2.17
TC-7	OPEN SPACE UNDEVELOPED	CLAY	8.16	73,850.73	255.83	0.51
TC-8	OPEN SPACE UNDEVELOPED	CLAY	0.91	8,832.14	31.30	0.06
TC-8	LOW DENSITY RESIDENTIAL	CLAY	9.60	145,801.80	1,470.66	4.98
TC-8	LOW DENSITY RESIDENTIAL C&G	CLAY	0.03	487.96	5.17	0.02
TC-8	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	4.12	103,571.60	837.23	2.55
TC-9	LOW DENSITY RESIDENTIAL	CLAY	32.50	472,346.10	4,763.66	16.18
TC-9	LOW DENSITY RESIDENTIAL C&G	CLAY	0.04	634.17	7.07	0.02
TC-9	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	8.96	219,770.10	1,776.52	5.42
TC-9	OPEN SPACE UNDEVELOPED	CLAY	14.46	127,455.20	437.30	0.88
TC-9	STRIP COMMERCIAL	CLAY	2.62	185,988.30	1,254.27	2.42
TOTAL			3,566.01	58,558,904.23	457,475.73	1,280.53

TOWN OF SALEM
NO CONTROLS POLLUTANT LOADING ANALYSIS
November 1, 2008

SUBBASIN NAME	LAND USE TYPE	SOIL TYPE	AREA (Ac)	RUNOFF VOLUME (cf/yr)	PARTICULATE SOLIDS YIELD (lbs/yr)	PARTICULATE PHOSPHOROUS (lbs/yr)
BC-11A-INT	LOW DENSITY RESIDENTIAL	CLAY	0.14	2,477.08	25.05	0.08
BC-11A-INT	OPEN SPACE UNDEVELOPED	CLAY	1.27	14,496.23	53.79	0.11
BC-11C	LOW DENSITY RESIDENTIAL	CLAY	4.96	87,627.25	882.63	2.95
BC-11C-INT	OPEN SPACE UNDEVELOPED	CLAY	1.67	19,053.28	70.61	0.14
BC-11C-INT	LOW DENSITY RESIDENTIAL	CLAY	0.80	14,133.26	142.38	0.48
BC-11E	STRIP COMMERCIAL	CLAY	0.38	28,801.15	195.62	0.38
BC-11E	LOW DENSITY RESIDENTIAL	CLAY	5.09	89,924.40	905.96	3.03
BC-11E	OPEN SPACE UNDEVELOPED	CLAY	4.98	56,831.47	210.63	0.43
BC-12	OPEN SPACE UNDEVELOPED	SILT	0.42	3,876.51	16.75	0.04
BC-12	LOW DENSITY RESIDENTIAL	CLAY	8.36	147,693.60	1,487.74	4.97
BC-12	OPEN SPACE UNDEVELOPED	CLAY	19.49	222,387.00	823.91	1.68
BC-7	LOW DENSITY RESIDENTIAL	SILT	0.47	7,351.32	71.91	0.23
DGC-4	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	56.02	1,601,707.00	12,935.46	39.11
DGC-4	STRIP COMMERCIAL	CLAY	0.01	757.97	4.96	0.01
DGC-4	OPEN SPACE UNDEVELOPED	CLAY	3.14	35,827.67	132.71	0.27
DGC-4	INSTITUTIONAL	CLAY	16.50	871,791.10	6,690.67	14.32
DGC-4	LOW DENSITY RESIDENTIAL	CLAY	0.26	4,589.55	46.14	0.15
DGC-4	PARK	CLAY	0.23	3,379.14	36.81	0.12
FOXRIVER	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	7.36	186,823.60	1,509.41	4.35
FOXRIVER	OPEN SPACE UNDEVELOPED	SILT	1.17	10,804.29	46.85	0.10
FOXRIVER	LOW DENSITY RESIDENTIAL	SILT	0.73	11,459.90	111.62	0.35
FOXRIVER	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	42.76	1,222,597.00	9,873.68	29.85
FOXRIVER	OPEN SPACE UNDEVELOPED	CLAY	18.60	212,234.90	786.49	1.61
FOXRIVER	STRIP COMMERCIAL	CLAY	0.04	3,035.67	20.83	0.04
FOXRIVER	LOW DENSITY RESIDENTIAL	CLAY	1.35	23,857.31	240.37	0.80
LF-15	STRIP COMMERCIAL	CLAY	1.11	84,131.61	571.58	1.10
LF-15	OPEN SPACE UNDEVELOPED	CLAY	0.48	5,479.29	20.22	0.04
LF-16	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	4.06	103,060.60	832.66	2.40
LF-16	OPEN SPACE UNDEVELOPED	SILT	1.63	15,062.99	65.10	0.14
LF-16	STRIP COMMERCIAL	SILT	0.10	7,478.13	50.47	0.10
LF-16	LOW DENSITY RESIDENTIAL	SILT	0.05	795.60	7.78	0.02
LF-16	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	4.70	134,382.00	1,085.27	3.28
LF-16	OPEN SPACE UNDEVELOPED	CLAY	5.45	62,186.45	230.32	0.47
LF-17	LIGHT INDUSTRIAL	SAND	34.58	1,994,589.00	19,668.97	23.67
LF-17	INSTITUTIONAL	SAND	1.00	50,186.75	371.65	0.72
LF-17	OPEN SPACE UNDEVELOPED	SAND	1.19	6,266.13	42.46	0.10
LF-17	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	11.17	283,530.30	2,290.71	6.60
LF-17	OPEN SPACE UNDEVELOPED	SILT	20.09	185,629.70	802.21	1.70
LF-17	STRIP COMMERCIAL	SILT	5.03	376,157.50	2,538.44	4.84
LF-17	LIGHT INDUSTRIAL	SILT	30.05	1,770,052.00	17,469.27	22.07
LF-17	LOW DENSITY RESIDENTIAL	SILT	6.90	108,169.20	1,055.28	3.34
LF-17	PARK	SILT	0.01	116.63	1.29	0.00
LF-17	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	12.43	355,410.60	2,870.19	8.68
LF-17	OPEN SPACE UNDEVELOPED	CLAY	8.49	96,870.23	358.83	0.73
LF-17	PARK	CLAY	0.01	135.34	1.55	0.01
LF-17	STRIP COMMERCIAL	CLAY	1.68	127,323.20	865.26	1.67
LF-17	LOW DENSITY RESIDENTIAL	CLAY	5.51	97,341.32	980.55	3.28
LF-18	LIGHT INDUSTRIAL	SAND	16.19	933,851.70	9,208.76	11.08
LF-18	LOW DENSITY RESIDENTIAL	SAND	1.02	12,265.83	109.24	0.29
LF-18	OPEN SPACE UNDEVELOPED	SAND	14.46	76,195.08	515.33	1.18
LF-18	LIGHT INDUSTRIAL	SILT	2.89	170,237.70	1,680.15	2.12
LF-18	OPEN SPACE UNDEVELOPED	SILT	37.30	344,669.70	1,489.45	3.16
LF-18	MEDIUM INDUSTRIAL	SILT	0.08	4,183.27	43.79	0.05
LF-18	LOW DENSITY RESIDENTIAL	SILT	51.59	808,731.90	7,890.06	24.94
LF-18	LOW DENSITY RESIDENTIAL	CLAY	14.28	252,292.10	2,541.50	8.49
LF-18	MEDIUM INDUSTRIAL	CLAY	0.30	16,412.83	170.06	0.22
LF-18	OPEN SPACE UNDEVELOPED	CLAY	4.29	48,958.42	181.39	0.37
LF-18	STRIP COMMERCIAL	CLAY	3.38	256,159.80	1,740.94	3.36
LF-19	OPEN SPACE UNDEVELOPED	SAND	4.61	24,290.87	164.33	0.38
LF-19	STRIP COMMERCIAL	SILT	0.49	36,640.38	247.46	0.47
LF-19	LOW DENSITY RESIDENTIAL	SILT	43.90	688,181.80	6,713.91	21.22
LF-19	OPEN SPACE UNDEVELOPED	SILT	5.58	51,565.13	222.85	0.47
LF-19	STRIP COMMERCIAL	CLAY	3.01	228,116.60	1,550.28	2.99
LF-19	OPEN SPACE UNDEVELOPED	CLAY	17.10	195,123.50	722.95	1.48
LF-19	LOW DENSITY RESIDENTIAL	CLAY	0.24	4,238.96	42.83	0.14
LF-20	LIGHT INDUSTRIAL	SAND	0.01	588.76	5.74	0.01
LF-20	INSTITUTIONAL	SAND	0.22	11,045.94	81.81	0.16
LF-20	OPEN SPACE UNDEVELOPED	SILT	3.69	34,096.33	147.28	0.31
LF-20	LIGHT INDUSTRIAL	SILT	11.53	679,164.10	6,702.99	8.47
LF-20	STRIP COMMERCIAL	SILT	2.35	175,722.90	1,185.95	2.26
LF-20	MEDIUM INDUSTRIAL	SILT	1.36	71,020.83	744.49	0.91
LF-20	INSTITUTIONAL	SILT	0.09	4,673.51	35.44	0.07
LF-20	LOW DENSITY RESIDENTIAL	SILT	0.93	14,595.11	142.20	0.45
LF-20	MOBILE HOMES	SILT	3.28	154,090.80	1,014.92	2.55
LF-20	OPEN SPACE UNDEVELOPED	CLAY	0.57	6,499.53	24.14	0.05
LF-20	STRIP COMMERCIAL	CLAY	0.08	6,065.30	41.09	0.08
LF-20	MEDIUM INDUSTRIAL	CLAY	0.80	43,723.17	453.28	0.58
LF-21	OPEN SPACE UNDEVELOPED	SAND	0.84	4,425.70	30.06	0.07
LF-21	OPEN SPACE UNDEVELOPED	SILT	1.38	12,751.01	55.09	0.12
LF-21	STRIP COMMERCIAL	CLAY	1.29	97,755.28	664.67	1.28
LF-21	LOW DENSITY RESIDENTIAL	CLAY	20.48	361,824.90	3,644.93	12.18
LF-21	OPEN SPACE UNDEVELOPED	CLAY	12.37	141,147.90	522.99	1.07
LF-21	MOBILE HOMES	CLAY	1.00	43,815.81	291.88	0.75
LF-22	LIGHT INDUSTRIAL	SAND	2.28	131,515.50	1,296.78	1.56
LF-22	OPEN SPACE UNDEVELOPED	SAND	4.40	23,187.05	156.72	0.36
LF-22	PARK	SAND	5.81	54,371.23	497.15	1.19
LF-22	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	7.17	181,999.60	1,470.42	4.24
LF-22	OPEN SPACE UNDEVELOPED	SILT	103.28	954,332.70	4,124.27	8.75
LF-22	STRIP COMMERCIAL	SILT	1.03	77,023.53	519.74	0.99
LF-22	MEDIUM INDUSTRIAL	SILT	0.12	6,269.44	65.68	0.08
LF-22	LIGHT INDUSTRIAL	SILT	1.54	90,713.02	895.38	1.13
LF-22	DUPLEX	SILT	2.63	73,744.10	566.17	1.62
LF-22	LOW DENSITY RESIDENTIAL	SILT	35.92	563,069.30	5,493.40	17.36
LF-22	MOBILE HOMES	SILT	2.98	139,996.70	922.09	2.31
LF-22	PARK	SILT	1.40	17,932.01	187.17	0.59
LF-22	LOW DENSITY RESIDENTIAL	CLAY	4.54	80,210.03	808.13	2.70
LF-22	OPEN SPACE UNDEVELOPED	CLAY	15.69	179,032.10	663.30	1.36
LF-22	PARK	CLAY	0.66	9,700.32	105.61	0.36

SUBBASIN NAME	LAND USE TYPE	SOIL TYPE	AREA (Ac)	RUNOFF VOLUME (cf/yr)	PARTICULATE SOLIDS YIELD (lbs/yr)	PARTICULATE PHOSPHOROUS (lbs/yr)
LF-22	MEDIUM INDUSTRIAL	CLAY	1.35	73,795.67	765.06	0.98
LF-22	LIGHT INDUSTRIAL	CLAY	0.13	7,743.46	76.40	0.10
LF-25	OPEN SPACE UNDEVELOPED	SILT	0.66	6,095.30	26.36	0.06
LF-25	LOW DENSITY RESIDENTIAL	SILT	5.15	80,738.63	787.73	2.49
LF-25	SCHOOL	SILT	0.13	6,186.12	47.49	0.12
LF-25	LOW DENSITY RESIDENTIAL	CLAY	0.77	13,591.69	137.09	0.46
LF-25	SCHOOL	CLAY	0.12	5,852.58	45.67	0.12
LF-25	OPEN SPACE UNDEVELOPED	CLAY	0.75	8,547.31	31.68	0.06
LF-26	LOW DENSITY RESIDENTIAL	SILT	24.65	386,425.60	3,770.00	11.92
LF-26	OPEN SPACE UNDEVELOPED	S	24.78	228,975.00	989.42	2.10
LF-26	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	S	11.56	293,430.90	2,370.72	6.83
LF-26	STRIP COMMERCIAL	S	0.11	8,228.38	55.35	0.11
LF-26	LIGHT INDUSTRIAL	S	1.47	86,580.48	854.41	1.08
LF-26	INSTITUTIONAL	S	4.05	210,022.20	1,593.53	3.30
LF-26	PARK	S	21.15	270,878.50	2,827.54	8.89
LF-26	SCHOOL	S	10.15	483,426.00	3,709.62	9.06
LF-26	OPEN SPACE UNDEVELOPED	CLAY	15.54	177,320.80	657.03	1.34
LF-26	PARK	CLAY	18.42	270,660.30	2,947.17	9.92
LF-26	INSTITUTIONAL	CLAY	0.24	12,685.62	97.51	0.21
LF-26	SCHOOL	CLAY	11.15	543,333.80	4,240.74	10.70
LF-26	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	0.51	14,578.97	117.79	0.36
LF-26	LOW DENSITY RESIDENTIAL	CLAY	14.79	261,295.00	2,632.32	8.80
LF-27	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	10.84	275,141.30	2,222.95	6.40
LF-27	OPEN SPACE UNDEVELOPED	SILT	3.26	30,126.63	130.14	0.28
LF-27	STRIP COMMERCIAL	SILT	2.10	157,040.70	1,059.81	2.02
LF-27	MEDIUM INDUSTRIAL	SILT	1.09	56,917.93	596.64	0.73
LF-27	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	8.55	244,481.00	1,974.31	5.97
LF-27	OPEN SPACE UNDEVELOPED	CLAY	6.40	73,030.27	270.50	0.55
LF-27	SCHOOL	CLAY	0.95	46,288.65	361.28	0.91
LF-27	STRIP COMMERCIAL	CLAY	1.67	126,556.40	860.31	1.66
LF-27	INSTITUTIONAL	CLAY	0.30	15,853.65	121.68	0.26
LF-28	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	3.00	76,148.05	615.22	1.77
LF-28	OPEN SPACE UNDEVELOPED	SILT	0.43	3,977.97	17.13	0.04
LF-28	STRIP COMMERCIAL	SILT	0.42	31,404.50	212.07	0.40
LF-28	INSTITUTIONAL	SILT	0.23	11,923.40	90.42	0.19
LF-28	LOW DENSITY RESIDENTIAL	SILT	0.93	14,595.11	142.20	0.45
LF-28	PARK	CLAY	0.17	2,501.23	27.19	0.09
LF-28	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	6.58	188,146.80	1,519.38	4.59
LF-28	OPEN SPACE UNDEVELOPED	CLAY	1.27	14,496.23	53.79	0.11
LF-28	STRIP COMMERCIAL	CLAY	0.14	10,614.29	72.34	0.14
LF-28	MEDIUM INDUSTRIAL	CLAY	0.59	32,250.15	334.39	0.43
LF-28	INSTITUTIONAL	CLAY	0.24	12,685.62	97.51	0.21
LF-28	LOW DENSITY RESIDENTIAL	CLAY	0.04	705.65	7.23	0.02
SB-2A	OPEN SPACE UNDEVELOPED	CLAY	14.99	171,034.70	633.78	1.30
SB-2A	LOW DENSITY RESIDENTIAL	CLAY	21.92	387,238.10	3,901.11	13.04
SB-2A	SCHOOL	CLAY	0.45	21,933.49	171.14	0.43
SB-2A	MEDIUM INDUSTRIAL	CLAY	0.69	37,712.93	391.05	0.50
SB-2A	PARK	CLAY	0.19	2,789.89	30.40	0.10
SB-2B	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	2.18	55,346.26	447.06	1.29
SB-2B	OPEN SPACE UNDEVELOPED	SILT	0.05	467.76	1.98	0.00
SB-2B	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	4.88	139,540.60	1,126.83	3.41
SB-2B	OPEN SPACE UNDEVELOPED	CLAY	18.64	212,688.40	788.04	1.61
SB-2B	LOW DENSITY RESIDENTIAL	CLAY	14.25	251,761.00	2,536.24	8.48
SB-2C	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	20.99	532,766.90	4,304.45	12.40
SB-2C	OPEN SPACE UNDEVELOPED	SILT	4.23	39,086.05	168.98	0.36
SB-2C	STRIP COMMERCIAL	SILT	0.34	25,427.41	171.79	0.33
SB-2C	INSTITUTIONAL	SILT	0.72	37,332.85	283.29	0.59
SB-2C	SCHOOL	SILT	0.29	13,818.65	105.98	0.26
SB-2C	LOW DENSITY RESIDENTIAL	CLAY	29.60	522,930.70	5,267.99	17.61
SB-2C	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	79.40	2,270,199.00	18,334.09	55.43
SB-2C	OPEN SPACE UNDEVELOPED	CLAY	125.23	1,428,950.00	5,294.77	10.82
SB-2C	STRIP COMMERCIAL	CLAY	7.67	581,282.40	3,950.94	7.61
SB-2C	SCHOOL	CLAY	11.20	545,774.90	4,259.76	10.75
SB-2C	DUPLEX	CLAY	0.07	2,174.06	16.71	0.05
SB-2C	INSTITUTIONAL	CLAY	1.08	57,080.36	438.01	0.94
SB-3	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	2.38	60,422.77	488.08	1.41
SB-3	OPEN SPACE UNDEVELOPED	SILT	0.42	3,876.51	16.75	0.04
SB-3	PARK	CLAY	3.61	53,047.48	577.64	1.94
SB-3	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	37.43	1,070,208.00	8,642.89	26.13
SB-3	OPEN SPACE UNDEVELOPED	CLAY	3.86	44,046.59	163.25	0.33
SB-5A	LOW DENSITY RESIDENTIAL	CLAY	8.38	148,054.50	1,491.44	4.99
SB-5A	OPEN SPACE UNDEVELOPED	CLAY	2.58	29,443.65	109.11	0.22
SB-5A	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	8.23	235,305.00	1,900.34	5.75
SB-5A	DUPLEX	CLAY	0.11	3,418.99	26.26	0.08
SB-5B	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	7.39	211,277.80	1,706.35	5.16
SB-5B	LOW DENSITY RESIDENTIAL	CLAY	10.74	189,742.80	1,911.56	6.39
SB-5B	OPEN SPACE UNDEVELOPED	CLAY	3.41	38,921.34	144.21	0.29
SB-5C	LOW DENSITY RESIDENTIAL	CLAY	3.09	54,591.22	550.02	1.84
SB-7B	OPEN SPACE UNDEVELOPED	CLAY	22.93	261,646.10	969.57	1.98
SB-7B	LOW DENSITY RESIDENTIAL	CLAY	157.25	2,778,082.00	27,986.32	93.54
SB-7B	DUPLEX	CLAY	10.31	320,946.60	2,463.10	7.39
TC-1	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	7.35	186,553.80	1,507.30	4.34
TC-1	OPEN SPACE UNDEVELOPED	SILT	18.22	168,356.70	727.68	1.54
TC-1	STRIP COMMERCIAL	SILT	2.10	157,040.70	1,059.81	2.02
TC-1	MEDIUM INDUSTRIAL	SILT	0.14	7,305.42	76.34	0.09
TC-1	LOW DENSITY RESIDENTIAL	SILT	19.10	299,416.60	2,921.10	9.23
TC-1	INSTITUTIONAL	SILT	0.71	36,820.92	279.37	0.58
TC-1	MULTI-FAMILY RESIDENTIAL NO ALLEYS	SILT	1.67	73,789.02	459.64	1.15
TC-1	SCHOOL	SILT	0.99	47,147.71	361.82	0.88
TC-1	OPEN SPACE UNDEVELOPED	CLAY	22.48	256,512.60	950.38	1.94
TC-1	STRIP COMMERCIAL	CLAY	4.32	327,393.90	2,225.37	4.29
TC-1	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	12.06	344,825.40	2,784.81	8.42
TC-1	INSTITUTIONAL	CLAY	7.10	375,135.20	2,878.88	6.16
TC-1	LOW DENSITY RESIDENTIAL	CLAY	50.38	890,050.60	8,966.29	29.97
TC-1	MULTI-FAMILY RESIDENTIAL NO ALLEYS	CLAY	6.00	276,064.60	1,753.91	4.55
TC-1	SCHOOL	CLAY	19.04	927,801.50	7,241.51	18.27
TC-1	MEDIUM INDUSTRIAL	CLAY	0.23	12,568.33	130.16	0.17
TC-1	DUPLEX	CLAY	0.27	8,400.23	64.48	0.19
TC-10	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	0.99	25,130.81	203.00	0.58
TC-10	OPEN SPACE UNDEVELOPED	CLAY	2.96	33,779.89	125.16	0.26
TC-10	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	57.23	1,636,309.00	13,214.83	39.95
TC-10	STRIP COMMERCIAL	CLAY	3.23	244,795.90	1,663.71	3.21
TC-10	LOW DENSITY RESIDENTIAL	CLAY	1.49	26,324.71	265.26	0.89

