STORMWATER MASTER PLAN

Town of Middleton

Dane County, Wisconsin

Prepared by Vierbicher Associates, Inc.

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EXECUTIVE SUMMARY

The Stormwater Master Plan for the Town of Middleton was developed for several reasons. Primarily, this report addresses requirements of a Wisconsin Pollutant Discharge Elimination System (WPDES) Permit and an Urban Nonpoint Source (UNPS) Grant. These requirements include illicit discharge detection and elimination, municipal pollution prevention, detention basin inventory and maintenance, stormwater permit tracking, stormwater funding options, and public information, education, and outreach. Therefore, there are many more topics covered in this report than in a typical stormwater master plan.

Typical stormwater related issues are also addressed, with the water quality and water quantity (flooding) sections. The water quality section addresses many aspects of surface water and groundwater quality, including the modeling of total suspended solids (TSS) reduction in the Town to comply to State regulations. Computer modeling was completed that shows the amount of TSS reduction that the Town is currently achieving with its stormwater facilities. Known flooding and erosion problem areas in the Town were identified in the water quantity section. These areas were evaluated to define the problems and in some cases, planning was done and topographic information was collected. There is a summary of each area and what needs to be done to address these issues.

By following the recommendations in this report and by adhering to ongoing WPDES Permit requirements, the Town will be doing what is required to keep abreast of federal, state, and county stormwater requirements. By addressing the existing flooding and erosion problem areas, the Town will be doing what it can to ensure safe and effective handling of stormwater runoff. Going a step further, the Town can become an innovative and proactive leader in effective, environmentally friendly, and aesthetically pleasing stormwater treatment by pursuing conservation, restoration, and enhancement projects related to stormwater.

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1. INTRODUCTION

This section includes a background describing why this master plan was developed and the scope of the master plan. Acronyms, abbreviations, and definitions used in this Master Plan are defined in Appendix B – Notes and Definitions.

1.1. Background

This section describes the purpose of this master plan and gives a description of the WPDES permit, the UNPS grant application and award, and the Stormwater Master Plan and UNPS Grant - Scope. These three instruments have collectively led to the development of this master plan and have influenced its content.

This report was completed primarily to addresses requirements of a Wisconsin Pollutant Discharge Elimination System (WPDES) Permit and an Urban Nonpoint Source (UNPS) Grant. These requirements include illicit discharge detection and elimination, municipal pollution prevention, detention basin inventory and maintenance, stormwater permit tracking, stormwater funding options, and public information, education, and outreach. This report was also completed to serve as a reference to direct the efforts of the Town of Middleton in providing improved water quality and reducing flooding concerns in the Town. Some of the requirements of this report are due to federal or state requirements, some are due to existing problems in the Town, and others are due to the Town's desire to handle stormwater in the safest and most environmentally friendly manner, while being practical and cost-conscious. References to state and federal requirements are included in this report as necessary.

1.1.1. Municipal Storm Water Discharge Permit (No. WI-S058416-2)

Within NR 216 the goal of municipal stormwater management is to reduce adverse impacts to water quality in lakes and streams from urban sources of stormwater runoff. To meet the requirements of the EPA's Storm Water Phase II Final Rule, the Wisconsin DNR drafted revisions to NR 216. The revisions amend an existing rule that outlines requirements for stormwater discharge permits for municipal separate storm sewer systems, industrial facilities, and construction sites.

The City of Madison and University of Wisconsin - Madison were initially issued a municipal stormwater discharge permit on October 16, 1995. In 1999, The Cities of Fitchburg, Middleton, Monona, Sun Prairie, and Verona, the Villages of DeForest, Maple Bluff, McFarland, Shorewood Hills, and Waunakee, the Towns of Blooming Grove, Burke, Madison, Middleton, Westport, and Windsor, and Dane County were also designated as needing to obtain municipal stormwater discharge permit coverage because their watersheds are contiguous with the City of Madison, which has a population greater than 100,000. In January 2003, these 19 municipalities applied for and received a joint municipal stormwater discharge

permit. The permit was obtained effective May 1, 2004 and has a March 31, 2009 expiration date. At that time, a new permit will be needed. The permit regulates stormwater discharges from the co-permittees municipal separate storm sewer systems in accordance with Chapter 283, Wisconsin Statutes, and Chapter 216, Wisconsin Administrative Code.

As one of the general responsibilities for all permittees, Section B.(7) of the joint WPDES permit requires that each co-permittee shall exercise and enforce its legal authority to control discharges to and from those portions of the MS4 that it owns or operates. This requirement calls for the Town to submit a legal opinion to the DNR certifying that it has exercised adequate legal authority or describing any deficiencies it has in exercising adequate authority to control illicit discharges. See Section 6.2 for details.

The joint WPDES permit has the following stormwater management program requirements:

1. Public education and outreach
2. Public involvement and participation
3. Illicit discharge detection and elimination
4. Construction site pollution control
5. Post-construction site stormwater management
6. Municipal pollution prevention

1.1.2. Urban Nonpoint Source and Stormwater Management Planning Grant (No. USP-LR10-13038-05)

On September 24, 2004 the Town of Middleton was awarded an Urban Nonpoint Source and stormwater management planning grant from the Wisconsin DNR for the following activities:

1. Develop a Stormwater Management Plan (Under **Purpose and Scope** section) to include:
    a. Create stormwater, erosion and illicit discharge control ordinances
    b. Mapping
    c. Assess alternative practice installations
    d. Evaluate alternative funding options
2. Eligible stormwater planning activities (Under **Project Eligibility** section) include:
    a. Analyze existing and projected stormwater flows through the Town
    b. Recommendations to implement water quality BMPs
    c. Evaluation of wetland protection
    d. Development of Town stormwater ordinances to specifically address NR 151 requirements and illicit discharges
    e. Public education
    f. Analysis of practice alternatives
    g. Creation of a stormwater utility funding mechanism

h. Stormwater Planning must comprehensively address all the standards under either NR 151.11, 151.12, or 151.13 (address suspended solids, peak discharge, infiltration, protective areas, and fueling and maintenance areas).

3. The Town has the following Obligations (Under **Project Eligibility** section):
    a. The grant application stipulated that, by the conclusion of the grant period, the Town will have in place erosion control ordinance(s) and stormwater management ordinance(s)
    b. Through receiving this grant, the Town is committed to implementing:
        i. A pollution prevention information and education program for the community
        ii. A nutrient management plan for municipally-owned properties
        iii. A stormwater permit tracking system

1.1.3. Stormwater Master Plan and UNPS Grant - Scope (Vierbicher Associates, Inc., 07-07-05)

1. Prepare a Stormwater and Erosion Control permit tracking database (this is a grant contract requirement)
2. Identify and Summarize in Database – Existing Stormwater Management Facilities
    a. From maps and site visit, locate and map existing stormwater management facilities
    b. Create database of facilities (GIS/Spreadsheet). Track construction year, design characteristics, maintenance activities, etc.
    c. Take pictures of facilities
3. Prepare Environmental Map
    a. Show environmental corridors, wetlands, water bodies, soils, prairies, etc.
4. Complete dry weather discharge monitoring
5. Assist Town in Preparation of educational materials
6. Storm Sewer System Map Updates
    a. Identify deficiencies in current mapping
    b. Field locate missing or new structures
    c. Map new structures
    d. Include update in MAMSWaP annual report
7. Estimate Annual Pollutant Loading
    a. Grant requirement to comply with NR 216
    b. Identify major watersheds
8. Develop BMPs for TSS reduction and protection of sensitive areas
    a. Grant requirement for installation of BMPs
9. Develop Stormwater Maintenance Plan
    a. Provide a plan for recommended maintenance activities and schedule
10. Prepare a Final Stormwater Master Plan
11. Complete 2005 MAMSWaP Annual Report (if budget allows)
12. Attend MAMSWaP 2005 Quarterly Meetings

1.2. Scope of Master Plan

This master plan was completed considering the WPDES permit, the UNPS grant, and the Stormwater Master Plan and UNPS Grant - Scope. It was also completed considering the Town's desire to safely and effectively manage the stormwater runoff and to protect the environment and natural resources within (or in close proximity downstream from) the local watersheds, including Black Earth Creek and the Sugar River. This master plan addresses the following items (see individual sections of the master plan for details):

- Description of study area (Section 2)
- Water quality (Section 3)
- Water quantity (Section 4)
- Special resource analysis: Black Earth Creek (Section 5)
- Stormwater related ordinances (Section 6)
- Illicit discharge detection and elimination program (Section 7)
- Municipal pollution prevention plan (Section 8)
- Detention basin inventory and maintenance (Section 9)
- Stormwater permitting and Stormwater GIS (Section 10)
- Stormwater funding options (Section 11)
- Public information, education, and outreach (Section 12)
- Recommendations (Section 13)
- References (Section 14), Appendices and Exhibits

Note: WPDES permit requirements and UNPS grant requirements not specifically addressed by this master plan include (1) 2005 MAMSWaP quarterly meetings, and (2) the 2005 annual report for the Town of Middleton. These activities were completed under the Stormwater Master Plan and UNPS Grant - Scope.

2. DESCRIPTION OF STUDY AREA

2.1. Population and Land Use

According to the Department of Administration Demographic Service Center, the population of the Village was 4,594 in 2000 and was estimated at 5,557 in 2006. This represents a 21.0% increase in population over a 6-year period.

Per Dane County Land Information Office, 2000 Land Use Data, land use in the Town of Middleton is:

Land Use	Acres	Square Miles	Percent of Total
Agriculture	4813.9	7.52	41.9
Commercial	86.3	0.13	0.8
Industry	192.5	0.30	1.7
Institutional	68.3	0.11	0.6
Open Space / Woodlands	3196.7	4.99	27.8
Recreation	313.3	0.49	2.7
Residential	2041.8	3.19	17.8
Transportation	739.3	1.16	6.4
Under Construction	17.7	0.03	0.2
Utility	3.7	0.01	0.0
Water	12.8	0.02	0.1
	11486.3	**17.95**	**100.0**

Because this is relatively dated information, a land use map is not included in this Master Plan. The Town has initiated a comprehensive planning process, which it targeted for completion before 2010. The Comprehensive Plan will include updated land use data.

The Town has recently been experiencing rapid residential growth. Therefore, agriculture and open space/woodlands are being replaced by residential. This new development is largely low-density residential, with average development densities of approximately 1 lot per 1.5 acres.

Natural Areas: The Town contains several natural areas, including the Tallard Conservancy and Pope Farm Park which includes native prairie restoration and infiltration practices. There are also conservation easements, trail easements, and other Town-owned property set aside for natural areas. The Natural Systems Land Use Feasibility Study for the Town of Middleton, Wisconsin was completed in April, 1990 by James H. Zimmerman and Kenneth N. Kailing. This report, commonly referred to as the Kailing and Zimmerman Report, discusses the need for an environmental/natural resource plan for the Town and includes a detailed inventory and evaluation of the Town's natural resources. The Town's historic ecosystems are analyzed to see how they have changed since settlement, and were evaluated based on the functions of surface/groundwater storage, air and water quality improvement, support of wildlife, scenic beauty, and recreational and educational potential of each ecosystem. Natural ecosystems are identified as 'landscape units' such as forests, grasslands and wetlands. Each landscape unit includes discrete biological elements or 'biotypes' such as oak savannahs, southern lowland forests, southern mesic forests, wet prairies, sedge meadows, dry prairies, and cattail marshes. This report is used as a reference when considering development plans in the Town.

2.2. Watersheds and Surface Water Resources

The watershed description is based on Wisconsin DNR basin and watershed definitions as well as MAMSWaP subwatershed and sewershed naming/numbering conventions.

With the input from the co-permittees, MAMSWaP divided the watersheds such as the Black Earth Creek watershed (LW17) into subwatersheds and sewersheds, and developed a base map and naming convention for these areas. This base map is updated yearly, with input from the co-permittees.

There are three major basins in Wisconsin: the Mississippi River Basin, the Lake Superior Basin, and the Lake Michigan Basin. Dane County is located in the Mississippi River Basin. The DNR has divided these major basins into 24 smaller watersheds, called Water Management Units (WMUs). Dane County is occupied by four WMUs: the Lower Wisconsin Basin, the Sugar-Pecatonica Basin, Lower Rock Basin, and the Upper Rock Basin. The Town of Middleton is located in parts of three WMUs: the Black Earth Creek watershed (LW17) within the Lower Wisconsin Basin, the Upper Sugar River watershed (SP15) within the Sugar-Pecatonica Basin, and the Six Mile Creek watershed and Pheasant Branch Creek watershed (LR10) within the Lower Rock Basin.

Approximately 3,799 acres (5.94 square miles) of the Town is located in the Black Earth Creek subwatershed. City of Middleton lands occupy approximately 215 acres (0.34 square miles) of the Black Earth Creek Watershed. This is the only subwatershed in LW17 defined by MAMSWaP. Upstream from the Village of Mazomanie, Black Earth Creek is a Class I Trout Stream. In the Town, the upper reach of Black Earth Creek is a DNR designated warm water forage fishery. Before it leaves the Town the creek becomes a DNR designated cold water fishery. In and near the Town of Middleton, Black Earth Creek is a DNR designated Exceptional/Outstanding Resource Water.

Within the Upper Sugar River watershed, approximately 784 acres (1.23 square miles) of the Town is located in the Upper Sugar River subwatershed and approximately 2,179 acres (3.40 square miles) of the Town is located in the Badger Mill Creek subwatershed. This area excludes any City of Madison or future City of Madison area. Both subwatersheds are thermally sensitive areas because they drain to a cold water resource. South of Town, Badger Mill Creek is a warm water forage fishery with potential to be a cold water fishery. It becomes a cold water resource near the City of Verona, and discharges into the Sugar River just southwest of the City. To the south and west of Town, the Sugar River is a cold water resource.

Within the Six Mile and Pheasant Branch Creeks watershed, approximately 1,606 acres (2.51 square miles) of the Town is located in the Pheasant Branch subwatershed. Just outside of Town lands, Pheasant Branch Creek is a DNR designated limited forage fishery and then a warm water sport fishery just before entering Lake Mendota. It is also listed as a Section 303(d) Impaired Water. Section 303(d) of the Clean Water Act defines impaired waters as those which do not meet the State water quality standards. Pheasant Branch Creek is a Class 5A impaired water, meaning that it does not have an approved Total Maximum Daily Load (TMDL) for its pollutants (phosphorus and sediment). See Section 3.1 for more detail on 303(d) waters and TMDLs.

See Exhibit 2: Surface Watersheds – Dane County for details.

2.3. Topography

The topography of the land affects the rate at which stormwater runs off into the receiving waters. The steepness of the slopes will affect the rate in which stormwater is absorbed into the ground and the velocity and erosive potential of stormwater runoff. The topography of the Town and surrounding area consists primarily of rolling hills of farmland, wooded areas, and large-lot single family residential areas. Slopes exceeding 12% comprise approximately 22% of the Town. Developing these areas can lead to reduced water quality and increased erosion and are sometimes restricted from development, especially in sensitive watersheds. The northern portion of the Town is located in the upper Black Earth Creek watershed. This area includes unique terrain and habitat, including a large area of steep hills and bluffs, valleys, and streams, which may limit development. This area is discussed in detail in Section 5.

2.4. Soils

Soil types are classified by the Natural Resource Conservation Service (NRCS) in groups called Hydraulic Soil Groups (HSG). Soils are classified in one of four groups denoted A, B, C, and D. Group A soils consist of open graded soils with high infiltration capabilities and low runoff potential. Group B soils are moderately well drained with a moderate infiltrating ability. Group C soils are more finely graded with less ability to infiltrate and a higher potential for runoff. Group D soils are very fine graded clay soils with a very low ability to infiltrate and are highly susceptible to runoff. Group D soils also have a high groundwater table. Some soils are classified A/D or B/D, meaning that generally the soils are A or B, but are D in low lying areas and near streams.

Soils within the Town are generally Group B soils and are primarily silt loams. Generally these soils are suitable for development and have slopes ranging from 2% - 12%. The southwest part of the Town and the north part of the Town that lies within the Black Earth Creek Watershed contain most of the soils with steeper slopes (>12%). The development potential may be limited in these areas. In the upper Black Earth Creek watershed, there are thick deposits of glacial till and outwash that contain an excellent aquifer from which Black Earth Creek receives baseflow. See Section 5 for details on the Black Earth Creek watershed.

Exhibits 3 and 4 show soil types and wetland areas within the Town.

2.5. Drainage System

The Town's stormwater system generally relies on roadside swales and greenways to convey stormwater runoff. There is almost no storm sewer in the Town, and the use of storm sewer is discouraged during the development planning process. There are approximately seven (7) public and twenty-four (24) private detention basins in the Town and several more are planned for construction in the near future. There are also several natural low areas with no release (kettles). Stormwater runoff in the Town

eventually flows into one of three streams or rivers: Black Earth Creek, Pheasant Branch Creek, or Badger Mill Creek (to the Sugar River).

2.6. Existing Stormwater Facilities Database

Information on existing detention basins in the Town is located at Vierbicher Associates, Inc. in project files (both hard copies and in electronic format), and in files at the Town Hall. The location of each existing detention basin is included in an AutoCAD base map of the Town. See Section 9 for details on detention basin inventory. Section 10 includes a discussion of the Stormwater GIS, which likely will be the tool used for the stormwater facilities database (and other stormwater related items) in the Town. See Section 10 for more details.

3. WATER QUALITY

Per the UNPS grant, stormwater planning must comprehensively address all the standards under either NR 151.11, 151.12, or 151.13, including suspended solids, peak discharge, infiltration, protective areas, and fueling and maintenance areas. This includes water quality issues.

This section includes information on county, state, and federal water quality studies, classifications of surface water quality, and federal, state, and local water quality policy. There is also a summary of the water quality modeling which was used to determine current total suspended solids (TSS) removal in the existing developed areas in the Town. Water quality is a broad topic because stormwater runoff affects not only surface waters, but groundwater as well. This section includes a discussion on surface water and groundwater. Specific UNPS grant and WDPES permit requirements related to water quality, such as the illicit discharge detection and elimination system, are covered in separate sections.

Developing areas contain potentially large areas of disturbed land and present a threat to water quality through construction-stage sediment runoff. Increased impervious area and compacted soils in post-construction (developed) conditions increase runoff rates and volumes. Stormwater facilities can help reduce peak runoff rates to pre-developed conditions, but without infiltration practices, the total volume of post-developed runoff will be greater. This increases duration of stormwater flows which increases the chance of erosion, and decreases aquifer recharge and baseflow to streams.

Stormwater drainage systems are often efficient at conveyance of flow, but also convey pollutants to nearby lakes and streams if adequate stormwater quality treatment is not provided. Sources of pollution related to developing or developed areas include vegetation (grass clippings, leaves, yard waste), deicing materials (sand, salt), sediment from erosion, pet waste, lawn and garden fertilizers, pesticides and herbicides, and trash/litter. Residential lot sizes in the Town are larger than in many areas of Dane County.

3.1. Surface Water Quality

This section describes the specific stream classifications, outstanding/exceptional resource waters, and section 303(d) impaired waters associated with watersheds occupied by the Town. This section describes different methods of classification and assessment of surface water quality as ways to identify resources which need protection and/or rehabilitation. This section also describes DNR requirements related to surface water quality.

Stream Classifications: The Wisconsin DNR has developed a classification system based on aquatic organisms (NR 102, Wisconsin State Administrative Code) for all surface waters of the State. This classification can be a good indication of the overall water quality of a drainage basin. Of the six classifications, surface waters classified in the top three are considered suitable for protection per the federal water pollution control amendments of 1972. The top three classifications are:

1. Cold water communities
2. Warm water sport fish communities
3. Warm water forage fish communities

Outstanding/Exceptional Resource Waters: The Wisconsin DNR has identified certain lakes and streams as Outstanding or Exceptional Resource Waters (NR 102, Wisconsin State Administrative Code) in an effort to maintain the water quality in Wisconsin's cleanest waters. Outstanding Resource Waters (ORWs) have excellent water quality, high recreational/aesthetic value, and high-quality fisheries. They do not receive wastewater discharges (no source or nonpoint source pollution). Exceptional Resource Waters (ERWs) have the same water quality, recreational value, and fisheries as ORWs, but may be impacted by point source pollution or have the potential for future discharge from a small sewer community. Per NR 102.05 (1-Antidegradation), no waters of the State shall be lowered in quality. Exceptions can be made in cases of necessary social or economic development if new or increased effluent is not injurious to current or future uses in those waters.