SUBBASIN NAME	LAND USE TYPE	SOIL TYPE	AREA (Ac)	RUNOFF VOLUME (cf/yr)	PARTICULATE SOLIDS YIELD (lbs/yr)	PARTICULATE PHOSPHOROUS (lbs/yr)
TC-10	PARK	CLAY	0.03	441.60	4.85	0.02
TC-11	OPEN SPACE UNDEVELOPED	CLAY	22.20	253,312.30	938.66	1.92
TC-11	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	16.70	477,485.10	3,856.16	11.66
TC-11	INSTITUTIONAL	CLAY	3.70	195,492.20	1,500.32	3.21
TC-11	LOW DENSITY RESIDENTIAL	CLAY	0.32	5,639.97	56.90	0.19
TC-12	OPEN SPACE UNDEVELOPED	CLAY	39.43	449,924.70	1,667.06	3.41
TC-12	STRIP COMMERCIAL	CLAY	1.91	144,751.80	983.66	1.90
TC-12	CEMETERY	CLAY	0.02	320.21	3.66	0.01
TC-12	LOW DENSITY RESIDENTIAL	CLAY	121.87	2,153,009.00	21,689.54	72.50
TC-12	PARK	CLAY	3.41	50,113.48	545.65	1.84
TC-13	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	72.54	1,841,254.00	14,876.03	42.86
TC-13	OPEN SPACE UNDEVELOPED	SILT	17.28	159,669.20	690.06	1.46
TC-13	STRIP COMMERCIAL	SILT	4.27	319,308.40	2,155.02	4.11
TC-13	INSTITUTIONAL	SILT	1.60	82,967.08	629.60	1.30
TC-13	LOW DENSITY RESIDENTIAL	SILT	24.73	387,684.30	3,782.08	11.95
TC-13	MULTI-FAMILY RESIDENTIAL NO ALLEYS	SILT	0.73	32,251.05	200.85	0.50
TC-13	MOBILE HOMES	SILT	0.03	1,407.86	9.18	0.02
TC-13	PARK	SILT	0.36	4,621.94	48.17	0.15
TC-13	LOW DENSITY RESIDENTIAL	CLAY	108.19	1,911,353.00	19,254.96	64.36
TC-13	OPEN SPACE UNDEVELOPED	CLAY	88.38	1,008,469.00	3,736.68	7.64
TC-13	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	9.38	268,204.30	2,165.92	6.55
TC-13	STRIP COMMERCIAL	CLAY	0.67	50,779.06	345.20	0.67
TC-13	PARK	CLAY	4.34	63,767.97	694.37	2.34
TC-13	MOBILE HOMES	CLAY	0.31	13,587.21	90.39	0.23
TC-2	LOW DENSITY RESIDENTIAL	SILT	0.79	12,390.05	120.92	0.38
TC-2	MEDIUM INDUSTRIAL	SILT	0.61	31,845.14	333.89	0.41
TC-2	OPEN SPACE UNDEVELOPED	SILT	2.49	23,002.51	99.31	0.21
TC-2	LOW DENSITY RESIDENTIAL	CLAY	3.42	60,411.13	608.64	2.03
TC-2	PARK	CLAY	5.93	87,139.29	948.86	3.19
TC-2	STRIP COMMERCIAL	CLAY	1.77	134,135.00	911.82	1.76
TC-2	MEDIUM INDUSTRIAL	CLAY	2.81	153,586.50	1,592.11	2.03
TC-2	OPEN SPACE UNDEVELOPED	CLAY	7.59	86,595.39	320.87	0.66
TC-3	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SAND	0.05	1,128.75	8.36	0.02
TC-3	STRIP COMMERCIAL	SAND	0.06	4,462.14	29.78	0.06
TC-3	LOW DENSITY RESIDENTIAL	SAND	2.05	24,680.85	219.74	0.57
TC-3	OPEN SPACE UNDEVELOPED	SAND	2.49	13,115.11	88.62	0.20
TC-3	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	70.56	1,791,009.00	14,470.10	41.69
TC-3	OPEN SPACE UNDEVELOPED	SILT	95.42	881,702.40	3,810.35	8.09
TC-3	STRIP COMMERCIAL	SILT	1.66	124,135.10	837.56	1.60
TC-3	LOW DENSITY RESIDENTIAL	SILT	40.87	640,662.30	6,250.52	19.76
TC-3	MULTI-FAMILY RESIDENTIAL NO ALLEYS	SILT	0.60	26,510.02	165.12	0.41
TC-3	PARK	SILT	32.40	414,976.90	4,331.65	13.61
TC-3	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	29.83	852,890.60	6,887.95	20.83
TC-3	OPEN SPACE UNDEVELOPED	CLAY	32.29	368,455.50	1,365.23	2.79
TC-3	STRIP COMMERCIAL	CLAY	0.72	54,563.66	370.99	0.71
TC-3	LOW DENSITY RESIDENTIAL	CLAY	22.39	395,560.90	3,984.91	13.32
TC-3	PARK	CLAY	1.42	20,869.83	227.24	0.76
TC-3	MULTI-FAMILY RESIDENTIAL NO ALLEYS	CLAY	0.25	11,501.25	73.06	0.19
TC-4	MOBILE HOMES	SILT	9.38	440,671.40	2,902.53	7.28
TC-4	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	3.84	97,462.54	787.43	2.27
TC-4	STRIP COMMERCIAL	SILT	0.76	56,831.97	383.35	0.73
TC-4	LIGHT INDUSTRIAL	SILT	0.26	15,314.61	151.06	0.19
TC-4	INSTITUTIONAL	SILT	1.07	55,476.10	420.89	0.87
TC-4	LOW DENSITY RESIDENTIAL	SILT	12.16	190,621.20	1,859.59	5.88
TC-4	MULTI-FAMILY RESIDENTIAL NO ALLEYS	SILT	0.32	14,139.68	88.16	0.22
TC-4	OPEN SPACE UNDEVELOPED	SILT	6.96	64,316.67	277.95	0.59
TC-4	OPEN SPACE UNDEVELOPED	CLAY	18.94	216,127.30	800.86	1.64
TC-4	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	16.91	483,486.50	3,904.68	11.81
TC-4	STRIP COMMERCIAL	CLAY	0.59	44,704.93	304.10	0.59
TC-4	MOBILE HOMES	CLAY	24.86	1,089,260.00	7,256.10	18.67
TC-4	LOW DENSITY RESIDENTIAL	CLAY	4.77	84,257.99	848.98	2.84
TC-4	LIGHT INDUSTRIAL	CLAY	1.38	82,212.93	811.65	1.05
TC-5	OPEN SPACE UNDEVELOPED	SAND	2.44	12,863.76	86.90	0.20
TC-5	OPEN SPACE UNDEVELOPED	SILT	96.17	888,630.30	3,840.45	8.15
TC-5	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	49.59	1,258,730.00	10,169.61	29.30
TC-5	LOW DENSITY RESIDENTIAL	SILT	47.39	742,892.60	7,247.73	22.91
TC-5	STRIP COMMERCIAL	SILT	0.07	5,235.88	35.40	0.07
TC-5	MULTI-FAMILY RESIDENTIAL NO ALLEYS	SILT	1.62	71,578.06	445.92	1.11
TC-5	PARK	SILT	3.75	48,027.30	501.33	1.58
TC-5	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	207.12	5,921,947.00	47,825.64	144.60
TC-5	OPEN SPACE UNDEVELOPED	CLAY	129.37	1,476,189.00	5,469.74	11.18
TC-5	LOW DENSITY RESIDENTIAL	CLAY	15.41	272,235.70	2,742.45	9.17
TC-5	PARK	CLAY	0.35	5,130.78	55.94	0.19
TC-5	MULTI-FAMILY RESIDENTIAL NO ALLEYS	CLAY	0.41	18,852.44	119.71	0.31
TC-5	STRIP COMMERCIAL	CLAY	0.38	28,801.15	195.62	0.38
TC-7	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	SILT	0.51	12,943.22	104.61	0.30
TC-7	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	0.10	2,859.19	23.09	0.07
TC-7	STRIP COMMERCIAL	CLAY	3.24	245,551.40	1,669.16	3.22
TC-7	MEDIUM INDUSTRIAL	CLAY	3.18	173,801.10	1,801.90	2.30
TC-7	OPEN SPACE UNDEVELOPED	CLAY	8.16	93,111.08	344.88	0.70
TC-8	OPEN SPACE UNDEVELOPED	CLAY	0.91	10,391.12	38.51	0.08
TC-8	LOW DENSITY RESIDENTIAL	CLAY	9.63	170,140.70	1,713.83	5.73
TC-8	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	4.12	117,786.70	951.34	2.88
TC-9	LOW DENSITY RESIDENTIAL	CLAY	32.55	575,054.40	5,793.11	19.36
TC-9	MEDIUM DENSITY RESIDENTIAL NO ALLEYS	CLAY	8.96	256,190.30	2,068.99	6.26
TC-9	OPEN SPACE UNDEVELOPED	CLAY	14.46	164,997.40	611.37	1.25
TC-9	STRIP COMMERCIAL	CLAY	2.62	198,557.40	1,349.69	2.60
TOTAL			3,566.00	75,221,786.26	593,485.19	1,603.19

ORDINANCE NO. 08-10-13 B

AN ORDINANCE CREATING CHAPTER 15 OF THE TOWN
OF SALEM CODE OF ORDINANCES REGARDING
CONSTRUCTION SITE EROSION CONTROL.

The Town Board of the Town of Salem, Kenosha County, Wisconsin, does hereby ordain as follows:

SECTION 1. Purpose. The purpose of this ordinance is to create Chapter of the Town of Salem Code of Ordinances relating to relating to construction site erosion control.

SECTION 2. Chapter 15 Created. Chapter 15 of The Town of Salem Code of Ordinances is hereby created to provide as set forth in Exhibit A.

SECTION 3. Severability. Each section, subsection, paragraph, sentence, clause, phrase and provision of the foregoing ordinance is and the same is hereby declared to be severable and if any portion or provision thereof is duly determined to be invalid for any reason, such determination shall not invalidate any other portion or provision thereof.

SECTION 4. Effective Date. This ordinance shall take effect and be enforced from and after its passage and publication as required by law.

Adopted by the Town Board of the Town of Salem, Kenosha County, Wisconsin, this 13th day of October, 2008.

TOWN OF SALEM
Kenosha County, Wisconsin

By: /s/ Diann D. Tesar
Diann D. Tesar, Town Chair

Attest: /s/ Cynthia Ernest
Cynthia Ernest, Town Clerk

Exhibit A
CHAPTER 15 OF THE
TOWN OF SALEM CODE OF ORDINANCES
CONSTRUCTION SITE EROSION CONTROL

15.01 Authority.

- (1) This ordinance is adopted under the authority granted by s. 60.627, Wis. Stats. This ordinance supersedes all provision of an ordinance previously enacted under s. 60.62 Wis. Stats., that relate to construction site erosion control. Except as otherwise specified in s. 60.627 Wis. Stats., s. 60.62 Wis. Stats., applies to this chapter and to any amendment to this chapter.
- (2) The provisions of this ordinance are deemed not to limit any other lawful regulatory powers of the same governing body.
- (3) The Town Board hereby designates the Town Development Coordinator or his/her designee to administer and enforce the provision of this ordinance.
- (4) The requirements of this ordinance do not pre-empt more stringent erosion and sediment control requirements that may be imposed by any of the following:
 - (a) Wisconsin Department of Natural Resources administrative rules, permits or approvals including those authorized under s. s. 281.16 and 283.33, Wis. Stats.
 - (b) Targeted nonagricultural performance standards promulgated in rules by the Wisconsin Department of Natural Resources under Ch. NR 151.004, Wis. Adm. Code.

15.02 Findings of Fact.

The Town Board finds that runoff from land disturbing construction activity carries a significant amount of sediment and other pollutants to the waters of the State in the Town of Salem.

15.03 Purpose.

It is the purpose of this ordinance to further the maintenance of safe and healthful conditions; prevent and control water pollution; prevent and control soil erosion; protect spawning grounds, fish and aquatic life; control building sites, placement of structures and land uses; preserve ground cover and scenic beauty; and promote sound economic growth, by minimizing the amount of sediment and other pollutants carried by runoff or discharged from land disturbing construction activity to waters of the State in the Town of Salem.

15.04 Applicability and Jurisdiction.

- (1) **APPLICABILITY.** This ordinance applies to the following land disturbing construction activities except as provided under sub.(b).:
 - (a) A construction site, which has one or more acres of land disturbing construction activity.

(b) This ordinance does not apply to the following:

1. Land disturbing construction activity that includes the construction of a building and is otherwise regulated by the Wisconsin Department of Commerce under Comm s. 21.125 or 50.115, Wis. Adm. Code.
2. A construction project that is exempted by federal statutes or regulation from the requirement to have a national pollutant discharge elimination system permit issued under Ch. 40, Code of Federal Regulations, part 122, for land disturbing construction activity.
3. Nonpoint discharges from agricultural facilities and practices.
4. Nonpoint discharges from silviculture, or “forestry”, activities.
5. Routine maintenance for project sites under 5 acres of land disturbance if performed to maintain the original line and grade, hydraulic capacity or original purpose of the facility.

(c) Notwithstanding the applicability requirements in paragraph (a)., this ordinance applies to construction sites of any size that, in the opinion of the Town Board, are likely to result in runoff that exceeds the safe capacity of the existing drainage facilities or receiving body of water, that causes undue channel erosion, that increases water pollution by scouring or the transportation of particulate matter or that endangers property or public safety.

- (2) JURISDICTION. This ordinance applies to land disturbing construction activity on construction sites located within the boundaries and jurisdiction of the Town of Salem.
- (3) EXCLUSIONS. This ordinance is not applicable to activities conducted by a State agency, as defined under s. 227.01(1), Wis. Stats., but also including the office of district attorney, which is subject to the state plan promulgated or a memorandum of understanding entered into under s. 281.33(2), Wis. Stats.

15.05 Definitions.

- (1) ADMINISTERING AUTHORITY means the Town Development Coordinator or his/her designee, or municipal employees under s. 60.627, Wis. Stats., as designated by the Town Board of Trustees to administer this chapter.
- (2) AGRICULTURAL FACILITIES AND PRACTICES has the meaning in s. 281.16(1), Wis. Stats.
- (3) AVERAGE ANNUAL RAINFALL means a calendar year of precipitation, excluding snow, which is considered typical.
- (4) BEST MANAGEMENT PRACTICE OR BMP means structural or nonstructural measures, practices, techniques, or devices employed to:
 - (a) Avoid or minimize sediment or pollutants carried in runoff to waters of the State; or
 - (b) Manage the rate or volume of runoff.

- (5) BUSINESS DAY means a day the office of the Town Development Coordinator is routinely and customarily open for business.
- (6) CEASE AND DESIST ORDER means a court-issued order to halt land disturbing construction activity that is being conducted without the required permit.
- (7) CONSTRUCTION SITE means an area upon which one or more land disturbing construction activities occur, including areas that are part of a larger common plan of development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedule but under one plan.
- (8) DIVISION OF LAND means the creation from one parcel of 2 or more parcels or building sites of 1.5 or fewer acres each in area where such creation occurs at one time or through the successive partition within a 5-year period.
- (9) EROSION means the process by which the land's surface is worn away by the action of wind, water, ice or gravity.
- (10) EROSION AND SEDIMENT CONTROL means a comprehensive plan developed to address pollution caused by erosion and sedimentation of soil particles or rock fragments during construction.
- (11) EXTRATERRITORIAL means the unincorporated area within 3 miles of the corporate limits of a first, second, or third class city, or within 1.5 miles of a fourth class city or Town.
- (12) FINAL STABILIZATION means that all land disturbing construction activities at the construction site have been completed and that a uniform, perennial, vegetative cover has been established, with a density of at least 70 percent of the cover, for the unpaved areas and areas not covered by permanent structures, or employment of equivalent permanent stabilization measures.
- (13) GOVERNING BODY means the Town Board.
- (14) LAND DISTURBING CONSTRUCTION ACTIVITY means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in runoff and lead to an increase in soil erosions and movement of sediment into waters of the State. Land disturbing construction activity includes cleaning and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities.
- (15) MEP OR MAXIMUM EXTENT PRACTICABLE 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 the performance standards and may vary based on the performance standard and site conditions.
- (16) PERFORMANCE STANDARD means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

- (17) PERMIT means a written authorization made by the Town Development Coordinator to the applicant to conduct land disturbing construction activity or to discharge pots-construction runoff to waters of the State.
- (18) POLLUTANT has the meaning given in s. 283.01(13), Wis. Stats.
- (19) POLLUTION has the meaning given in s. 281.01(10), Wis. Stats.
- (20) RESPONSIBLE PARTY means any entity holding fee title to the property or performing services to meet the performance standards of this ordinance through a contract or other agreement.
- (21) RUNOFF means storm water or precipitation including rain, snow, or ice melt or similar water that moves on the land surface via sheet or channelized flow.
- (22) SEDIMENT means settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its original location.
- (23) SEPARATE STORM SEWER means a conveyance or system or conveyances including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all of the following criteria:
 - (a) Is designed or used for collecting water or conveying runoff;
 - (b) Is not part of a combined sewer system;
 - (c) Is not draining to a storm water treatment device or system; and
 - (d) Discharges directly or indirectly to waters of the State.
- (24) SITE means the entire area included in the legal description of the land on which the land disturbing construction activity occurred.
- (25) STOP WORK ORDER means an order issued by the Town Development Coordinator, which requires that all construction activity on the site be stopped.
- (26) TECHNICAL STANDARD means a document that specifies design, predicted performance, and operation and maintenance specifications for a material device, or method.
- (27) Town Development Coordinator means the Town of Salem Town Development Coordinator or his/her designee.
- (28) WATERS OF THE STATE has the meaning given in s. 281.01(18), Wis. Stats.

15.06 Technical Standards.

- (1) DESIGN CRITERIA, STANDARDS AND SPECIFICATIONS. All BMPs required to comply with this chapter shall meet the design criteria, standards, and specifications based on:
 - (a) Design guidance and technical standards identified or developed by the Wisconsin Department of Natural Resources under subch. V of ch. NR 151, Wis. Adm. Code.

- (b) For this ordinance, average annual basis is calculated using the appropriate annual rainfall or runoff factor, also referred to as the R factor, or an equivalent design storm using a type II distribution, with consideration given to the geographic location of the site and the period of disturbance.
- (2) OTHER STANDARDS. Other technical standards not identified or developed in sub.(1), may be used provided that the methods have been approved by the Town Development Coordinator.

15.07 Performance Standards.

- (1) RESPONSIBLE PARTY. The responsible party shall implement an erosion and sediment control plan, developed in accordance with sec. 15.09 of the Town of Salem Code of Ordinances which incorporates the requirements of this section.
- (2) PLAN. A written plan shall be developed in accordance with sec. 15.09 of the Town of Salem Code of Ordinances and implemented for each construction site.
- (3) EROSION AND OTHER POLLUTION CONTROL REQUIREMENTS. The plan required under sub.(2) shall include the following:
 - (a) BMPs that, by design, achieve to the maximum extent practicable, a reduction of 80 percent of the sediment load carried in runoff, on average annual basis, as compared with no sediment or erosion controls until the construction site has undergone final stabilization. No person shall be required to exceed an 80 percent sediment reduction to meet the requirements of this paragraph. Erosion and sediment control BMPs may be used alone or in combination to meet the requirements of this paragraph. Credit toward meeting the sediment reduction shall be given for limiting the duration or area, or both, of land disturbing construction activity, or other appropriate mechanism.
 - (b) Notwithstanding paragraph (a), if BMPs cannot be designed and implemented to reduce the sediment load by 80 percent, on an average annual basis, the plan shall include a written and site-specific explanation as to why the 80 percent reduction goal is not attainable and the sediment load shall be reduced the maximum extent practicable as determined by the Town Development Coordinator.
 - (c) Where appropriate, the plan shall include sediment controls to do all of the following to the maximum extent practicable:
 - 1. Prevent tracking of sediment from the construction site onto roads and other paved surfaces.
 - 2. Prevent the discharge of sediment as part of site dewatering.
 - 3. Protect the separate storm drain inlet structure from receiving sediment.
 - (d) The use, storage and disposal of chemicals, cement and other compounds and materials used on the construction site shall be managed during the construction periods, to prevent their entrance into waters of the State. However, projects that require the placement of these materials in waters of

the State, such as constructing bridge footings or BMP installations, are not prohibited by this paragraph.

- (4) LOCATION. The BMPs used to comply with this section shall be located prior to runoff entering waters of the State.
- (5) ALTERNATE REQUIREMENTS. The Town Development Coordinator may establish storm water management requirement more stringent than those set forth in this section if the Town Development Coordinator determines that an added level of protection is needed for sensitive resources.

15.08 Permitting Requirements, Procedures and Fees.

- (1) PERMIT REQUIRED. No responsible party may commence a land disturbing construction activity subject to this ordinance without receiving prior approval of an erosion and sediment control plan for the site and a permit from the Town Development Coordinator.
- (2) PERMIT APPLICATION AND FEES. At least one responsible party desiring to undertake a land disturbing construction activity subject to this ordinance shall submit an application for a permit and an erosion and sediment control plan that meets the requirements of sec. 15.09 of the Town Code and shall pay an application fee of \$200.00, plus any other fees or costs incurred by the Town in reviewing the permit, including but not limited to outside professional services, etc. to the Town Development Coordinator. By submitting an application, the applicant is authorizing the Town Development Coordinator to enter the site to obtain information required for the review of the erosion and sediment control plan. Proof of application for a State Notice of Intent Permit must be submitted with the local application. The Town of Salem will consider any application without proof of NOI to be an incomplete permit application.
- (3) REVIEW AND APPROVAL OF PERMIT APPLICATION. The Town Development Coordinator shall review any permit application that is submitted with an erosion and sediment control plan, and the required fee. The following approval procedure shall be used:
 - (a) Within 30 business days of the receipt of a complete permit application, as required by sub. (2)., the Town Development Coordinator shall inform the applicant whether the application and plan are approved or disapproved based on the requirements of this chapter.
 - (b) If the permit application and plan are approved, the Town Development Coordinator shall issue the permit.
 - (c) If the permit application or plan is disapproved, the Town Development Coordinator shall state in writing the reasons for disapproval.
 - (d) The Town Development Coordinator may request additional information from the applicant. If additional information is submitted, the Town Development Coordinator shall have 30 business days from the date the additional information is received to inform the applicant that the plan is either approved or disapproved.

- (e) Failure by the Town Development Coordinator to inform the permit applicant of a decision within 30 business days of a required submittal shall be deemed to mean approval of the submittal and the applicant may proceed as if a permit had been issued.
- (4) SURETY BOND. As a condition of approval and issuance of the permit, the Town Development Coordinator may require the applicant to deposit a surety bond, an irrevocable letter of credit or cash deposit in an amount determined sufficient by the Town Development Coordinator to guarantee a good faith execution of the approved erosion control plan and any permit conditions. Said surety may be up to 150 percent of the estimated costs necessary to complete the plan and permit conditions.
- (5) PERMIT REQUIREMENTS. All permits shall require the responsible party to:
- (a) Notify the Town Development Coordinator within 2 business days of commencing any land disturbing construction activity.
 - (b) Notify the Town Development Coordinator of completion of any BMPs within 14 days after their installation.
 - (c) Obtain permission in writing from the Town Development Coordinator prior to any modification pursuant to sec. 15.09.(3). of the erosion and sediment control plan.
 - (d) Install all BMPs as identified in the approved erosion and sediment control plan.
 - (e) Maintain all road drainage systems, storm water drainage systems, BMPs and other facilities identified in the erosion and sediment control plan.
 - (f) Repair any siltation or erosion damage to adjoining surfaces and drainage ways resulting from land disturbing construction activities and document repairs in a site erosion control log.
 - (g) Inspect the BMPs within 24 hours after each rain of 0.5 inches or more which results in runoff during active construction periods, and at least once each week. Make needed repairs and document the findings of the inspections in a site erosion control log with the date of inspection, the name of the person conducting the inspection, and description of the present phase of the construction at the site. Inspection reports shall be submitted to the Town Development Coordinator or his/her designee for review after each weekly inspection. If an inspection report is not submitted as scheduled, a Town representative will inspect the site within two business days for compliance with the sediment and erosion control plan.
 - (h) Allow the Town Development Coordinator to enter the site for the purpose of inspecting compliance with the erosion and sediment control plan or for performing any work necessary to bring the site into compliance with the control plan. Keep a copy of the erosion and sediment control plan at the construction site.

- (6) **PERMIT CONDITIONS.** Permits issued under this section may include conditions established by Town Development Coordinator in addition to the requirements set forth in sub.(5), where needed to assure compliance with the performance standards in sec. 15.07 of the Town Code.
- (7) **PERMIT DURATION.** Permits issued under this section shall be valid for a period of 180 days, or other construction authorizations, which ever is longer, from the date of issuance. The Town Development Coordinator may extend the period one or more times for up to an additional 180 days. The Town Development Coordinator may require additional BMPs as a condition of the extension if they are necessary to meet the requirements of this chapter.
- (8) **MAINTENANCE.** The responsible party throughout the duration of the construction activities shall maintain all BMPs necessary to meet the requirements of this chapter until the site has undergone final stabilization.

15.09 Erosion and Sediment Control Plan, Statement, and Amendments.

- (1) **EROSION AND SEDIMENT CONTROL PLAN.**
 - (a) An erosion and sediment control plan shall be prepared and submitted to the Town Development Coordinator.
 - (b) The erosion and sediment control plan shall be designed to meet performance standards in sec. 15.07 of the Town Code and other requirements of this chapter.
 - (c) The erosion and sediment control plan shall address pollution caused by soil erosion and sedimentation during construction and up to final stabilization of the site. The erosion and sediment control plan shall include, at a minimum, the following items:
 1. The name(s) and address(es) of the owner or developer of the site, and of any consulting firm retained by the applicant, together with the name of the applicant's principal contact at such firm. The application shall also include start and end dates for construction.
 2. Description of the site and the nature of the construction activity, including representation of the limits of land disturbance on a United States Geological Service 7.5 minute series topographic map.
 3. A sequence of construction of the development site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, installation of temporary erosion and sediment control measures, and establishment of permanent vegetation.
 4. Estimates of the total area of the site and the total area of the site that is expected to be disturbed by construction activities.

5. Estimates, including calculations, if any, of the runoff coefficient of the site before and after construction activities are completed.
 6. Calculations to show the expected percent reduction in average annual sediment load carried in runoff as compared to no sediment or erosion controls.
 7. Existing data describing the surface soil as well as subsoils.
 8. Depth to groundwater, as indicated by Natural Resources Conservation Service soil information where available.
 9. Name of the immediate named receiving water from the United States Geological Service 7.5 minute series topographic maps.
- (d) The erosion and sediment control plan shall include a site map. The site map shall include the following items and shall be at a scale not greater than 100 feet per inch and at a contour interval not to exceed 5 feet.
1. Existing topography, vegetative cover, natural and engineered drainage systems, roads and surface waters. Lakes, streams, wetlands, channels, ditches and other watercourses on and within 200 feet of the site shall be shown. Any identified 100-year flood plains, flood fringes and floodways shall also be shown.
 2. Boundaries of the construction site.
 3. Drainage patterns and approximate slopes anticipated after major grading activities.
 4. Areas of soil disturbance.
 5. Location of major structural and non-structural controls identified in the plan.
 6. Location of areas where stabilization practices will be employed.
 7. Areas which will be vegetated following construction.
 8. Overall extent of wetland acreage on the site and locations where storm water is discharged to a surface water or wetland.
 9. Locations of all surface waters and wetlands within one mile of the construction site.
 10. An alphanumeric or equivalent grid overlying the entire construction site map.
- (e) Each erosion and sediment control plan shall include a description of appropriate controls and measures that will be performed at the site to prevent pollutants from reaching waters of the State. The plan shall clearly describe the appropriate control measures for each major activity and the timing during the construction process that the measures will be implemented. The description of erosion controls shall include, when appropriate, the following minimum requirements:

1. Description of interim and permanent stabilization practices, including a practice implementation schedule. Site plans shall ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized.
2. Description of structural practices to divert flow away from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from the site. Unless otherwise specifically approved in writing by the Town Development Coordinator, structural measures shall be installed on upland soils.
3. Management of overland flow at all sites, unless otherwise controlled by outfall controls.
4. Trapping of sediment in channelized flow.
5. Staging construction to limit bare areas subject to erosion.
6. Protection of downslope drainage inlets where they occur.
7. Minimization of tracking at all sites.
8. Clean up of off-site sediment deposits.
9. Proper disposal of building and waste materials at all sites.
10. Stabilization of drainage ways.
11. Control of soil erosion from dirt stockpiles.
12. Installation of permanent stabilization practices as soon as possible after final grading.
13. Minimization of dust to the maximum extent practicable.

(f) The erosion and sediment control plan shall require that velocity dissipation devices be placed at discharge locations and along the length of any outfall channel, as necessary, to provide a nonerosive flow from the structure to a water course so that the natural physical and biological characteristics and function are maintained and protected.

(2) **EROSION AND SEDIMENT CONTROL PLAN STATEMENT.** For each construction site identified under sec. 15.04.(1).(c) of the Town Code, an erosion and sediment control plan statement shall be prepared. This statement shall be submitted to the Town Development Coordinator. The control plan statement shall briefly describe the site, including a site map. Further, it shall also include the best management practices that will be used to meet the requirements of this ordinance, including the site development schedule.

(3) **AMENDMENTS.** The applicant shall amend the plan if any of the following occur:

(a) There is a change in design, construction, operation or maintenance at the site which has the reasonable potential for the discharge of pollutants to waters of the State and which has not otherwise been addressed in the plan.

- (b) The actions required by the plan fail to reduce the impacts of the pollutants carried by construction site runoff.
- (c) The Town Development Coordinator notifies the applicant of changes need in the plan.

15.10 Fee Schedule.

The fees referred to in other sections of this ordinance shall be established by the Town Development Coordinator and may from time to time be modified by resolution adopted by the Board of Trustees. A schedule of the fees established by the Town Development Coordinator shall be available for review in the Town Hall, 9814 Antioch Road, Highway 83, P.O. Box 443, Salem, WI 53168. The initial fee shall be \$200, plus any other fees or costs incurred by the Town in reviewing the permit, including but not limited to outside professional services, etc.

15.11 Inspection.

- (1) If land disturbing construction activities are being carried out without a permit required by this ordinance, the Town Development Coordinator may enter the land pursuant to the provisions of s.66.0119(1), (2), and (3), Wis. Stats.
- (2) The Town Development Coordinator will inspect all permitted sites for compliance at a minimum of once per month.
- (3) In the event of a complaint regarding sediment and erosion control on a permitted site, the Town Development Coordinator will inspect the site for compliance within 2 business days of receiving this complaint and notify the permit holder of all necessary repairs.

15.12 Enforcement.

- (1) The Town Development Coordinator may post a stop-work order if any of the following occurs:
 - (a) Any land-disturbing construction activity regulated under this ordinance is being undertaken without a permit.
 - (b) The erosion and sediment control plan is not being implemented in a good faith manner.
 - (c) The conditions of the permit are not being met.
- (2) If the responsible party does not cease activity as required in a stop-work order posted under this section or fails to comply with the erosion and sediment control plan or permit conditions, the Town Development Coordinator may revoke the permit.
- (3) If the responsible party, where no permit has been issued, does not cease the activity after being notified by the Town Development Coordinator, or if a responsible party violates a stop-work order posted under sub.(1), the Town Development Coordinator may request the Town Attorney to obtain a cease and desist order in any court with jurisdiction.

- (4) The Town Development Coordinator may retract the stop-work order issued under sub.(1) or the permit revocation under sub.(2).
- (5) After posting a stop-work order under sub.(1), the Town Development Coordinator may issue a notice of intent to the responsible party of its intent to perform work necessary to comply with this ordinance. The Town Development Coordinator may go on the land and commence the work after issuing the notice of intent. The costs of the work performed under this subsection by the Town Development Coordinator, plus interest at the rate authorized by the Town Development Coordinator shall be billed to the responsible party. In the event a responsible party fails to pay the amount due, the clerk shall enter the amount due on the tax rolls and collect as a special assessment against the property pursuant to subch. VII of Ch. 66, Wis. Stat.
- (6) Any person violating any of the provisions of this ordinance shall be subject to a forfeiture of not less than \$200 nor more than \$1,000 and the costs of prosecution of each violation. Each day a violation exists shall constitute a separate offense.
- (7) Compliance with the provisions of this chapter may also be enforced by injunction in any court with jurisdiction. Prosecution of a forfeiture action for violation of the provisions of this chapter shall not be a condition precedent to the commencement of an action seeking injunctive relief.

15.13 Appeals.

- (1) **BOARD OF APPEALS.** The Town Board of the Town of Salem shall hear and decide appeals where it is alleged that there is error in any order, decision or determination made by the Town Development Coordinator in administering this ordinance. Upon appeal, the Town Board may authorize variances from the provisions of this ordinance that are not contrary to the public interest, and where owing to special conditions a literal enforcement of the ordinance will result in unnecessary hardship.
- (2) **WHO MAY APPEAL.** Appeals to the Town Board may be taken by any aggrieved person affected by any decision of the Town Development Coordinator.

ORDINANCE NO. 08-10-13 C

AN ORDINANCE CREATING CHAPTER 16 OF THE TOWN
OF SALEM CODE OF ORDINANCES REGARDING POST-
CONSTRUCTION SITE STORM WATER MANAGEMENT.

The Town Board of the Town of Salem, Kenosha County, Wisconsin, does hereby ordain as follows:

SECTION 1. Purpose. The purpose of this ordinance is to create Chapter 16 of the Town of Salem Code of Ordinances relating to post-construction site storm water management.

SECTION 2. Chapter 16 Created. Chapter 15 of the Town of Salem Code of Ordinances is hereby created to provide as set forth in Exhibit A.

SECTION 3. Severability. Each section, subsection, paragraph, sentence, clause, phrase and provision of the foregoing ordinance is and the same is hereby declared to be severable and if any portion or provision thereof is duly determined to be invalid for any reason, such determination shall not invalidate any other portion or provision thereof.

SECTION 4. Effective Date. This ordinance shall take effect and be enforced from and after its passage and publication as required by law.

Adopted by the Town Board of the Town of Salem, Kenosha County, Wisconsin, this 13th day of October, 2008.

TOWN OF SALEM
Kenosha County, Wisconsin

By: /s/ Diann D. Tesar
Diann D. Tesar, Town Chair

Attest: /s/ Cynthia Ernest
Cynthia Ernest, Town Clerk

Exhibit A
CHAPTER 16 TOWN OF SALEM CODE OF ORDINANCES
POST-CONSTRUCTION SITE STORM WATER MANAGEMENT

16.01 Authority.

- (1) This ordinance is adopted by the Town Board under the authority granted by §60.627, Wis. Stats., for Towns. This ordinance supersedes all provisions previously enacted under s. 60.62, Wis. Stats., that relate to storm water management regulations. Except as otherwise specified in s. 60.627, Wis. Stats., s. 60.62, Wis. Stats., applies to this ordinance and to any amendments to this ordinance.
- (2) The provisions of this ordinance are deemed not to limit any other lawful regulatory powers of the same governing body.
- (3) The Town of Salem hereby designates the Town Development Coordinator to administer and enforce the provisions of this ordinance.
- (4) The requirements of this ordinance do not preempt more stringent storm water management requirements that may be imposed by any of the following:
 - (a) Wisconsin Department of Natural Resources administrative rules, permits or approvals including those authorized under s. s. 281.16 and 283.33, Wis. Stats.
 - (b) Targeted nonagricultural performance standards promulgated in rules by the Wisconsin Department of Natural Resources under Ch. NR 151.004, Wis. Adm. Code.

16.02 Findings of Fact.

The Town Board finds that uncontrolled, post-construction runoff has a significant impact upon the water resources and the health, safety and general welfare of the community and diminishes the public enjoyment and use of natural resources. Specifically, uncontrolled post-construction runoff can:

- (1) Degrade physical stream habitat by increasing stream bank erosion, increasing streambed scour, diminishing groundwater recharge, diminishing stream base flows and increasing stream temperature;
- (2) Diminish the capacity of lakes and streams to support fish, aquatic life, recreational and water supply uses by increasing pollutant loading of sediment, suspended solids, nutrients, heavy metals, bacteria, pathogens and other urban pollutants;
- (3) Alter wetland communities by changing wetland hydrology and by increasing pollutant loads;
- (4) Reduce the quality of groundwater by increasing pollutant loading;
- (5) Threaten public health, safety, property, and general welfare by overtaxing storm sewers drainage ways, and other minor drainage facilities;
- (6) Threaten public health, safety, property, and general welfare by increasing major flood peaks and volumes;

- (7) Undermine floodplain management efforts by increasing the incidence and levels of flooding; and
- (8) Aggravate excessive infiltration and inflow of water into sanitary sewer connections during peak storm events causing the conveyance system to surcharge, overflow, or backup into basements.

16.03 Purpose and Intent.

- (1) The general purpose of this ordinance is to establish long-term, post construction runoff management requirements that will diminish threats to public health, safety, welfare and the aquatic environment. Specific purposes are to:
 - (a) Further the maintenance of safe and healthful conditions.
 - (b) Prevent and control the adverse effects of storm water; prevent and control soil erosion; prevent and control water pollution; protect spawning grounds, fish and aquatic life; control building sites, placement of structures and land uses; preserve ground cover and scenic beauty; and promote sound economic growth.
 - (c) Control exceedance of the safe capacity of existing drainage facilities and receiving water bodies; prevent undue channel erosion; control increases in the scouring and transportation of particulate matter; and prevent conditions that endanger downstream property.
- (2) INTENT. It is the intent of the Town that this ordinance regulates post-construction storm water discharges to waters of the State. This ordinance may be applied on a site-by-site basis. The Town recognizes, however, that the preferred method of achieving the storm water performance standards set forth in this ordinance is through the preparation and implementation of comprehensive, systems-level storm water management plans that cover hydrologic units, such as watersheds, on a municipal and regional scale. Such plans may prescribe regional storm water devices, practices or systems, any of which may be designed to treat runoff from more than one site prior to discharge to waters of the State. Where such plans are in conformance with the performance standards developed under s. 281.16, Wis. Stats., for regional storm water management measures and have been approved by the Town, it is the intent of this ordinance that the approved plan be used to identify post-construction management measures acceptable for the community.

16.04 Applicability and Jurisdiction

- (1) APPLICABILITY. Where not otherwise limited by law, this ordinance applies after final stabilization to a site of land disturbing construction activity disturbing one or more acres of land, unless the site is otherwise exempt under paragraph (2).
- (2) A site meeting any of the following criteria is exempt from the requirements of this ordinance.
 - (a) A redevelopment post-construction site with no increase in impervious area such as exposed parking lots, buildings or roads.

- (b) A post-construction site with less than 10 percent connected imperviousness based on complete development of the post-construction site, provided the cumulative area of all parking lots and rooftops is less than one acre.
 - (c) Nonpoint discharges from agricultural facilities and practices.
 - (d) Nonpoint discharges from silviculture activities.
 - (e) Routine maintenance for project sites under 5 acres of land disturbance if performed to maintain the original line and grade, hydraulic capacity or original purpose of the facility.
 - (f) Underground utility construction such as water, sewer, and fiber optic lines. This exemption does not apply to the construction of any of the above ground structures associated with utility construction.
 - (g) Recreational trails if the trail is less than or equal to 10 feet in width and has a continuous pervious buffer at least 5 feet wide on each side disregarding interruption by streets, driveways, or other impervious surfaces crossing the trail; or
 - (h) Notwithstanding the applicability requirements in paragraph (1), this chapter applies to post-construction sites of the any size that, in the opinion of the Town Development Coordinator, is likely to result in runoff that exceeds the capacity of the existing drainage facilities of the level of flooding protection in a watercourse that causes undue channel erosion, that increases water pollution by scouring or the transportation of the particulate matter or that endangers property or public safety.
- (3) JURISDICTION. This ordinance applies to post construction sites within the boundaries and jurisdiction of the Town of Salem.
- (4) EXCLUSIONS. This ordinance is not applicable to activities conducted by a state agency as defined under s. 227.01 (1), Wis. Stats., but also including the office of district attorney, which is subject to the state plan promulgated or a memorandum of understanding entered into under s. 281.33 (2), Wis. Stats.

16.05 Definitions

- (1) ADMINISTERING AUTHORITY means the Town Development Coordinator, or his/her designee, municipal employees under § 60.627. Wis. Stats., as designated by the Town Board to administer this chapter.
- (2) AGRICULTURAL FACILITIES AND PRACTICES has the meaning given in § 381.16, Wis. Stats.
- (3) AVERAGE ANNUAL RAINFALL means a calendar year of precipitation, excluding snow, which is considered typical.
- (4) BEST MANAGEMENT PRACTICE OR BMP means structural or nonstructural measures, practices, techniques, or devices employed to:
 - (a) Avoid or minimize sediment or pollutants carried in runoff to waters of the State; or

(b) Manage the rate or volume of runoff.

- (5) BUSINESS DAY means a day the office of the Town Development Coordinator is routinely and customarily open for business.
- (6) CEASE AND DESIST ORDER means a court-issued order to halt land disturbing construction activity that is being conducted without the required permit.
- (7) 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.
- (8) DESIGN STORM means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency, and total depth rainfall.
- (9) DEVELOPMENT means construction of residential, commercial, industrial or institutional land uses and associated roads, including redevelopment.
- (10) DIVISION OF LAND means the creation from one parcel of 2 or more parcels or building sites of 1.5 or fewer acres each in area where such creation occurs at one time or through the successive partition within a 5-year period.
- (11) 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.
- (12) EROSION means the process by which the land's surface is worn away by the action of wind, water, ice or gravity.
- (13) EXCEPTIONAL RESOURCE WATERS means waters listed in §NR 102.11, Wis. Adm. Code.
- (14) EXTRATERRITORIAL means the unincorporated area within 3 miles of the corporate limits of a first, second, or third, class city, or within 1.5 miles of a fourth class city or Town.
- (15) FINAL STABILIZATION means that all land disturbing construction activities at the construction site have been completed and that a uniform, perennial, vegetative cover has been established, with a density of at least 70 percent of the cover, for the unpaved areas and areas not covered by permanent structures, or employment of equivalent permanent stabilization measures.
- (16) FINANCIAL GUARANTEE means a performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantees submitted to the Town Development Coordinator by the responsible party to assure that requirements of the ordinance are carried out in compliance with the storm water management plan.
- (17) IMPERVIOUS SURFACE means any pavement or structural element that prevents rain, surface water runoff, or melting snow from infiltrating into the ground below, including, but not limited to, roofs and paved roads, driveways, and parking lots.

- (18) IN-FILL AREA means an undeveloped area of land located within existing development.
- (19) INFILTRATION means the entry of precipitation or runoff into or through the soil.
- (20) 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.
- (21) KARST FEATURE means an area or surficial geologic feature subject to bedrock dissolution so that it is likely to provide a conduit to groundwater, and may include caves, enlarged fractures, mine features, exposed bedrock surfaces, sinkholes, springs, seeps or swallets.
- (22) LAND DISTURBING CONSTRUCTION ACTIVITY means any manmade alteration of the land surface resulting in a change in the topography or existing vegetative or nonvegetative soil cover, that may result in runoff and lead to an increase in soil erosion and movement of sediment into waters of the State. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling or grading activities.
- (23) MAINTENANCE AGREEMENT means a legal document that provides for long-term maintenance of storm water management practices.
- (24) MEP OR MAXIMUM EXTENT PRACTICABLE 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 the performance standards and may vary based on the performance standard and site conditions.
- (25) NEW DEVELOPMENT means development resulting from the conversion of previously undeveloped land or agricultural land use.
- (26) OFF-SITE means located outside the property boundary described in the permit application.
- (27) ON-SITE means located within the property boundary described in the permit application.
- (28) ORDINARY HIGH-WATER MARK has the meaning given in §NR 155.03(6), Wis. Adm. Code.
- (29) OUTSTANDING RESOURCE WATERS means waters listed in §NR 102.10, Wis. Adm. Code.
- (30) PERCENT FINES means the percentage of a given sample soil, which passes through a #200 sieve.
- (31) PERFORMANCE STANDARD means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

- (32) PERMIT means a written authorization made by the Town Development Coordinator to applicant to conduct land disturbing construction activity or to discharge post-construction runoff to waters of the State.
- (33) PERMIT ADMINISTRATION FEE means a sum of money paid to the Town Development Coordinator by the permit applicant for the purpose of recouping the expenses incurred by the authority in administering the permit.
- (34) PERVIOUS SURFACE means an area that releases as runoff a small portion of the precipitation that falls on it. Lawns, gardens, parks, forests, or other similar vegetated areas are examples of surfaces that typically are pervious.
- (35) POLLUTANT has the meaning given in §283.01(3), Wis. Stats.
- (36) POLLUTION has the meaning given in §281.01(10), Wis. Stats.
- (37) POST-CONSTRUCTION SITE means a construction site following the completion of land disturbing construction activity and final site stabilization.
- (38) PREDEVELOPMENT CONDITION means the extent and distribution of land cover types present before the initiation of land disturbing construction activity, assuming that all land uses prior to development activity are managed in an environmentally sound manner.
- (39) PREVENTIVE ACTION LIMIT has the meaning given in §NR 140.05(17), Wis. Adm. Code.
- (40) PUBLIC RIGHT-OF-WAY means any road, alley, street, parking lot, sidewalk, plaza, mall, or pathway owned by or dedicated to a governmental unit.
- (41) RECREATIONAL TRAIL means a path that is:
- (a) Distinctly set apart from a roadway, street, or sidewalk;
 - (b) Designed for activities such as jogging, walking, hiking, bird-watching, bicycle riding, roller skating, or similar recreational activities not involving the use of motorized vehicles; and
 - (c) Not a sidewalk according to §340.01(58), Wis. Stats.
- (42) REGIONAL FLOOD means the peak flow and peak elevation of water with a one percent probability of occurring during any one year, considering rainfall time and intensity patterns, rainfall duration, area distribution, antecedent moisture, and snow melt. The common misnomer, “100 year flood or floodplain” implies a temporal element rather than a one in 100 random probability of the event.
- (43) REDEVELOPMENT means new construction, modification or replacement of older development.
- (44) RESPONSIBLE PARTY means any entity holding fee title to the property or other person contracted or obligated by other agreement to implement and maintain post-construction storm water BMPs.
- (45) RUNOFF means storm water or precipitation including rain, snow, or ice melt or similar water that moves on the land surface via sheet or channelized flow.

- (46) SEPARATE STORM SEWER means a conveyance or system of conveyances including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all of the following criteria:
- (a) Is designed or used for collecting water or conveying runoff;
 - (b) Is not part of a combined sewer system;
 - (c) Is not draining to a storm water treatment device or system; and
 - (d) Discharges directly or indirectly to waters of the State.
- (47) SITE means the entire area included in the legal description of the land on which the land disturbing construction activity occurred.
- (48) STOP WORK ORDER means an order issued by the Town Development Coordinator, which requires that all construction activity on the site be stopped.
- (49) STORM WATER MANAGEMENT PLAN means a comprehensive plan designed to reduce the discharge of pollutants from storm water after the site has undergone final stabilization following completion of the construction activity.
- (50) STORM WATER MANAGEMENT SYSTEM PLAN is a comprehensive plan designed to reduce the discharge of runoff and pollutants from hydrologic units on a regional or municipal scale.
- (51) TECHNICAL STANDARD means a document that specifies design, predicted performance, and operation and maintenance specifications for a material, device, or method.
- (52) TIME OF CONCENTRATION means the time period for the furthest runoff from the outlet of a watershed to contribute to flow at the watershed outlet.
- (53) TOP OF THE CHANNEL means an edge, or point on the landscape, landward from the ordinary high water mark of a surface water of the State, where the slope of the land begins to be less than 12 percent continually for at least 50 feet, If the slope of the land is 12 percent or less continually for the initial 50 feet, landward from the ordinary high water mark, the top of the channel is the ordinary high water mark.
- (54) TOWN BOARD means Town Board of supervisors.
- (55) TOWN DEVELOPMENT COORDINATOR means the Development Coordinator of the Town of Salem or his/her designee.
- (56) TR-55 means the United States Department of Agriculture, Natural Resources Conservation Service (previously Soil Conservation Service), Urban Hydrology for Small Watersheds, Second Edition, Technical Release 55, June 1986.
- (57) TYPE II DISTRIBUTION means a rainfall type curve established in the United States Department of Agriculture, Soil Conservation Service, Technical Paper 149, published 1973. The type II curve is applicable to all of Wisconsin and represents the most intense storm pattern.
- (58) WATERS OF THE STATE has the meaning given in §281.01(18), Wis. Stats.

- (59) WATER QUALITY MANAGEMENT means the storm water standards and duties established under the Clean Water Act, 33 U.S.C. 1251 et seq., parallel State law regulating the discharge of pollutants, and implementing regulations.
- (60) WATER QUANTITY MANAGEMENT means storm water duties and practices to abate peak flood flows during regional storm events pursuant to Chapter 13 of the Milwaukee Metropolitan Sewerage District rules as implemented and enforced by this municipality.

16.06 Technical Standards.

The following methods shall be used in designing the water quality; peak flow shaving and infiltration components of storm water practices needed to meet the requirements of this chapter:

- (1) Technical standards identified, developed, or disseminated by the Wisconsin Department of Natural Resources under such subch. V of Ch. NR 151, Wis. Adm. Code.
- (2) Where technical standards have not been identified or developed by the Wisconsin Department of Natural Resources, other technical standards may be used provided that the methods have been approved by the Town Development Coordinator.
- (3) The most recent rainfall data available from the Southeastern Wisconsin Regional Planning Commission or more protective data shall be the basis for the analyses required by this chapter.

16.07 Performance Standards.

- (1) RESPONSIBLE PARTY. The responsible party shall implement a post-construction storm water management plan that incorporates the requirements of this section.
- (2) PLAN. A written storm water quality and quantity management plan in accordance with §16.09 shall be developed and implemented for each post-construction site.
- (3) REQUIREMENTS. The water quality plan required under sub. (2) shall include the following:
 - (a) Total Suspended Solids (TSS). BMPs shall be designed, installed, and maintained to control total suspended solids carried in runoff from the post-construction site as follows:
 - 1. For new development, by design, reduce to the maximum extent practicable, the total suspended solids load by 80 percent, based on the average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed an 80 percent total suspended solids reduction to meet the requirements of this section.
 - 2. For redevelopment, by design, reduce to the maximum extent practicable, the total suspended solids load by 40 percent, based on the average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed a 40 percent total suspended solids reduction to meet the requirements of this section.

3. For in-fill development under 5 acres that occurs within 10 years after October 1, 2002, by design, reduce to the maximum extent practicable, the total suspended solids load by 40 percent, based on an average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed a 40 percent total suspended solids reduction to meet the requirements of this section.
4. For in-fill development that occurs 10 or more years after October 1, 2002, by design reduce to the maximum extent practicable, the total suspended solids load by 80 percent, based on an average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed an 80 percent total suspended solids reduction to meet the requirements of this section.
5. Notwithstanding sections 1. to 4., if the design cannot achieve the applicable total suspended solids reduction specified, the storm water management plan shall include a written and site-specific explanation why that level of reduction is not attained and the total suspended solids load shall be reduced to the maximum extent practicable.

(b) Water Quantity and Management of Peak Runoff.