Section 303(d) Impaired Waters: Section 303(d) of the Clean Water Act defines impaired waters as those which do not meet the State water quality standards. Impaired water conditions can be caused by a number of different pollutants. There are some impaired waters that have an approved Total Maximum Daily Load (TMDL) for their pollutants and some that do not. Per Wisconsin DNR, a TMDL is a plan to reduce the amount of specific pollutants reaching an impaired lake or stream to the extent that water quality standards will be met. As part of the TMDL, the amount of a pollutant that the water can tolerate and still meet water quality standards must be identified. That identified amount is allocated between point sources (wasteload allocation) and nonpoint sources (load allocation). As part of the TMDL, the State must identify how it will implement the TMDL. Wasteload allocations will be implemented through the WPDES permit program. Load allocations will be implemented through Wisconsin's Nonpoint source program. EPA must give final approval of all TMDLs.

Other Surface Water Quality Assessments: Along with the DNR stream classifications in NR 102 and Section 303(d) impaired water classifications, there have been other studies

to determine the quality of surface waters. The Hilsenhoff Biotic Index (HBI) can be another good indicator of stream water quality conditions. The HBI considers the types of insects found on stream bottoms. Chemical data has also been studied by the USGS during baseflow (dry weather) conditions in order to make water quality assessments. A 1999 report from the Dane County Regional Planning Commission concluded that:

- Surface water quality in Dane County is generally not declining, and may be improving due to wastewater treatment plant upgrades.
- Over-fertilization and sedimentation in the lakes is still a problem.
- Groundwater quality is generally declining, specifically due to higher nitrate levels (from fertilizer) and higher salt concentrations.

<u>NR 151.13 Information and Education and Suspended Solids Reduction Requirements:</u>

The **information and education** performance standard under 151.13 (1) applies to developed urban areas with an average population density of 1,000 people per square mile or greater. The Town of Middleton's information and education requirements are part of the WPDES Permit and UNPS Grant requirements. By March 10, 2008, affected municipalities will be expected to:

1. Create a public information and education program about proper management of leaves, grass clippings, lawn and garden fertilizers and pesticides, pet waste, oil, and other chemicals.
2. Manage leaf and grass clippings.
3. Apply fertilizers according to a site specific nutrient management plan to municipal properties where fertilizers are applied.
4. Detect and eliminate illicit stormwater discharges.

See Sections 8 and 12 for more information on the municipal pollution prevention plan and public information, education, and outreach, respectively.

The **suspended solids reduction requirement** under NR 151.13 (2) applies to municipalities which are subject to a municipal stormwater permit under NR 216. This includes the Town of Middleton through the WPDES group permit. Municipalities must reduce total suspended solids by 20 percent before March 10, 2008 and by 40 percent before March 10, 2013 (or to the maximum extent practicable by these dates). Both the proposed Targeted Runoff Management Grant Program (NR 153) and the Urban Nonpoint Source Water Pollution Abatement and Storm Water Management Grant Program (NR 155) provide funding to local governments for implementation of new standards and practices in developed urban areas. See section 3.3 for details.

3.2. Groundwater Quality

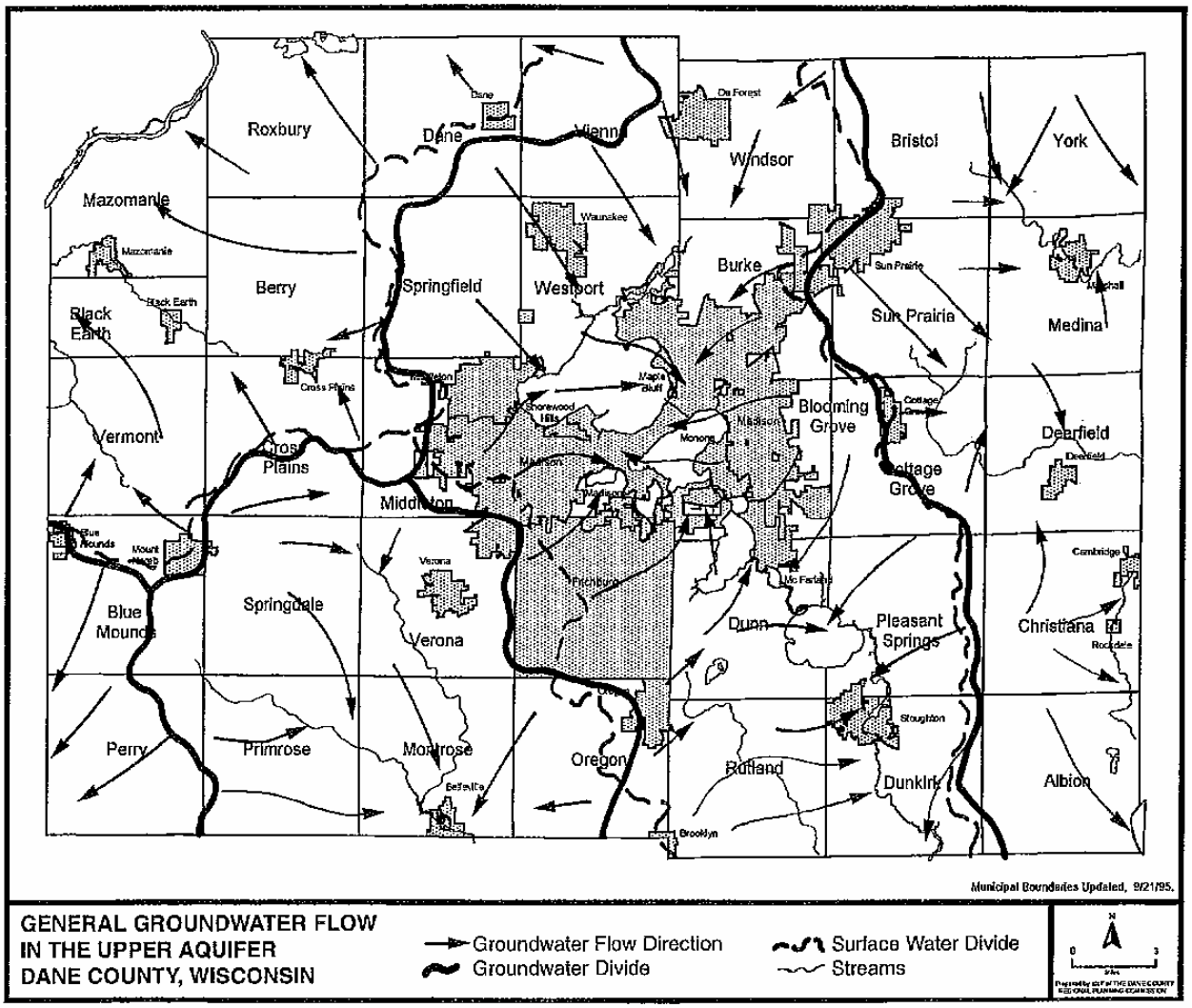
Groundwater supplies the water for almost all domestic, commercial, and industrial uses in Dane County. Groundwater quality must be protected for these uses, but also because it provides baseflow to area streams and wetlands. Most of the groundwater used is returned to surface water after use.

Groundwater pumping with return to surface water can lower baseflow to streams and wetlands and can alter hydrologic patterns. Another significant impact to groundwater is caused by the added impervious areas that come with urbanization. The addition of impervious areas reduces groundwater recharge from infiltration.

The Dane County Regional Planning Commission (DCRPC), The Wisconsin Geological and Natural History Survey, and the U.S. Geological Service are studying groundwater in Dane County. Their study includes development of a groundwater flow model which will help evaluate groundwater and surface water management strategies. The study and groundwater model are good resources to assist with water resources management and impact evaluation in Dane County.

See the figure below for a map of Dane County's groundwater flow patterns in the upper aquifer (Map 2-7 from the Dane County Water Quality Plan, 2004). Groundwater divides generally follow surface water divides, but this is not entirely true for the Town of Middleton. There are three major drainage basins with basin divides in the Town. Groundwater under a large part of the north portion of the Sugar-Pecatonica drainage basin actually flows north, toward Black Earth Creek, not south toward the Sugar River. Map 3 in the Black Earth Creek Resource Area Plan shows the groundwater divide in more detail and is included in this report as Exhibit 7. While the Sugar River is a very good cold water resource, Black Earth Creek is even higher quality.

Groundwater Flow – Dane County
(from the Dane County Water Quality Plan, 2004)



Source: Wisconsin Geological and Natural History Survey, 1995.

General Sources of Groundwater Pollution: See figure below:

Potential Groundwater Pollution Sources
(from the Dane County Water Quality Plan, 2004)

Potential Groundwater Pollution Sources

Place of Origin	Waste-Related				Non-Waste			
	Municipal	Industrial	Agricultural	Other	Municipal	Industrial	Agricultural	Other
At or near the land surface	Biosolids landspreading	Wastewater irrigation & landspreading	Feedlots Manure storage & spreading	Septage landspreading Junkyards & salvage yards	Roadway deicing Salt piles Snow piles Contaminated stormwater infiltration	Above and on-the-ground storage of chemicals Stockpiles Spills	Irrigation, fertilizers, pesticides	Lawn fertilizers, pesticides
Below the land surface	Landfills Wastewater lagoons or infiltration ponds Sanitary sewers	Landfills	Manure pits Silage pits	On-site wastewater systems		Underground Tanks Pipelines		Improperly constructed & abandoned wells

Refuse Hideaway: Refuse Hideaway is a landfill that is capped but not lined. It sits on a bed of fractured limestone, so groundwater contaminated by the leachate is an issue. A leachate collection system was installed in the late 1980s to keep the head build-up in the leachate from getting too high and releasing contaminants into the groundwater.

Other Groundwater Quality Assessments: A 1999 report from the Dane County Regional Planning Commission concluded that groundwater quality is generally declining, specifically due to higher nitrate levels (from fertilizer) and higher salt concentrations.

3.3. Water Quality Modeling (SLAMM)

See Appendix A – Water Quality Modeling for more detail.

In the Town of Middleton, developed areas must reduce total suspended solids in stormwater runoff by 20 percent before March 10, 2008 and by 40 percent before March 10, 2013 (or to the maximum extent practicable by these dates). Appendix A in this report includes the narrative of the water quality modeling report. A full version of the report is available from Vierbicher Associates, Inc. which includes modeling calculations and maps.

Developments modeled in SLAMM include the ABC Site Plan, Cardinal Point, Cherrywood Acres, Glacier's End, Glacier's Woods, Northern Lights Estates, Pheasant Point 1, Prairie Home Estates, Sauk Point North, Sauk Point South, Sauk Prairie, Spruce Hollow, Stonebrook, Summit Pass, Sunset Ridge School, Timber Ridge, Tumbledown Trails, and Whispering Winds. The Docusafe site was not modeled because facilities on this lot accept a large amount off-site runoff.

SLAMM modeling shows that the existing controls reduce the TSS in runoff appreciably. The reduction in TSS with existing controls is 35%. See Tables 3 and 4 in Appendix A for more details. The existing controls meet the March 10, 2008 deadline for a 20% reduction in TSS. There will need to be additional BMPs in place to meet the March 10, 2013 reduction of 40% of the TSS entering waters of the State. Additional BMPs that are effective at improving TSS removal are wet detention basins and infiltration facilities with adequate pre-treatment or filtration.

Note: At the time this master plan was completed, an updated version of SLAMM (version 9.2) had just been issued. This new version contains improved land use and street sweeping data, among other changes. There will be a batch editor that will allow models set up on older versions of SLAMM to be converted to the new version fairly efficiently. This may affect the results of the TSS and phosphorus reduction calculations included with this master plan. The new version was not issued in time to re-do the water quality/TSS analysis for the Town of Middleton. This will be completed in the future, before the 2013 deadline for 40% TSS.

4. WATER QUANTITY

Per the UNPS grant, stormwater planning must comprehensively address all the standards under either NR 151.11, 151.12, or 151.13, including suspended solids, peak discharge, infiltration, protective areas, and fueling and maintenance areas. This includes water quantity issues. This section includes a brief summary of stormwater runoff and causes of flooding, and an analysis of existing problem areas in the Town. Under the UNPS grant, several problem areas were identified and analyzed. Using the information gathered and the planning recommendations of this Master Plan, the Town can discuss the problem areas with the Town Engineer and decide which areas to address and when. Additional planning and design information might be required prior to constructing any improvements.

4.1. Stormwater Quantity

<u>Stormwater Runoff:</u>
The amount (volume) of stormwater produced by a rainfall event is primarily dependent upon the following factors:

1. Depth, duration, and spatial and temporal distribution of the precipitation.
2. Size of the drainage area upstream from the point of concern.
3. Land cover (e.g., grass, pavement) of the tributary drainage area.
4. Travel time from the most remote portions of the watershed to the point of concern.
5. Type and degree of saturation of underlying soils.
6. Presence and extent of stormwater storage areas in the floodplain and watershed.
7. Presence of manmade stormwater facilities within the watershed.

<u>A note on volume control</u>: Volume control can come into consideration for watersheds with no release (including kettles, etc.). Volume control involves designing facilities that can infiltrate the increase in runoff volume from pre- to post-developed conditions, or completing a detailed study on an area that confirms an existing area's ability to

infiltrate/evaporate runoff. Maximum water surface elevations should be carefully scrutinized as part of a low opening elevation (LOE) analysis. LOEs can then be set for nearby buildings. There are several areas with no release in the Town of Middleton. One is north of Mineral Point Road, approximately 500 feet east of Timber Lane. Other areas include the Fawn Ridge and Pheasant Point plat areas. Stormwater planning for the Fawn Ridge plat included a hydrologic and hydraulic analysis, an LOE analysis, and emergency overflow routes.

Flooding:

Frequent flooding can be caused by many different factors, including but not limited to:

1. Developed areas with undersized detention facilities upstream from the flood prone area.
2. Unexpected rainfall events or events larger than those that can economically be designed to handle.
3. Roads, berms, undersized culverts, and other obstructions to flow constructed without adequate stormwater design or constructed without proper permission.
4. Degradation of stormwater detention and/or conveyance systems that, over time, fail to adequately handle stormwater runoff.
5. Downstream flooding or other conditions that impede the conveyance of runoff from leaving the flood prone area.

Stormwater runoff models can predict how much stormwater runoff will be produced by certain rainfall events, and can be used to size detention and conveyance facilities to safely handle runoff from developed or developing areas. Models can also analyze existing flooding problems and help determine the cause(s). Then, a plan can be developed to fix the problem. Several problem areas have been identified in the Town. Some of these areas have been studied in the past, some were studied during the development of this master plan, and some have not been studied. The following section discusses each area and what has been done to quantify the flooding problem. Recommended action items or solutions are included. The Town can use this information to choose when and how it addresses these problem areas.

4.2. Existing Stormwater Quantity Problem Areas

4.2.1. Tumbledown Golf Course

Existing Conditions:

The Tumbledown Golf Course is located south of Mineral Point Road, west of Pioneer Road and covers approximately 150 acres. The drainway running through the golf course is almost exactly one mile long and has a vertical drop of approximately 32 feet, giving it a slope of approximately 0.6%. This flat slope could make it difficult for the area to drain properly. There are several wet ponds on the golf course in line with the drainway which provide some storage. At the southeast corner of the golf course, there is a berm with a small (approximately 12" diameter) culvert through it. Just downstream from the berm at the northwest corner

of Tumbledown Trail and Pioneer Road, are two concrete culverts which direct flow to the southeast under Pioneer Road.

A conversation between the Town Engineer and the maintainer of the golf course ponds revealed the annual maintenance of the ponds. Muskrats dig holes through the clay liners (approximately 3 feet thick) of the ponds, so the ponds are kept full throughout the summer via pumping from groundwater. By fall, the water level is allowed to drop so the ponds have additional volume to receive snowmelt and spring rains. The muskrat holes are routinely plugged in the spring.

Approximately 1,500 feet south of Mineral Point Road is the aforementioned culvert that directs stormwater runoff from east to west under Pioneer Road. From here, stormwater runoff is directed to the south and eventually back under Pioneer Road to the east, through the culverts at Tumbledown Trail. In the future, the City of Madison plans to keep stormwater runoff from the east on the east side of Pioneer Road in this area. The City also plans to improve the drainway from this location south to Mid-Town Road.

There are approximately thirteen (13) detention facilities or low areas without release in the developments upstream from the golf course. Stormwater management studies, reports, and design calculations for the following subdivisions were reviewed and found to be adequately sized: Sauk Point Estates, Cherrywood Acres, Cardinal Point Estates, Sauk Prairie Estates, Spruce Hollow (considers Pioneer Park and all other upstream developments). Cherrywood Park contains a large wet detention basin that has no apparent release until it ponds several feet. The Cherrywood Park area is currently part of a study involving a possible development adjacent to the Tumbledown golf course. Currently, in at least three locations, additional detention is provided:

1. Cardinal Point: A temporary berm was left in place on the north side of Mineral Point Road. This berm has a stone weeper which allows release from the detention basin at a rate significantly slower than the design rate. The design release rates are at or below pre-developed runoff rates through the 100-year storm event.
2. Sauk Point Estates: This detention basin was left approximately 6 inches low, and a temporary weeper was left in place. This allows release from the detention basin at a rate significantly slower than the design rate. The design release rates are at or below pre-developed runoff rates through the 10-year storm event.
3. The temporary detention basin at Swoboda Road and Magellan Drive was left in place and provides detention where it was not required. Cattails and other vegetation are present that provide water quality treatment as well. This basin could be expanded to provide additional water quality and quantity.

2003 Analysis:

Earth Tech, Inc. completed the "Lower Badger Mill Creek Stormwater Management Analysis" in June 2003. Along with other useful information, the study contains peak flow rate information at key locations along Pioneer Road near the Tumbledown golf course. This information was used to help determine a solution to the Tumbledown flooding problem. At the Tumbledown Trail culverts, the peak flow rates are:

2-year Storm Event:	
Current flow including flow from the east	50 CFS
Current flow if flow from the east is re-routed	40 CFS
10-year Storm Event:	
Current flow including flow from the east	280 CFS
Current flow if flow from the east is re-routed	220 CFS
100-year Storm Event:	
Current flow including flow from the east	550 CFS
Current flow if flow from the east is re-routed	500 CFS

These flow rates could be used to help analyze possible solutions to the Tumbledown golf course flooding problems.

Planning activities done under the UNPS Grant:

In January 2005 Tumbledown Neighborhood planning identified major drainways and possible detention basin locations.

A site visit to the southeast corner of Tumbledown Golf Course was made on November 10, 2006. The site visit included a visual analysis and photo record of the area, extending east and south along the downstream drainway, to Valley View Road. See Exhibit 10 for details.

A topographic survey including the area at the southeast corner of Tumbledown Golf Course, the culverts across Pioneer Road, and the drainway just downstream from Pioneer Road was completed on March 15, 2007. See Exhibit 10 for details.

Three locations have been identified in the Town upstream from Tumbledown Golf Course that could provide additional detention. This would enhance water quantity and water quality in those locations as well as alleviate some of the flooding that currently occurs on the Tumbledown Golf Course. They are:

1. Lots 17, 18 and 25 Cherrywood Acres and Outlots 5 and 7 Sauk Point Estates 4.2.3.
2. Outlot 1 – Sauk Point Estates
3. Wet detention basin west of Swoboda Road near Vicki-Ann Street

An analysis of these three locations is included in Sections 4.2.2, 4.2.3, and 4.2.4.