1. By design, BMPs shall be employed to maintain or reduce the peak runoff discharge rates, to the maximum extent practicable, as compared to pre-development conditionally the 2-year, 24-hour design storm applicable to the post-construction site. Pre-development conditions shall assume “good hydrologic conditions” for appropriate land covers as identified in TR-55 or an equivalent methodology. The meaning of “hydrologic soil group” and “runoff curve number” are as determined in TR-55. However, when pre-development land cover is cropland, the runoff curve numbers in Table 1 shall be used.

Table 1 Maximum Predevelopment Runoff Curve Numbers for Cropland Areas				
Hydrologic Soil Group	A	B	C	D
Runoff Curve Number	56	70	79	83

2. Requirements for development within the Des Plaines River Watershed:
 - a. Peak rates of runoff shall be controlled as follows:
 - i. The post-development 100-year storm release rate from the site should be no more than 0.30 cfs per developed acre.

- ii. The post-development 2-year storm release rate from the site should be no more than 0.04 cfs per developed acre.
 - b. Runoff from the new development within the watershed should be provided with facilities to achieve those levels of control. The following initial screening criteria are to be applied to determine the potential eligibility of a development for the provision of runoff controls:
 - i. The development site must be in the Des Plaines River watershed.
 - ii. The proposed development will create additional impervious area of greater than, or equal to, 10 percent of the total site area (with wetland and primary environmental corridor areas excluded from the total site area). All new impervious surfaces, including new roads are to be included in this calculation.
 - c. Except for the following exemptions, any development that meets the above criteria will be required to meet the release rates:
 - i. Single residential lots that are not part of a larger development.
 - ii. Land divisions creating four or fewer residential lots.
 - iii. Non-residential development sites with land disturbing construction activity of less than one acre, unless new impervious are of 0.5 acres or more is created.
 - 3. This subsection of the ordinance does not apply to any of the following:
 - a. A post-construction site where the change in hydrology due to development does not increase the existing surface water elevation at any point within the downstream receiving water by more than 0.01 of a foot for the 2-year, 24-hour storm event.
 - b. An in-fill development area less than 5 acres.
 - 4. BMPs shall manage the volume, timing, and peak flow rate of runoff to prevent increases in the regional flood and stream bank erosion rates.
 - 5. These BMPs may be implemented on either a watershed basis or an individual site basis.
- (c) Infiltration. BMPs shall be designed, installed, and maintained to infiltrate runoff to the maximum extent practicable in accordance with the following, except as provided in subd. 5. through 8.
- 1. For residential developments one of the following shall be met:
 - a. Infiltrate sufficient runoff volumes so that the post-development infiltration volume shall be at least 90 percent of the

predevelopment infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than one percent of the project site is required as an effective infiltration area.

- b. Infiltrate 25 percent of the post-development runoff from the 2-year, 24-hour design storm with a type II distribution. Separate curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes and not composite curve numbers as defined in TR-55. However, when designing appropriate infiltration systems to meet this requirement, no more than one percent of the project site is required as an effective infiltration area.
2. For nonresidential development, including commercial, industrial, and institutional development, one of the following shall be met:
 - a. Infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 60 percent of the predevelopment infiltration volume, based on the average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2 percent of the project site is required as an effective infiltration area.
 - b. Infiltrate 10 percent of the runoff from the 2-year, 24-hour design storm with a type II distribution. Separate curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes, and not composite, curve number as defined in TR-55. However, when designing appropriate infiltration systems to meet this requirement, no more than 2 percent of the project site is required as an effective infiltration area.
3. Predevelopment condition shall be the same as in par. b.
4. Before infiltrating runoff, pretreatment 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 in accordance with subd. 8. Pretreatment options may include, but are not limited to, oil/grease separation, sedimentation, biofiltration, filtration, swales or filter strips.
5. Infiltration Exclusions. The runoff from the following areas are prohibited from meeting the requirements of this paragraph:
 - a. Areas associated with tier 1 industrial facilities identified in §NR 216.21(2)(a), Wis. Adm. Code, including storage, loading, rooftop and parking.
 - b. Storage and loading areas of tier 2 industrial facilities identified in §NR 216.21(2)(b), Wis. Adm. Code.

- c. Fueling and vehicle maintenance areas.
 - d. Areas within 1,000 feet upgradient or within 100 feet downgradient of karst features.
 - e. Areas with less than 3 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock, except this subd. 5.e., does not prohibit infiltration of roof runoff.
 - f. Areas of runoff from industrial, commercial and institutional parking lots and roads and residential arterial roads with less than 5 feet separation distance from the bottom of the infiltration system to the elevation of the seasonal high groundwater or top of bedrock.
 - g. Areas within 400 feet of a community water system well as specified in §NR 811.16(4), Wis. Adm. Code, or within 100 feet of private well as specified in §NR 812.08(4), Wis. Adm. Code, for runoff infiltrated from commercial, industrial, and institutional land uses or regional devices for residential development.
 - h. Areas where contaminants of concern, as defined in §NR 720.03(2), Wis. Adm. Code, are present in the soil through which infiltration will occur.
 - i. Any area where the soil does not exhibit one of the following soil characteristics between the bottom of the infiltration system and the seasonal high groundwater and top of bedrock: at least a 3-foot soil layer with 20 percent fines or greater; or at least a 5-foot soil layer with 10 percent fines or greater. This does not apply where the soil medium within the infiltration system provides an equivalent level of protection. This subd. 5.i. does not prohibit infiltration of roof runoff.
6. Infiltration Exemptions. The following are not required to meet the requirements of this paragraph:
- a. Areas where the infiltration rate of the soil is less than 0.6 inches/hour measured at the site.
 - b. Parking areas and access roads less than 5,000 square feet for commercial and industrial development.
 - c. Redevelopment post-construction sites.
 - d. In-fill development areas less than 5 acres.
 - e. Infiltration areas during periods when the soil on the site is frozen.
 - f. Roads in commercial, industrial, and institutional land uses, and arterial residential roads..

7. Where alternate uses of runoff are employed, such as for toilet flushing, laundry or irrigation, such alternate use shall be given credit toward the infiltration volume required by this paragraph.
8.
 - a. Infiltration systems designed in accordance with this paragraph 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. Adm. Code. However, if site-specific information indicates that compliance with a preventive action limit is not achievable, the infiltration BMP may not be installed or shall be modified to prevent infiltration to the maximum extent practicable.
 - b. Notwithstanding subd. par. a., the discharge from BMPs shall remain below the enforcement standard at the point of standards application.

(d) Protective Areas.

1. Protective area means an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands, and that is the greatest of the following widths, as measured horizontally from the top of the channel or delineated, wetland boundary to the closest impervious surface. However, in this paragraph, protective area does not include any area of land adjacent to any stream enclosed within a pipe or culvert, such that runoff cannot enter the enclosure at this location.
 - a. For outstanding resource waters and exceptional resource waters, and for wetlands in areas of special natural resource interest as specified in §NR 103.04, Wis. Adm. Code, 75 feet.
 - b. For perennial and intermittent streams identified on a United States geological survey 7.5-minute series topographic map, or a county soil survey map, whichever is more current, 50 feet.
 - c. For lakes, 50 feet.
 - d. For highly susceptible wetlands, 50 feet. Highly susceptible wetlands include the following types: fens, sedge meadows, bogs, low prairies, conifer swamps, shrub swamps, other forested wetlands, fresh wet meadows, shallow marshes, deep marshes and seasonally flooded basins. Wetland boundary delineations shall be made in accordance with all applicable state and federal regulations. The protective area for wetlands that have been partially filled in accordance with all applicable state and federal regulations shall be measured from the wetland boundary delineation after fill had been placed.

- e. For less susceptible wetlands, 10 percent of the average wetland width, but no less than 10 feet nor more than 30 feet. Less susceptible wetlands include degraded wetlands dominated by invasive species such as reed canary grass.
 - f. In subd. 1.a, d. and e., determinations of the extent of the protective area adjacent to wetlands shall be made on the basis of the sensitivity and runoff susceptibility of the wetland in accordance with the standards and criteria in §NR 103.03, Wis. Adm. Code.
 - g. For concentrated flow channels with drainage areas greater than 130 acres, 10 feet.
2. This paragraph applies to post-construction sites located within a protective area, except those areas exempted pursuant to subd.4.
3. The following requirements shall be met:
- a. Impervious surfaces shall be kept out of the protective area to the maximum extent practicable. The storm water management plan shall contain a written site-specific explanation for any parts of the protective area are disturbed during construction.
 - b. Where land disturbing construction activity occurs within a protective area, and where no impervious surface is present, adequate sod or self-sustaining vegetative cover of 70 percent or greater shall be established and maintained. The adequate sod or self-sustaining vegetative cover shall be sufficient to provide for bank stability, maintenance of fish habitat and filtering of pollutants from upslope overland flow areas under sheet flows conditions. Non-vegetative materials, such as rock riprap, may be employed on the bank as necessary to prevent erosion, such as on steep slopes or where high velocity flows occur.
 - c. Best management practices such as filter strips, swales, or wet detention basins that are designed to control pollutants from nonpoint sources may be located in the protective area.
4. This paragraph does not apply to:
- a. Redevelopment post-construction sites.
 - b. In-fill development areas less than 5 acres.
 - c. Structures that cross or access surface waters such as boat landings, bridges, and culverts.
 - d. Structures constructed in accordance with §59.692(1v), Wis. Stats.

- e. Post construction sites which runoff does not enter the surface water, except to the extent that vegetative ground cover is necessary to maintain bank stability.
 - (e) Fueling and Vehicle Maintenance Areas. Fueling and vehicle maintenance areas shall, to the maximum extent practicable, have BMPs designed, installed, and maintained to reduce petroleum within runoff, such that the runoff that enters waters of the State contains no visible petroleum sheen.
 - (f) Swale Treatment for Transportation Facilities.
 - 1. Applicability. Except as provided in subd. 2., transportation facilities that use swales for runoff conveyance and pollutant removal meet all of the requirements of this section, if the swales are designed to the maximum extent practicable to do all of the following:
 - a. Be vegetated. However, where appropriate, non-vegetative measures may be employed to prevent erosion or provide for runoff treatment, such as rock riprap stabilization or check dams.
 - b. Carry runoff through a swale for 200 feet or more in length that is designed with a flow velocity no greater than 1.5 feet per second based on a 2-year, 24-hour design storm. If a swale of 200 feet in length cannot be designed with a flow velocity of 1.5 feet per second or less, then the flow velocity shall be reduced to the maximum extent practicable.
 - 2. Exemptions. The Town Development Coordinator may, consistent with water quality standards, require other provisions of this section be met on a transportation facility with an average daily travel of vehicles greater than 2,500 where the initial surface water of the State that the runoff directly enters is any of the following:
 - a. An outstanding resource water.
 - b. An exceptional resource water.
 - c. Waters listed in § 303(d) of the Federal Clean Water Act that are identified as impaired in whole or in part, due to nonpoint source impacts.
 - d. Waters where targeted performance standards are developed under §NR 151.004, Wis. Adm. Code, to meet water quality standards.
- (4) GENERAL CONSIDERATIONS FOR ON-SITE AND OFF-SITE STORM WATER MANAGEMENT MEASURES. The following considerations shall be observed in managing runoff:
- (a) Natural topography and land cover features such as natural swales, natural depressions, native soil infiltrating capacity, and natural groundwater recharge

areas shall be preserved and used, to the extent possible, to meet the requirements of this section.

- (b) Emergency overland flow for all storm water facilities shall be provided to prevent exceeding the safe capacity of downstream drainage facilities and prevent endangerment of downstream property or public safety.
- (c) BMPs for water quantity management shall utilize the following techniques, in order of preference:
 - 1. Preservation of the natural features of development sites, including natural storage and infiltration characteristics;
 - 2. Preservation of existing natural streams, channels, and drainage ways;
 - 3. Minimization of new impervious surfaces;
 - 4. Conveyance of storm water in open vegetated channels;
 - 5. Construction of structures that provide both quantity and quality control, with structures serving multiple sites being preferable to structures serving individual sites; and
 - 6. Construction of structures that provide only quantity control, with structures serving multiple sites being preferable to structures serving individual sites.

(5) LOCATION AND REGIONAL TREATMENT OPTION.

- (a) The BMPs may be located on-site or off-site as part of a regional storm water device, practice, or system within the same watershed.
- (b) Post-Construction runoff within a nonnavigable drainage way that flows into a BMP, such as a wet pond, is not required to meet water quality performance standards unless designed to provide treatment.
- (c) Except as allowed under par. (d), post construction runoff from new development shall meet the post-construction performance standards prior to entering a navigable surface water.
- (d) Post-construction runoff from any development within a navigable surface water that flows into a BMP is not required to meet the performance standards of this ordinance if:
 - 1. The BMP was constructed prior to the effective date of this ordinance and the BMP either received a permit issued under ch. 30, Stats., or the BMP did not require a ch. 30, Wis. Stats., permit; and
 - 2. The BMP is designed to provide runoff treatment from future upland development.
- (e) Runoff from existing development, redevelopment and in-fill areas shall meet the post-construction performance standards in accordance with this paragraph.

1. To the maximum extent practicable, BMPs shall be located to treat runoff prior to discharge to navigable surface waters.
 2. Post-construction BMPs for such runoff may be located in a navigable surface water if allowable under all other applicable federal, state and local regulations such as ch. NR 103, Wis. Adm. Code and ch.30, Wis. Stats.
- (f) The discharge of runoff from BMP, such as a wet pond, or after a series of such BMPs is subject to this chapter.
- (g) The Town Development Coordinator may approve off-site management measures provided that all of the following conditions are met:
1. The Town Development Coordinator determines that the post-construction run-off is covered by a storm water management system plan that is approved by the Town of Salem and that contains management requirements consistent with the purpose and intent of this chapter.
 2. The off-site facility meets all of the following conditions:
 - a. The facility is in place.
 - b. The facility is designed and adequately sized to provide a level of storm water control equal to or greater than that, which would be afforded by on-site practices meeting the performance standards of this chapter.
 - c. The facility has a legally obligated entity responsible for its long-term operation and maintenance.
- (h) Where a regional treatment option exists such that the Town Development Coordinator exempts the applicant from all or part of the minimum on-site storm water management requirements, the applicant shall be required to pay a fee in an amount determined in negotiation with the Town Development Coordinator. In determining the fee for post-construction runoff, the Town Development Coordinator shall consider an equitable distribution of the cost for land, engineering design, construction, and maintenance of the regional treatment option.
- (6) **ALTERNATE REQUIREMENTS.** The Town Development Coordinator may establish storm water management requirements more stringent than those set forth in this section if the Town Development Coordinator determines that an added level of protection is needed to protect sensitive resources.

16.08 Permitting Requirements, Procedures, and Fees.

- (1) **PERMIT REQUIRED.** No responsible party may undertake a land disturbing construction activity without receiving a post-construction runoff permit from the Town Development Coordinator prior to commencing the proposed activity.

- (2) PERMIT APPLICATION AND FEES. Any responsible party desiring a permit shall submit to the Town Development Coordinator a permit application made on a form provided by the Town Development Coordinator for that purpose.
 - (a) Unless specifically accepted, a permit application must be accompanied by a storm water management plan, a maintenance agreement and a nonrefundable permit administration fee.
 - (b) The storm water management plan shall be prepared to meet the requirements of §16.07 and §16.09, the maintenance agreement shall be prepared to meet the requirements of §16.10, the financial guarantee shall meet the requirements of §16.11, and fees shall be those established by the Town Development Coordinator as set forth in §16.12.
- (3) REVIEW AND APPROVAL OF PERMIT APPLICATION. The Town Development Coordinator shall review any permit application that is submitted with a storm water management plan, maintenance agreement, and the required fee, as follows:
 - (a) Within 15 business days of the receipt of a complete permit application, including all items as required by sub. (2), the Town Development Coordinator shall inform the applicant whether the application, plan and maintenance agreement are approved or disapproved based on the requirements of this chapter.
 - (b) If the storm water permit application, plan and maintenance agreement are approved, or if an agreed upon payment of fees in lieu of storm water management practices is made, the Town Development Coordinator shall issue the permit.
 - (c) If the storm water permit application, plan and maintenance agreement are approved, the Town Development Coordinator shall detail in writing the reasons for disapproval.
 - (d) The Town Development Coordinator may request additional information from the applicant. If the additional information is submitted, the Town Development Coordinator shall have 10 business days from the date the additional information is received to inform the applicant that the plan and maintenance agreement are either approved or disapproved.
 - (e) Failure by the Town Development Coordinator to inform the permit applicant of a decision within 60 business days of a required submittal shall be deemed an approval of the submittal and the applicant may proceed as if a permit had been issued.
- (4) PERMIT REQUIREMENTS. All permits issued under this chapter shall be subject to the following conditions, and holders of permits issued under this chapter shall be deemed to have accepted these conditions. The Town Development Coordinator may suspend or revoke a permit for violation of a permit condition, following written notification to the responsible party. An action by the Town Development Coordinator to suspend or revoke this permit may be appealed in accordance with §16.14.

- (a) Compliance with this permit does not relieve the responsible party of the responsibility to comply with other applicable federal, state, and local laws and regulations.
- (b) The responsible party shall design and install all structural or identify nonstructural storm water management measures, or both, in accordance with the approved storm water management plan and this permit.
- (c) The responsible party shall notify the Town Development Coordinator at least 3 business days before commencing any work in conjunction with the storm water management plan, and within 3 business days upon completion of the storm water management practices. If required as a special condition under sub. (5), the responsible party shall make additional notification according to a schedule set forth by the Town Development Coordinator so that practice installations can be inspected during construction.
- (d) Practice installations required as part of this chapter shall be certified "as built" by a licensed professional engineer. Completed storm water management practices must pass a final inspection by the Town Development Coordinator or his/her designee to determine if they are in accordance with the approved storm water management plan and ordinance. The Town Development Coordinator or his/her designee shall notify the responsible party in writing of any changes required in such practices to bring them into compliance with the conditions of this permit.
- (e) The responsible party shall notify the Town Development Coordinator of any significant modifications it intends to make to an approved storm water management plan. The Town Development Coordinator may require that the proposed modifications be submitted to it for approval prior to incorporation into the storm water management plan and execution by the responsible party.
- (f) The responsible party shall maintain all storm water management practices until the responsibility is transferred to the Town Board, or subsequent private owners as specified in the approved maintenance agreement.
- (g) The responsible party authorizes the Town Development Coordinator to perform any work or operations necessary to bring storm water management measures into conformance with the approved storm water management plan, and consents to a special assessment or charge against the property as authorized under subch. VII of Ch. 66, Wis. Stats., or to charging such costs against the financial guarantee posted under §16.11.
- (h) If so directed by the Town Development Coordinator, the responsible party shall repair at the responsible party's own expense all damage to adjoining municipal facilities and drainage ways caused by runoff, where such damage is caused by activities that are not in compliance with the approved storm water management plan.

- (i) The responsible party shall permit property access to the Town Development Coordinator or his/her designee for the purpose of inspecting the property for compliance with the approved storm water management plan and this permit.
 - (j) Where site development or redevelopment involves changes in direction, increases in the peak rate and/or the total volume of runoff from the site, the Town Development Coordinator may require the responsible party to make appropriate legal arrangements with affected property owners concerning the prevention of endangerment to property or public safety.
 - (k) The responsible party is subject to the enforcement actions and penalties detailed in 16.13, if the responsible party fails to comply with the terms of this permit.
- (5) PERMIT CONDITIONS. Permits issued under this subsection may include reasonable and necessary conditions established by the Town Development Coordinator in addition to the requirements needed to meet the performance standards in §16.07 or a financial guarantee as provided for in §16.11.
- (6) PERMIT DURATION. Permits issued under this section shall be valid from the date of issuance through the date the Town Development Coordinator notifies the responsible party that all storm water management practices have passed the final inspection required under sub. (4)(d).

16.09 Storm Water Management Plan.

- (1) PLAN REQUIREMENTS. The storm water management plan required under §16.08.(2). shall contain at the minimum the following information:
- (a) Name, address, and telephone number for the following or their designees: landowner; developer; project engineer for practice design and certification; person(s) responsible for installation of storm water management practices; and person(s) responsible for maintenance of storm water management practices prior to the transfer, if any, of maintenance responsibility to another party.
 - (b) A proper legal description of the property proposed to be developed, reference to the U.S. Public Land Survey system or to block and lot numbers within a recorded land subdivision plat.
 - (c) Predevelopment site conditions, including:
 - 1. One or more site maps at a scale of not less than one inch equals 100 feet. The site maps shall show the following: site location and legal property description; predominant soil types and hydrologic soil groups; existing cover type and condition; topographic contours of the site at a scale not to exceed 2 feet; topography and drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; water courses that may affect or be affected by runoff from the site; flow path and direction for all storm water conveyance sections; watershed boundaries used in hydrology

determinations to show compliance with performance standards; lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site; limits of the regional flood (the one percent probability storm event) floodplain; location of wells and wellhead protection areas covering the project area and delineated pursuant to §NR 811.16, Wis. Adm. Code.

2. Hydrology and pollutant loading computations as needed to show compliance with performance standards. All major assumptions used in developing input parameters shall be clearly stated. The geographic areas used in making the calculations shall be clearly cross-referenced to the required maps(s).

(d) Post-development site conditions, including:

1. Explanation of the provisions to preserve and use natural topography and land cover features to minimize changes in peak flow runoff rates and volume to surface waters and wetlands.
2. Explanation of any restrictions on storm water management measures in the development area imposed by wellhead protection plans and ordinances.
3. One or more site maps at a scale of not less than one inch equals 100 feet showing the following: post-construction pervious areas including vegetative cover type and condition; impervious surfaces including all buildings, structures, and pavement; post-construction topographic contours of the site at a scale not to exceed 2 feet; post-construction drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; locations and dimensions of drainage easements; locations of maintenance easements specified in the maintenance agreement; flow path and direction for all storm water conveyance sections; location and type of all storm water management conveyance and treatment practices, including the on-site and off-site tributary drainage area; location and type of conveyance system that will carry runoff from the drainage and treatment practices to the nearest adequate outlet such as a curbed street, storm drain, or natural drainage way; watershed boundaries used in hydrology and pollutant loading calculations and any changes to lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site.
4. Hydrology and pollutant loading computations as needed to show compliance with performance standards. The computations shall be made for each discharge point in the development, and the geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).
5. Results of investigations of soils and groundwater required for the placement and design of storm water management measures.

Detailed drawings including cross-sections and profiles of all permanent storm water conveyance and treatment practices.

- (e) A description and installation schedule for the storm water management practices needed to meet the performance standards in §16.07.
 - (f) A maintenance plan developed for the life of each storm water management practice including the required maintenance activities and maintenance activity schedule.
 - (g) Cost estimates for the construction, operation, and maintenance of each storm water management practice.
 - (h) Other information requested in writing by the Town Development Coordinator to determine compliance of the proposed storm water management measures with the provisions of this chapter.
 - (i) All site investigations, plans, designs, computations, and drawings shall be certified by a licensed professional engineer to be prepared in accordance with accepted engineering practice and requirements of this chapter.
- (2) ALTERNATE REQUIREMENTS. The Town Development Coordinator may prescribe alternative submittal requirements for applicants seeking an exemption to on-site storm water management performance standards under §16.07.(5).

16.10 Maintenance Agreement.

- (1) MAINTENANCE AGREEMENT REQUIRED. The maintenance agreement required under §16.08.(2). for storm water management practices shall be an agreement between the Town of Salem and the responsible party to provide for maintenance of storm water practices beyond the duration period of this permit. The maintenance agreement shall be filed with the County Register of Deeds as a property deed restriction so that it is binding upon all subsequent owners of the land served by the storm water management practices.
- (2) AGREEMENT PROVISIONS. The maintenance agreement shall contain the following information and provisions and be consistent with the maintenance plan required by §16.09.(1).(f).:
- (a) Identification of the storm water facilities and designation of the drainage area served by the facilities.
 - (b) A schedule for regular maintenance for each aspect of the storm water management system consistent with the storm water management plan required under §16.08.(2).
 - (c) Identification of the responsible party(s), organization, or city, county, town or village responsible for long term maintenance of the storm water management practices identified in the storm water management plan required under §16.08.(2).
 - (d) Requirement that the responsible party(s), organization, or city, county, town or village shall maintain storm water management practices in accordance with the schedule included in par. (b).