Findings:

1. Flooding at Tumbledown Golf Course is likely caused primarily by a lack of conveyance due to the flat slope of the drainway in this area. While peak flow rates released from upstream developments appear acceptable, there may be an increase in total volume released, which could contribute to the flooding if conveyance is inadequate.
2. Restrictions on the golf course (and downstream) likely contribute to the flooding problem. The berm and small culvert at the southeast corner of the golf course likely restrict flow, and the culverts under Pioneer Road at the southeast corner of the golf course and drainway downstream could be poorly-draining as well. With the berm in place, it is difficult to determine if the Pioneer Road culverts are undersized, inefficient, and/or have restrictive tailwater conditions without doing a hydrologic and hydraulic analysis.
3. Groundwater is being pumped to keep the ponds full during the summer months.
4. The City of Madison plans to keep stormwater runoff generated from the east side of Pioneer Road from getting to the west side of the Pioneer Road. This would likely help reduce flooding on the golf course.
5. Additional detention could be provided at three locations upstream from the golf course, which would likely help reduce flooding at the golf course.
    a. The detention basin(s) at Swoboda Road and Magellan Drive / Lot 17 of Cherrywood Acres could be expanded, providing additional detention and water quality benefit.
    b. The release structure in the detention basin at Outlot 1 of Sauk Point Estates could be modified. Additionally, removal of some soil and/or restoration with native plantings would provide additional storage. Both activities could provide additional detention and water quality benefit.
    c. The existing wet detention basin at Swoboda Road near Vicki-Ann Street. An analysis of the hydrology and hydraulics of this detention basin will likely provide the information needed to determine an appropriate retrofit, if any, to provide water quantity and perhaps quality benefits.

4.2.2. <u>Lots 17, 18 and 25 Cherrywood Acres and Outlots 5 and 7 Sauk Point Estates</u>

This area includes individual lots and easements owned by the Town, a private homeowners association, and private homeowners. Lot 17 is owned by the Town and is low in relation to the elevation of land surrounding it. Lots 18 and 25 are owned by private homeowners who, along with several other homeowners in the area, desire to construct a pond in the low area between Lots 18 and 25, in an area that is already low. Outlots 5 and 7 are owned by the Sauk Point Estates Homeowners Association. Outlot 7 contains a low area that was used as a temporary detention basin several years ago but was left in place. Outlot 5 is simply a low area currently used for conveyance of stormwater runoff. Stormwater runoff flows through this area from approximately 158 acres to the north and west.

The area was surveyed in December 2006. Preliminary plans have been completed showing the grading and erosion control for this area. Design includes three wet detention basins, expanded conveyance features, and erosion protection. These improvements would provide water quantity (increased detention) and water quality (suspended solids reduction) benefits as well as increased erosion control and increased aesthetics.

4.2.3. Outlot 1 – Sauk Point Estates

The detention basin at Outlot 1 of Sauk Point Estates was studied in September, 2005 to determine if there is additional detention available through release structure modification. The intent was to see if this would help the Tumbledown flooding problem. It was determined that the existing gabion release structure could be modified to provide more restricted release in frequent storms while maintaining the ability to provide peak flow protection through the 100-year event. The peak flow rates and water surface elevations determined in this study consider conditions before and after possible release structure modification. At the Mineral Point Road release structure:

1-year Storm Event:		
Existing release	46.6 CFS @ EL=1068.52'	Vol.=0.646 ac-ft
Possible (modified) release	29.1 CFS @ EL=1069.83'	Vol.=2.299 ac-ft
2-year Storm Event:		
Existing release	76.6 CFS @ EL=1068.94'	Vol.=1.053 ac-ft
Possible (modified) release	57.7 CFS @ EL=1070.30'	Vol.=3.156 ac-ft
100-year Storm Event:		
Existing release	449.9 CFS @ EL=1071.11'	Vol.=5.001 ac-ft
Possible (modified) release	450.3 CFS @ EL=1071.97'	Vol.=7.468 ac-ft

The detention basin has capacity up to approximately 1072'. Based on the original design, the berm to the east would overtop at 1072'. It is not believed that a water surface of 1071.97' would cause any flooding issues upstream or to the east of the detention basin, but it is an issue that should be considered before making modifications to the release structure. Peak release rates and water surface elevations are available for the each design storm (2-, 5-, 10-, 25-, 50-, and 100-year) from Vierbicher Associates, Inc. (See file # 023055019.00 Task 3).

In addition to retrofitting the outlet structure, additional detention and water quality benefit could be achieved by removing some topsoil and/or planting the area with native species. Soil cores were taken on December 15, 2006. They revealed:

1. Approximately 12 inches topsoil over 12 inches sand and gravel (end core) on the west side of the outlot, approximately 400 feet east and 320 feet north of the Welcome Drive – Mineral Point Road intersection.

2. Approximately 10 inches topsoil over 10 inches rock/clay (end core) in the center of the outlot, approximately 620 feet east and 160 feet north of the Welcome Drive – Mineral Point Road intersection.
3. Approximately 10 inches topsoil lover 10 inches rock/clay near the center of the wet area, approximately 200 feet west and 80 feet north of the gabion release structure.

A cost estimate for restoring the area to native species was obtained from two local sources. The cost to simply provide and plant the seed for the 1.2 acre area ranged from $1,360 to $4,000. The Town would need to apply herbicide to the area three times in the restoration year and follow up with mowings and spot herbicide weed treatment over the following three years. The result would be a stand of native flowers and grasses that reduce maintenance of the outlot, enhance infiltration (providing some water quantity and quality benefits), and increase aesthetics.

4.2.4. Wet Detention Basin West of Swoboda Road Near Vicki-Ann Street

This is a wet detention basin. A site visit in September 2006 revealed that there is no release until water ponds several (approximately three) feet. The Town Engineer recently received plans for this detention basin from the design engineer.

It is possible that drainage in roadside swales near this detention basin could be diverted into the detention basin. These improvements would provide water quantity (increased detention) and water quality (suspended solids reduction) benefits as well as increased aesthetics.

Analysis of the detention basin design and existing hydrology in this area would lead to recommended alterations to this detention basin. The purpose of these alterations would be to provide increased water quality and quantity control in this area.

Note: The water in the detention basin in September 2006 was cloudy brownish-grey. Based on the surrounding land use and grades, it is possible that there is not a lot of runoff reaching this detention basin, and this water is relatively stagnant. Routing more water into the basin and improving the release structure could keep more water moving through the basin and keep it from getting stagnant. Doing both of these activities could, however, have an adverse effect on downstream flooding conditions.

4.2.5. Sabaka Trail – Mathias Way

Stormwater runoff flows north along Sabaka Trail and into an easement at the tee intersection with Ox Trail Way. From here, stormwater follows the existing grades in the drainway, causing some flooding problems on one or two lots on Mathias Way. One of the residents sent a video of some springtime flooding to the Town Engineer in 2005. Further analysis of this area could include determination of

design flow rates and proposed grading that would reduce or eliminate the flooding problems.

4.2.6. Upstream From Valley Woods Road Culverts

There are two existing 30”x48” elliptical concrete culverts at Valley Woods Road, approximately 900 feet south of Valley View Road. To the west and north of these culverts, there is a low, flat area. There are two residences in this location that experience periodic flooding of lawns, but there is no known case of damage to homes or personal property, or safety concerns. There is a stormwater easement in this area that would likely allow improvements to be made at some point, if necessary.

As part of the design and approval process for the Blue Glacier Valley development to the west (2006), the Town required the design engineer to do an analysis of this situation. The design engineer completed a hydrologic and hydraulic analysis of the drainway from the Valley Woods Road culverts upstream through the (then proposed) drainway on the north and east side of Blue Glacier Valley. This analysis is included in the Erosion Control and Stormwater Management Report – Blue Glacier Valley Subdivision, Quam Engineering, LLC, Revised March 27, 2006. TR-55 was used to calculate the peak flow rates. Results of this analysis showed that there are no adverse impacts on the properties immediately upstream from the Valley Woods Road culverts from the Blue Glacier Valley site. The peak flow rates and water surface elevations determined in this study consider conditions before and after the Blue Glacier Valley development. At the upstream end of the culverts:

100-year pre-developed flow rate	=	437.79 CFS
100-year post-developed flow rate	=	428.13 CFS
100-year pre-developed water surface elevation	=	1090.67’
100-year post-developed water surface elevation	=	1090.67’

Peak water surface elevations are available for each design storm (2-, 5-, 10-, 25-, 50-, and 100-year) for the lots immediately east of the Blue Glacier Valley site.

4.2.7. Twin Valley Road Drainage

There are existing erosion issues in this area due to a variety of reasons. They include inadequate roadside ditch capacity, erosive tendencies of the native soils, steep slopes, inadequate driveway culverts, and inadequate driveway design. An analysis of this area was completed in September 2002 that identified nine specific problem areas. In 2003, a topographic survey was completed and a detention basin retrofit was designed but not constructed.

An analysis of this area concurrent with the preparation of this master plan revealed that there likely is not much runoff getting to the area of the detention basin that was

designed in 2003. This shifted the focus to modifying and protecting the roadside ditches and culverts. A site visit is needed to determine additional topographic information needed, if any. Then, roadside ditch and culvert modifications can be recommended to the Town along with a cost estimate.

4.2.8. Seybold Road – Struck Street Drainage

The Town owns approximately 38 acres of commercially-developed land near the Seybold Road – Struck Street intersection surrounded by the City of Madison. There are stormwater management issues in this area related to the conveyance of stormwater runoff around buildings and to the City of Madison storm sewer system. According to City of Madison Engineering, there are stormwater facilities at the downstream end of this area capable of handling the runoff. The problem now lies in the ability of the storm sewer system within this area to convey stormwater runoff. Additional analysis is required to further define the issue.

5. SPECIAL RESOURCE AREA: BLACK EARTH CREEK WATERSHED

The Black Earth Creek watershed contains many important resources, including diverse wildlife habitat, outstanding scenic views featuring bluffs, ridgelines and valleys, wetlands (existing and historic), prime farmland, historic resources (natural and cultural) in the form of prairies, grasslands, oak savannahs, rare species, and archaeological resources. Resources also include existing and potential trails and recreational areas, and a world-class trout stream.

This section of the master plan summarizes the Black Earth Creek Resource Area Plan (2003, Dane County Regional Planning Commission) which describes the watershed's resources and outlines management recommendations. This section goes on to describe current Town of Middleton issues in the Black Earth Creek watershed, and concludes with recommendations related to stormwater management.

5.1. Black Earth Creek Watershed

The Black Earth Creek Resource Plan establishes the basis and outlines the scope for more in-depth planning efforts in the Black Earth Creek watershed. It should be used as a reference for stormwater and land development plans in the Town of Middleton. This section of the master plan contains a summary of some important parts of the Black Earth Creek Resource Plan.

Black Earth Creek Resource Area Plan – Resource Description: The Black Earth Creek watershed contains outstanding aesthetic, recreational, and natural resources in areas of farmland, wetlands, forests, and prairies. There are also important glacial features and a high quality Class I trout stream. Because of these resources, stormwater and land development planning in the Black Earth Creek watershed must consider the following aspects of the Black Earth Creek watershed:

- Natural resource buffers: Upland buffer areas protect water quality and prevent pollution through filtration by natural vegetation, while natural vegetation on

streambanks prevents bed and bank erosion. Buffers also provide trail and recreation areas, wildlife habitat, and increased aesthetics. A buffer width of 100 feet each side of a stream or wetland is recommended.

- Existing and historic wetlands: Wetlands provide excellent flood control, erosion control, and pollutant removal from stormwater runoff. Hydric soils are areas that may have once supported wetlands and are good targets for wetland restoration areas. Wetlands should also be protected from development since they are often located in a floodplain.
- Open space corridors: Open space corridors are being promoted throughout the County to protect such areas as floodplains, wetlands, steep slopes, and woodlands, all typically located along rivers, streams, and valleys. Open space corridors should be considered for resource management and protection plans, open space planning, and recreation.
- Prime farmland: Because of the benefits to the local character and economy, various programs have been set up for landowners to receive monetary compensation for selling development rights to their land.
- Steep wooded slopes: While agriculture and land development are largely impractical on steep wooded slopes, these areas provide excellent aesthetics (and higher property values as a result), recreation areas, and a product that is a renewable resource (wood). Along with the recommendation that structures on ridgelines be discouraged (scenic easements might be a good solution), there are a few areas in particular recommended for protection:
    - The east end of the north rim near Evergreen Road (overlook area and an important groundwater recharge area).
    - Area of ravine between two bluffs in Section 7 of the Town of Middleton (rare species of birds and plants, excellent scenic views, landmarks).
    - The oak savannah fringe north of the Hideaway Landfill (overlook and possible recreation area).
    - The walnut/oak forest along Rocky Dell Road (scenic corridor which supports highly diverse wildlife)
- Historic natural and cultural resources: Native prairies, oak savannahs, and grasslands all provide aesthetic benefits, but because prairie grasses promote infiltration and reduce erosion, they benefit stormwater by reducing runoff (quantity) and enhancing quality. Rare species and archaeological resources are also present, and should be considered during stormwater and land development planning. The DNR's Natural Heritage Inventory program and the State Historical Society have information on rare species and archaeological resources.
- Other proposed trails and corridor lands: See Map 10 in the Black Earth Creek Resource Plan (not included in this report or appendices) for proposed trails and corridor lands.

Black Earth Creek Resource Area Plan – Management Tools: Land acquisition is important where laws and regulations may not provide adequate protection. Where land itself cannot simply be purchased, conservation easements or development rights might provide adequate protection for certain areas. Partnerships between individuals,

organizations, government agencies, and other groups can be an effective way to acquire land.

Black Earth Creek Resource Area Plan – Management Recommendations: There are many management recommendations proposed by the Resource Area Plan. Those recommendations include:

- water quality protection
- farmland preservation
- protection/enhancement of native plants and animals
- land use planning to emphasize the natural, cultural, and scenic features of the landscape
- public access, recreation, education, and research

Specific recommendations that apply directly to stormwater management (quantity or quality) include:

- Public and private purchase of property or easements for restoration and protection of scenic and natural areas and recreation. This applies to stormwater management because reduced developed areas reduces stormwater quantity and quality concerns. Use cost-share funding and other incentives to acquire land in priority areas, if appropriate.
- Aggressive implementation and enforcement of erosion control and stormwater management requirements.
- Low-density residential development is acceptable but should consider clustering, setbacks, screening, vegetation, etc.
- Protect upland wooded areas, especially those with steep slopes. Prevent erosion and promote infiltration.
- Restore glacial Mud Lake west of the Middleton Business Park. This would provide control for surface and groundwater to help protect Black Earth Creek.
- Promote infiltration practices to protect groundwater discharge to Black Earth Creek (grass swales, retention areas, rain gardens, rooftop storage, and runoff from impervious areas directed to pervious areas).

5.2. Town of Middleton Issues Within the Black Earth Creek Watershed

This section summarizes notes from the August 3, 2005 meeting with Rod Zubella and Bill Biesmann (Vierbicher Associates, Inc.), Kevin Connors and Jeremy Balousek (Dane County Land Conservation), Laura Geyer (Dane County Parks), and Jim Mueller (Administrator, Town of Middleton).

<u>Bronner Road/Twin Valley Road Extension:</u> Vierbicher Associates, Inc. will complete a Feasibility Study and forward the report to Dane County Land Conservation and Dane County Parks. A funding mechanism must be determined to help pay for the design and construction, which was targeted for a 2010 completion date. However, this project has been put on hold.

Stormwater Management Planning: Dane County prefers low density development. Stormwater design must identify areas with good infiltration potential. The Town must consider employing more restrictive development, stormwater, and infiltration design standards in these areas. Higher density developments should be kept away from these areas. Stormwater design should include areas with hydric soils. Development in these areas should be discouraged to avoid floodplains and wetlands (existing or restorable).

Reconstruction of Highway 14 (and possible frontage road): Planning should consider an intersection with Twin Valley Road. The Department of Transportation (DOT) may need up to 200 additional feet of right-of-way on the north side of Highway 14 for future improvements. This will have an impact on Old Lake Middleton.

Black Earth Creek Resource Planning: See Section 5.1 for details

Intergovernmental Agreement (City of Middleton and Town of Middleton): The current agreement was developed in 1997. A new agreement is being drafted.

Transfer of Development Rights (TDR) Program: Consider higher density development to preserve land elsewhere (this might go against other stormwater planning recommendations). Consider where the best infiltration areas are when determining where to place higher density development (keep away from good infiltration areas). This Town has considered this program and has decided not to pursue it (Town Plan Commission, 2006).

Dane County Parks – Sunnyside Seed Farm Park: The Town of Middleton will maintain existing trails. Access to this park is limited. Dane County Parks desires to work with Town on getting better access.

Dane County Parks – Old Lake Middleton: Also referred to as "Old Mud Lake" or "Glacial Mud Lake." Dane County has recommended restoration of this lake (see Section 5), but does not have a restoration plan. Coordination with the adjacent landowners (Hellenbrand, Watts, Erdman, and Rounds) to acquire land is necessary before the pumps are turned off. Funding options should be considered including partnerships between the Town of Middleton, the DNR, Dane County, and other groups/organizations.

Funding: DNR fisheries grants (Scott Stewart) and TRM grants. See the Black Earth Creek Resource Area Plan (discussed in Section 5) for more detailed funding options.

6. STORMWATER-RELATED ORDINANCES

This is a requirement of the UNPS grant and the WPDES permit. This section includes a brief statement of the adequacy of the Town's stormwater, erosion control, and illicit discharge ordinances. This section also includes an official legal opinion that the Town has adequate legal authority to implement the requirements of the permit. This section does not

include a discussion of the developed area performance standards of NR 151.13, which is covered in Section 3.

The Town's ordinances are a good place to implement non-structural Best management Practices (BMPs). See Section 6.3 for recommendations. Other sections of this master plan address important non-structural BMPs such as:

- Illicit discharge detection and elimination system (see section 7 for details and recommendations)
- Municipal pollution prevention plan (see section 8 for details and recommendations)
- Public information, education and outreach plan (see section 12 for details and recommendations)

6.1. Town Ordinances

The Town of Middleton erosion control and stormwater management ordinances, in conjunction with Dane County Ordinances, meet or exceed state requirements as they pertain to construction site pollution control and post-construction site stormwater management.

The Town of Middleton adopted a model illicit discharge ordinance on July 21, 2003. The model ordinance did not contain administration and enforcement sections. An enforcement section was added and the new ordinance adopted on December 6, 2004. An amendment to the swimming pool ordinance was adopted on March 21, 2005. The Town's illicit discharge ordinance has not yet been officially included in the Town Ordinances because it was not published for notice to the public but will be re-adopted and posted as necessary in 2007. The illicit discharge detection and elimination program is covered in Section 7 of this report

6.2. Legal Opinion of Authority to Control MS4 Discharge

This is a WDPES permit requirement; B.(7), (a) through (g). It is the legal opinion of the Town Attorney (Tom Voss) that the Town of Middleton has adequate legal authority as required. Details on the date and transmittal to the DNR can be obtained through Tom Voss at Erbach & Voss, S.C.

7. ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

This is a WPDES permit requirement and is a task identified in the Stormwater Master Plan and UNPS Grant - Scope.

7.1. Illicit Discharge Detection and Elimination Program Details

The dry weather monitoring activity took place in October, 2005. The details of the monitoring are included in the 2005 annual report (required by the WPDES permit). In general, flow was detected at some locations which are to be re-checked in 2007. Details of the Illicit Discharge Detection and Elimination Program are included in the report,

"Town of Middleton Stormwater Permit Requirements – Proposed Illicit Discharge and Pollution Prevention Plan," October 1, 2004.

Performing illicit discharge monitoring on an annual or bi-annual basis should follow the guidelines in the October 1, 2004 Illicit Discharge Detection Plan. The Stormwater GIS can be used to track all dry weather monitoring locations. See Section 10 for more details on the Stormwater GIS.

Measures to prevent pollution through public information and education are included in Section 12. Prevention of illicit discharges through spill containment can be achieved by following the illicit discharge recommendations in Section 13.

8. MUNICIPAL POLLUTION PREVENTION PLAN

This is a WPDES permit requirement. References to the 2005 annual report in this section refer to the report required by the WPDES permit.