- (e) A requirement on the Town Development Coordinator to maintain public records of the results of the site inspections, to inform the responsible party responsible for maintenance of the inspection results, and to specifically indicate any corrective actions required to bring the storm water management practice into proper working condition.
- (f) Authorization for the Town Development Coordinator to access the property to conduct inspections of storm water management practices as necessary to ascertain that the practices are being maintained and operated in accordance with the agreement.
- (g) Agreement that the party designated under par. (c), as responsible for long term maintenance of the storm water management practices, shall be notified by the Town Development Coordinator of maintenance problems which require correction. The specified corrective actions shall be undertaken within reasonable time frame as set by the Town Development Coordinator.
- (h) Authorization of the Town Development Coordinator to perform the corrected actions identified in the inspection report if the responsible party designated under par. (c) does not make the required corrections in the specified time period. The Town Development Coordinator shall enter the amount due on the tax rolls and collect the money as a special charge against the property pursuant to subch. VII of Ch. 66, Wis. Stats.

16.11 Financial Guarantee.

- (1) ESTABLISHMENT OF THE GUARANTEE. The Town Development Coordinator may require the submittal of a financial guarantee, the form and type of which shall be acceptable to the Town Development Coordinator. The financial guarantee shall be in an amount determined by the Town Development Coordinator to be estimated cost of construction and the estimated cost of maintenance of the storm water management practices during the period which the designated party in the maintenance agreement has maintenance responsibility. The financial guarantee shall give the Town Development Coordinator the authorization to use the funds to complete the storm water management practices if the responsible party defaults or does not properly implement the approved storm water management plan, upon written notice to the responsible party by the Town Development Coordinator that the requirements of this chapter have not been met.
- (2) CONDITIONS FOR RELEASE. Conditions for the release of the financial guarantee are as follows:
 - (a) The Town Development Coordinator shall release the portion of the financial guarantee established under this section, less any costs incurred by the Town of Salem to complete installation of practices, upon submission of "as built plans" by a licensed professional engineer. The Town Development Coordinator may make provisions for a partial pro-rata release of the financial guarantee based on the completion of various development stages.
 - (b) The Town Development Coordinator shall release the portion of the financial guarantee established under this section to assure maintenance of storm

water practices, less any costs incurred by the Town of Salem, at such time that the responsibility for practice maintenance is passed on to another entity via an approved maintenance agreement.

16.12 Fee Schedule.

The fees referred to in other sections of this chapter shall be established by the Town Development Coordinator and may from time to time be modified by resolution. A schedule of the fees established by the Town Development Coordinator shall be available for review at the Town Hall. The base fee shall not be less than \$100 plus any engineering, plan consultant, attorney or other professional service fees and any other additional permitting cost incurred by the Town. Such fees shall be based on the actual costs incurred by the Town in relation to issuing the permit.

16.13 Enforcement.

- (1) Any land disturbing construction activity or post-construction runoff initiated after the effective date of this chapter by any person subject to the ordinance provisions shall be deemed a violation unless conducted in accordance with the requirements of this chapter.
- (2) The Town Development Coordinator shall notify the responsible party of any non-complying land disturbing construction activity or post-construction runoff. The notice shall describe the nature of the violation, remedial actions needed, a schedule for remedial action, and additional enforcement action which may be taken. Any technique that effectively provides actual and verifiable notice may be used.
- (3) Upon receipt of written notification from the Town Development Coordinator under sub. (2), the responsible party shall correct work that does not comply with the storm water management plan or other provisions of this permit. The responsible party shall make corrections as necessary to meet the specifications and schedule set forth by the Town Development Coordinator in the notice.
- (4) If the violations are likely to result in damage to properties, public facilities, or waters of the State, the Town Development Coordinator may enter the land and take corrective actions necessary to prevent such damage. The costs incurred by the Town Development Coordinator plus interest and legal costs shall be paid by the responsible party.
- (5) Any permit revocation, stop work order, or cease and desist order shall remain in effect unless retracted by the Town Development Coordinator or by a court with jurisdiction.
- (6) If the Town Development Coordinator determines that any person is in violation of this chapter or a storm water permit, the authority may issue a notice of the violation, a stop work order, a cease and desist order, or revoke the permit, or refer the noncompliance to the Town or city attorney for civil enforcement, penalties, injunctive orders or other appropriate relief.
- (7) Any person, firm, association, or corporation who does not comply with the provisions of this ordinance shall be subject to a forfeiture as provided in Section

25.04(c) of the Town of Salem Code of ordinances for each offense, together with the costs of prosecution. Each day that the violation exists shall constitute a separate offense.

- (8) Compliance with the provisions of this ordinance may also be enforced by injunction in any court with jurisdiction. It shall not be necessary to prosecute for forfeiture or a cease and desist order before commencement of an action seeking injunctive relief.
- (9) When the Town Development Coordinator determines that the holder of a permit issued pursuant to this chapter has failed to follow practices set forth in the storm water management plan, or has failed to comply with schedules in a storm water management plan, the Town Development Coordinator or a party designated by the Town Development Coordinator may enter upon the land and perform the work or other operations necessary to bring the condition of said lands into conformance with requirements of the approved plan. The Town Development Coordinator shall keep a detailed accounting of the costs and expenses of performing this work. These costs and expenses shall be deducted from any financial security posted pursuant to §16.11 of this chapter. Where such a security has not been established, or where such a security is insufficient to cover these costs, the costs and expenses shall be entered on the tax roll as a special charge against the property and collected with any other taxes levied thereon for the year in which the work is completed.

16.14 Appeals.

- (1) **BOARD OF APPEALS.** The Town Board of the Town of Salem shall hear and decide appeals where it is alleged that there is error in any order, decision or determination made by the Town Development Coordinator in administering this ordinance. Upon appeal, the Town Board may authorize variances from the provisions of this ordinance that are not contrary to the public interest, and where owing to special conditions a literal enforcement of the ordinance will result in unnecessary hardship.
- (2) **WHO MAY APPEAL.** Appeals to the Town Board may be taken by any aggrieved person affected by any decision of the Town Development Coordinator.

ORDINANCE NO. 08-10-13 A

AN ORDINANCE CREATING SECTION 14.16(4) OF THE TOWN OF SALEM CODE OF ORDINANCES REGARDING PROHIBITED DISCHARGES INTO THE STORMWATER DRAINAGE SYSTEM.

The Town Board of the Town of Salem, Kenosha County, Wisconsin, does hereby ordain as follows:

SECTION 1. Purpose. The purpose of this ordinance is to create Section 14.16(4) of the Town of Salem Code of Ordinances relating to prohibited discharge and connection to the Town storm water drainage system.

SECTION 2. Section 14.16(4) Created. Section 14.16(4) of The Town of Salem Code of Ordinances is hereby created to provide as set forth in Exhibit A.

SECTION 3. Severability. Each section, subsection, paragraph, sentence, clause, phrase and provision of the foregoing ordinance is and the same is hereby declared to be severable and if any portion or provision thereof is duly determined to be invalid for any reason, such determination shall not invalidate any other portion or provision thereof.

SECTION 4. Effective Date. This ordinance shall take effect and be enforced from and after its passage and publication as required by law.

Adopted by the Town Board of the Town of Salem, Kenosha County, Wisconsin, this 13th day of October, 2008.

TOWN OF SALEM
Kenosha County, Wisconsin

By: /s/ Diann D. Tesar
Diann D. Tesar, Town Chair

Attest: /s/ Cynthia Ernest
Cynthia Ernest, Town Clerk

Exhibit A

Sec. 14.16(4) Prohibited Discharges.

A. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

- (1) **ILLICIT CONNECTION** means any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been allowed, permitted, or approved by a government agency, prior to the adoption of this ordinance.
- (2) **PERSON** means any individual, association, organization, partnership, firm, corporation, or other entity recognized by law and acting as either the owner or as the owner's agent.
- (3) **STORM DRAINAGE SYSTEM** means defined as any publicly-owned facilities by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures

B. Discharges Prohibited.

No person shall discharge, spill or dump substances or materials which are not entirely composed of storm water into receiving bodies of water, storm sewers, or other drainage facilities, or onto driveways, sidewalks, parking lots or other impervious or pervious areas that drain into the storm drainage system.

C. Connections Prohibited.

The construction, use, maintenance or continued existence of illicit connections to the storm drainage system is prohibited. This prohibition expressly includes, without limitation, illicit connections made prior to the adoption of this ordinance, regardless of whether the connection was permissible under law or practice applicable or prevailing at the time of connection.

D. Exemptions.

The following activities are exempt from the provisions of this section unless found to have an adverse impact on the storm water:

- (1) Discharges authorized by a permit issued by the Wisconsin Department of Natural Resources.
- (2) Discharges resulting from fire fighting activities.

- (3) Discharges from uncontaminated ground water, potable water source, roof drains, foundation drains and sump pumps, air conditioning condensation, lawn watering, water main and hydrant flushing, and swimming pools if the water has been reasonably dechlorinated.
- (4) Discharges from individual automobile washing by automobile owners.
- (5) Facility maintenance activities undertaken by any federal, state, county, or municipal agency, such activities, however, being subject to construction erosion control measures

E. Enforcement.

- (1) Whenever the Town finds a person has violated a prohibition or failed to meet a requirement of this section, the Town may order compliance by written notice of violation to the responsible person. Such notice may require, without limitation
 - a. The elimination of illicit connections or discharges
 - b. That violating discharges, practices, or operations shall cease and desist
 - c. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property
- (2) In the event the person fails to eliminate the illicit connections or discharge, fails to cease and desist in discharges, practices or operation in violation of this section or fails to abate or remediate the storm water pollution or combination hazards, that person may be subject to forfeiture as provided in Section 25.04(c) of the Town of Salem Code of Ordinances. Each day that the violation exists shall constitute a separate offense

**TOWN OF SALEM
ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM
RESPONSE PROCEDURES
SECTION 2.3.4**

Procedures for the Annual Illicit Discharge Detection and Elimination Program Dry Weather Screenings:

The Town will complete an annual dry weather field screening of the 14 major outfalls as required in their WPDES permit. The program will include the following:

1. Visual inspection during dry weather periods (June through August)
2. Inspections will be performed by Town Highway Department staff or the Town Engineer.
3. Data will be recorded in the field at the time of visual inspection by means of an inspection form. A photograph will also be taken of each outfall.
4. All of the inspection forms used for the initial field screening will be compiled into a binder for easy access while out in the field. A copy of the previous inspection form is included for reference.
5. Following completion of field inspections, the data will be scanned in electronically for record keeping and annual reporting. The results of the inspections will be discussed with the Town Administrator.

In addition, Town Highway Department staff will be educated on the importance of recognizing illicit discharges and reacting properly to occurrences through the continuing education aspect of the Town's public education and outreach requirements.

Procedures for Responding to Illicit Discharges Found During Inspections or Resident Complaints:

The five basic elements of the program to isolate and fix individual illicit discharges are as follows:

1. Pollution Concern Contact

The Town Hall telephone number will be provided in informational brochures/newsletters and on the Town's web site to allow citizens to easily report illicit discharge and pollution concerns. The number is answered during normal Town hours and there is voice mail if nobody is at the office. The Town Clerk or designated staff member will log all concerns on the Illicit Discharge Concern List.

The Town Administrator or other designee will review the entries of the inventory within 72 hours of notification and direct the appropriate Town staff to field investigate the concern. Initial field investigation will consist of visual inspection of the surface waters and storm water conveyance system for evidence of discharge in the highlighted area. If visual inspection confirms the possibility of an illicit discharge, a sample shall be collected of the polluted discharge for further laboratory analysis. Results of this field investigation will be reported to the Town Administrator or other designee for further action.

2. Drainage Area Investigations

If the Town Administrator or other designee determines that there is reasonable evidence of

an illicit discharge, the next step will be a drainage area investigation. This process can be performed by, and with input from, a number of Town staff, such as the Highway Department staff, the Building/Plumbing Inspector, or the Town Engineer. This investigation may consist of a parcel by parcel analysis of potential generating sites within the drainage area of a problem outfall. Techniques used to investigate the drainage area include:

- Land Use Investigations
- Building Permit Review
- As-built Construction Plan Review
- Property Ownership Certification

The results of the drainage area investigation will be reported to the Town Administrator or other designee and it will be determined whether Storm Drain Network Investigations are necessary or if the Town should proceed directly to On-Site Discharge Investigations.

3. Storm Drain Network Investigations

When a drainage area is identified, storm drain investigations can narrow the source of a discharge problem to a single segment of a storm sewer or conveyance ditch. The investigation should start at the outfall and work progressively up the trunk sewer, culvert or ditch lines. If necessary, the Town Administrator or other designee will coordinate with any outside contractors, to perform the following tasks:

- Smoke Testing
- Video Testing
- Dye Testing

The results of the Storm Drain Network Investigation will be reported to the Town Administrator or other designee and it will be determined whether On-Site Discharge Investigations will be necessary.

4. On-Site Discharge Investigations

Once the illicit discharge has been isolated to a specific area, an on-site investigation can be performed. On-site investigations are typically performed by dye testing the plumbing systems of households and buildings. The Building Inspector shall perform the on-site investigations and report findings to the Town Administrator or other designee for enforcement action.

5. Correction and Enforcement

Whenever the Town has identified a person who has violated a prohibition or failed to meet a requirement of the Illicit Discharge Ordinance as determined through the procedures above, the Town shall notify the owner of the property from which the discharge is coming from and require that they take measures to minimize or remove the illicit discharge. The Town may order compliance by verbal and/or written notice of violation to the responsible person. Such notice may require without limitation, actions to eliminate the illicit discharge through various methods, including immediate disconnection of discharge and reconnection to a sanitary sewer. If no action is performed by the violator, the Town will take the necessary steps as guided by legal counsel to correct the violation. The Town will notify the WDNR of

detection of an illicit discharge.

The procedures noted above have been derived from the following reference manuals:

New England Interstate Water Pollution Control Commission, 2003. *Illicit Discharge Detection and Elimination Manual, A Handbook for Municipalities*.

Center for Watershed Protection and Robert Pitt, 2004. *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments*.

Attachments to this Program include:

- The Town of Salem Illicit Discharge Inspection Form
- The Town of Salem Illicit Discharge Concern Log

ILLICIT DISCHARGE INSPECTION SUMMARY 8/13/09

Outfall	Watershed	Subwatershed	Pipe Material	Pipe Size	Illicit Discharge?	Follow-up Work Required
1	Silver Lake	SL-2	CMP	Dual 24" Circles	NO	Clear brush from east invert.
2	Hooker Lake	HL-9	RCP	36" Circle	NO	Sample taken due to presence of scum/sheen. Further testing indicated that detergents were present, but were below the expected range. A resident in the area complained of heavy flooding and gravel runoff from Hwy 83.
3	Salem Branch	SB-5B-1	CMP	36" x48" Ellipse	NO	
4	Hooker Lake	HL-5	CMP	36" Circle	NO	
5	Center Lake	CR-8	CMP	36" Circle	NO	
6	Camp Lake	CP-3	RCP	45" x ? Concrete Box	NO	
7	Camp Lake	CP-4	CMP	Dual 36" Circles	NO	Remove excess concrete spill from west (south) invert, repair east invert pipes and headwall.
8	Camp Lake	CP-13	RCP	96" x 26" Concrete Box	NO	
9	Camp Lake	CP-9	CMP	36" Circle	NO	
10	Fox River	FR-11	RCP	84" x ? Concrete Box	NO	
11	Trevor Creek	TC-9B	CMP	36" Circle	NO	
12	Trevor Creek	TC-9A	CMP	4 - 15" Circles	NO	Clear soil and debris from east invert.
13	Trevor Creek	TC-13C	RCP	72" x ? Concrete Box	NO	
14	Trevor Creek	TC-7B	RCP	192" x 72" Concrete Box	NO	



**Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1**

Outfall ID #1	#1			
Date of Last Rainfall / Amount of Rainfall	8/10/09, 0.02"			
Date Inspection Performed	8/13/09			
Time Arrived / Time Left	8:33	<input checked="" type="radio"/> am	8:42	<input checked="" type="radio"/> pm
Air Temperature	80 °F			
Name of Inspector	B.G.H. & K.J.M.			
Receiving Water	Silver Lake, SL-2			
M.H. or Outfall (Circle One)	M.H.		<input checked="" type="radio"/> Outfall	
Pipe Size	2- 24"			
Pipe Material (Circle One)	RCP	<input checked="" type="radio"/> CMP	PVC	HDPE
	Steel	DI	VCP	Other
Pipe Active (Circle One)	Yes		<input checked="" type="radio"/> No	
Color (Circle One)	Clear	Yellow	Gray	Orange
	Brown	Green	Red	Other
Turbidity (Circle One)	Clear	Slightly Cloudy	Cloudy	Opaque
Surface Sheen (Circle One)	None	Oil	Gasoline	
	Scum	Unknown		
Odor (Circle One)	None	Oil	Decaying Vegetation	SO ₂
	Fuel	Sewage	Methane	Unknown
Digital Photo Taken (Circle One)	<input checked="" type="radio"/> Yes		No	
Possibility of Illicit Discharge	<input checked="" type="radio"/> Unlikely	Potential	Suspect*	Obvious*
*Location of H ₂ O Sample Site				
*pH Level				
*Flow Description (Circle One)	Trickle	Moderate	Substantial	
*Flow Velocity	ft/sec			
*Water Temperature	°F			

* Required only if an illicit discharge is suspected or obvious.

NOTES
E OUTFALL IS LOCATED W
• HEAVY BRUSH

PHOTO INSET
PHOTO #1 W
PHOTO #2 E (N PIPE)
PHOTO #3 E (S PIPE)
PHOTO #4 E (S PIPE)



OUTFALL #1 - WEST



OUTFALL #1 – EAST (North Pipe)



OUTFALL #1 – EAST (South Pipe)



OUTFALL #1 – EAST (South Pipe)



**Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1**

Outfall ID	2	# 2
Date of Last Rainfall / Amount of Rainfall	8/10/09, 0.02"	
Date Inspection Performed	8/13/09	
Time Arrived / Time Left	8:53	am/pm
Air Temperature	80	°F
Name of Inspector	GGK, LJM	
Receiving Water	Hooker Lake, #L-9	
M.H. or Outfall (Circle One)	M.H.	<u>Outfall</u>
Pipe Size	36"	
Pipe Material (Circle One)	<u>RCP</u>	CMP PVC HDPE Steel DI VCP Other
Pipe Active (Circle One)	<u>Yes</u>	No
Color (Circle One)	<u>Clear</u>	Yellow Gray Orange Brown Green Red Other
Turbidity (Circle One)	<u>Clear</u>	Slightly Cloudy Cloudy Opaque
Surface Sheen (Circle One)	None	Oil Gasoline <u>Scum</u> Unknown
Odor (Circle One)	<u>None</u>	Oil Decaying Vegetation SO ₂ Fuel Sewage Methane Unknown
Digital Photo Taken (Circle One)	<u>Yes</u>	No
Possibility of Illicit Discharge	Unlikely	<u>Potential</u> Suspect* Obvious*
*Location of H ₂ O Sample Site	NEXT TO BANK OF STREAM DOWNSTREAM OF OUTFALL	
*pH Level	7.6	
*Flow Description (Circle One)	<u>Trickle</u>	Moderate Substantial
*Flow Velocity	ft/sec	
*Water Temperature	°F	

* Required only if an illicit discharge is suspected or obvious.

NOTES
* OUTFALL SEEMS TO BE THE HEAD OF A STREAM THAT MAY BE WET
ALL NEAR ROUND. ACTUALLY STREAM IS NOT DRY ALL YEAR ROUND
RESIDUAL IS COMPOSED OF FLODSAND AND GRAVEL BELOW

DRAWING FROM HWY 83
- 24915 82nd St.

PHOTO INSET	
PHOTO # 5 OF SCUM	
PHOTO # 6 OF OUTFALL	
Results of <u>IPDE TESTING</u> :	
0.00 mg Total Chlorine	*All within acceptable levels
0.00 mg Free Copper	
0.00 mg Total Copper	
0.00 mg Total Phenol	
0.05 mg Detergents	
pH of 7.6	



OUTFALL #2 - SOUTH



OUTFALL #2 – SOUTH



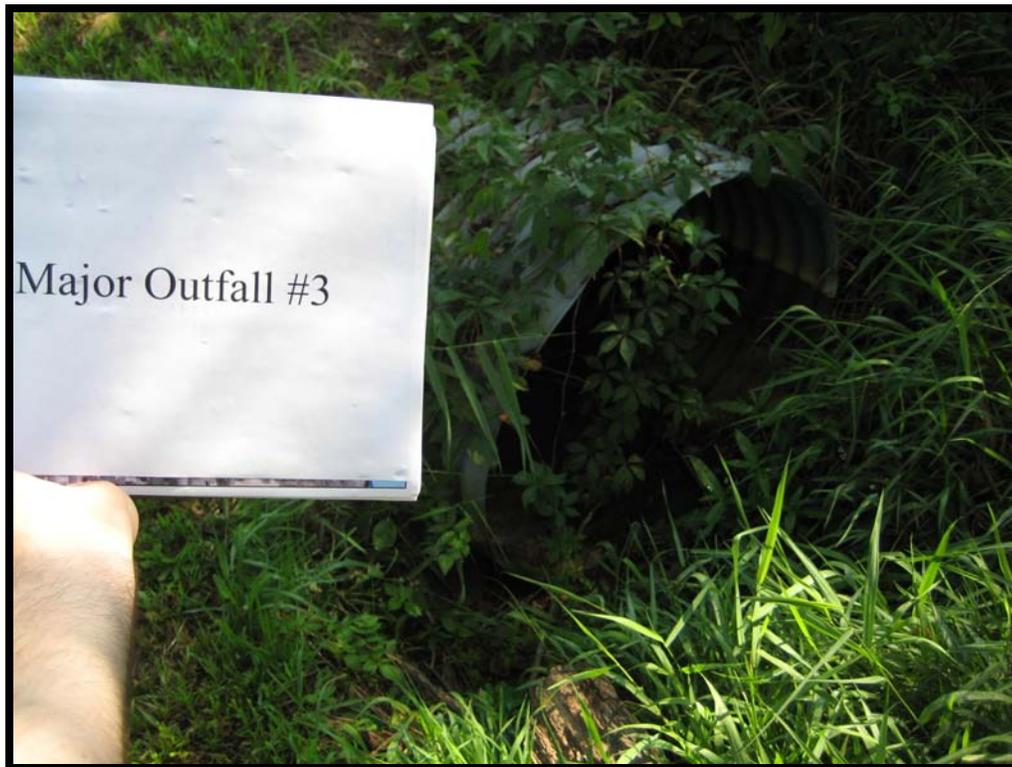
Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1

Outfall ID 3	# 3
Date of Last Rainfall / Amount of Rainfall	8/10/09, 0.02"
Date Inspection Performed	8/13/09
Time Arrived / Time Left	9:20 am/pm 9:29 am/pm
Air Temperature	80 °F
Name of Inspector	BGH, KJM
Receiving Water	Hooker Lake, SB-5B-1
M.H. or Outfall (Circle One)	Salem Branch M.H. <u>Outfall</u>
Pipe Size	36" x 48" Ellipse
Pipe Material (Circle One)	RCP Steel <u>CMP</u> DI PVC VCP HDPE Other
Pipe Active (Circle One)	Yes <u>No</u>
Color (Circle One)	Clear Yellow Gray Orange Brown Green Red Other
Turbidity (Circle One)	Clear Slightly Cloudy Cloudy Opaque
Surface Sheen (Circle One)	None Oil Gasoline Scum Unknown
Odor (Circle One)	None Oil Decaying Vegetation SO ₂ Fuel Sewage Methane Unknown
Digital Photo Taken(Circle One)	<u>Yes</u> No
Possibility of Illicit Discharge	<u>Unlikely</u> Potential Suspect* Obvious*
*Location of H ₂ O Sample Site	
*pH Level	
*Flow Description (Circle One)	Trickle Moderate Substantial
*Flow Velocity	ft/sec
*Water Temperature	°F

• Required only if an illicit discharge is suspected or obvious.

NOTES
Dry, No the liquid present.

PHOTO INSET
Outfall, photo # 7 SOUTH SIDE
PHOTO # 8 NORTH SIDE



OUTFALL #3 - SOUTH



OUTFALL #3 – NORTH



**Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1**

Outfall ID 4	#4
Date of Last Rainfall / Amount of Rainfall	8/10/09, 0.02"
Date Inspection Performed	8/13/09
Time Arrived / Time Left	9:36 am/pm 9:41 am/pm
Air Temperature	80 °F
Name of Inspector	BGK / KJM
Receiving Water	Hooksett Lake, HL-5
M.H. or Outfall (Circle One)	M.H. <u>Outfall</u>
Pipe Size	36"
Pipe Material (Circle One)	RCP Steel <u>CMP</u> PVC HDPE VCP Other
Pipe Active (Circle One)	<u>Yes</u> No
Color (Circle One)	<u>Clear</u> Yellow Gray Orange Brown Green Red Other
Turbidity (Circle One)	<u>Clear</u> Slightly Cloudy Cloudy Opaque
Surface Sheen (Circle One)	<u>None</u> Oil Gasoline Scum Unknown
Odor (Circle One)	<u>None</u> Oil Decaying Vegetation SO ₂ Fuel Sewage Methane Unknown
Digital Photo Taken(Circle One)	<u>Yes</u> No
Possibility of Illicit Discharge	<u>Unlikely</u> Potential Suspect* Obvious*
*Location of H ₂ O Sample Site	
*pH Level	
*Flow Description (Circle One)	<u>Trickle</u> Moderate Substantial
*Flow Velocity	ft/sec
*Water Temperature	°F

• Required only if an illicit discharge is suspected or obvious.

NOTES
OUTFALL IS ACTIVE WITH CLEAR WATER

PHOTO INSET
PHOTO # 9 OUTFALL SOUTH SIDE

Outfall ID	
-------------------	--



OUTFALL #4 - SOUTH



**Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1**

OUTFALL ID 15

Date of Last Rainfall / Amount of Rainfall	8/10/09, 0.00"
Date Inspection Performed	8/13/09
Time Arrived / Time Left	9:50 am/pm 9:59 am/pm
Air Temperature	80 °F
Name of Inspector	BGH, KJM
Receiving Water	Center Lake, CB-8
M.H. or Outfall (Circle One)	M.H. <u>Outfall</u>
Pipe Size	
Pipe Material (Circle One)	RCP <u>CMP</u> PVC HDPE Steel DI VCP Other
Pipe Active (Circle One)	Yes <u>No</u>
Color (Circle One)	<u>Clear</u> Yellow Gray Orange Brown Green Red Other
Turbidity (Circle One)	Clear Slightly Cloudy Cloudy <u>Opaque</u>
Surface Sheen (Circle One)	<u>None</u> Oil Gasoline Scum Unknown
Odor (Circle One)	<u>None</u> Oil Decaying Vegetation SO ₂ Fuel Sewage Methane Unknown
Digital Photo Taken(Circle One)	<u>Yes</u> No
Possibility of Illicit Discharge	<u>Unlikely</u> Potential Suspect* Obvious*
*Location of H ₂ O Sample Site	
*pH Level	
*Flow Description (Circle One)	Trickle Moderate Substantial
*Flow Velocity	ft/sec
*Water Temperature	°F

• Required only if an illicit discharge is suspected or obvious.

NOTES
* STANDING WATER, BUT NO WATER IS FLOWING

PHOTO INSET
PHOTO # 10 OUTFALL EAST SIDE
PHOTO # 11 OUTFALL WEST SIDE

Outfall ID	
-------------------	--



OUTFALL #5 - EAST



OUTFALL #5 – WEST



Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1

OUTFALL ID # 6

#6

Date of Last Rainfall / Amount of Rainfall	8/10/09, 0.02"
Date Inspection Performed	8/13/09
Time Arrived / Time Left	10:00 am/pm 10:14 am/pm
Air Temperature	80 °F
Name of Inspector	BGN, KJM
Receiving Water	Camp Lake, CP-3
M.H. or Outfall (Circle One)	M.H. <u>Outfall</u>
Pipe Size	3.8" box
Pipe Material (Circle One)	<u>RCP</u> CMP PVC HDPE Steel DI VCP Other
Pipe Active (Circle One)	<u>Yes</u> No
Color (Circle One)	<u>Clear</u> Yellow Gray Orange Brown Green Red Other
Turbidity (Circle One)	Clear <u>Slightly Cloudy</u> Cloudy Opaque
Surface Sheen (Circle One)	<u>None</u> Oil Gasoline Scum Unknown
Odor (Circle One)	<u>None</u> Oil Decaying Vegetation SO ₂ Fuel Sewage Methane Unknown
Digital Photo Taken(Circle One)	<u>Yes</u> No
Possibility of Illicit Discharge	<u>Unlikely</u> Potential Suspect* Obvious*
*Location of H ₂ O Sample Site	
*pH Level	
*Flow Description (Circle One)	Trickle Moderate Substantial
*Flow Velocity	ft/sec
*Water Temperature	°F

* Required only if an illicit discharge is suspected or obvious.

NOTES
OUTFALL DRAWS ONE WETLAND
UNDER THE ROAD TO ANOTHER
WETLAND ON THE OTHER SIDE

PHOTO INSET
PHOTO #12 OUTFALL WEST
PHOTO #13 OUTFALL EAST

Outfall ID	
Date of Last Rainfall /	



OUTFALL #6 - EAST



OUTFALL #6 – WEST



**Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1**

OUTFALL 20 #7

Amount of Rainfall	6/10/09, 0.02"			
Date Inspection Performed	6/13/09			
Time Arrived / Time Left	10:20 am/pm		10:28 am/pm	
Air Temperature	80 °F			
Name of Inspector	BGH, KJM			
Receiving Water	Camp Lake, CP-4			
M.H. or Outfall (Circle One)	M.H.		<u>Outfall</u>	
Pipe Size	2 x 36"			
Pipe Material (Circle One)	RCP	<u>CMP</u>	PVC	HDPE
	Steel	DI	VCP	Other
Pipe Active (Circle One)	<u>Yes</u>		No	
Color (Circle One)	<u>Clear</u>	Yellow	Gray	Orange
	Brown	Green	Red	Other
Turbidity (Circle One)	<u>Clear</u>	Slightly Cloudy	Cloudy	Opaque
Surface Sheen (Circle One)	<u>None</u>	Oil	Gasoline	
	Scum	Unknown		
Odor (Circle One)	<u>None</u>	Oil	Decaying Vegetation	SO ₂
	Fuel	Sewage	Methane	Unknown
Digital Photo Taken(Circle One)	Yes		No	
Possibility of Illicit Discharge	<u>Unlikely</u>	Potential	Suspect*	Obvious*
*Location of H ₂ O Sample Site				
*pH Level				
*Flow Description (Circle One)	Trickle	Moderate	Substantial	
*Flow Velocity	ft/sec			
*Water Temperature	°F			

• Required only if an illicit discharge is suspected or obvious.

NOTES
- ONE OF THE 36" PIPES HAS EXCESS CONCRETE FILLING OUT OF IT
- SEEMS TO BE AN ILLICIT DISCHARGE

PHOTO INSET
#14 - West Outfall
#15 - East Outfall

Outfall ID	
Date of Last Rainfall /	



OUTFALL #7 - EAST



OUTFALL #7 – WEST



**Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1**

OUTFALL ID # 8

Amount of Rainfall	8/10/09, 0.02"			
Date Inspection Performed	8/13/09			
Time Arrived / Time Left	10:30 am/pm		10:40 am/pm	
Air Temperature	80 °F			
Name of Inspector	BEH, KSM			
Receiving Water	Camp Lake, CP-13			
M.H. or Outfall (Circle One)	M.H.	Outfall		
Pipe Size	96" x 36"			
Pipe Material (Circle One)	RCP	CMP	PVC	HDPE
	Steel	DI	VCP	Other
Pipe Active (Circle One)	Yes			No
Color (Circle One)	Clear	Yellow	Gray	Orange
	Brown	Green	Red	Other
Turbidity (Circle One)	Clear	Slightly Cloudy	Cloudy	Opaque
Surface Sheen (Circle One)	None	Oil	Gasoline	
	Scum	Unknown		
Odor (Circle One)	None	Oil	Decaying Vegetation	SO ₂
	Fuel	Sewage	Methane	Unknown
Digital Photo Taken(Circle One)	Yes		No	
Possibility of Illicit Discharge	Unlikely	Potential	Suspect*	Obvious*
*Location of H ₂ O Sample Site				
*pH Level				
*Flow Description (Circle One)	Trickle	Moderate	Substantial	
*Flow Velocity	ft/sec			
*Water Temperature	°F			

* Required only if an illicit discharge is suspected or obvious.

NOTES
NOT FLOWING IN CHANNEL WITH STANDING WATER

PHOTO INSET
PHOTO # 16 EAST
PHOTO # 17 WEST

Outfall ID	
Date of Last Rainfall /	



OUTFALL #8 - EAST



OUTFALL #8 - WEST



**Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1**

OUTFALL ID # 9

Amount of Rainfall	8/10/09, 0.02"		
Date Inspection Performed	8/13/09		
Time Arrived / Time Left	10:45 am	pm	10:51 am
Air Temperature	80 °F		
Name of Inspector	BGM, KSM		
Receiving Water	Camp Lake, CP-9		
M.H. or Outfall (Circle One)	M.H.	<u>Outfall</u>	
Pipe Size	36"		
Pipe Material (Circle One)	RCP	<u>CMP</u>	PVC HDPE
	Steel	DI	VCP Other
Pipe Active (Circle One)	Yes		<u>No</u>
Color (Circle One)	<u>Clear</u>	Yellow	Gray Orange
	Brown	Green	Red Other
Turbidity (Circle One)	Clear	<u>Slightly Cloudy</u>	Cloudy Opaque
Surface Sheen (Circle One)	<u>None</u>	Oil	Gasoline
	Scum	Unknown	
Odor (Circle One)	<u>None</u>	Oil	Decaying Vegetation SO ₂
	Fuel	Sewage	Methane Unknown
Digital Photo Taken(Circle One)	<u>Yes</u>		No
Possibility of Illicit Discharge	<u>Unlikely</u>	Potential	Suspect* Obvious*
*Location of H ₂ O Sample Site			
*pH Level			
*Flow Description (Circle One)	Trickle	Moderate	Substantial
*Flow Velocity	ft/sec		
*Water Temperature	°F		

* Required only if an illicit discharge is suspected or obvious.

NOTES
WATER DUE TO SURFACE
POUND POUND

PHOTO INSET
Photo # 18 WEST
Photo # 19 EAST

Outfall ID	
-------------------	--



OUTFALL #9 - EAST



OUTFALL #9 - WEST



**Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1**

OUTFALL # 10

Date of Last Rainfall / Amount of Rainfall	8/10/09, 0.02"		
Date Inspection Performed	8/13/09		
Time Arrived / Time Left	10:57 am	pm	am/pm
Air Temperature	80 °F		
Name of Inspector	BGN, KJM		
Receiving Water	Fox River, FR-11		
M.H. or Outfall (Circle One)	M.H.	<input checked="" type="radio"/> Outfall	
Pipe Size	84" BOX		
Pipe Material (Circle One)	<input checked="" type="radio"/> RC	CMP	PVC
	Steel	DI	VCP
Pipe Active (Circle One)	<input checked="" type="radio"/> Yes		No
	<input checked="" type="radio"/> Clear	Yellow	Gray
Color (Circle One)	Brown	Green	Red
	Other		
Turbidity (Circle One)	<input checked="" type="radio"/> Clear	Slightly Cloudy	Cloudy
Surface Sheen (Circle One)	<input checked="" type="radio"/> None	Oil	Gasoline
	Scum	Unknown	
Odor (Circle One)	<input checked="" type="radio"/> None	Oil	Decaying Vegetation
	Fuel	Sewage	Methane
Digital Photo Taken(Circle One)	<input checked="" type="radio"/> Yes		No
Possibility of Illicit Discharge	<input checked="" type="radio"/> Unlikely	Potential	Suspect*
*Location of H ₂ O Sample Site			
*pH Level			
*Flow Description (Circle One)	Trickle	Moderate	Substantial
*Flow Velocity	ft/sec		
*Water Temperature	°F		

* Required only if an illicit discharge is suspected or obvious.

NOTES
ACTIVE STREAM

PHOTO INSET
PHOTO # 20 WEST
PHOTO # 21 EAST

Outfall ID	
Date of Last Rainfall /	



OUTFALL #10 - EAST



OUTFALL #10 - WEST



**Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1**

OUTFALL ID #11

8/10/09, 0.02"

Date Inspection Performed	8/12/09
Time Arrived / Time Left	11:40 am/pm 11:47 am/pm
Air Temperature	80 °F
Name of Inspector	BG #, Kim
Receiving Water	Texas Creek, TC-9B
M.H. or Outfall (Circle One)	M.H. <u>Outfall</u>
Pipe Size	36"
Pipe Material (Circle One)	RCP <u>CMP</u> PVC HDPE Steel DI VCP Other
Pipe Active (Circle One)	<u>Yes</u> No
Color (Circle One)	<u>Clear</u> Yellow Gray Orange Brown Green Red Other
Turbidity (Circle One)	<u>Clear</u> Slightly Cloudy Cloudy Opaque
Surface Sheen (Circle One)	<u>None</u> Oil Gasoline Scum Unknown
Odor (Circle One)	<u>None</u> Oil Decaying Vegetation SO ₂ Fuel Sewage Methane Unknown
Digital Photo Taken(Circle One)	<u>Yes</u> No
Possibility of Illicit Discharge	<u>Unlikely</u> Potential Suspect* Obvious*
*Location of H ₂ O Sample Site	
*pH Level	
*Flow Description (Circle One)	Trickle Moderate Substantial
*Flow Velocity	ft/sec
*Water Temperature	°F

* Required only if an illicit discharge is suspected or obvious.

NOTES
DRAINAGE DITCH IS DRY
FURTHER UP STREAM FROM
SIDE
NORTH OF OUTFALL OUTFALL
OF

PHOTO INSET
Photo #26 SOUTH
Photo #27 NORTH

Outfall ID	
Date of Last Rainfall / Amount of Rainfall	



OUTFALL #11 - NORTH



OUTFALL #11 - SOUTH



**Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1**

OUTFALL IS # 12

8/10/09, 0.02"

Date Inspection Performed	8/13/09
Time Arrived / Time Left	11:52 am/pm
Air Temperature	80 °F
Name of Inspector	BCH, KJM
Receiving Water	Voltage From Terror Creek, TC-9A
M.H. or Outfall (Circle One)	M.H. <u>Outfall</u>
Pipe Size	4-15"
Pipe Material (Circle One)	RC <u>CMP</u> PVC HDPE Steel DI VCP Other
Pipe Active (Circle One)	Yes <u>No</u>
Color (Circle One)	Clear Yellow Gray Orange Brown Green Red Other
Turbidity (Circle One)	Clear Slightly Cloudy Cloudy Opaque
Surface Sheen (Circle One)	None Oil Gasoline Scum Unknown
Odor (Circle One)	None Oil Decaying Vegetation SO ₂ Fuel Sewage Methane Unknown
Digital Photo Taken(Circle One)	<u>Yes</u> No
Possibility of Illicit Discharge	Unlikely Potential Suspect* Obvious*
*Location of H ₂ O Sample Site	
*pH Level	
*Flow Description (Circle One)	Trickle Moderate Substantial
*Flow Velocity	ft/sec
*Water Temperature	°F

* Required only if an illicit discharge is suspected or obvious.

NOTES
→ DRAWS DIRECTLY INTO
NEIGHBORING LAKE
→ EAST OUTFALL IS FULL OF
SOIL AND DEBRIS

PHOTO INSET
PHOTO # 28 WEST
PHOTO # 29 EAST

Outfall ID	
Date of Last Rainfall / Amount of Rainfall	



OUTFALL #12 - EAST



OUTFALL #12 - WEST



**Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1**

Outfall ID #13

Amount of Rainfall	8/16/09, 0.02"			
Date Inspection Performed	8/13/09			
Time Arrived / Time Left	11:14 am/pm		11:20 am/pm	
Air Temperature	80 °F			
Name of Inspector	BKH, KEM			
Receiving Water	Trenton Creek, TC-13C			
M.H. or Outfall (Circle One)	M.H.		<u>Outfall</u>	
Pipe Size	72"			
Pipe Material (Circle One)	<u>RCP</u>	CMP	PVC	HDPE
	Steel	DI	VCP	Other
Pipe Active (Circle One)	<u>Yes</u>		No	
Color (Circle One)	Clear	Yellow	Gray	Orange
	Brown	Green	Red	Other
Turbidity (Circle One)	<u>Clear</u>	<u>Slightly Cloudy</u>	Cloudy	Opaque
Surface Sheen (Circle One)	<u>None</u>	Oil	Gasoline	
	Scum	Unknown		
Odor (Circle One)	<u>None</u>	Oil	Decaying Vegetation	SO ₂
	Fuel	Sewage	Methane	Unknown
Digital Photo Taken(Circle One)	<u>Yes</u>		No	
Possibility of Illicit Discharge	<u>Unlikely</u>	Potential	Suspect*	Obvious*
*Location of H ₂ O Sample Site				
*pH Level				
*Flow Description (Circle One)	Trickle	Moderate	Substantial	
*Flow Velocity	ft/sec			
*Water Temperature	°F			

• Required only if an illicit discharge is suspected or obvious.

NOTES
→ Sewerizer PIPE PROBABLY BETWEEN TWO WELLS

PHOTO INSET
Photo #22 NORTH
Photo #23 SOUTH

Outfall ID	
Date of Last Rainfall / Amount of Rainfall	



OUTFALL #13 - NORTH



OUTFALL #13 - SOUTH



Visual Inspection Form
For Illegal Connection/Illicit Discharge
WPDES Permit No. WI-S050075-1

OUTFALL ID #14

8/10/09, 0.02"

Date Inspection Performed	8/13/09		
Time Arrived / Time Left	11:24 am	pm	11:31 am
Air Temperature	80 °F		
Name of Inspector	BGH, KJM		
Receiving Water	Terror Creek, TC-7B		
M.H. or Outfall (Circle One)	M.H.	Outfall	
Pipe Size	192" x 72" Box ARCH BOX		
Pipe Material (Circle One)	RCP	CMP	PVC HDPE
	Steel	DI	VCP Other
Pipe Active (Circle One)	Yes		No
Color (Circle One)	Clear	Yellow	Gray Orange
	Brown	Green	Red Other
Turbidity (Circle One)	Clear	Slightly Cloudy	Cloudy Opaque
Surface Sheen (Circle One)	None	Oil	Gasoline
	Scum	Unknown	
Odor (Circle One)	None	Oil	Decaying Vegetation SO ₂
	Fuel	Sewage	Methane Unknown
Digital Photo Taken (Circle One)	Yes		No
Possibility of Illicit Discharge (Circle One)	Unlikely	Potential	Suspect* Obvious*
*Location of H ₂ O Sample Site			
*pH Level			
*Flow Description (Circle One)	Trickle	Moderate	Substantial
*Flow Velocity	ft/sec		
*Water Temperature	°F		

* Required only if an illicit discharge is suspected or obvious.

NOTES
CONNECTS TWO WESTLANDS
CONNECTS TWO WESTLANDS

PHOTO INSET
PHOTO # 2A WEST
PHOTO # 25 EAST

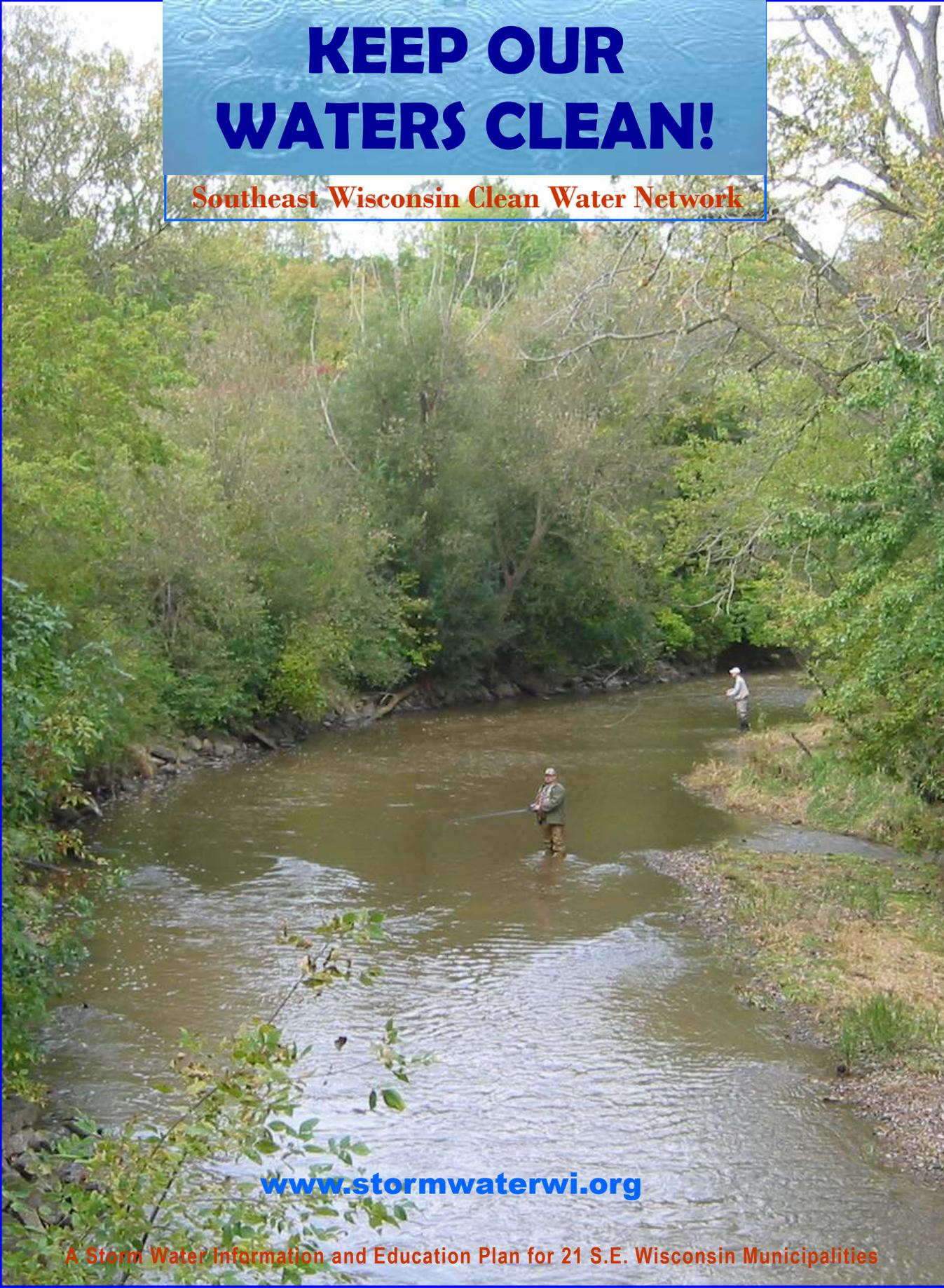
Outfall ID	
Date of Last Rainfall / Amount of Rainfall	



OUTFALL #14 - EAST



OUTFALL #14 - WEST



KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

www.stormwaterwi.org

A Storm Water Information and Education Plan for 21 S.E. Wisconsin Municipalities

KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Submitted By

Root-Pike Watershed Initiative Network
P.O. Box 044164
Racine, WI 53404
www.rootpikewin.org

Contact: Susan Greenfield, Executive Director;
sgreenfield@wi.rr.com;
262-898-2055

Prepared With Assistance From:

Andrew Yencha, UW-Extension Basin Educator for the Root-Pike
and Southeast Wisconsin Fox River Basin

Pete Wood, Water Resources Engineer and S.E. Wisconsin Regional Non-Point
Source Coordinator, Wisconsin Department of Natural Resources,

Mike Luba, Root-Pike Watershed Basin Supervisor,
Wisconsin Department of Natural Resources

Photography: Roger Chernik, Melissa and Jay Warner, Julie Kinzelman

A Storm Water Information and Education Plan for 21 S.E. Wisconsin Municipalities

KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Table of Contents

Municipal Storm Water Permit Group	Page 1
Partners	Page 2
Executive Summary	Page 3
Regulatory Requirements (NR 216)	Page 4
Root River & Pike River Watersheds	Page 5
S.E. Fox River Basin	Page 6
Target Audiences	Page 7
Goals	Pages 8-9
Actions & Timeline	Pages 10-17
Fees	Page 18
Budget	Pages 19
Implementation	Page 20
Intergovernmental Agreement	Pages 20 & Addendum

A Storm Water Information and Education Plan for 21 S.E. Wisconsin Municipalities



KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Stormwater Permit Group

Phase I

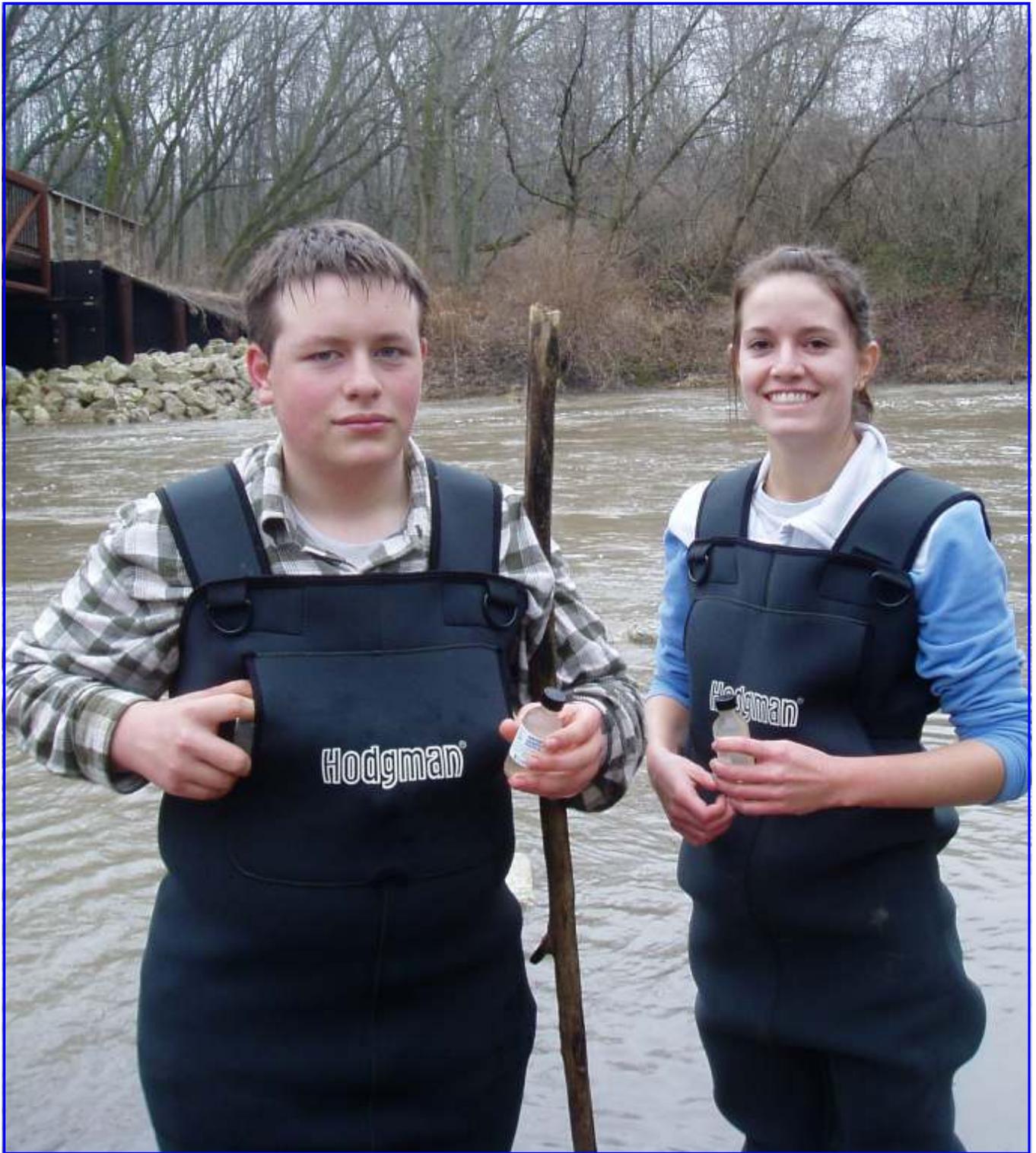
Permit expires October 2008

City of Franklin
City of Kenosha
City of New Berlin
City of Oak Creek
City of Racine
Village of Caledonia
Village of Greendale
Village of Hales Corners
Village of Mt. Pleasant
UW-Parkside

Phase II

I & E Plan due May 2008

Kenosha County
Racine County
Village of Paddock Lake
Village of Pleasant Prairie
Village of Silver Lake
Village of Sturtevant
Village of Twin Lakes
Village Wind Point
Town of Bristol
Town of Salem
Town of Somers



KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Partners

Municipalities—Municipalities will be asked to contribute financial support to the program, engage their residents, staff, commissioners and elected officials in program activities, and sign an agreement.

Kenosha & Racine County Government, UW-Parkside—program for these groups will largely target staff and students, where applicable.

River Alliance of Wisconsin—would be interested in offering its construction site erosion workshop

Sierra Club—the Racine chapter is planning a rain barrel project. We have not yet spoken with them regarding partnering on our proposed rain barrel initiative.

UW-Extension Basin Educator—Andy Yench, the UW-Extension Basin Educator, has indicated that UW-Extension will want to assist us with this program. We will likely use many of their current publications and educational materials. Possibly, UW-Extension will assume responsible for the Household Survey and final evaluation. We need to determine the scope of their involvement regarding staffing, printing, facilities, etc.

WI DNR—We still need to work out the details of WIDNR's involvement with this program. We have arranged for Roger Bannerman to provide two presentations: one on rain gardens and the other on BMPs. We will use many DNR publications in our workshops and presentations.

EPA—We propose using the promotional material from the Environmental Protection Agency's *After The Storm* project, to include the video and a brochure.

KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Executive Summary

The Root-Pike Watershed is comprised of five smaller watersheds: Root River, Pike River, Pike Creek, Oak Creek and Wind Point. All of these watersheds drain to Lake Michigan. The S.E. Fox Watershed is comprised of six smaller watersheds: Upper, Middle and Lower Fox River watersheds, Mukwonago, White River/Nippersink Creeks, and Sugar-Honey Creek watersheds, and they all drain to the Mississippi River.

Most of the Root River, Pike River and S.E. Fox River watersheds' surface waters are exposed to runoff pollution from agricultural and urban land uses as well as mound and septic disposal systems. Rain water carries sediment and pollutants from these sources to streams, rivers, and lakes. Several sections of the Root-Pike Watershed are listed on the DNR's impaired river list for their poor water quality. The S.E. Fox River Watershed's surface waters are exposed to far less urban runoff pollution, with only about five percent of the covered in urban uses. However, a large portion of its surface waters are exposed agricultural runoff as well as mound and septic systems runoff. Drinking water in the Root-Pike River watersheds comes from Lake Michigan, private wells and municipal groundwater aquifers. The entire S.E. Fox River Watershed's population receives drinking water from groundwater sources. The two main groundwater concerns are contamination and over-usage.

Effectively addressing the stormwater challenges facing Southeast Wisconsin will require a long-term commitment at many levels: urban, rural; local, regional and state; public and private; commercial and residential. Although local units of government are doing a commendable job of complying with new standards for managing runoff from new developments, it is more difficult for municipalities to devote the resources required to effectively educate their residents about the stormwater pollution generated from existing developments and the actions they must take to manage this problem. The *Keep Our Waters Clean Network* is designed to engage the general public on these issues so they can do their part protecting local water resources.

KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Regulatory Requirements (NR 216) Information and Education Program

State and federal officials agree that public education is an essential part of any plan to reduce stormwater pollution because the daily activities of millions of people contribute significantly to non-point source pollution. Municipalities can improve water quality substantially with best management practices, but that will solve only part of the problem. To reduce the amount of stormwater pollution, we must increase public awareness of the problem and teach people how to reduce polluted runoff in their yards, community areas and other private lands. As citizens learn about the impacts of their actions on local water resources, they are more likely to change their behaviors. For example, dog owners may be more inclined to pick their pets' waste if they know it can contribute to bacteria in storm water runoff and may cause beaches to close. Education is an effective means of improving stormwater quality because it can bring about behavior change.

Municipalities required under Subchapter I of NR 216 to obtain a storm water discharge permit are also required to develop and implement an Information and Education Program that will motivate individuals to change behaviors that contribute to the pollution of 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, performance standards for developed urban areas contained in Subchapter III of NR 151, Wis. Adm. Code, require governments of such areas to develop and implement a public Information and Education Program to assist in reducing polluted runoff.

The *Keep Our Waters Clean* program is intended to address all these activities and will meet the regulatory requirements for an effective Information and Education Program. The types of activities and behaviors these regulatory programs intend to address are:

- Improper disposal of waste and dumping of materials
- Effective construction site erosion control
- Long-term storm water management
- Lawn and garden fertilizer and pesticide application
- Yard waste management and disposal
- Pet waste disposal
- Other business and household practices that may contaminate storm water runoff.

A Storm Water Information and Education Plan for 21 S.E. Wisconsin Municipalities



KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Root River and Pike River Watersheds

Joint Stormwater Permit Holders Group

Counties: Racine, Kenosha

Cities: Franklin, Kenosha, New Berlin, Oak Creek

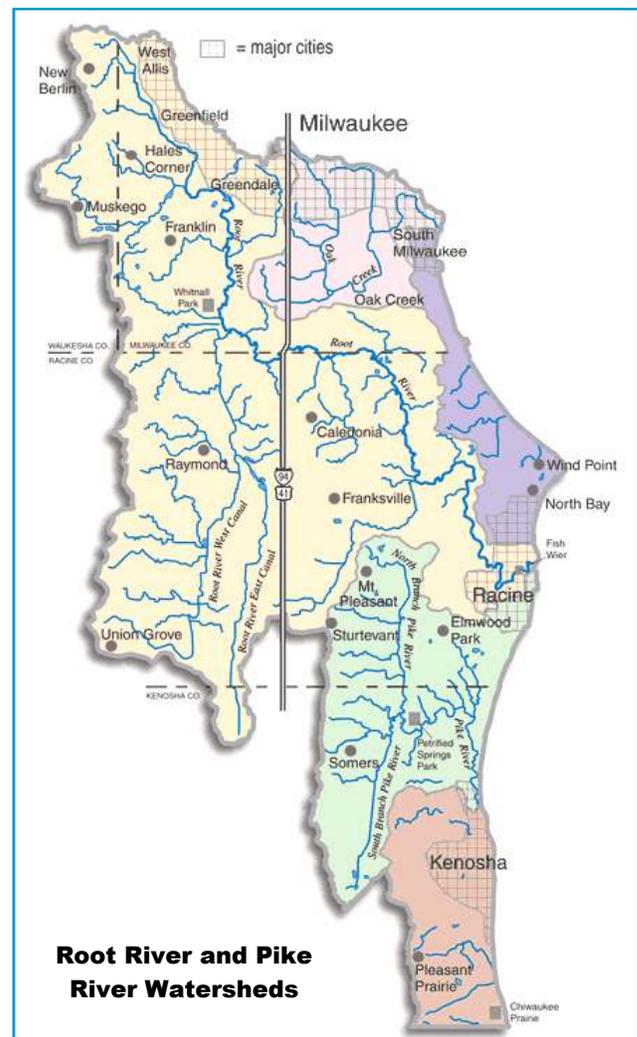
Villages: Caledonia, Greendale, Hales Corners, Mt. Pleasant, Pleasant Prairie, Sturtevant, Wind Point

Towns: Somers

UW-Parkside

The Root-Pike watersheds are actually five watersheds: Root River, Pike River, Pike Creek, Oak Creek and Wind Point. All of these watersheds drain to Lake Michigan. Their rivers, creeks and numerous tributaries meander through nearly 327 miles of an increasingly urban landscape. Over 1.6 million residents from Kenosha, Milwaukee, Racine and Waukesha Counties interact with and impact this watershed daily. Two universities—Carthage College and UW-Parkside—also share this watershed.

Recreation and wildlife abound and there are more than 38 city and county parks in the watersheds, many along the rivers and Lake Michigan. Significant wildlife habitat is found at Chiwaukee Prairie, Petrifying Springs, River Bend Nature Center, and Whitnall Park. Sections of the Root River are considered quality fisheries. In the spring and fall, migrating Chinook salmon, Coho salmon, brown trout, and rainbow trout can be observed at the Root River Steelhead facility in Lincoln Park in Racine.



KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Southeast Wisconsin Fox River Watershed

Joint Stormwater Permit Holders Group

Counties: Kenosha

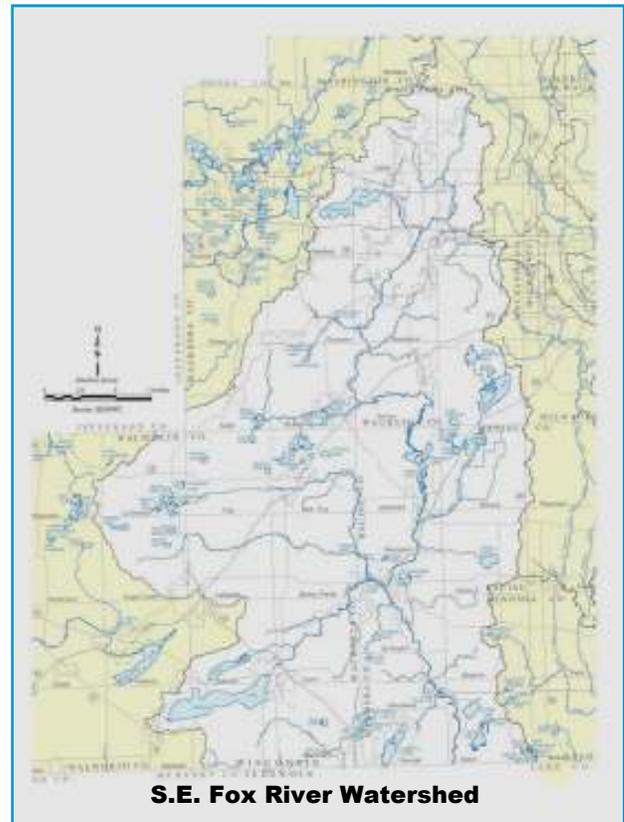
Villages: Paddock Lake, Silver Lake,
Twin Lakes

Towns: Bristol

The S.E. Fox River Basin is divided into seven watersheds and they all drain to the Mississippi River. Three of the watersheds (Upper, Middle and Lower Fox River) contain the Fox River, which starts near Menomonee Falls and flows for 70 miles past Waukesha, Brookfield, Big Bend, Waterford, Rochester, Burlington, Wheatland, Silver Lake and Wilmot.

Home to approximately 500,000 people, the basin's population has grown by 43 percent since 1970, with Waukesha County gaining nearly 120,000. The entire population of the basin receives their drinking water from groundwater sources

Only about five percent of the basin's land area is covered in urban uses. Nearly 700 miles of streams, drain over 1,000 square miles of land, and wetlands encompass nearly 78,000 acres, or 11 percent of the basin land area. Recreational opportunities, such as hiking, fishing, biking, cross-country skiing, and more are abundant in county parks and the Kettle Moraine State Forest, Bong Recreation Area and Vernon Marsh Wildlife Area.



S.E. Fox River Watershed

A Storm Water Information and Education Plan for 21 S.E. Wisconsin Municipalities

KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Target Audiences

Over 1.6 million people reside in the targeted area of the Root-Pike Watershed and 500,000 people live in the S.E. Fox River Watershed. These residents interact with and impact the watershed daily.

This Information and Education Program will target the following individuals:

- Those who must act: homeowners, business owners, developers, elected officials
- Those who must support change: conservation groups, civic organizations, media and concerned citizens
- Those who are the future actors and supporters: teachers, youth.

KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Goals of the Long Term Plan

The goals of this Information and Education plan come from the requirements of the NR 216 permit and focus on improving urban storm water quality and eliminating illicit discharges. Goals are broad ideas that may take a very long time to achieve. The goals of this plan are to increase awareness and understanding of the problems and promote the adoption of new behaviors that will ultimately achieve the following:

- Improve quality and reduce quantity of storm water runoff from existing urban areas to meet or exceed state and local standards.
- Improve quality and reduce quantity of storm water runoff from all new development and redevelopment to meet or exceed state and local standards.
- Identify and eliminate all unpermitted wastewater discharges to the storm water system.

Creating change in people's knowledge, attitudes and behaviors is a long-term process and requires a long-term commitment from its sponsors. Simply providing information rarely results in behavior change. Instead, the focus should be on identifying and removing barriers to the desired behavior.

Measurable Goals

EPA defines measurable goals as quantifiable benchmark that track progress and effectiveness of stormwater best management practices.

- Audiences will understand where storm water drains, ditches and swales go to and will not dump material in them
- Water quality will improve (i.e. City of Racine Health Department, SEWRPC)
- Number of new site plans that incorporate low-impact development practices
- Number of municipal demonstration sites of Stormwater BMPs
- Number of citizens/students participating in stream monitoring
- Number of new developments that meet construction erosion control
- Number of people who attend workshops, presentations, conferences
- Square feet of land converted to rain gardens
- Number of rain barrels installed
- Number of hits on website
- Number of households reached with each mailing
- Number of people exposed to newspaper, television and radio news stories and PSAs

WPDES Permit Goals

Municipal Separate Storm Sewer Discharge General Permit, Wis. Admin. Code, Chapter NR 216

This plan will help permitted communities achieve compliance with the following requirements titled, “Public Outreach and Education” (section 2.1) and “Public Involvement and Participation” (section 2.2):

2.1.1 Promote detection and elimination of illicit discharges and water quality impacts associated from such discharges from municipal separate storm sewer systems.

2.1.2 Inform and educate 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.

2.1.3 Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides.

2.1.4 Promote management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance ecological value of waterways.

2.1.5 Promote infiltration of residential storm water runoff from rooftop downspouts, driveways and sidewalks.

2.1.6 Inform and where appropriate educate those responsible for the design, installation, and maintenance of construction site erosion control practices and storm water management facilities on how to design, install and maintain the practices.

2.1.7 Identify businesses and activities that may pose a storm water containment concern and where appropriate, educate specific audiences on methods of storm water pollution prevention.

2.1.8 Provide environmentally sensitive land development designs by developers and designers.

ACTIONS & TIMETABLE

Target Audience

Those That Must Act

**Developers, builders, engineers & consultants, building inspectors,
wastewater commissioners, stormwater commissioners,
land planners & planning commissioners**

ACTION	WHO	WHEN	WPDES PERMIT GOALS	FUNDING
WORKSHOP PRESENTATIONS				
<i>Rain Garden Presentation by Roger Bannerman</i>	Root-Pike WIN WIDNR	April 10, 2008	2.1.5	WIDNR, Root-Pike WIN
<i>Presentation, Minnesota Rain Garden Project</i>	MN	March 2009	2.1.5	Municipal Agree- ment
<i>Stormwater BMP Workshop & Offsite Tour</i>	Root-Pike WIN, UW- Extension	Fall 2008	2.1.4, 2.1.5, 2.1.6, 2.1.8	Intergovernmental Agreement
<i>Managing Construction Site Erosion & Offsite Tour</i>	Root-Pike WIN, UW- Extension, River Alli- ance of Wis- consin	Fall 2008	2.1.6	Intergovernmental Agreement
<i>After the Storm video presentation</i>	Root-Pike WIN, EPA , UW- Extension	March 2009	2.1.6, 2.1.7	Intergovernmental Agreement

ACTIONS & TIMETABLE

Target Audience

Those That Must Act

**Developers, builders, engineers & consultants, building inspectors,
wastewater commissioners, stormwater commissioners,
land planners & planning commissioners**

ACTION	WHO	WHEN	WPDES PERMIT- GOALS	FUNDING
WEBSITE				
<ul style="list-style-type: none"> • List of participating municipalities & partners • Tools for stormwater management (BMPs) • Site planning for watershed sensitive development • Managing public and private streambank and shorelines • Managing construction site erosion • Model ordinances • After The Storm video • Conferences, workshops, presentation & sign-up • Stormwater manual • Reporting illicit discharges • Managing Yard Waste & phosphorus fertilizers • Hazardous waste disposal & used motor oil collection • Map of watershed • PDFs of stormwater related fact sheets • Articles about stormwater • Registration site for workshops • Links 	Root-Pike WIN	Fall 2008	2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5, 2.1.6, 2.1.7, 2.1.8	Intergovernmental Agreement

A Storm Water Information and Education Plan for 21 S.E. Wisconsin Municipalities

ACTIONS & TIMETABLE

Target Audience

Those That Must Act

**Developers, builders, engineers & consultants, building inspectors,
wastewater commissioners, stormwater commissioners,
land planners & planning commissioners**

ACTION	WHO	WHEN	WPDES PERMIT GOALS	FUNDING
PUBLICATIONS				
<i>The Wisconsin Storm Water Manual: Technical Design Guidelines for Storm Water Management Practices</i>	Root-Pike WIN, UW-Extension	Fall 2008	2.1.4, 2.1.5, 2.1.6, 2.1.8	UW-Extension
Newsletter articles for municipal newsletters	UW-Extension, Root-Pike WIN	Twice a year	2.1.1, 2.1.3, 2.1.5, 2.1.6, 2.1.7, 2.1.8	UW-Extension, Intergovernmental Agreement
EXHIBIT/DISPLAY				
Stormwater Exhibit	Root-Pike WIN	Winter 2009	2.1.1, 2.1.5, 2.1.6, 2.1.7, 2.1.8	Intergovernmental Agreement
A Storm Water Information and Education Plan for 21 S.E. Wisconsin Municipalities				

ACTIONS & TIMETABLE

Target Audience

Those That Must Act

Homeowners, landlords, small business

ACTION	WHO	WHEN	WPDES PERMIT GOALS	FUNDING
WEBSITE				
<ul style="list-style-type: none"> • How you can make a difference (pet waste, car washing, grass clippings, lawn fertilizers and pesticides) • Managing streambanks and shorelines • Composting and other onsite use of yard waste • Purchase a composter • Reporting illicit discharges • About rain gardens • How to build a rain garden • Register rain garden • About rain barrels • How to install a rain barrel • Purchase a rain barrel • What is a watershed? • Map of basins and watersheds • <i>After The Storm</i> video • Workshops, fairs, presentations • Native plants and nurseries • Articles about stormwater • Links 	Root-Pike WIN, UW-Extension	Fall 2008	2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5	Intergovernmental Agreement

A Storm Water Information and Education Plan for 21 S.E. Wisconsin Municipalities



ACTIONS & TIMETABLE

Target Audience

Those That Must Act

Homeowners, landlords, small business

ACTION	WHO	WHEN	WPDES PERMIT GOALS	FUNDING
HOUSEHOLD SURVEY				
<i>Telephone Household Survey</i> to assess knowledge attitudes and behaviors	UW-Extension, Root-Pike WIN	Fall 2008	2.1.7	UW-Extension, grant, Intergovernmental Agreement
EXHIBIT/DISPLAY				
Stormwater Exhibit	Root-Pike WIN	Fall 2008	2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5	Intergovernmental Agreement
FAIRS, WORKSHOPS PRESENTATIONS				
Clean Water Fair, Workshops, Tours	Root-Pike WIN, UW-Extension, other sponsors: municipalities, River Alliance of WI, WIDNR, SEWRPC, MMSD	Spring Annually	2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5	Intergovernmental Agreement
Rain Barrel Installation Workshop	Root-Pike WIN	Spring Annually	2.1.5	Intergovernmental Agreement, MMSD
Rain Garden Presentation by Roger Bannerman, WIDNR	Root-Pike WIN WIDNR	April 10, 2008	2.1.5, 2.1.3	Root-Pike WIN
Workshops, <i>How to build a Rain Garden</i>	Root-Pike WIN, UW-Extension, MMSD?	Spring Annually	2.1.5, 2.1.3	Root-Pike WIN, Intergovernmental Agreement
A Storm Water Information and Education Plan for 21 S.E. Wisconsin Municipalities				

ACTIONS & TIMETABLE

Target Audience

Those That Must Act

Homeowners, landlords, small business

ACTION	WHO	WHEN	WPDES PERMIT GOALS	FUNDING
SPECIAL PROGRAMS				
Composting & other beneficial onsite reuse of leaves and grass clippings	Root-Pike WIN, Municipalities	Year-long	2.1.3	Intergovernmental Agreement, possible cost share
Hazardous Waste & Motor Oil Collection	Root-Pike WIN, Municipalities	Summer Annually	2.1.2	Intergovernmental Agreement
Demonstration Rain Garden Program	Root-Pike WIN, UW-Extension, MMSD	Summer Annually	2.1.5	Possible cost share, Root-Pike WIN, MMSD, Intergovernmental Agreement
MARKETING: PUBLIC RELATIONS, ADVERTISING				
News Releases	Root-Pike WIN	Spring, Summer, Fall	2.1.1, 2.1.2, 2.1.3, 2.1.5	Intergovernmental Agreement
Articles for municipal newsletters	UW-Extension, Root-Pike WIN	Spring, Fall	2.1.1, 2.1.2, 2.1.3, 2.1.5	UW-Extension, Intergovernmental Agreement
Radio Interviews	Root-Pike WIN	Spring, Fall	2.1.1, 2.1.2, 2.1.3, 2.1.5	Intergovernmental Agreement
Public Service Announcements Example: "Stormwater carries untreated soil and contaminants into our streams, rivers and lake."	Root-Pike WIN	April-January 5 spots	2.1.7, 2.1.1, 2.1.2, 2.1.3, 2.1.5	Intergovernmental Agreement
Seasonal Direct Mail/Counter Publication/Bill Stuffer (Every Drop Counts: 10 Ways You Can Make A Difference)	Root-Pike WIN,	April, June, September	2.1.2, 2.1.3, 2.1.4, 2.1.5	Intergovernmental Agreement
A Storm Water Information and Education Plan for 21 S.E. Wisconsin Municipalities				

ACTIONS & TIMETABLE

Target Audience

Those who Are the Future Actors and Supporters

Teachers, youth

ACTION	WHO	WHEN	WPDES PERMIT GOALS	FUNDING
WEBSITE				
<ul style="list-style-type: none"> • How you can make a difference (pet waste, car washing, grass clippings, lawn fertilizers and pesticides) • Managing streambanks and shorelines • Composting and other onsite use of yard waste • Green & Healthy Schools Program/certification • School rain gardens • About rain gardens • About rain barrels • <i>After The Storm</i> video • Workshops, fairs • What is a watershed • Student watershed award • Native plants • SWMR Program & student stream monitoring • Links 	Root-Pike WIN, UW-Extension, WIDNR	Fall 2008	2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5	Intergovernmental Agreement
PUBLICATIONS				
List of ideas for student science fairs, college student research projects	UW-Extension, Root-Pike WIN	Fall 2008	2.1.2, 2.1.3, 2.1.4, 2.1.5, 2.1.7	Intergovernmental Agreement

ACTIONS & TIMETABLE

Target Audience

Those who Are the Future Actors and Supporters

Teachers, youth

ACTION	WHO	WHEN	WPDES PERMIT GOALS	FUNDING
Green & Healthy Schools Program	Root-Pike WIN, WIDNR	January 2009	2.1.2, 2.1.3, 2.1.4, 2.1.5, 2.1.7	Apply to WIDNR
Science Fair Prize <i>\$100 cash & famed award</i>	Root-Pike WIN, UW-Extension	Annual	2.1.2, 2.1.3, 2.1.5	Intergovernmental Agreement
School Demonstration Rain Gardens	Root-Pike WIN	June 2009	2.1.5	Root-Pike WIN, Intergovernmental Agreement
SWMR Program Student water monitoring & education program	UW-Parkside REC	Summer 2009	2.1.2, 2.1.4, 2.1.5	Intergovernmental Agreement
Water Education for Teachers	UW-Extension	Summer 2009	2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5	UW-Extension
After the Storm video & curriculum	Root-Pike WIN, EPA	Spring 2009	2.1.2, 2.1.4, 2.1.5	EPA free video

A Storm Water Information and Education Plan for 21 S.E. Wisconsin Municipalities

KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Fees to Municipalities Information and Education Program

Category	Community Population	2008 Fee Phase I	2008 Fee Phase II ⁽¹⁾	2009 Fee Phase I & II ⁽²⁾
1	0-5,000	\$1,050	\$525	\$1,102
2	5,000-20,000	\$2,100	\$1,050	\$2,205
3	20,000-50,000	\$3,150	\$1,575	\$3,307
4	>50,000	\$4,200	\$2,100	\$4,410

The fees are intended to cover most of the costs for staff salaries, consultant fees, overhead, materials and equipment, program support, except for bulk mailings, rain garden plant material, rain barrels and composters.