8.1. Municipal Pollution Prevention Plan Details

A pollution prevention program was developed for the Town and issued in report form on October 1, 2004. A complete plan includes the following (with references to the current Town policy on each):

- Inspection and maintenance of municipal owned or operated long term stormwater BMPs: The Town has inventoried public and private detention basins. The Town maintains detention basins at approximately six (6) locations. Currently, the basins are maintained only as problems arise, except for occasional mowing. Detention basin maintenance is discussed in more detail in Section 9 of this report.
- Street sweeping and catch basin cleaning: The Town does not perform street sweeping; however, contractors are required to perform street sweeping as necessary at construction sites. Some catch basins in the Town are part of private developments and it is the responsibility of homeowners associations to maintain them. There is no need for catch basin cleaning for those maintained by the Town. Should the Town begin catch basin cleaning, the WPDES Permit requires that the Town keep accurate records of the total volume of debris collected on an annual basis. This information is included in the Annual Report.
- Snow removal and de-icing management: The Town's policy for snow removal and salting is to achieve bare pavement. The Town will try not to exceed the unwritten DOT standard of 300 lb/mile/lane for de-icing of Town streets (About 550 tons of salt were used in 2005). Additionally, the Town limits salt use in cul-de-sacs which do not have through traffic. Dane County and the State DOT are responsible for maintenance of their county and state highways in the Town.
- Management of leaves and other yard waste: The Town does not pick up leaves for Town residents. Town residents are encouraged by the newsletter and web site to compost leaves and grass clippings either on site, at the Town Hall yard waste drop site, or at the Dane County Yard waste compost site. Through the Public Education

and Outreach program (See Section 12) the Town's residents will be informed about the need to dispose of yard waste and grass clippings properly.

- Nutrient management plan for municipal owned properties (as required by the UNPS grant, and as identified in the Stormwater Master Plan and UNPS Grant - Scope), including:
    - **Pollution prevention procedures at municipal garages, public works facilities, and storage areas.** The Town has a salt storage facility adjacent to the Town Hall which is inspected on an annual basis by the DOT per Trans 277. The salt is stored in a shed inside the garage with a building door to protect it from the elements. At the Town garage, the floor drain water is collected and disposed at the Madison Metropolitan Sewage District via truck, all chemical drums and barrels are stored inside, and all equipment is parked inside. The Town has purchased a brush attachment for their equipment to promote dry cleanup of minor spills.
    - **Pollution prevention procedures for the use and application of fertilizers, pesticides, and herbicides on municipally controlled properties**. Limited fertilizing of municipal properties is performed by the Town. Pesticide and herbicide application is performed mainly on a contract basis for treatment of invasive and noxious weeds, with Town crews providing spot treatment.
    - **Pollution prevention procedures for spills at municipally controlled properties.** See Section 7 for details.
- Regulating the private use of fertilizers, pesticides, and herbicides: No local program for regulating the private use of lawn and garden fertilizers, pesticides, and herbicides is in place. Reducing the impact of fertilizers, pesticides, and herbicides lies in the hands of public awareness and education. This can be accomplished through the Town's web site, through www.myfairlakes.com , and through brochures and articles distributed or made available to Town residents.
- Implementation of policies and procedures to achieve the 2008 and 2013 TSS reduction: These items are discussed in Section 3 of this report.

Details of the Municipal Pollution Prevention Plan are included in the report, "Town of Middleton Stormwater Permit Requirements – Proposed Illicit Discharge and Pollution Prevention Plan," October 1, 2004.

9. DETENTION BASIN INVENTORY AND MAINTENANCE

This is a task identified in the Stormwater Master Plan and UNPS Grant - Scope. This section includes a description of the existing and proposed detention basin inventory and maintenance issues, as well as recommendations for routine maintenance, tracking inspection reports, and tracking maintenance agreements. Both public and private detention basins are included.

9.1. Detention Basin Summary

As discussed in Section 2.6, the Town has inventoried public and private detention basins. The Town maintains detention basins at approximately six (6) locations. A log

of public detention basins is included in the 2005 annual report (required by the WPDES permit). The location of each existing detention basin is included in an AutoCAD base map of the Town. See Exhibit 5: Stormwater Facilities Map for details. The detention basin information is useful in its current form; however, a Stormwater GIS was developed during the creation of this Master Plan which can also serve as a stormwater facilities database. See Section 10 for details on the Stormwater GIS. Some information will still need to be kept in AutoCAD such as the MAPSWaP watershed and sewershed basin boundary lines. This will allow for efficient altering and updating of watershed boundaries as necessary.

There are approximately twenty-four (24) privately-owned and maintained detention basins. Dane County now requires a maintenance agreement be recorded for stormwater facilities: "Where installed stormwater practices will be privately-owned, an affidavit which describes the property by legal description, notifying future prospective purchasers of the existence of a stormwater permit issued under this ordinance and applicable plan, timetables and potential liability imposed by sec. 14.73(3) for failure to bring the property into compliance with this ordinance after notification, shall be recorded with the Dane County Register of Deeds prior to issuance of an erosion and stormwater control permit. The foregoing information shall also be noted on every plat and certified survey map." Private detention basins without maintenance agreements and/or easements/access for the Town may need to be considered at some point, but it is unclear at this time when this might happen.

Any land development project in the Town of Middleton that requires a stormwater maintenance agreement is required to give both the County and the Town rights to enter the property and maintain stormwater facilities if the responsible party fails to do so.

9.2. Detention Basin Maintenance Schedule

Town-owned or maintained detention basins are currently maintained only as problems arise, except for occasional mowing. There is no set inspection and maintenance schedule. A routine maintenance schedule emphasizing preventive maintenance will minimize the need for corrective maintenance and emergency-type responses. See Section 13.6 and associated Exhibit(s) for detailed detention basin maintenance recommendations.

10. STORMWATER PERMITTING AND STORMWATER GIS

This section includes a summary of the Town's review and permitting policy which addresses construction site pollution (erosion) control and post-construction stage stormwater management. This section also includes a discussion of the proposed development and implementation of a stormwater and erosion control permit tracking database. A stormwater permit tracking system is a requirement of the UNPS grant and is a task identified in the Stormwater Master Plan and UNPS Grant - Scope.

10.1. Town of Middleton Stormwater and Erosion Control Permit Policy

The Town and Dane County both review erosion control and/or stormwater permit applications for conformance to respective design standards. The Town reviews for:

1. Peak control through the 100-year event. This is more restrictive than the County requirement
2. Potential impacts with other utilities and for administration items, to ensure requirements of the stormwater plan are incorporated into the engineering plans, and to administer maintenance activities, logistics, and updates for record keeping
3. Erosion control, in conjunction with Dane County.

Construction Site Pollution Control: The Town requires an erosion control permit if any of the following apply:

- An area of four thousand (4,000) square feet or greater will be disturbed resulting in the loss or removal of protective ground cover or vegetation.
- Excavation, fill, or any combination thereof, will exceed four hundred (400) cubic yards.
- Any public (federal, state or local) street, road or highway is to be constructed, enlarged, relocated or substantially reconstructed.
- Any use by a unit of government or by public or private utilities in which underground pipe or facilities will be laid, repaired, replaced or enlarged for a distance over three hundred (300) feet.
- There is a subdivision of land as defined in the Subdivision Regulations of the Town of Middleton.

An erosion control permit application is required through the County and includes completion of an erosion control checklist and all supporting plans and calculations. Dane County reviews the information for conformance to County erosion control standards, and the Town Engineer provides some erosion control review. The County Zoning Department enforces the erosion control in the Town, but the Town Engineer and Building Inspector are also involved with site inspection of erosion control facilities.

> **Enforcement Action:** One e-mail regarding a stop work order on January 20 2005, was received from the County, but no details on enforcement actions have been provided by Dane County Zoning. The Town's process for erosion control review and inspection is adequate and effective.

Post-Construction Stormwater Management: The Town requires a stormwater permit if any of the following apply:

- Development results in the cumulative addition of twenty thousand (20,000) square feet of impervious surface to the site.
- New agricultural buildings are constructed and the new total impervious surface area exceeds twenty thousand (20,000) square feet.
- The development requires a subdivision plat.
- Commercial or industrial development requires a certified survey map.

- Redevelopment exceeds four thousand (4,000) square feet of land disturbance where site is predominantly developed for commercial, industrial, institutional, or multifamily residential uses.
- Other development or redevelopment may have significant downstream impacts.

An erosion control and stormwater management permit application is required by the County and includes completion of a stormwater checklist and all supporting plans and calculations. A stormwater review is required by the Town, which requires submittal of a checklist with reports and plans as necessary. Dane County and the Town Engineer review the information for conformance to respective stormwater standards. Dane County issues an approval letter, as does the Town. The Town defers the review of infiltration, TSS reduction, and thermal reduction to the County. Therefore, the reviews are generally complimentary. Field inspections are performed by Dane County Zoning and by the Town Engineer or Building inspector. No enforcement actions have been provided by Dane County Zoning. The Town's process for stormwater review and inspection is adequate. Yearly coordination meetings are done with the involved parties to improve effectiveness of the process.

10.2. Permit Tracking and Stormwater GIS

Currently, Dane County has a permit tracking database for all stormwater and erosion control permits issued for the Town of Middleton. Approval letters from the County and Town are archived in the Town's files and the Town Engineer's files.

The Stormwater Master Plan and UNPS Grant - Scope considers developing a stormwater and erosion control permit tracking system. A Stormwater GIS system has been developed which includes permit tracking. See Exhibit 6 for a fact sheet describing the Stormwater GIS and a plan generated from the Stormwater GIS.

The Stormwater GIS was created primarily for (1) Erosion Control and Stormwater Permit tracking and (2) long term stormwater facility maintenance, but the system was made more robust to include information on existing stormwater facilities and to act as a database for stormwater facilities.

As the Stormwater GIS evolves, it may be appropriate to transfer all stormwater information into the Stormwater GIS. The Stormwater GIS can also be used to track all dry weather monitoring locations (see Section 7 for illicit discharge detection and elimination details).

11. STORMWATER FUNDING OPTIONS

Evaluation of stormwater funding options is a UNPS grant requirement. This section includes information on various funding sources for stormwater management activities in the Town of Middleton.

The concept of a stormwater utility was discussed with the Town Board. It is recommended that the Town not pursue setting up a stormwater utility at this time. The cost to set up the utility would likely outweigh the benefit to the Town.

11.1. Property Tax

Stormwater management system operation, maintenance, and improvement costs in the Town of Middleton have historically been funded by property taxes. Property taxes are paid into the Town's general fund that is also used for other public works improvements, public safety, and other related programs. There is often a great deal of competition with other programs for stormwater management system funding. As a result, stormwater management improvements have sometimes been given a low priority, unless the Town is reacting to a recent storm event or regulatory requirements.

Property taxes are based exclusively on assessed property value. The Town's cost to provide stormwater service to individual properties is typically more closely related to physical characteristics of the property served than to the assessed value of the property. Therefore, in many cases, property taxes may not be an equitable means of recovering stormwater management system costs.

11.2. Fees

Fees are a common means of funding stormwater management improvements. Fees are charges for services rendered. Many municipalities, including the Town of Middleton, recover costs of constructing, designing, reviewing, and/or inspecting new developments per ordinance and through development fees. Impact fees and special assessments transfer the cost of infrastructure improvements needed for private development directly to developers or property owners. User fees recover costs over the life of a project.

11.3. Tax Incremental Financing (TIF)

Tax incremental financing captures the projected increase in property tax revenue created by developing an area and uses that increase to assist in paying for development and redevelopment projects. This funding makes it possible to go forward with projects that otherwise would not be built. Upon creation of a development or redevelopment project area or district, the assessor will establish the base-assessed value of that area or district. Each subsequent year, the assessor will certify the current assessed value of the property in the development or redevelopment project area or district. The difference between the amount of regular levy property taxes on the current assessed value and the amount of regular levy property taxes on the base-assessed value is the tax increment. Regular levy property taxes on the base-assessed value of the property will continue to be allocated to the appropriate local taxing bodies. The tax increment will be deposited in a tax increment financing fund for use on projects approved for the project area or district.

Typically, stormwater management projects that will improve the value of the property are eligible for funding under a TIF. Creating a TIF exclusively for the construction of

any of the projects identified in this report would probably not be feasible; however, should a TIF be formed in or near any of these project areas, it may be cost-effective to recover project costs through the TIF.

11.4. Bonds

Large capital improvement projects, such as major storm sewers or detention facilities may be funded through bonds or grants. Bonds are a mechanism to borrow capital for a project and distribute repayment over the life span of the project. A popular local bonding program is the Clean Water Fund Program (CWFP). This is one of the subsidized loan programs included in the DNR Environmental Improvement Fund (EIF). The CWFP provides loans to municipalities for wastewater treatment and urban stormwater projects. This program has historically been used extensively for wastewater treatment plant construction. Recent program modifications allow funds to be used for stormwater management improvements.

Most CWFP projects receive a subsidized interest rate of 55 percent, 65 percent, or 70 percent of the EIF market interest rate. CWFP wastewater projects that meet certain criteria may be eligible to receive Hardship Financial Assistance, which may be in the form of a lower interest rate loan or may include a grant.

11.5. Grants

In general, all Runoff Management Grants have an application deadline of approximately April 16 of each year. Runoff Management Grants include:

- Targeted Runoff Management (TRM) Grants
- Urban Nonpoint Source and Storm Water Management (UNPS and SW) Grants

11.5.1. Wisconsin DNR Runoff Management Grant Programs

TRM/Urban Nonpoint Grants are available from several sources. (Note: the source for information in this Section is the Wisconsin Department of Natural Resources Web Site).

Financial assistance for local pollution-control efforts is available through various DNR loan and grant programs including the Targeted Runoff Management (TRM) and Urban Nonpoint Source and Storm Water (UNPS and SW) Grant programs.

TRM grants are provided to control polluted runoff from both urban and rural sites. The grants are targeted at high-priority resource problems. Projects funded by TRM grants are site-specific and serve areas generally smaller in size than a subwatershed. The grant period is 2 years with a possible 1-year extension. The maximum cost share rate available to TRM grant recipients is 70 percent of eligible costs, with the total of state funding not to exceed $150,000.

TRM grants can fund the construction of rural and urban BMPs. For the first time this year, TRM grants can also fund design of BMPs as part of a construction project. Most work may be reimbursed only when done during the grant period. There are two exceptions: land acquisition and design completed prior to the grant can be reimbursed, provided the design and parcel appraisal are approved by DNR regional staff and the construction project is selected for funding. Some examples of eligible BMPs include stream bank protection projects, wetland construction, detention ponds, some cropland protection, and livestock waste management practices. These and other practices eligible for funding are listed in Ch. NR 153 and NR 154.04, Wis. Adm. Code.

UNPS and SW grant funds are used to control polluted runoff in urban project areas. Funds are awarded for either planning or construction projects. The grant period is 2 years with a possible 1 year extension. Projects funded by these grants are site-specific, serve areas generally smaller in size than a subwatershed, and are targeted to address high-priority problems. An "urban project area" must meet one of these criteria: have a population density of at least 1,000 people per square mile, have a commercial land use, be the non-permitted portion of a privately owned industrial site, or be a municipally-owned industrial site (regardless of Ch. NR 216, Wis. Adm. Code, permit requirements). Governmental units are eligible for a grant even if the governmental unit is covered by a stormwater permit under Ch. NR 216, Wis. Adm. Code.

11.5.1.1. UNPS and SW Planning Grants

UNPS and SW planning grants can be used to pay for a variety of technical assistance activities. Eligible activities such as stormwater management planning, related information and education activities, ordinance and utility development, and enforcement are cost-shared at 70 percent. This year, the cap on the total state share for UNPS and SW planning projects is $85,000. For a technical assistance activity to be eligible for funding under this program, the project must currently be in an urban area or an area projected to be urban within 20 years.

11.5.1.2. UNPS and SW Construction Grants

Eligible UNPS and SW construction grant costs may include such projects as stormwater detention ponds, filtration and infiltration practices, streambank stabilization, and shoreline stabilization. Eligible costs are cost-shared at 50 percent up to a maximum of $150,000. Design costs are also eligible as part of the total project costs and can be reimbursed at 50 percent. Design costs can be retroactively reimbursed provided the design is approved by the DNR regional staff and the construction project is selected for funding.

Construction projects involving land acquisition and permanent easements can be awarded up to an additional $50,000 in cost-share funds (50 percent cost-share rate). Land acquisition can be retroactively reimbursed provided the parcel

appraisal is approved by the DNR appraisal reviewers and the construction project is selected for funding. If you are considering land acquisition as part of your project, please contact your Regional Nonpoint Source Coordinator for specific guidance.

11.5.2. Municipal Flood Control Grants

Some improvements can be eligible for Municipal Flood Control Grant assistance. Maximum funds are set at $800,000 for one applicant, and the State cost-share reimbursement of eligible costs is set at 70 percent.

If funding is provided by the legislative budget for the 2007-2008 biennium state budget allocation, the following time frame will be followed:

- July 15, 2007: "Notice of Application Availability"
- November 15, 2007: "Complete Application due to the DNR Grant Program Manager"
- May 1, 2008: "Awards Issued to successful projects"

Project activities such as acquisition and removal of flood-prone structures from the floodplain tend to rank higher in priority when compared to structural flood control improvement activities. Listed below is a summary of eligible project activities in order of priority for the Municipal Flood Control Grant program. (Note: the source for information listed below is the Wisconsin Department of Natural Resources Web Municipal Flood Control Grant Brief.)

a. Acquisition and removal of structures which, due to zoning restrictions, cannot be rebuilt or repaired.
b. Acquisition and removal of structures in the 100-year floodplain.
c. Acquisition and removal of repetitive-loss or substantially damaged structures.
d. Acquisition and removal of other flood-damaged structures.
e. Floodproofing and elevation of structures.
f. Riparian restoration projects, including removal of dams and other artificial obstructions, restoration of fish and native plant habitat, erosion control, and streambank restoration projects.
g. Acquisition of vacant land or perpetual conservation or flowage easements to provide additional flood storage or to facilitate natural or more efficient flood flows.
h. Construction of structures for the collection, detention, retention, storage, and transmission of stormwater and groundwater for flood control and riparian restoration projects.
i. Preparation of flood insurance studies and other flood mapping projects.

11.6. Transportation Equity Act

The Transportation Equity Act for the 21st Century (TEA-21) funds numerous transportation programs such as the Surface Transportation Program (STP) and National Highway System to improve the nation's transportation infrastructure, enhance economic growth, and protect the environment. States may spend up to 20 percent of their STP dollars for environmental restoration and pollution abatement projects, including the construction of stormwater treatment systems. Additionally, each state sets aside 10 percent of STP funds for transportation enhancement projects, which can include acquisition of conservation and scenic easements, wetland mitigation, and pollution abatement, as well as scenic beautification, pedestrian and bicycle trails, archaeological planning, and historic preservation. These varied project types can be used to protect source water areas during construction of transportation corridors.

12. PUBLIC INFORMATION, EDUCATION AND OUTREACH

This is a requirement of the UNPS grant and the WPDES permit and is a task identified in the Stormwater Master Plan and UNPS Grant - Scope. This section discusses the public informational and educational resources that have been developed by co-permittees to help prevent stormwater pollution, and how they are being used by the Town.

12.1. Public Education and Outreach Through MAMSWaP

Co-permittees are responsible for undertaking comprehensive public education and outreach efforts to increase the awareness of stormwater impacts on waters of the State. An education plan has been jointly prepared by the co-permittees that is being implemented throughout the duration of the WPDES permit. The Town participates in these activities by paying a fee based on population category, established by MAMSWaP. All co-permittees participate in this manner. The Town's annual contribution is $1,000 to Public Education and Outreach and $500 to Public Involvement and Participation. The funds are used by Dane County Land and Water Resources to perform information and education activities including creation of the central web site www.myfairlakes.com, citizens surveys, radio and television ads, educational articles for distribution to the citizens through the municipalities, stormwater related curriculum, and educational videos. MAMSWaP has provided its members with items such as stenciling for inlets and information for the municipality's web site. Therefore, through MAMSWaP, the public information, education, and outreach requirements of the WPDES permit are being addressed.

13. RECOMMENDATIONS (ACTION ITEMS)

This section includes recommended action items developed through the creation of this report. Recommendations might be cross-referenced to other sections because many recommendations are related to more than one section. Recommendations related to the Black Earth Creek Watershed are included as necessary, not in a stand-alone section.

13.1. Water Quality

1. *Cross reference with Detention Basin Inventory and Maintenance:* The Town is meeting the State suspended solids reduction requirement (20% TSS achieved). To assure that the solid reduction levels do not slip below the 20% threshold, protect and maintain the Town's exiting controls per the recommendations of Section 9.
2. Budget for the design (including TSS/water quality modeling) and construction of new BMPs to reach the State requirement of 40% TSS reduction by March 10, 2013. New BMPs could include retrofitting existing stormwater management areas, creating new detention areas (especially wet detention basins), constructing infiltration facilities, and performing street sweeping. As 2013 approaches, modeling and requirements may have changed. Therefore, this is an issue that will need to be considered annually up to and through 2013.
3. *Cross reference with Water Quantity and Public Information and Education:* Encourage residents to install rain gardens and rain barrels, to participate in composting of household leaf/yard waste, and to use environmentally friendly lawn care practices. Include items listed in Section 13.8. Rain gardens and rain barrels in particular can be very effective in reducing frequent flooding, improving water quality, and recharging groundwater.
4. Encourage the use of new technologies such as pervious pavement (pervious concrete, pervious pavers, etc.) with new developments (or re-developments) where appropriate. Install a test section of pervious pavement as an example. Another new technology is polymer application for erosion control and better restoration of construction areas that have exposed soil.
5. Retro-fit existing stormwater management facilities with native plantings instead of turf grass.
6. Prevent groundwater from getting to the Refuse Hideaway landfill if possible. Practical action items might include simply discouraging infiltration up-gradient (groundwater) from the landfill, or directing surface water and groundwater elsewhere.
7. Require that the Town Engineer review the design of infiltration facilities in the Town.
8. *Cross reference with Water Quantity:* Identify areas in the Town that would be good candidates for native prairie restoration, and follow through with the restoration. Native prairie plantings provide increased water quality through reducing frequent flooding and increasing infiltration. The need for chemical fertilizers and weed killers would be eliminated as would frequent mowing. The detention basin in Outlot 1 of Sauk Point Estates is a good candidate for prairie restoration and a cost estimate has been completed. See Section 4 for more details.
9. Comments from the DNR's review of this report (Jean Unmuth, March 16, 2007): *"I recommend that the plan recognizes the need for a comprehensive surface water - groundwater infiltration study of the Upper Black Earth Creek watershed to assess the impact of potential future development on the stream ecosystem, and*

to develop and implement a conservation plan for the watershed in order to ensure the protection of Black Earth Creek. This study not only relates to the urban sewer service for the City of Middleton, but must consider the unsewered development that might occur beyond the City limits, in the Town of Middleton. A collabortive study that includes consideration of potential cumulative impacts that demonstrates that the base flow of Black Earth Creek will not be negatively affected must involve the Township, City, County, State and other partners, and is necessary to ensure an effective watershed management approach to development. It is my understanding that in the absence of such a study, the department will generally not approve future requests for expansion of the central urban sewer service area into the upper Black Earth Creek watershed."

10. Follow the recommendations of the Water Quantity section. Most of those recommendations would result in increased water quality.

13.2. Water Quantity

1. Cooperate with the City of Madison with their plan to improve drainage along Pioneer Road and Meadow Road.
2. Use existing analyses and the information provided by the topographic survey (completed March 15, 2007) to develop a plan to modify the berm and culvert at the southeast corner of Tumbledown Golf Course, and perhaps the culverts under Pioneer Road at this location, to reduce the flooding at the golf course. The drainway downstream from Pioneer Road may need modification, too. Work with the City of Madison to solve the grading/drainage issue in this area. See Exhibit 10 for more information.
3. Continue with plans for improving Lots 17, 18, and 25 Cherrywood Acres and Outlots 5 and 7 Sauk Point Estates.
4. Modify the detention basin in Outlot 1 of Sauk Point Estates in any or all of the following ways:
    a. Retrofit the existing outlet structure to reduce frequent flooding.
    b. Remove soil from select locations, creating more detention volume. This may require additional topography.
    c. Whether options a. and/or b. are done, restore the area with native prairie plantings to reduce frequent flooding, increase aesthetics, and reduce long-term maintenance.
5. Initiate planning activities for the wet detention basin near the Swoboda Road – Vicki-Ann Street intersection considering the plans that the Town Engineer recently obtained from the design engineer.
6. Develop cost estimates and budget money for analyzing and/or fixing the flooding problem at Sabaka Trail and Mathias Way. This likely will involve peak flow calculation and design/construction of drainway grading by the Town Engineer.
7. Monitor the performance of the detention basin and adjacent drainway downstream from Blue Glacier Valley considering the past flooding problems that have occurred upstream from the Valley Woods Road culverts.
8. Complete a cursory analysis of the Seybold Road – Struck Street area and develop a cost estimate for the analysis efforts that would be required to adequately define

the problems. This could include coordination with City of Madison Engineering, topographic survey, and some runoff modeling. Use these efforts to direct action items that are deemed necessary.

9. *Cross reference with Water Quality:* Encourage the use of pervious pavement (pervious concrete, pervious pavers, etc.) to reduce runoff volumes, if only in small test areas.

13.3. Stormwater Related Ordinances

1. *Cross reference with Water Quality:* Consider adopting more aggressive erosion control, stormwater, and development standards for lands within the Black Earth Creek surface watershed and ground watershed. Conservation and protection activities would help prevent erosion and increased surface water runoff, protect/promote water quality and groundwater recharge, and would increase aesthetics, property value, and recreation opportunities. Steep, wooded slopes are of particular concern.
2. *Cross reference with Water Quality:* Develop policy/ordinances that promote infiltration, especially within the Black Earth Creek watershed. Infiltration promotes groundwater recharge, improves water quality, reduces flooding and erosion, and can increase aesthetics, provide educational opportunities, and reduce the need for routine maintenance and fertilizer/pesticides/herbicides.
3. Regarding the Black Earth Creek Watershed, involve and educate the public as outlined in Section 5.
4. Adopt the Town's Illicit Discharge Ordinance again. Follow up with public notice and include in the version of the Town's ordinances posted on the Town's web site.
5. Include the swimming pool ordinance in the version of the Town's ordinances posted on the Town's web site.
6. Require stormwater management areas to be restored with native plantings in new developments. Mechanisms must be in place to ensure native plants are installed and restored properly. Consider public versus private ownership and maintenance.
7. Require a floodplain determination for locations in proposed developments with one square mile or greater of tributary drainage area as runoff rates from this large of an area warrant special consideration.
8. Require new plats to include Public Stormwater Drainage Easements over all areas intended to convey or treat stormwater. There may be a minimum size conveyance feature that requires an easement.
9. Require as-builts of all stormwater facilities. This includes detention basins, infiltration areas, storm sewer, and culverts. It may also include areas with critical drainage patterns.
10. The building inspection process should include conformance to proposed drainage patterns.

13.4. Illicit Discharge Detection and Elimination Program

1. Complete follow-up inspections at the discharge locations noted in the 2005 dry weather monitoring field reports. The locations identified were:
   a. Penske Truck building, left of concrete endwall
   b. Penske Truck building, southwest corner of building
   c. Penske Truck building, 10' east of HDPE endwall
   d. Penske Truck building, east end of ditch to south of building
   e. Penske Truck building, west end of ditch to south of building
   f. Penske Truck building, west end of ditch to south of bldg. (next to #e)
   g. Seybold Road and Struck Street detention pond behind berm and against wall (standing water in pond)
   h. 50' west of intersection of Seybold Road and Struck Street north of road - small flow coming from pond (g)
   i. Northwest corner of intersection of Seybold Road and Struck Street - flow coming from pond (g and h)
   j. Southwest corner of intersection of Seybold Road and Struck Street
   k. In Watts Road, west of intersection with Struck Street – flow coming from (j)
   l. In Watts Road, east of intersection with Struck Street
2. Complete illicit discharge monitoring on an annual or bi-annual basis. Monitoring should follow the guidelines in the October 1, 2004 Illicit Discharge Detection Plan.
3. Use the Stormwater GIS to track all dry weather monitoring locations.
4. Post spill reporting and spill control and cleanup information at the Town garage. See Exhibit 9.

13.5. Municipal Pollution Prevention Plan

1. Develop a simplified Municipal Pollution Prevention Plan per Section 8.
2. Keep accurate records of street sweeping, catch basin cleaning, storm sewer cleaning, or salt application activities. Include the amounts of debris, salt, etc. involved. This information is used for annual reporting purposes.
3. Keep accurate records of the amount of fertilizer, pesticide, and herbicide applied to Town property annually, for reporting purposes.

13.6. Stormwater GIS (Includes Detention Basin Inventory and Maintenance)

1. Protect and maintain the Town's exiting stormwater facilities through development and adoption of an ongoing Detention Basin Inventory and Maintenance Plan. Emphasize preventive maintenance which in turn will minimize the need for "corrective maintenance" that often results in emergency-type responses. The Stormwater GIS can be used for this activity. See Exhibit 1 for a draft Detention Basin Maintenance Plan.
2. Determine a cost for routine maintenance activities and include in the Town's annual budget.

3. Track all erosion control and stormwater management permits, inspection reports, and routine maintenance activities for Town-owned detention basins and stormwater maintenance agreements for private detention basins through the Stormwater GIS.
4. Actively review maintenance agreements for all BMPs and ensure that maintenance activities are completed. A record of routine maintenance activities should be sent to the Town on an annual basis. If routine maintenance is not being performed as required in the maintenance agreement, the Town or Dane County could perform the maintenance activities at the expense of the responsible party as listed on the maintenance agreement. The Stormwater GIS system (see Section 10) should be used for tracking long term maintenance agreements and related activities.
5. Include Stormwater GIS updates in the annual budget. Updates will take only a few hours each year, assuming new sites and facilities/management practices are added to the GIS as they occur with new developments and new phases of existing developments.
6. Explore ways to make the GIS more powerful and more useful, including expanding beyond stormwater management.

13.7. Stormwater Utility and Other Funding Options

1. It is recommended that the Town not pursue setting up a stormwater utility at this time. The cost to set up the utility would likely outweigh the benefit to the Town.
2. Some stormwater related activities in the Town could be completed with financial assistance through grants and other sources listed in Section 11. Activities that may qualify for funding should be identified on a regular basis followed by grant application or other processes as necessary. These funding options should be used in conjunction with annual budgeting to complete stormwater related planning and construction activities.
3. Explore other possible funding sources to assist with the recommendations listed in this master plan. Possible sources include Dane County, DNR fisheries grants, the American Farmland Trust, the natural Heritage Land Trust, and programs such as the Conservation Reserve Program, the Wetland Reserve Program, Wildlife Habitat Incentives Program, and others.

13.8. Public Information and Education

1. *Cross reference with Water Quality, Water Quantity, and Municipal Pollution Prevention:* Set up displays at public events and/or distribute leaflets, pamphlets, brochures, or e-mail to Town residents regarding topics such as:
    - The EPA and the Clean Water Act
    - The hydrologic cycle and the effects of development on it
    - Awareness of existing open space and recreational resources
    - Proper usage of lawn care products (fertilizers, pesticides, and herbicides)
    - Environmentally friendly lawn care practices such as using corn gluten meal as a fertilizer/weed killer, polymer application for water retention,

watering tips for using less water, and letting lawns go dormant in the hot summer months rather than watering
- Proper disposal of oil and other car care products
- Proper disposal of hazardous waste
- Proper approaches to vehicle washing
- Pet waste collection
- Water conservation and stormwater management practices for homeowners
- Composting or proper disposal of household leaf/yard waste, including proper disposal of grass clippings
- Information on how citizens can volunteer to help the DNR monitor water quality in Black Earth Creek
- Installing fish cribs/habitat structures

Preprinted materials may be available to minimize costs from sources such as www.myfairlakes.com , the UW-Extension, and Dane County. These may be distributed at such locations as Town Hall or through mailings.

2. Use the DVD that is being developed by MAMSWaP/myfairlakes.com group as a way to inform Town residents about stormwater. The DVD is scheduled to be finalized and released in April, 2007. The video is approximately thirty minutes long and discusses what stormwater is, the problems associated with it, and how citizens can help. The Town has ordered ten (10) DVDs for their use.
3. Improve public awareness of the existing natural resources in the Black Earth Creek Watershed. Improve access to natural areas if needed. Consider developing more trails and recreational areas.
4. Encourage elementary schools in the Town to incorporate the following tools/curriculum from the Earth Partnership for Schools Program into their classroom activities:
    - Storm Water Curriculum and Teaching Guide http://www.danewaters.com/private/curriculum.aspx
    - Restoration Activities http://uwarboretum.org/eps/research_act_classroom/index.php
    - Rain Garden Curriculum http://uwarboretum.org/eps/research_act_classroom/rain_garden_curriculum.php
5. Track public information/education activities for annual reporting to the DNR. Tracking should include numbers of leaflets and pamphlets, distributed, and related information.
6. Create a separate stormwater page on the Town's web site. At a minimum, keep the link to www.myfairlakes.com active on the Town's web site.
7. Pursue a river or lake planning grant through DNR as a way to involve and educate the public. These grants provide funds to assess existing resources and recreational access and facilities in addition to educating the public. This process should begin with researching where/how these grants could be used in the Town.

14. SELECTED REFERENCES

This section cites sources used in the production of this master plan.

Dane County Regional Planning Commission, *Dane County Water Quality Plan – Summary Plan 2004.*

Earth Tech, Inc., *Lower Badger Mill Creek Stormwater Management Analyses,* June 2003.

Dane County Regional Planning Commission, *Black Earth Creek Resource Plan,* August 21, 2003.

Vierbicher Associates, Inc., *Stormwater Management Plan Appendix A – Water Quality Modeling, Town of Middleton,* September 2006

Vierbicher Associates, Inc., *Town of Middleton Stormwater Permit Requirements – Proposed Illicit Discharge and Pollution Prevention Plan,* October 1, 2004.

U.S. Environmental Protection Agency, web address:
http://www.epa.gov/owm/mtb/cwns/1996rtc/glossary.htm

Stormwater Authority, web address:
http://www.stormwaterauthority.org/glossary.aspx

Earth Partnership for Schools – Stormwater Curriculum web address:
http://www.danewaters.com/private/curriculum.aspx

Earth Partnership for Schools – Restoration Activities and Rain Garden Curriculum web address:
http://uwarboretum.org/eps/tools_for_teachers.php

APPENDICES

- **Appendix A – Water Quality Modeling (Text only, no calculations or maps)**
- **Appendix B – Notes and Definitions**
- **Appendix C – WPDES permit and fact sheet**
- **Appendix D - UNPS grant award**

Appendix A

Water Quality Modeling

Stormwater Management Plan
Town of Middleton
Appendix A
Water Quality Modeling

September 2006

Stormwater Management Plan
Appendix A
Water Quality Modeling
Town of Middleton

Prepared For:
Town of Middleton
7555 W. Old Sauk Road
Verona, WI 53593-9700

Prepared By:
Vierbicher Associates, Inc.
999 Fourier Drive
Madison, WI 53717
VAI Project: 026045069

September 2006

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APPENDIX A

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A2. Existing Controls

A3. SLAMM Modeling Information

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Exhibit SE2: Southeast Area Standard Land Use Map

Exhibit WC3: West Central Area Standard Land Use Map

Exhibit EC4: East Central Area Standard Land Use Map

Exhibit NW5: Northwest Area Standard Land Use Map

Exhibit NE6: Northeast Area Standard Land Use Map

APPENDIX A
WATER QUALITY MODELING

1.0 Introduction

A. General

This report evaluates Town of Middleton (Middleton) using the WDNR Chapter 151 and 216 permitting requirements for a town requiring a Stormwater Permit. The WDNR rules require that by March 10, 2008 a 20% reduction in total suspended solids in runoff as compared to no controls and a 40% reduction by March 10, 2013.

WinSLAMM 9.0 (SLAMM) was used to model the TSS for Middleton. Input data was determined from aerial photography, aerial topography, NRCS's Soil Survey of Dane County, zoning maps, record drawings, site visits and engineering plans. The input data is provided in this appendix.

There are specified Standard Land Use (SLU) files available from the USGS that were used in modeling TSS runoff for varying land uses. The following SLU files were used for modeling Middleton. All the SLU files are from the USGS.

Standard Land Use	Acres	Percentage %
Cemetery (CEMM)	5.2	0.2%
Institutional (INST)	2.6	0.1%
School (SCH)	54.1	1.7%
Medium Density Res. (MDRNA)	12.2	0.4%
Low Density Res. (LDR)	2,413.6	75.8%
Duplex (DUP)	1.4	0.0%
Strip Commercial (STCOMM)	110.2	3.5%
Light Industrial (LI)	84.2	2.6%
Rural Road (Road)	97.8	3.1%
Office Park (OFPK)	0.9	0.0%
Park (PARK)	399.9	12.6%

Land zoned and used for agricultural were not included in the SLAMM models. Undeveloped land over 5 acres and internally drained areas with natural infiltration are also not included in the modeling. These omissions are required by the State.

Madison 1981 rain table was used with a start date of March 12th and an end date of Decemeber 2nd. Madison is adjacent to Middleton.

B. Best Management Practices

The DNR defines "Best Management Practices (BMP)" as structural or nonstructural measures, practices, techniques, or devices employed to avoid or minimize soil, sediment, or pollutants carried in runoff to waters of the state. A BMP may include any program,

technology, process, siting criteria, operational method, measure, or device that controls, prevents, removes, or reduces pollution. Nonstructural measures may include public information and education to reduce public impacts on nonpoint source pollution and "source controls," such as street sweeping and leaf collection. Structural BMPs may include construction of detention basins, infiltration basins, vegetated swales, and similar measures.

An effective stormwater management program will include a mixture of structural and nonstructural BMPs as well as effective source controls to reduce nonpoint source runoff to receiving waterways.

2.0 No Controls Analysis

No Control conditions are considered to have no BMPs. Also, the default drainage system for all watersheds are curb and gutter in fair condition even if the existing drainage system is a swale. WinSLAMM 9.0 was used to model the Town's outfall watersheds with no controls.

Watershed annual loadings of TSS and phosphorus levels in Middleton are estimated using the SLAMM models. There is currently no reduction levels required for phosphorus. See Table 1 for summary of the SLAMM modeling for Middleton with no controls, and Section A1 for detailed modeling data.

Table 1 – SLAMM Results with No Controls

Watershed	TSS (lbs)	Phosphorus(lbs)	Area (ac.)
Southwest	198,273	658	881
Southeast	56,051	134	124
West Central	193,891	720	1,071
East Central	4,638	18	25
Northwest	230,434	762	1,037
Northeast	8,338	32	43
Total	**691,625**	**2,324**	**3,181**

3.0 Existing Conditions Analysis

WinSLAMM 9.0 was used to model Middleton's watersheds with existing controls. BMPs evaluated include street sweeping, wet detention basins, biofiltration and vegetated swales. Following is a brief description of the existing BMPs.

A. Wet Detention Basins

There is several wet detention basins located throughout the Town. There are three wet detention basins in the southwest sextet, five in the west central sextet, and three in the northwest sextet.

B. Biofiltration (SLAMM Definition)

There is several dry detention basins scattered throughout the Town. There is one dry detention basin in the southeast sextet, three in the southwest sextet, eleven in the west central sextet, and four in the northwest sextet.

C. Drainage Controls

All of the runoff is conveyed by vegetated swales. The swales typically parallel the roadways. The swale models are 1' wide with 3 horizontal: 1 vertical side slopes and assumed to be maintained grass ditches with a Manning's n = 0.030. The slope of the swales were modeled as 6% in the western sextets and 3% in the eastern sextets.