(1) The 2008 fees for Phase II communities are 1/2 the normal fee schedule because the MS4 permit requirement does not begin until Fall 2008. The fee will cover Root-Pike WIN's costs for preparing an I&E Plan and obtaining DNR's approval, meeting with communities and partners, executing intergovernmental agreements, purchasing I&E materials and equipment, working with a website consultant, preparing a 2009 work plan, and other related activities.

(2) The 2009 fees represent the full 2008 fees plus 5%, which is the maximum increase allowed under the terms of the Intergovernmental Agreement.

(3) At least 75 percent of the Stormwater Permit communities must participate in the *Keep Our Waters Clean* program detailed in this proposal.

Rain Gardens, Rain Barrels, Composting. Root-Pike WIN has some funding available for demonstration rain gardens in the Root River and Pike River watersheds for 2008-2009. The funding can cover all or part of the cost of plant material and rain garden "how-to" workshops. In addition, Milwaukee Metropolitan Sewerage District sponsors programs for rain gardens and rain barrels for residents in MMSD's service area. Root-Pike WIN can create a separate plan and budget for communities interested in offsetting residents' costs for rain garden plants, rain barrels, and composters.



Two-Year Budget Information & Education Program

INCOME	1/01/08-12/31/08	1/01/09-12/31/09
Muni Intergovernmental Agreement		
Bristol (2)	\$525.00	\$1,102.00
Kenosha city (2)	\$2,100.00	\$4,410.00
Kenosha county	\$525.00	\$1,102.00
Paddock Lake (2)	\$525.00	\$1,102.00
Pleasant Prairie (2)	\$1,050.00	\$2,205.00
Salem (2)	\$1,050.00	\$2,205.00
Silver Lake (2)	\$525.00	\$1,102.00
Somers (2)	\$525.00	\$1,102.00
Twin Lakes (2)	\$525.00	\$1,102.00
UW-Parkside (2)	\$525.00	\$1,102.00
Franklin (1)	\$3,150.00	\$3,307.00
Greendale (1)	\$2,100.00	\$2,205.00
Hales Corners (1)	\$2,100.00	\$2,205.00
Oak Creek (1)	\$3,150.00	\$3,307.00
Caledonia (1)	\$2,100.00	\$2,205.00
Mt. Pleasant (1)	\$3,150.00	\$3,307.00
Racine city (1)	\$4,200.00	\$4,410.00
Racine county (2)	\$525.00	\$1,102.00
Sturtevant (2)	\$1,050.00	\$2,205.00
Wind Point (2)	\$525.00	\$1,102.00
New Berlin (1)	\$3,150.00	\$3,307.00
Subtotal Municipal Income	\$33,075.00	\$45,196.00
Subtotal Grant Income	\$5,000.00	\$10,000.00
TOTAL INCOME	\$38,075.00	\$55,196.00
EXPENSES		
Management/Administration	\$6,800.00	\$13,500.00
Staff/Consultants	\$12,000.00	\$24,000.00
Website	\$7,000.00	\$1,000.00
Travel/Mileage	\$825.00	\$1,000.00
Rent, utilities (In-Kind)	\$0.00	\$0.00
Phone, web hosting	\$300.00	\$600.00
Insurance (workers comp, auto)	\$250.00	\$1,000.00
Exhibit/Display & Artwork	\$4,000.00	\$500.00
Office Supplies & Equipment	\$3,000.00	\$2,000.00
Printing/Copying		
Stormwater Manual, bill inserts, other	\$2,000.00	\$5,000.00
Postage (not bulk mail)	\$500.00	\$1,000.00
Facilities/Food	\$400.00	\$800.00
Contingency	\$1,000.00	\$1,796.00
Advertising (radio, billboard)	\$0.00	\$3,000.00
TOTAL EXPENSE	\$38,075.00	\$55,196.00

Page 1

KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Implementation

Storm Water Permit Group (Southeast Wisconsin Clean Water Network)

A committee, the Southeast Wisconsin Clean Water Network, will be formed to oversee the implementation of the Information & Education Plan. Each municipality will assign a representative to the committee, who will be the lead person and contact for facilitating his/her municipality's active participation and attending meetings. Achievement of the goals will require the concerted effort and cooperation of all the municipalities and partners named in this plan. Municipalities will agree to have an active role in achieving the goals by participating in activities, contributing ideas and evaluating progress toward the plan's goals. They are the "opinion leaders" and their visible involvement will accelerate progress toward the goals.

Root-Pike Watershed Initiative Network

The Root-Pike Watershed Initiative Network will manage and coordinate the implementation of the plan. A part-time coordinator position will be funded through the Intergovernmental Agreement and will report to Root-Pike WIN's manager. Root-Pike WIN will be responsible for coordinating the meetings and gathering input from municipal representatives. The manager will prepare detailed annual plans for implementing actions in this plan, oversee the achievement toward goals, recommend changes to the plan, and provide progress reports.

Partners

Other groups will have a role in implementing this plan and most of them have agreed to their role. Root-Pike WIN will coordinate and support their participation. Each partner group will also be asked to assign an Advisory Representative to the S.E. Clean Water Network Group.

Evaluation

The primary vehicle proposed for evaluating the program's effectiveness is a statically significant household survey. The survey will be used to determine the public's knowledge of urban stormwater pollution issues prior to implementing the Information and Education plan. A follow-up survey will be conducted at the end of the five year permit period to evaluate the effectiveness of the I&E plan in increasing knowledge levels. Data gained from the follow-up survey will be used to help redirect educational efforts, as necessary.

KEEP OUR WATERS CLEAN!

Southeast Wisconsin Clean Water Network

Intergovernmental Agreement for Information & Education Program

The Information & Education Program will be a partnership between Root-Pike Watershed Initiative Network, a 501c(3) not-for-profit private organization, and participating municipal Joint Stormwater Permit Holders, who will be named the *Southeast Wisconsin Clean Water Network*. The municipalities will enter into an Intergovernmental Agreement in which they agree to share the costs of the Information & Education Plan described in this document and contract with Root-Pike WIN to manage and coordinate the implementation of the plan.

Intergovernmental Agreement

Between _____ (County, City, Village, Town, University) and the Root-Pike Watershed Initiative Network for Storm Water Information and Education Program Services

Whereas the (County, City, Village, Town, University) of _____ and the Root-Pike Watershed Initiative Network recognize the negative impacts storm water runoff from urban lands can have on local water resources.

Whereas, the Municipal Permit requires the municipalities, the counties and the university to implement an Information and Education Program relating to water pollution caused by storm water discharges.

Whereas, sharing resources and coordinating information and educational activities between the municipalities, counties and university can be a cost-effective way to satisfy the municipal permit requirements for all units of government and the university.

Now, therefore, in consideration of these premises and under the authority of subsection 66.0101 Wis. Stats., Root-Pike WIN and the counties, municipalities and university hereby agree to cooperate on the implementation of an Information and Education Program in accordance with the following:

A) SERVICES. Starting November 2008, Root-Pike WIN agrees to provide (County, City, Village, Town, and University) with information and educational program services in accordance with the *Keep Our Waters Clean Plan*. When implemented, the Plan is designed to meet the requirements titled, "Public Education and Outreach" (Section 2.1) and "Public Involvement and Participation" (Section 2.2) of the WPDES Municipal Separate Storm Sewer Discharge General Permit under Chapter NR 216 Wis. Admin. Code.

The Plan describes an annual work plan of actions, a timetable, oversight process, program goals by target audience, planned activities, evaluation, and the management and coordination roles of Root-Pike WIN and (County, City, Village, Town, University) during the implementation. The scope of the services outlined in the Plan requires the participation of at least 75 percent of the twenty-one (County, City, Village, Town, University). Participation of less than 75 percent may require revisions to the Plan's activities and could result in increased annual fees for the participating (County, City, Village, Town, University).

Root-Pike WIN will Root-Pike WIN and the (County, City, Village, Town, University) agree to assign a representative who will participate in at least two program planning and implementation meetings each year and will take the lead in facilitating the (County, City, Village, Town, University) participation in the activities described in the Plan. It is understood that the (County, City, Village, Town, University) must implement the program described in the Plan to maintain compliance with the Municipal Permit and they are subject to annual evaluations by the Wisconsin Department of Natural Resources. he (County, City, Village, Town, University) further understand they are responsible for demonstrating their own compliance with Section 2.6.8 of the Municipal Permit relating to the education of (County, City, Village, Town, University) officials.

B) FEES. By April 1 of each year, starting in 2008, the (County, City, Village, Town, University) agrees to pay Root-Pike WIN the applicable fee shown in the Plan (page 18) for the Information and Education Program services described. The fee is designed to cover Root-Pike WIN's costs for salaries, overhead, materials, advertising, printing, program support, except bulk mailings, plant material and rain barrels. After 2009, this fee will be subject to an annual increase not to exceed 5 percent. Root-Pike WIN will notify the (County, City, Village, Town, University) of the applicable fee by December 1 of the preceding year. The (County, City, Village, Town, University) agrees to be responsible for any proposed bulk mailing costs proposed within their community as part of this program.

C) REPRESENTATIVE/CONTACT. Upon execution of this agreement, Root-Pike WIN and the (County, City, Village, Town, University) Each shall designate in writing a primary contact person who will take the lead and be responsible for carrying out the activities described in Plan.

Intergovernmental Agreement

Between _____ (County, City, Village, Town, University) and the Root-Pike watershed Initiative Network for Storm Water Information and Education Program Services

D) REPORTING. By March 1 of each year, as required by the Municipal Permit, Root-Pike WIN will provide (County, City, Village, Town, University) with a detailed report of activities carried out by Root-Pike WIN and progress toward the goals listed in the Plan. The (County, City, Village, Town, University) will be responsible for tracking and documenting their own activities and submitting all required reports to the Wisconsin Department of Natural Resources with copies to Root-Pike WIN.

E) MISCELLANEOUS PROVISIONS

1. Effective Date. Upon execution by Root-Pike WIN and the (County, City, Village, Town, University), this Agreement shall take effect on November 1, 2008 and shall remain in effect through the term of the Municipal Permit or until otherwise terminate by either party under sub. 3. below.

2. Review And Amendments. The terms of the agreement shall be reviewed annually and may be modified if approved in writing by both parties and duly executed by the authorized representative. Annual fees for the years after 2009 for the Information And Education Program services shall be documented by invoice.

3. Termination. Root-Pike WIN or (County, City, Village, Town, University) may terminate this Agreement at any time upon a 60-day written notice of intent. The (County, City, Village, Town, University) is responsible for notifying the Wisconsin Department of Natural Resources of any termination of this Agreement and for subsequent compliance with DNR permit requirements.

4. Effect of Agreement. This Agreement contains the entire Agreement of the parties. All parties recognize that this Agreement is the product of a unique set of circumstances. Accordingly, is mutually acknowledged that many of the provisions contained herein are unique into themselves and should not be seen as a precedent for any future Agreement between Root-Pike WIN and other entities

5. Binding Agreement. This Agreement is binding on the parties and their respective successors and assigns.

Signed by the (County, City, Village, Town, University)

(signature)

(date)

(printed name & title)

Signed by Root-Pike Watershed Initiative Network

(signature)

(date)

(printed name & title)

GLOSSARY

BEST MANAGEMENT PRACTICE (BMP): The most effective, practical measures to control non-point sources of pollutants that runoff from land surfaces.

BIOCHEMICAL OXYGEN DEMAND (BOD): A measure of the amount of oxygen consumed in the biological processes that break down organic matter in water. BOD₅ is the biochemical oxygen demand measured in a five-day test. The greater the degree of pollution, the higher the BOD₅.

BUFFER STRIPS: Areas of grass or other erosion-resisting vegetation between disturbed areas and a stream or lake.

CHANNEL: A natural or artificial watercourse with definite bed and banks to confine and conduct the normal flow of water.

CHECK DAM: A log, rock, or gabion structure placed perpendicular to a stream to enhance aquatic habitat; reduce water velocities; promote sediment deposition; and enhance infiltration.

CONSERVATION RESERVE PROGRAM (CRP): Provides technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner. Farmers are encouraged to convert highly erodible cropland to vegetative cover by receiving an annual payment for the acreage converted.

DEPARTMENT OF AGRICULTURE, TRADE & CONSUMER PROTECTION (DATCP): The agency responsible for food safety, animal and plant health, protecting water and soil and monitoring fair and safe business practices.

DESIGN STORM: A rainfall event of specific return frequency and duration (e.g., a storm with a 2-year frequency of occurrence and 24-hour duration) that is used to calculate the runoff volume and peak discharge rate.

DETENTION: A basin designed for the storage of storm runoff, which is used to decrease the peak discharge rates, and provide gravity settling of pollutants and sediment.

DETENTION TIME: The amount of time it takes for water to flow through a detention basin.

DEVELOPMENT: Any artificial change to improved or unimproved real estate, including, but not limited to, the construction of buildings, structures or accessory structures; the construction of additions or substantial improvements to buildings, structures or accessory structures; the placement of buildings or structures; mining, dredging, filling, grading, paving, excavation or drilling operations; and the storage, deposition or extraction of materials.

ENVIRONMENTAL PROTECTION AGENCY (EPA): A government agency concerned with the environment and its impact on human health. Responsibilities include writing, implementing and enforcing regulations based on environmental law.

EQUIVALENT RESIDENTIAL UNIT (ERU): The statistical average amount of horizontal impervious area per single family property within the municipality.

EROSION: The process by which the land's surface is worn away by the action of natural forces such as wind, water, ice or gravity.

EUTROPHIC: Designating a body of water in which the increase of mineral and organic nutrients has reduced the dissolved oxygen, producing an environment that favors plant over animal life.

EXCEPTIONAL RESOURCE WATER (ERW): A lake or stream exhibiting the same high quality resource values as outstanding water, but may be impacted by point source pollution or have the potential for future discharge from a small sewer community.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA): A governmental agency responsible for coordinating the response to a disaster that overwhelms the resources of local and state authorities.

FLOOD or FLOODING: A general and temporary condition of partial or complete inundation by water of normally dry land areas caused by:

- a) The overflow or rise of inland waters;
- b) The rapid accumulation or runoff of surface waters from any source;

FLOOD FREQUENCY: The probability of a flood occurrence. A flood frequency is generally determined from statistical analyses. The frequency of a particular flood event is usually expressed as occurring, on the average, once in a specified number of years or as a percent (%) chance of occurring in any given year.

Note: For example, a 100-year flood event is expected to occur, or be expected, on the average of once in every 100 years, or which has a 1% chance of occurring or being exceeded in any given year. Any particular flood event could, however, occur more frequently than once in any given year.

FLOODPLAIN: For a given flood event, the floodplain is that area of land adjoining a watercourse which will be covered temporarily by water.

FOREBAY: An extra storage area provided near an inlet of a detention basin to trap incoming sediments before they accumulate in the basin.

GEOGRAPHIC INFORMATION SYSTEMS (GIS): Integrates hardware, software and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information.

GREEN STRIPS: See buffer strip.

GROUNDWATER: Underground water-bearing areas generally within the boundaries of a watershed, which fill internal passageways of porous geologic formations (aquifers) with water, which flows in response to gravity and pressure. Often used as the source of water for communities and industries.

HABITAT: The environment best suited for plants or animals to thrive naturally and grow.

HEAVY METALS: Metals present in municipal and industrial wastes that may pose long-term environmental hazards if not properly disposed. Heavy metals can contaminate ground and surface waters, fish and other foodstuffs. The metals of most concern are; arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, and zinc.

ILLICIT CONNECTIONS: Any man-made conveyance connecting an illicit discharge to an MS4.

ILLICIT DISCHARGE: Any discharge to a MS4 that is not composed entirely of storm water except discharges authorized by a WPDES permit or other discharge not requiring a WPDES permit such as landscape irrigation, individual residential car washing, fire fighting and similar discharges.

IMPERVIOUS AREA: Impermeable surfaces, such as pavement or rooftops, which prevent the infiltration of water into the soil.

INFILTRATION: The downward movement of surface water from the surface into the subsoil. The infiltration capacity may be expressed in terms of inches/hour.

INVERT ELEVATION: The bottom elevation of a pipe, orifice, or spillway.

LOAD: The total amount of materials or pollutants reaching a given location.

LOW FLOW CHANNEL: A small channel constructed within a larger channel, which is designed to carry low runoff flows and/or base flow directly without detention.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4): A conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains that is owned by a municipality that is not a combined sewer system (conveying both sanitary and storm water).

NATIONAL GEODETIC VERTICAL DATUM (NGVD): Elevations referenced to mean sea level datum, 1929 adjustment.

NATIONWIDE URBAN RUNOFF PROGRAM (NURP): A research project conducted by the US Environmental Protection Agency (EPA) to study the affects of urban storm water pollution across the United States.

NON-POINT SOURCE POLLUTION (NSP): Pollution whose sources cannot be traced to a single point such as a municipal or industrial wastewater treatment plant discharge pipe. Non-point sources include eroding farmland and construction sites, urban streets, and barnyards. Pollutants from these sources reach water bodies in runoff.

OUTFALL: The outlet of a sewer, drain, or pipe where runoff is discharged into a watercourse.

OUTSTANDING RESOURCE WATER (ORW): A lake or stream having excellent water quality, high recreational and aesthetic value, high quality fishing, and is free from point source or nonpoint source pollution.

PEAK DISCHARGE: The maximum instantaneous rate of flow during a storm, referenced to a specific design storm event.

PERMANENT POOL: The portion of a pond or infiltration basin, which is below the elevation of the lowest point on the outlet structure.

PHOSPHORUS: A nutrient that, when reaching lakes in excess amounts, can lead to over fertile conditions.

PRIORITY WATERSHED (WDNR Definition): A drainage area about 100,000 acres in size selected to receive Wisconsin Fund money to help pay the cost of controlling non-point source pollution.

RELEASE RATE: The rate of discharge in volume per unit time from a detention facility.

RETENTION: The holding of runoff in a basin without release, except by means of evaporation or infiltration.

RETROFIT: To install a new BMP or improve an existing BMP in a previously developed area.

RIPRAP: A combination of large stone, rock, or cobbles used to line channels, stabilize banks, and prevent erosion.

RISER: A vertical pipe or box extending up from the bottom of a pond that is used to control the discharge from the pond.

RUNOFF: Water resulting from precipitation that flows over the ground surface and outlets into watercourses and streams. Runoff can collect pollutants from air or land and carry them to receiving waters.

SEDIMENT: Soil particles suspended in and carried by surface water as a result of erosion.

SHEET FLOW: Runoff which flows over the ground surface as a thin, even layer, not concentrated in a channel.

SOIL GROUP, HYDROLOGIC (HSG): A classification of soils by the Natural Resource Conservation Service into four runoff potential groups. The groups range from A soils, which are very permeable and produce little runoff, to D soils, which are not very permeable and produce much more runoff.

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION (SEWRPC): The planning agency for the Southeastern Wisconsin Region.

STORM SEWERS: A system of sewers that collect and transport rain and snow runoff. In areas that have separated sewers, such storm water is not mixed with sanitary sewage.

STORM WATER MANAGEMENT: Public policy and actions taken to control storm water runoff associated with development within an urbanizing watershed in order to prevent the occurrence of, or an increase in, flood damage potential. It includes, but is not limited to, development of storm water runoff data, flood profiles and enactment and administration of ordinances regulating land use in a

watershed.

SWALE: A natural depression or wide shallow waterway used to temporarily store, route, or filter runoff.

TIME OF CONCENTRATION (T_c): The time required for surface runoff from the most remote point in a watershed to reach the watershed outlet.

TOTAL SUSPENDED SOLIDS (TSS): Small particles of solid pollutants that are suspended in water.

TOXIC: An adjective that describes a substance, which is poisonous, or can kill or injure a person or plants and animals upon direct contact or long-term exposure (also, see toxic substance).

TOXIC SUBSTANCE: A chemical or mixture of chemicals which through sufficient exposure, or ingestion, inhalation or assimilation by an organism, either directly from the environment or indirectly by ingestion through the food chain, will, on the basis of available information cause death, disease, behavioral or immunologic abnormalities, cancer, genetic mutations, or development of physiological malfunctions, including malfunctions in reproduction or physical deformations, in organisms or their offspring.

UNDERDRAIN: Perforated pipes installed on the bottom of an infiltration basin, or sand filter, which are used to collect and remove excess runoff.

VOLATILE ORGANIC COMPOUNDS (VOCs): Organic chemical compounds that are emitted as gases from certain solids or liquids that may have short- and long-term adverse health effects.

WASTE: Used or unwanted materials, water, or refuse resulting from manufacturing processes, commercial activities, and residential land use.

WATER SURFACE PROFILE: A graphical representation showing the elevation of the water surface of a watercourse for all locations along a reach of river or stream at various frequency storm flows. A water surface profile of the regional flood is used in regulating floodplain areas.

WATERSHED: The entire area of land contributing surface runoff to a particular watercourse or body of water.

WETLANDS: Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a variety of vegetative or aquatic life. Wetland vegetation requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs and similar areas.

WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR): A state agency dedicated to the preservation, protection, effective management, and maintenance of Wisconsin's natural resources. Responsible for implementing and enforcing the laws of the state and, where applicable, the laws of the federal government that protect and enhance the natural resources of our state.

WPDES PERMIT: A Wisconsin Pollutant Discharge Elimination System permit issued pursuant to ch. 283, Wis. Stats.