Watershed annual loadings of TSS and phosphorus levels in Middleton are estimated using the SLAMM models. There is currently no reduction levels required for phosphorus. See Table 2 for summary of the SLAMM modeling for Middleton with existing controls, and Section A2 for detailed modeling data.

Table 2 – SLAMM Results with Existing Controls

Watershed	TSS (lbs)	Phosphorus(lbs)	Area (ac.)
Southwest	152,109	442	881
Southeast	38,733	104	124
West Central	86,895	414	1,071
East Central	3,819	16	25
Northwest	157,979	568	1,037
Northeast	7,084	28	43
Total	**446,619**	**1,572**	**3,181**

4.0 Water Quality Modeling Summary

WinSLAMM modeling shows that the existing controls reduce the TSS in runoff appreciably. The reduction in TSS with existing controls is 35%. See Tables 3 and 4 for a summary of the WinSLAMM modeling for Middleton with no controls vs existing controls.

Table 3 – SLAMM TSS Summary

Watershed	No Controls TSS (lbs.)	Exist Controls TSS (lbs.)	TSS Reduction
Southwest	198,273	152,109	23%
Southeast	56,051	38,733	31%
West Central	193,891	86,895	55%
East Central	4,638	3,819	18%
Northwest	230,434	157,979	31%
Northeast	8,338	7,084	15%
Total	**691,625**	**446,619**	**35%**

Table 4 – SLAMM Phosphorus Summary

Watershed	No Controls Phosphorus (lbs.)	Exist Controls Phosphorus (lbs.)	Phosphorus Reduction
Southwest	658	442	33%
Southeast	134	104	22%
West Central	720	414	42%
East Central	18	16	11%
Northwest	762	568	25%
Northeast	32	28	12%
Total	**2,324**	**1,572**	**32%**

The WDNR require that by March 10, 2008 a 20% reduction in total suspended solids in runoff that enters waters of the state as compared to no controls, and a 40% reduction by March 10, 2013.

The existing controls meet the March 10, 2008 deadline for a 20% reduction in TSS. There will need to be additional BMPs in place to meet the March 10, 2013 reduction of 40% of the TSS entering the Waters of the State. Additional BMPs are covered in the main report, not in this Appendix.

J:\Project\Middleton Town 026045069 UNPS\6_Water 006\WordWater Quality Appendix A.doc

Appendix B

Notes and Definitions

BMPs (Best Management Practices): BMPs used to control the generation and delivery of pollutants from the built environment to waterways, thereby reducing the amount of pollutants entering surface and ground waters. BMPs can be structural, e.g. a Vortechs System, or non-structural, e.g. street sweeping.

Cold Water Fishery: Cold water streams are best described as flowing waters with maximum summer water temperatures that are typically below 22 degrees Celsius (71.6 degrees Fahrenheit). The watersheds of these streams are usually less than 100 square miles, and the streams exhibit mean annual flow rates of less than 50 cubic feet per second. Cold water streams can be found statewide, but they are concentrated in southwestern Wisconsin and parts of central and northern Wisconsin. These communities contain relatively few fish species and are dominated by trout and sculpins. Cold water lakes can be loosely defined as lakes that support cold water fish species year-round. (From Wisconsin DNR)

Cold water fisheries can be loosely defined as supporting fish that prefer clear, cold waters, are not tolerant of extreme temperature changes, and cannot survive for long periods with temperatures above 68 degrees Fahrenheit. Species such as trout, salmon, and grayling are recognized as cold water fish.

DNR: The Wisconsin Department of Natural Resources (DNR) is dedicated to the preservation, protection, effective management, and maintenance of Wisconsin's natural resources. It is responsible for implementing the laws of the state and, where applicable, the laws of the federal government that protect and enhance the natural resources of our state. It is the one agency charged with full responsibility for coordinating the many disciplines and programs necessary to provide a clean environment and a full range of outdoor recreational opportunities for Wisconsin citizens and visitors. (From www.dnr.state.wi.us)

EPA: The United States Environmental Protection Agency (EPA) works to protect human health and the environment. The EPA performs a variety of functions throughout the country, including:

- Developing and enforcing regulations
- Offering financial assistance (grants, fellowships, etc.) for state environmental programs
- Perform environmental research
- Sponsor voluntary partnerships and programs
- Further environmental education
- Publish information

GIS: Geographic/Geospatial Information System. See Exhibit 6 for a GIS Fact Sheet.

Hydric Soils: Soils formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. (From NRCS)

Hydric Inclusion: Small areas of hydric soils in lower positions on the landform surrounded by non-hydric soils. Inclusions of non-hydric soils in the higher positions of the landform, surrounded by hydric soils can also exist.

Illicit discharge: Any discharge to the Town's storm water conveyance system that is not composed entirely of storm water except discharges allowed under a Wisconsin Pollutant Discharge Elimination System permit or other discharges expressly authorized by the Town of Middleton.

MAMSWaP: Madison Area Municipal Storm Water Partnership – a group of 19 Madison area municipalities who have a joint WPDES Municipal Storm Water Discharge Permit for storm water discharges from the group's municipal separate storm sewer systems (MS4s) to waters of the state. This permit was obtained in order for the 19 co-permittees to remain in accordance with Chapter 283, Wis. Stat., and Chapter 216, Wisconsin Administrative Code. Co-permittees include:

- The Cities of Fitchburg, Madison, Middleton, Monona, Sun Prairie, and Verona
- The Villages of DeForest, Maple Bluff, McFarland, Shorewood Hills, and Waunakee
- The Towns of Blooming Grove, Burke, Madison, Middleton, Westport, and Windsor
- Dane County
- University of Wisconsin - Madison

Co-permittees: (see previous comment).

MS4 (Municipal Separate Storm Sewer System): Any pipe, ditch or gully, or system of pipes, ditches, or gullies, owned or operated by a governmental entity and used for collecting and conveying storm water.

NR 151: (From *Purpose* Section of Wisconsin Administrative Code, Chapter NR 151) This chapter establishes runoff pollution performance standards for non−agricultural facilities and transportation facilities, performance standards and prohibitions for agricultural facilities and practices designed to achieve water quality standards. This chapter also specifies a process for the development and dissemination of department technical standards to implement the non−agricultural performance standards. If these performance standards and prohibitions do not achieve water quality standards, this chapter specifies how the department may develop targeted performance standards.

NR 216: (From *Purpose* Section of Wisconsin Administrative Code, Chapter NR 216) The purpose of this chapter is to establish criteria defining those storm water discharges needing WPDES storm water permits, and to implement the appropriate performance standards of NR 151. The goal of this chapter is to minimize the discharge of pollutants carried by storm water runoff from certain industrial facilities, construction sites, and municipal separate storm sewer systems as identified in this chapter.

Nonpoint source pollution: Pollution sources that are diffuse and do not have a single point of origin or are not introduced into a receiving stream from a specific outlet. The pollutants are generally carried off the land by storm water runoff. Sources of NPS pollution include runoff from agriculture, silviculture, urban development, mining, construction, dams and channels, marinas, saltwater intrusion, and inappropriate land disposal of waste.

SLAMM: Source Loading and Management Model. This model is used to determine the amount of total suspended solids (TSS) that is being removed from stormwater runoff in the Town of Middleton. The results of this modeling will be used to keep the Town in conformance with Wisconsin Administrative Code NR 151.13.

Stormwater Master Plan and UNPS Grant - Scope: This refers to the Scope of Work included in the agreement between the Town of Middleton and Vierbicher Associates, Inc. to address the requirements of UNPS Grant No. USP-LR10-13038-05 and to develop a Stormwater Master Plan.

TMDL (Total Maximum Daily Load): Total Maximum Daily Load is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

Water quality standards are set by States, Territories, and Tribes. They identify the uses (and scientific criteria to support those uses) for each water body, e.g. drinking water supply, contact recreation (swimming), and aquatic life support (fishing).

A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the water body can be used for the purposes the State has designated. The calculation must also account for seasonal variation in water quality. The Clean Water Act, section 303, establishes the water quality standards and TMDL programs.

TSS (Total Suspended Solids): Total Suspended Solids (TSS) is a water quality measurement. This parameter was at one time called non-filterable residue (NFR), a term that refers to the identical measurement: the dry weight of particles trapped by a filter, typically of a specified pore size. The pore size typically used by engineers to separate suspended and dissolved solids is 0.45 microns. One micron equals 1/1000 of a millimeter. Generally, in the Dane County area, 80% TSS efficiency relates to the removal of particles 5 microns and larger from stormwater runoff. Relating TSS efficiency to a micron size relies on the particle distribution of the soil in question.

Urban Non-Point Source: Pollution from dispersed sources, resulting from runoff in an urban environment picking up pollutants (both natural and manmade) and delivering them to streams, lakes, and wetlands.

Urban Non-Point Source (UNPS) Grant: Urban Non-Point Source and Stormwater Management Planning Grant No. USP-LR10-13038-05, awarded on September 24, 2004. This document is attached to this report as Appendix E.

Warm Water Fishery: Sport and forage fisheries. Warm water streams are flowing waters with maximum water temperatures typically greater than 25 degrees Celsius (77 degrees Fahrenheit). They usually have watershed areas less than 500 square miles and mean annual flow rates of less than 200 cubic feet per second. These streams are common statewide, particularly in southeastern and east-central Wisconsin. A rich fish fauna, dominated by

warm water species in the families Cyprinidae, Catostomidae, Centrarchidae, and Percidae can be found in warm water streams.

Streams modified by dams, agricultural drainage, or increased flows due to changes in land cover have lost varying degrees of their pre-development biological productivity and diversity. Improvement work has focused on three main objectives: reducing bank erosion and in-stream sedimentation, restoring a more natural channel morphology and alignment, and increasing in-stream cover. (From Wisconsin DNR)

Warm water lakes can be loosely defined as lakes that support warm water fish species, year-round. Warm water fish species are able to tolerate water temperatures above 80 degrees Fahrenheit. Examples of warm water fish include: bass, crappie, sunfish, yellow perch, walleye, pike, catfish, and musky.

WPDES permit: WPDES permit No. WI-S058416-2, obtained jointly by members of MAMSWaP, effective May 1, 2004 through March 31, 2009. This document is attached to this report as Appendix D along with a Fact Sheet from the Wisconsin DNR.

Appendix C

WPDES Permit and Fact Sheet

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary
Ruthe E. Badger, Regional Director

South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711-5397
Telephone 608-275-3266
FAX 608-275-3338
TTY Access via relay - 711

April 28, 2004

Jim Mueller, Administrator/Clerk
Town of Middleton
7555 W. Old Sauk Rd.
Verona, WI 53593

Subject: Issuance of Wisconsin Pollutant Discharge Elimination System (WPDES) Municipal Storm Water Discharge Permit No. WI-S058416-2

Dear Mr. Mueller:

Thank you for the Town of Middleton's assistance in developing the enclosed joint WPDES Municipal Storm Water Discharge Permit. The co-permittees regulated by the joint permit are the Cities of Fitchburg, Madison, Middleton, Monona, Sun Prairie, and Verona; the Villages of DeForest, Maple Bluff, McFarland, Shorewood Hills, and Waunakee; the Towns of Blooming Grove, Burke, Madison, Middleton, Westport, and Windsor; Dane County; and the University of Wisconsin –Madison.

The conditions of the joint permit were determined using the permit application and other information available to the Department, comments received during numerous quarterly meetings between the Department of Natural Resources and the municipal co-permittees, and applicable Wisconsin Administrative Codes. All discharges from the Town of Middleton's Municipal Separate Storm Sewer System, and actions or reports relating thereto shall be in accordance with the terms and conditions of the joint permit. The joint permit contains some revisions made to the public noticed joint permit. The revisions are documented in the enclosure titled "Response to Comments".

This permit requires the periodic submittal of program proposals and contains specific compliance dates. The Department has the authority under chs. 160 and 283, Stats., to establish effluent limitations, monitoring requirements, and other permit conditions for discharges to groundwater and surface waters of the State. The Department also has the authority to issue, reissue, modify, suspend or revoke WPDES permits under ch. 283, Stats., and has adopted Wis. Adm. Code Chapters NR 200, NR 203, NR 205, and NR 216 under this authority.

To challenge the reasonableness of or necessity for any term or condition of the attached permit, s. 283.63, Stats, and ch. NR 203, Wis. Adm. Code require that you file a verified petition for review with the Secretary of the Department of Natural Resources within 60 days of the date of this letter. This notice is provided pursuant to s. 227.48, Stats.

The Department of Natural Resources is very appreciative of the cooperative effort demonstrated by the co-permittees under the joint permit and we look forward to working with the Town of Middleton in the future.

Sincerely,

Jim Bertolacini
Storm Water Management Specialist
DNR South Central Region

cc: Eric Rortvedt, DNR, WT/2

ENCLOSURES: WPDES Permit No. WI-S058416-2
Fact Sheet
Response to Comments

WISCONSIN
DEPT. OF NATURAL RESOURCES

PERMIT TO DISCHARGE UNDER THE
WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM
WPDES PERMIT NO. WI-S058416-2

In compliance with the provisions of Chapter 283, Wisconsin Statutes, and Chapters NR 151 and 216, Wisconsin Administrative Code,

THE CITIES OF FITCHBURG, MADISON, MIDDLETON, MONONA, SUN PRAIRIE, AND VERONA; THE VILLAGES OF DEFOREST, MAPLE BLUFF, MCFARLAND, SHOREWOOD HILLS, AND WAUNAKEE; THE TOWNS OF BLOOMING GROVE, BURKE, MADISON, MIDDLETON, WESTPORT, AND WINDSOR; DANE COUNTY; AND THE UNIVERSITY OF WISCONSIN – MADISON

are permitted to discharge storm water from

ALL PORTIONS OF THE CO-PERMITTEES' MUNICIPAL SEPARATE STORM SEWER SYSTEMS

owned or operated by the co-permittees listed above to the following waters of the state and associated tributaries:

BADFISH CREEK
BLACK EARTH CREEK
MIDDLE SUGAR RIVER
SIX MILE AND PHEASANT BRANCH CREEKS
UPPER KOSHKONONG CREEK
UPPER SUGAR RIVER
YAHARA RIVER AND LAKE KEGONSA
YAHARA RIVER AND LAKE MENDOTA
YAHARA RIVER AND LAKE MONONA

in accordance with the storm water management program and other conditions set forth in this permit.

This permit to discharge shall expire at midnight, March 31, 2009.

To retain authorization to discharge after this expiration date an application shall be filed by the co-permittees for reissuance of this permit in accordance with the requirements of ch. NR 216, Wis. Adm. Code, at least 180 days prior to this expiration date.

State of Wisconsin Department of Natural Resources
For the Secretary

By: Maya Dvereaux for Ruth Bolgen

Dated: 4/28/04

EFFECTIVE DATE: May 1, 2004 EXPIRATION DATE: March 31, 2009

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- **Part II – General Conditions**

- **Appendix A** - ***Cooperative Agreement to Apply Jointly for Storm Water Discharge Permit under NR 216 of the Wisconsin Administrative Code***

- **Appendix B** - ***Intergovernmental Agreement to Create and Fund a Position Responsible for Storm Water Management Education and Outreach***

- **Appendix C** - ***Intergovernmental Agreement to Fund a Joint Storm Water Monitoring Program through the Scientific Evaluation of Rain Gardens***

Description and Purpose of this WPDES Municipal Storm Water Discharge Permit

The municipalities listed as co-permittees under this permit submitted a joint permit application on January 6, 2003, to be covered under a group WPDES Municipal Storm Water Discharge Permit for storm water discharges from the group's municipal separate storm sewer systems (MS4s) to waters of the state. Discharges from these MS4s consist of runoff from rain, and snow and ice melt. Pollutants of concern in storm sewer system discharges include organic materials, suspended solids, metals, nutrients, bacteria, pesticides, fertilizer, and traces of toxic materials.

The co-permittees under this permit entered into an intermunicipal agreement to form the group and submit the group application pursuant to ch. NR 216, Wis. Adm. Code. During the application process, the co-permittees developed an extensive joint information and education plan, a joint storm water monitoring plan, and have agreed to cooperate as appropriate on permit requirements. This permit authorizes and regulates the discharge of storm water from the co-permittees' MS4s, as required by ch. NR 216, Wis. Adm. Code. Permit requirements are intended to reduce the amount of pollutants entering storm water runoff or otherwise entering MS4s. Pollution prevention efforts and performance standards are emphasized over runoff treatment. Major components of the permit include storm water management programs to address public education and outreach, public involvement and participation,

illicit discharge detection and elimination, construction site pollution control, post-construction site storm water management, pollution prevention, monitoring, and annual reporting.

This permit regulates storm water discharges in accordance with ch. 283, Wis. Stats. and ch. NR 216, Wis. Adm. Code, and implements the non-agricultural and transportation facility performance standards of ch. NR 151, Wis. Adm. Code. A municipality that is a co-permittee under this permit is only responsible for permit conditions relating to discharges from the MS4 under its jurisdiction for which it is the owner or operator.

Note: Wisconsin Administrative Codes referenced in this permit are available online at: http://www.legis.state.wi.us/rsb/code/

Part I - SPECIAL CONDITIONS

A. APPLICABILITY

(1) WATERS OF THE STATE: This permit regulates the discharge of storm water to waters of the state from the MS4s of the co-permittees under this permit. For the purposes of this permit, "waters of the state" means all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, water courses, drainage systems and other surface water or groundwater, natural or artificial, public or private within the state or under its jurisdiction, except those waters which are entirely confined and retained completely upon the property of a person.

(2) PREVIOUS PERMIT FOR THE CITY OF MADISON AND THE UNIVERSITY OF WISCONSIN – MADISON: This permit replaces joint WPDES Permit No. WI-S058416-1 issued on October 16, 1995, to the City of Madison and the University of Wisconsin – Madison.

(3) PERMITTED AREA: This permit covers all areas within the jurisdiction of the co-permittees that discharge to waters of the state from the MS4s owned or operated by the co-permittees. "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, that are owned or operated by a co-permittee.and designed or used for collecting or conveying storm water.

(4) CO-PERMITTEES: The co-permittees under this permit consist of the following municipalities: The Cities of Fitchburg, Madison, Middleton, Monona, Sun Prairie, and Verona; the Villages of DeForest, Maple Bluff, McFarland, Shorewood Hills, and Waunakee; the Towns of Blooming Grove, Burke, Madison, Middleton, Westport, and Windsor; Dane County; and the University of Wisconsin – Madison.

Note: A municipality not listed above that owns or operates an MS4 may petition the Department of Natural Resources to become a co-permittee under this permit. The petitioning municipality will need to enter into intermunicipal agreement(s) with other municipalities regulated under this permit to jointly cooperate and carry out the requirements of this permit as a group where appropriate. The Department of Natural Resources will need to approve the addition of another municipality as a co-permittee either by modifying or reissuing this permit to include the municipality as a co-permittee.

(5) DANE COUNTY: Specifically for Dane County as a co-permittee, this permit only authorizes discharges of storm water from the MS4 owned or operated by Dane County which occur within the geographical boundaries of the other co-permittees.

(6) COMPLIANCE DATES: Unless specified otherwise in Part I, Section H., all co-permittees under this permit shall comply with the provisions and requirements of this permit as of its effective date and thereafter.

(7) AUTHORIZED DISCHARGES: This permit only authorizes storm water discharges to waters of the state from the co-permittees' MS4s as provided under subch. I of ch. NR 216, Wis. Adm. Code.

(8) WATER QUALITY STANDARDS: 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 to 105, Wis. Adm. Code. Compliance with water quality standards will be addressed by adherence to the provisions of this permit and the storm water management program requirements described under Part I, Section C. If the Department of Natural Resources determines that the discharge of storm water from a co-permittee's MS4 contributes to an exceedance of any applicable water quality standard, the Department of Natural Resources may require the co-permittee to develop an action plan to adequately address the identified water quality concern, or submit valid and verifiable data and information that are representative of ambient conditions to indicate that the receiving water is attaining the water quality standard.

(9) GENERAL STORM WATER DISCHARGE LIMITATIONS: Each co-permittee shall take all reasonable and necessary actions to prevent discharges from its MS4 that may adversely affect receiving water quality or aquatic life including:

(a) Solids that may settle to form putrescent or otherwise objectionable sludge deposits.

(b) Oil, grease, and other floating material that form noticeable accumulations of debris, scum, foam, or sheen.

(c) Color or odor that is unnatural and to such a degree as to create a nuisance.

(d) Toxic substances in amounts toxic to aquatic life, wildlife, or humans.

(e) 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 are a nuisance.

(f) Any other substances that may impair, or threaten to impair, beneficial uses of the receiving water.

(10) OTHER REGULATORY PROGRAMS: Nothing in this permit shall exempt a co-permittee from the responsibility to comply with other federal, state or local laws.

(11) CO-PERMITTEE COOPERATION: To the maximum extent practicable, co-permittees are encouraged to cooperate with other co-permittees to jointly meet the requirements of this permit. With the concurrence of the Department of Natural Resources, co-permittees may develop and/or implement joint programs and procedures to meet the requirements of this permit.

B. GENERAL RESPONSIBILITIES FOR ALL CO-PERMITTEES

In addition to the requirements specified in Part I, Sections A. and C. through I., each co-permittee shall:

(1) Minimize the discharge of pollutants from its MS4.

(2) Implement the stormwater management program and other pertinent requirements of this permit in all new areas added to the co-permittee's MS4 as the result of annexation by the co-permittee.

(3) Implement the storm water management program and other pertinent requirements of this permit in all new areas added to the co-permittee's MS4 as the result of installation or taking jurisdiction of a new or existing MS4.

(4) Individually or as agreed upon by the co-permittees, provide adequate financing, staff, equipment, and support capabilities to implement the requirements of this permit.

(5) Comply with the conditions of this permit relating to discharges from the MS4 where it is the owner or operator.

(6) Implement a storm water management program, as required by this permit, in portions of the municipality that discharge to an MS4.

(7) Exercise and enforce its legal authority to control discharges to and from those portions of the MS4 that it owns or operates. This legal authority may be a statute, ordinance, permit, order or intermunicipal agreement, a series of contracts, or administrative rule. In accordance with Part I, Section H. of this permit, each co-permittee, except as specified for the University of Wisconsin – Madison under Part I, Section I. (19), shall submit a legal opinion to the Department of Natural Resources certifying that it has exercised adequate legal authority or describing any deficiencies it has in exercising adequate legal authority to:

(a) Control the contribution of pollutants to and the discharge of pollutants from the MS4.

(b) Prohibit illicit discharges to the MS4.

(c) Control the discharge of spills, dumping and disposal of materials other than storm water into the MS4.

(d) Require compliance with conditions in ordinances, permits, contracts, orders or administrative rules.

(e) Require compliance with the standards of ss. NR 151.11 and 151.23, Wis. Adm. Code, or equivalent local standards.

(f) Require compliance with the standards of ss. NR 151.12 and 151.24, Wis. Adm. Code, or equivalent local standards.

(g) Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance with permit conditions including the prohibition of illicit discharges to the MS4.

Note: As a state entity, the University of Wisconsin – Madison has different statutory authority than that of other municipal co-permittees regulated under this permit. See Part I, Section I. (19) for the University of Wisconsin – Madison's individual responsibility to meet the requirements of Part I, Section B. (7).

(8) Attend and participate in quarterly meetings of the co- permittees. Unless an alternative quarterly date or dates are agreed upon by the co-permittees, the quarterly meetings shall take place the first Thursday of February, May, August, and November of each year.

(9) Cooperate with other co-permittees on sharing information and resources to facilitate storm water management activities on a regional or watershed basis and to avoid duplicative efforts.

(10) Fulfill the commitments of the main intermunicipal agreement to apply for and cooperate under a group WPDES Municipal Storm Water Discharge Permit, *Cooperative Agreement to Apply Jointly for Storm Water Discharge Permit under NR 216 of the Wisconsin Administrative Code* (Appendix A); fulfill the commitments of the intermunicipal agreement to cooperate on storm water information and education, *Intergovernmental Agreement to Create and Fund a Position Responsible for Storm Water Management Education and Outreach* (Appendix B); fulfill the commitments of the intermunicipal agreement for storm water monitoring, *Intergovernmental Agreement to Fund a Joint Storm Water Monitoring Program through the Scientific Evaluation of Rain Gardens* (Appendix C); and fulfill the commitments of any other signed agreements created pursuant to the main agreement.

(11) Notify the affected co-permittee in the case of discovering a potential illicit discharge originating from its jurisdiction and discharging to the MS4 of the affected co-permittee.

(12) Work cooperatively with other affected co-permittees in the case of discovering a potential illicit discharge of unknown source to determine the best actions to resolve the illicit discharge.

(13) Submit information requested by the Department of Natural Resources pertinent to the MS4, discharges from the system, activities related to implementation of the requirements of this permit, or other relevant information.

(14) Meet with the Department of Natural Resources on an as needed basis to discuss implementation of this permit or other relevant issues.

(15) Keep contact information up-to-date and notify the Department of Natural Resources in a timely manner when personnel changes occur for the appropriate contact person(s) knowledgeable about this permit and its implementation.

(16) Respond to and resolve in a timely manner complaints received from citizens and concerns raised by the Department of Natural Resources relating to pollution and storm water issues within the co-permittee's jurisdiction.

(17) Coordinate the requirements of this permit internally between the co-permittee's agencies, departments, and programs, and ensure that elected and municipal officials and appropriate staff are advised of the permit.

(18) Implement the requirements of this permit in a manner that is consistent with the recommendations contained in priority watershed plans, the Dane County Water Quality Plan, and other storm water management plans funded by the Department of Natural Resources and applicable to the co-permittee.

(19) Incorporate the requirements of this permit in the development of master plans, neighborhood plans, development plans, and any other comprehensive planning activity to address water quality impacts from storm water discharges associated with implementation of these plans.

(20) Undertake actions required by this permit in manner that is consistent and in conformance with other applicable regulatory programs.

Note: Examples of other regulatory programs that may be applicable are the U.S. Army Corps of Engineers 404 permit program and permits required under Chapter 30, Wis. Stats.

(21) With the concurrence of the Wisconsin Department of Transportation, enter into discussions on the development of an intergovernmental agreement to control the contribution of pollutants between the co-permittee's MS4 and that of the Department of Transportation. If the Department of Transportation agrees, the initiation of discussions shall occur by October 1, 2004. Only a co-permittee with a physically interconnected MS4 with that of the Department of Transportation need consider entering into the agreement. All affected co-permittees shall make every attempt to enter into this agreement jointly

with other affected co-permittees and by March 31, 2005. A copy of any signed intergovernmental agreement shall be submitted to the Department of Natural Resources within 30 days of its signing by all parties. In addition to other provisions agreed upon by the co-permittee and the Department of Transportation, the co-permittee shall consider the following items in the agreement:

(a) Cooperation on detecting and eliminating illicit discharges between the co-permittee's MS4 and that of the Department of Transportation.

(b) Notification and communication procedures for resolving illicit discharges and the discharge of pollutants between MS4s.

(c) Provisions for the sampling of pollutants, if deemed necessary, being discharged between MS4s.

(d) Frequency of joint meetings, if deemed necessary, to discuss the provisions and procedures contained in the agreement.

Note: The Department of Natural Resources cannot require the Department of Transportation to enter into an intergovernmental agreement with the affected co-permittees. However, the Department of Natural Resources believes that the Department of Transportation will desire such an agreement. It is anticipated that development and discussion of the agreement can be accommodated during the quarterly meetings.

C. STORM WATER MANAGEMENT PROGRAM REQUIREMENTS

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

(a) Fulfill its commitments of the *Intergovernmental Agreement to Create and Fund a Position Responsible for Storm Water Management Education and Outreach* (herein known as the education and outreach agreement and included as Appendix B), including its financial support as described in Schedule B of the education and outreach agreement.

(b) Participate in the implementation of the *Joint Storm Water Permit Group Information and Education Plan (January 2003)* prepared on behalf of the co-permittees (herein known as the information and education plan). By December 1 of each year, the co-permittees shall collectively develop a work plan to guide implementation of the information and education plan for the following calendar year.

Note: Copies of the information and education plan at a cost of $6.00 each are available from the Dane County Land Conservation Department by calling 608/224-3730. A downloadable version is available online at www.co.dane.wi.us/commissions/lakes.

(c) Cooperate with and assist the person functioning in the education and outreach coordinator position created pursuant to the education and outreach agreement by providing pertinent information requested by the coordinator to facilitate implementation of the information and education plan.

(d) Within its jurisdiction, make a reasonable effort to distribute and make available to the public the education and outreach information and materials created pursuant to the information and education plan.

(e) Provide and maintain a link to storm water information if a municipal website has been developed and activated by the co-permittee.

Note: The types of information to link on a website include municipal ordinances, local regulatory programs, contact information, storm water informational and educational materials, waste oil and household hazardous waste collection sites, public participation opportunities, annual reports, and other storm water related websites. The Department of Natural Resources will work with the co-permittees on what information is appropriate for posting on the website.

(2) PUBLIC INVOLVEMENT AND PARTICIPATION: Each co-permittee shall notify the public in its respective jurisdiction of activities required by this permit and shall encourage involvement and participation by the public regarding these activities. At a minimum, information in the annual report required under Part I, Section G. of this permit shall be an agenda item for discussion before the appropriate governing board or council of each co-permittee contemporaneous with the submittal of the annual report to the Department of Natural Resources. Each co-permittee shall properly notice meetings and honor requests for information in accordance with applicable state and federal law. To the maximum extent practicable, each co-permittee shall accommodate requests by the public for involvement and participation in activities required by this permit.

(3) ILLICIT DISCHARGE DETECTION AND ELIMINATION: In consultation with the Department of Natural Resources, each co-permittee shall develop and implement a program to detect and remove illicit discharges and improper disposal of wastes into its respective MS4, or require the discharger to obtain a separate WPDES permit. The requirements of this section shall be met in accordance with the Schedule of Compliance in Part I, Section H. and the individual responsibilities for each co-permittee in Part I, Section I. Co-permittees with similar MS4s may jointly develop a program suited to their particular circumstances. For the purposes of this section, the following non-storm water discharges or flows are not considered illicit discharges unless identified by either a co-permittee or the Department of Natural Resources as a significant source of pollutants to waters of the State: Landscape irrigation, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges

from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn and garden watering, individual residential car washing, non-commercial charity car washing, flows from riparian habitats and wetlands, fire fighting, and other discharges covered by a WPDES permit issued by the Department of Natural Resources and in compliance with that permit. Other occasional or incidental non-storm water discharges may be considered not illicit discharges on a case-by-case basis and with the concurrence of the Department of Natural Resources. Each co-permittee shall:

(a) Exercise the adequate legal authority to prevent, detect, and eliminate illicit discharges.

(b) Develop and implement a strategy to prevent, detect, and eliminate all types of illicit discharges in accordance with this section.

(c) Document activities undertaken to meet the requirements of this section, including methodologies used; date, time, and place of activities; personnel involved; observations; corrective actions; and any enforcement actions.

(d) Establish priorities and conduct on-going field screening activities in areas or locations of the MS4 identified as having the highest potential for being sources of illicit discharges.

(e) Investigate 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. Procedures may include sampling for the field screening parameters, testing with fluorometric dyes or conducting inspections of the MS4 where safety and other considerations allow. The Department of Natural Resources shall be given advance notice of the time and location of dye testing within an MS4.

(f) Prevent, contain and respond to reports of spills that may discharge into the MS4.

(g) Immediately notify the Department of Natural Resources in accordance with ch. NR 706, Wis. Adm. Code, in the event that the co-permittee identifies a spill or release of a hazardous substance, which results in the discharge of pollutants into waters of the state. The Department of Natural Resources shall be notified via the 24-hour toll-free spill hotline at 1-800-943-0003.

(h) Eliminate any detected leakage from sanitary conveyance systems to the MS4.

(i) Eliminate illicit connections or discharges to the MS4 following detection. The elimination of an illicit connection or discharge shall be done as soon as possible upon identification of the responsible party. Prior to elimination of an illicit connection or discharge, the co-permittee shall require the party responsible for the illicit connection or discharge to take all reasonable measures to minimize the discharge of pollutants to the MS4 and waters of the state.

(j) Promote reporting by the public of the presence of illicit discharges or water quality impacts associated with illicit discharges from the MS4. This may include storm water inlet stenciling, neighborhood watches, and/or a local hotline to report illegal dumping or discharges.

(k) Consult with the Department of Natural Resources as necessary to resolve instances of a potential illicit discharge.

(4) CONSTRUCTION SITE POLLUTION CONTROL: Except as specified for the University of Wisconsin – Madison under Part I, Section I. (19), each co-permittee shall develop, implement, and enforce a program to require the implementation and maintenance of erosion and sediment control best management practices to reduce pollutants in storm water runoff from construction sites. The program shall apply to construction site activities undertaken by the co-permittee and those of other landowners. The program shall include the following minimum requirements:

(a) The exercise of legal authority to implement and enforce the standards of ss. NR 151.11 and 151.23, Wis. Adm. Code, or equivalent local standards.

(b) Notification by the co-permittee to landowners who apply for local construction or land disturbance permits of the possible applicability of subch. III of ch. NR 216, Wis. Adm. Code, *Construction Site Storm Water Discharge Permits*, to the landowner's construction projects.

(c) Procedures for site planning which incorporate timely consideration of potential water quality impacts from construction sites and that ensure implementation of the standards of ss. NR 151.11 and 151.23, Wis. Adm. Code, or equivalent local standards.

(d) Requirements for erosion and sediment control best management practices that meet or exceed the standards of ss. NR 151.11 and 151.23, Wis. Adm. Code, or equivalent local standards.

(e) Procedures for inspecting construction sites and enforcing erosion control standards.

(f) Documentation of any enforcement actions.

(g) Designation of a qualified professional with responsibility to ensure implementation of the standards of ss. NR 151.11 and 151.23, Wis. Adm. Code, and the requirements of subch. III of NR 216, Wis. Adm. Code, *Construction Site Storm Water Discharge Permits*, where applicable.

Note: As a state entity, the University of Wisconsin – Madison has different statutory authority than that of other municipal co-permittees regulated under this permit. See Part I, Section I. (19) for the University of Wisconsin – Madison's individual responsibility to meet the requirements of Part I, Section C. (4).

(5) POST-CONSTRUCTION SITE STORM WATER MANAGEMENT: Except as specified for the University of Wisconsin – Madison under Part I, Section I. (19), each co-permittee shall develop, implement, and enforce a program to address controls on storm water discharges from areas of new development and redevelopment, after construction is completed. The program shall apply to areas of new development and significant redevelopment undertaken by the co-permittee and those of other landowners. The program shall include the following minimum requirements:

(a) The exercise of legal authority to implement and enforce the standards of ss. NR 151.12 and 151.24, Wis. Adm. Code, or equivalent local standards.

(b) Notification by the co-permittee to landowners who apply for local construction or land disturbance permits of the possible applicability of subch. III of ch. NR 216, Wis. Adm. Code, *Construction Site Storm Water Discharge Permits*, to the landowner's construction projects.

(c) Procedures for site planning which incorporate timely consideration of potential water quality impacts from storm water runoff from new development and redevelopment, and that ensure the implementation of the standards of ss. NR 151.12 and 151.24, Wis. Adm. Code, or equivalent local standards.

(d) Requirements for source area controls and on-site best management practices that meet or exceed the standards of ss. NR 151.12 and 151.24, Wis. Adm. Code, or equivalent local standards.

(e) Procedures for inspecting the construction and installation of storm water best management practices and enforcement actions to ensure compliance with post-construction storm water management standards.

(f) Documentation of any enforcement actions.

(g) Designation of a qualified professional with responsibility to ensure implementation of the standards on ss. NR 151.12 and 151.24, Wis. Adm. Code, and the requirements of subch. III of ch. NR 216, Wis. Adm. Code, *Construction Site Storm Water Discharge Permits*, where applicable.

Note: As a state entity, the University of Wisconsin – Madison has different statutory authority than that of other municipal co-permittees regulated under this permit. See Part I, Section I. (19) for the University of Wisconsin – Madison's individual responsibility to meet the requirements of Part I, Section C. (5).

(6) MUNICIPAL POLLUTION PREVENTION: Each co-permittee shall implement a municipal operation and maintenance program to prevent or minimize pollutants entering the MS4 and waters of the state. At a minimum, the program shall include the following activities:

(a) An annually updated inventory of long-term storm water best management practices owned, operated, managed, or maintained by the co-permittee.

(b) Implementation of maintenance procedures and schedules for practices identified under Part I, Section C. (6) (a), other source area controls, catch basin cleaning, and the physical condition of elements of the MS4 that may adversely affect water quality.

(c) Implementation of roadway maintenance procedures that includes street sweeping and de-icing management that takes into consideration the effects on water quality.

(d) Collection procedures and/or instruction to citizens for on-site management of leaves, yard waste, and grass clippings.

(e) Pollution prevention procedures at municipal garages, public works facilities, and storage areas.

(f) Management of the storage of salt for roadway de-icing in accordance with ch. TRANS 277, Wis. Adm. Code.

(g) Pollution prevention procedures for the use and application of lawn and garden fertilizers on municipally controlled properties. By March 10, 2008, the application of lawn and garden fertilizers on municipally controlled properties, with pervious surface over 5 acres each, shall be done in accordance with s. NR 151.13(1)(b)3., Wis. Adm. Code.

(h) Pollution prevention procedures for the use and application of pesticides and herbicides on municipally controlled properties. - PROFESSIONALLY APPLIED.

(i) Documentation of the estimated amount of leaves collected, solids captured from street sweeping, solids removed from catch basins, and solids removed from structural controls.
No COLLECTION LEAFS | PROVIDE INFO TO CITIZENS

(j) To the maximum extent practicable, the development and implementation of policies and procedures to meet the developed urban area performance standard of s. NR 151.13(2)(b)1.b., Wis. Adm. Code, by the required compliance date of March 10, 2008.

Note: Section NR 151.13(2)(b)1.b., Wis. Adm. Code, states that a municipality regulated by a municipal storm water discharge permit shall, by March 10, 2008, achieve a 20% reduction in total suspended solids in runoff that enters waters of the state as compared to no controls.

D. STORM SEWER SYSTEM MAP REQUIREMENTS

(1) Each co-permittee shall annually update and maintain documentation of all storm sewer outfalls from the co-permittee's MS4 to waters of the state. The documentation of outfalls shall be in the form of storm water conveyance and drainage maps showing all outfalls and pipe sizes. These maps need not be submitted with the annual report but shall be kept on file by the co-permittee and provided to the Department of Natural Resources at no charge upon request.

(2) The City of Madison shall maintain the common storm sewer system map for the entire group permit area. Each co-permittee is responsible for providing annual updates to the City of Madison for updating the storm sewer system map for inclusion in the annual report as outlined in Part I, Section G. The storm sewer system map shall contain the following components:

(a) Delineation and identification of storm water drainage basins including watersheds, sub-watersheds, and sewersheds using the naming conventions developed by the City of Madison.

(b) Locations of major structural controls including retention, detention, and infiltration facilities.

(c) Locations of publicly owned parks, recreational areas, and other open lands such as environmental corridors and conservancies.

(d) Municipal boundaries for all co-permittees.

(e) Central Urban Service Area boundaries.

(f) Geographic features including streets, highways, railroads, airports, and water features.

(g) Township and Range System.

(h) Ten foot contours intervals.

(3) Each co-permittee shall ensure that the information provided on the storm sewer system map for the co-permittee's areas of jurisdiction is updated annually to reflect improvements to the MS4 as of December 31 of each year. Each co-permittee shall be responsible for delivering hard copy changes for the storm sewer system map to the City of Madison by January 31 of each year. The annually updated storm sewer system map shall be submitted to the Department of Natural Resources with the annual report as outlined in Part I, Section G.

E. MONITORING REQUIREMENTS

(1) Each co-permittee shall fulfill its commitments of the *Intergovernmental Agreement to Fund a Joint Storm Water Monitoring Program through the Scientific Evaluation of Rain Gardens* (herein known as the monitoring agreement and included as Appendix C), including its financial support as described in Schedule B of the monitoring agreement.

(2) Within its jurisdiction, each co-permittee shall make a reasonable effort to distribute and make available to the public information and materials relating to the activities undertaken pursuant to the monitoring agreement and the results of the monitoring program.

F. ASSESSMENT OF CONTROLS

(1) ANNUAL REVIEW: Each co-permittee shall conduct an annual review and assessment of its respective storm water management program in conjunction with preparation of the annual report required in Part I, Section G. The assessment of the effectiveness of the storm water management program required in Part I, Section C. shall include the following:

(a) A description of the public information and outreach efforts under Part I, Section C. (1) to-date and the status of implementation of the information and education plan, including an assessment of the effectiveness of reaching targeted audiences and delivery of intended messages.

Note: Dane County will provide the information for the assessment and annual review of the information and education plan since it has taken the lead in the implementation of the plan. However, individual co-permittees will be expected to report on their respective public information and outreach efforts.

(b) A description of public involvement and participation activities under Part I, Section C. (2) to-date, including an assessment of the effectiveness of efforts to involve the public and the level of participation.

(c) A description of illicit discharge detection and elimination program implementation under Part I, Section C. (3) with an assessment of the effectiveness of detection and elimination of illicit discharges, prevention of the improper disposal of waste and dumping, and the handling of spills.

(d) A description of construction site pollution control program implementation under Part I, Section C. (4) with an assessment of program effectiveness in meeting the standards of ss. NR 151.11 and 151.23, Wis. Adm. Code.

(e) A description of post-construction site storm water management program implementation under Part I, Section C. (5) with an assessment of program effectiveness in meeting the standards of ss. NR 151.12 and 151.24, Wis. Adm. Code.

(f) A description of enforcement actions taken pursuant to the programs implemented under (c), (d), and (e) above and an assessment of the effectiveness of enforcement efforts.

(g) A description of pollution prevention efforts through the implementation of the municipal operation and maintenance program under Part I, Section C. (6) with an assessment of program effectiveness.

(2) YEAR 3 REVIEW: In consultation with the Department of Natural Resources, by March 31, 2007, each co-permittee shall perform an overall assessment and baseline analysis of its respective storm water management program under Part I, Section C. to determine if it is on course to meet the performance standard of s. NR 151.13(2)(b)1.b., Wis. Adm. Code. To make this assessment and analysis, a model such as SLAMM, P8 or equivalent methodology that is approved by the Department of Natural Resources may be used. The Department of Natural Resources may waive this requirement for a co-permittee if the Department of Natural Resources determines that the performance standard can be met through the implementation of appropriate best management practices. To qualify for a waiver, the co-permittee shall implement the best management practices by March 10, 2008.

Note: Under s. NR 151.13(2)(b)1.b., Wis. Adm. Code, by March 10, 2008, a municipality subject to municipal storm water permit requirements will be required, to the maximum extent practicable, to reduce total suspended solids in runoff that enters waters of the state by 20% as compared to no controls. This threshold increases to 40% by March 10, 2013. It is anticipated that the use of a pollutant-loading analysis will be necessary to demonstrate that the thresholds are being met.

(3) REPORTING ON ASSESSMENT: The information in the annual assessment of controls under Part I, Section F. (1) shall be included in the annual report required under Part I, Section G. The annual report that is due on March 31, 2007, for year 3 of this permit shall include the assessment and analysis performed under Part I, Section F. (2).

G. ANNUAL REPORT

(1) PURPOSE: The information provided in the annual report shall be used to determine progress on implementation of the storm water management program and compliance with the conditions of this permit.

(2) REPORT DUE DATE: The first annual report for co-permittees under this permit, covering the period from the effective date of this permit until December 31, 2004, is due March 31, 2005. For all subsequent years beginning with 2005, the annual report for any given calendar year shall be submitted by March 31 of the following year.

(3) GROUP SUBMITTAL: The annual report for the co-permittees shall be a single submittal to the Department of Natural Resources. Each co-permittee shall ensure that its respective portion of the annual report is provided to the City of Madison by March 21of each year for compilation and submittal by the due date.

(4) FORMAT OF REPORT: To the maximum extent practicable and with the concurrence of the Department of Natural Resources, the co-permittees shall develop a uniform and standardized reporting format for the annual report.

(5) INDIVIDUAL RESPONSIBILITIES: Each co-permittee shall be responsible for the content of the report relating to permit activities in portions of the municipality and discharges to the MS4 for which it is responsible. Each co-permittee shall encourage interest groups and the general public within its jurisdiction to review and comment on the annual report in accordance with Part I, Section C. (2).

(6) CERTIFICATION: An authorized representative for each co-permittee shall sign and certify its respective portion of the annual report and include a statement or resolution that the municipality's governing body or delegated representatives have reviewed or been apprised of the content of the annual report.

(7) CONTENTS: The report shall include the following:

(a) The status of and a description of implementation of the storm water management program requirements and compliance with any schedules contained in Part I, Section H. of this permit.

(b) Proposed revisions to the storm water management program and a summary of any revisions made to the storm water management program.

(c) If not completed, an update of the status of entering into an intergovernmental agreement with the Department of Transportation as described in Part I, Section B. (21).

(d) An updated storm sewer system map, with the components listed in Part I, Section D. (2).

(e) A summary of the monitoring program performed to-date under Part I, Section E.

(f) The information in the annual assessment of controls under Part I, Section F.

(g) A summary describing the number and nature of enforcement actions taken pursuant to the programs implemented under Part I, Section C. (3), (4), and (5).

(h) A summary of development and/or implementation of any municipal-wide storm water management plans prepared by the co-permittee, and a summary of implementation of any other plans guiding the co-permittee, such as the Lake Mendota Priority Watershed Plan, the Dane County Land and Water Resource Management Plan, and the Dane County Water Quality Plan.

(i) An updated listing and contact information for any new industrial facilities that may be regulated under subch. II of ch. NR 216, Wis. Adm. Code, and that have commenced operation in the permit year of the report.

(j) A summary of any other activities undertaken to comply with the conditions of this permit.

(k) A fiscal analysis which includes the following:

1. The annual expenditures for the previous year with a breakdown of expenses for the major elements of the storm water program specified in Part I, Section C. of this permit.

2. The budget for the current year with an estimated breakdown of the expenses for the major elements of the storm water program specified in Part I, Section C. of this permit.

3. A description of the funding sources for the major elements of the storm water program specified in Part I, Section C. of this permit, including discussion of a storm water utility if implemented or considered, and any grants received from the Department of Natural Resources.

4. An overall estimate of the annual cost to the co-permittee of compliance with the permit for the year of the report.

(8) SUBMITTAL OF REPORT: A signed copy of the annual report shall be submitted to the Department of Natural Resources office listed below:

Storm Water Management Specialist
Wisconsin Department of Natural Resources
South Central Region
3911 Fish Hatchery Road
Fitchburg, WI 53711

H. SCHEDULE OF COMPLIANCE

Each co-permittee shall comply with the provisions and requirements of this permit as of the effective date of this permit, except compliance shall be achieved with the following conditions in Part I of this permit in accordance with the schedule indicated:

Action to be taken	Reference	Due date
City of Madison Rain Garden Study	Section I. (2) (c)	May 6, 2004
Village of Maple Bluff Proposed Post-Construction Site Storm Water Management Program	Section I. (8) (c)	Oct. 1, 2004
Proposed Municipal Pollution Prevention Program	Section I. (8) (d)	Oct. 1, 2004
Village of McFarland Proposed Construction Site Pollution Control Program	Section I. (9) (b)	Oct. 1, 2004
Proposed Post-Construction Site Storm Water Management Program	Section I. (9) (c)	Oct. 1, 2004
Village of Shorewood Hills Documentation of Agreement with Dane County	Section I. (10) (b) and (c)	Oct. 1, 2004
Towns of Blooming Grove, Burke, Madison, Middleton, Westport, Windsor; Dane County Proposed Municipal Pollution Prevention Program	Section I. (12) (d), Section I. (13) (d), Section I. (14) (d), Section I. (15) (d), Section I. (16) (d), Section I. (17) (d), Section I. (18) (f)	Oct. 1, 2004
All Co-Permittees:		
Legal Opinion/Deficiencies	Section B. (7), Section I. (19) (c) and (d)	Oct. 1, 2004
Initiate Discussions with WisDOT	Section B. (21)	Oct. 1, 2004
Development of Illicit Discharge Detection and Elimination Program	Section C. (3)	Oct. 1, 2004
First Annual I&E Work Plan	Section C. (1) (b)	Dec. 1, 2004
First Annual Changes to Storm Sewer System Map to City of Madison	Section D. (3)	Jan. 31, 2005
First Annual Report	Section G.	March 31, 2005
Rectify Deficiencies Identified by Legal Opinion	Section B. (7), Section I. (19) (c) and (d)	March 31, 2005

Action to be taken	Reference	Due date
Implementation of Illicit Discharge Detection and Elimination Program	Section C. (3)	March 31, 2005
Implementation of Construction Site Pollution Control Program	Section C. (4)	March 31, 2005
Implementation of Post-Construction Site Storm Water Management Program	Section C. (5)	March 31, 2005
Implementation of Municipal Pollution Prevention Program	Section C. (6)	March 31, 2005
Completion of Intergovernmental Agreement with WisDOT	Section B. (21)	March 31, 2005
Second Annual I&E Work Plan	Section C. (1) (b)	Dec. 1, 2005
Second Annual Changes to Storm Sewer System Map to City of Madison	Section D. (3)	Jan. 31, 2006
Second Annual Report	Section G.	March 31, 2006
Third Annual I&E Work Plan	Section C. (1) (b)	Dec. 1, 2006
Third Annual Changes to Storm Sewer System Map to City of Madison	Section D. (3)	Jan. 31, 2007
Baseline Analysis	Section F. (2)	March 31, 2007
Third Annual Report	Section G.	March 31, 2007
Fourth Annual I&E Work Plan	Section C. (1) (b)	Dec. 1, 2007
Fourth Annual Changes to Storm Sewer System Map to City of Madison	Section D. (3)	Jan. 31, 2008
Compliance with Lawn and Garden Fertilizer Standard of s. NR 151.13(1)(b)3.	Section C. (6) (g)	March 10, 2008
Compliance with Developed Area Performance Standard of s. NR 151.13(2)(b)1.b.	Section C. (6) (j)	March 10, 2008
Fourth Annual Report	Section G.	March 31, 2008
Fifth Annual I&E Work Plan	Section C. (1) (b)	Dec. 1, 2008
Fifth Annual Changes to Storm Sewer System Map to City of Madison	Section D. (3)	Jan. 31, 2009
Fifth Annual Report	Section G.	March 31, 2009

I. INDIVIDUAL RESPONSIBILITIES FOR EACH CO-PERMITTEE

Additional individual responsibilities for each co-permittee are specified below. Co-permittees are encouraged to consult with and seek the assistance of the Department of Natural Resources in meeting these requirements by the specified compliance dates. Nothing in this section shall preclude a co-permittee from coordinating and cooperating with other co-permittees to meet a similar requirement provided the approach has the concurrence of the Department of Natural Resources.

(1) CITY OF FITCHBURG: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the City of Fitchburg shall meet the following requirements:

(a) By March 31, 2005, implement the illicit discharge detection and elimination program described in Part 8b. of the permit application submitted to the Department of Natural Resources on January 6, 2003, and as may be amended by October 1, 2004, to comply with the requirements of Part I, Section C. (3) of this permit.

(b) Continue the implementation and administration of the construction site pollution control program described in Part 8c. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Fitchburg shall ensure that the program is consistent with the requirements of Part I, Section C. (4) of this permit by the compliance date specified in Part I, Section H.

(c) Continue the implementation and administration of the post-construction storm water management program described in Part 8d. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Fitchburg shall ensure that the program is consistent with the requirements of Part I, Section C. (5) of this permit by the compliance date specified in Part I, Section H.

(d) Continue the implementation and administration of the municipal pollution prevention program described in Part 8e. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Fitchburg shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(2) CITY OF MADISON: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the City of Madison shall meet the following requirements:

(a) Facilitate and prepare and provide the agenda and minutes for the quarterly meetings required under Part I, Section B. (8).

(b) Manage and annually update the co-permittees' storm sewer system map required under Part I, Section D. of this permit. Any apportioning of the funds needed to manage and update the storm sewer system map may be negotiated between the City of Madison and the co-permittees.

(c) By May 6, 2004, submit to the Department of Natural Resources and other co-permittees a detailed description of the methodologies and procedures to be used for the rain garden study performed pursuant to the monitoring agreement and the monitoring requirements under Part I, Section E.

(d) Represent the co-permittees in the rain garden study performed pursuant to the monitoring agreement and the monitoring requirements under Part I, Section E., provide updates on the study at the quarterly meetings, and provide information on implementation and results of the study for the annual report required under Part I, Section G.

(e) Compile and submit the annual report by the due date on behalf of the co-permittees. The City of Madison shall not be responsible for the veracity of another co-permittee's reporting information, nor another co-permittee's missing or incomplete information in the annual report.

(f) Continue to implement the storm water management policies and procedures in Chapter 5 of the City of Madison's Storm Water Management Program, including revisions made to the program since issuance of joint WPDES Permit No. WI-S058416-1 issued on October 16, 1995, to the City of Madison and the University of Wisconsin – Madison.

(g) Continue to implement the illicit discharge detection and elimination program described in Part 8b. of the permit application submitted to the Department of Natural Resources on January 6, 2003, and as may be amended by October 1, 2004, to comply with the requirements of Part I, Section C. (3) of this permit. The City of Madison shall not be required to perform the initial screening activity undertaken pursuant to the joint WPDES Permit No. WI-S058416-1 issued on October 16, 1995, to the City of Madison and the University of Wisconsin – Madison and described under 8b.1. of the permit application submitted to the Department of Natural Resources on January 6, 2003. However, screening shall be required when unidentified flows are detected.

(h) Continue the implementation and administration of the construction site pollution control program described in Part 8c. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Madison shall ensure that the program is consistent with the requirements of Part I, Section C. (4) of this permit by the compliance date specified in Part I, Section H.

(i) Continue the implementation and administration of the post-construction storm water management program described in Part 8d. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Madison shall ensure that the program is consistent with the requirements of Part I, Section C. (5) of this permit by the compliance date specified in Part I, Section H.

(j) Continue the implementation and administration of the municipal pollution prevention program described in Part 8e. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Madison shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(k) Within the jurisdiction of the City of Madison, give special attention to activities affecting the quality of storm water discharges in the Badger Mill Creek watershed. The City of Madison shall ensure that post-construction site storm water management at new development facilitates infiltration within the Badger Mill Creek watershed to the maximum extent practicable. The City of Madison shall work with developers, consultants, contractors, and others representing the development community to prevent and reduce negative water quality impacts from storm water discharges within the City of Madison and to promote infiltration. If requested by the Department of Natural Resources, the City of Madison shall notify the Department of Natural Resources of new development in the Badger Mill Creek watershed early in the City's review process to accommodate the Department of Natural Resources' input. The Department of Natural Resources may make similar requests beyond the Badger Mill Creek watershed.

(3) CITY OF MIDDLETON: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the City of Middleton shall meet the following requirements:

(a) By March 31, 2005, implement the illicit discharge detection and elimination program described in Part 8b. of the permit application submitted to the Department of Natural Resources on January 6, 2003, and as may be amended by October 1, 2004, to comply with the requirements of Part I, Section C. (3) of this permit.

(b) Continue the implementation and administration of the construction site pollution control program described in Part 8c. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Middleton shall ensure that the program is consistent with the requirements of Part I, Section C. (4) of this permit by the compliance date specified in Part I, Section H.

(c) Continue the implementation and administration of the post-construction storm water management program described in Part 8d. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Middleton shall ensure that the program is consistent with the requirements of Part I, Section C. (5) of this permit by the compliance date specified in Part I, Section H.

(d) Continue the implementation and administration of the municipal pollution prevention program described in Part 8e. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Middleton shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(e) Within the jurisdiction of the City of Middleton, give special attention to activities affecting the quality of storm water discharges in the Black Earth Creek watershed. The City of Middleton shall ensure that post-construction site storm water management at new development facilitates infiltration within the Black Earth Creek watershed to the maximum extent practicable. The City of Middleton shall work with developers, consultants, contractors, and others representing the development community to prevent and reduce negative water quality impacts from storm water discharges within the City of Middleton and to promote infiltration. If requested by the Department of Natural Resources, the City of Middleton shall notify the Department of Natural Resources of new development in the Black Earth Creek watershed early in the City's review process to accommodate the Department of Natural Resources' input. The Department of Natural Resources may make similar requests beyond the Black Earth Creek watershed.

(4) CITY OF MONONA: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the City of Monona shall meet the following requirements:

(a) By March 31, 2005, implement the illicit discharge detection and elimination program described in Part 8b. of the permit application submitted to the Department of Natural Resources on January 6, 2003, and as may be amended by October 1, 2004, to comply with the requirements of Part I, Section C. (3) of this permit.

(b) Continue the implementation and administration of the construction site pollution control program described in Part 8c. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Monona shall ensure that the program is consistent with the requirements of Part I, Section C. (4) of this permit by the compliance date specified in Part I, Section H.

(c) Continue the implementation and administration of the post-construction storm water management program described in Part 8d. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Monona shall ensure that the program is consistent with the requirements of Part I, Section C. (5) of this permit by the compliance date specified in Part I, Section H.

(d) Continue the implementation and administration of the municipal pollution prevention program described in Part 8e. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Monona shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(5) CITY OF SUN PRAIRIE: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the City of Sun Prairie shall meet the following requirements:

(a) By October 1, 2004, develop a proposed illicit discharge detection and elimination program in conformance with the requirements of Part I, Section C. (3) of this permit, with an implementation date of March 31, 2005. The City of Sun Prairie shall submit the proposed program to the Department of Natural Resources by the compliance date.

(b) Continue the implementation and administration of the construction site pollution control program described in Part 8c. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Sun Prairie shall ensure that the program is consistent with the requirements of Part I, Section C. (4) of this permit by the compliance date specified in Part I, Section H.

(c) Continue the implementation and administration of the post-construction storm water management program described in Part 8d. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Sun Prairie shall ensure that the program is consistent with the requirements of Part I, Section C. (5) of this permit by the compliance date specified in Part I, Section H.

(d) Continue the implementation and administration of the municipal pollution prevention program described in Part 8e. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Sun Prairie shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(e) Within the jurisdiction of the City of Sun Prairie, give special attention to activities affecting the quality of storm water discharges in the Token Creek watershed. The City of Sun Prairie shall ensure that post-construction site storm water management at new development facilitates infiltration within the Token Creek watershed to the maximum extent practicable. The City of Sun Prairie shall work with developers, consultants, contractors, and others representing the development community to prevent and reduce negative water quality impacts from storm water discharges within the City of Sun Prairie and to promote infiltration. If requested by the Department of Natural Resources, the City of Sun Prairie shall notify the Department of Natural Resources of new development in the Token Creek watershed early in the City's review process to accommodate the Department of Natural Resources' input. The Department of Natural Resources may make similar requests beyond the Token Creek watershed.

(6) CITY OF VERONA: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the City of Verona shall meet the following requirements:

(a) By March 31, 2005, implement the illicit discharge detection and elimination program described in Part 8b. of the permit application submitted to the Department of Natural Resources on January 6, 2003, and as may be amended by October 1, 2004, to comply with the requirements of Part I, Section C. (3) of this permit.

(b) Continue the implementation and administration of the construction site pollution control program described in Part 8c. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Verona shall ensure that the program is consistent with the requirements of Part I, Section C. (4) of this permit by the compliance date specified in Part I, Section H.

(c) Continue the implementation and administration of the post-construction storm water management program described in Part 8d. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Verona shall ensure that the program is consistent with the requirements of Part I, Section C. (5) of this permit by the compliance date specified in Part I, Section H.

(d) Continue the implementation and administration of the municipal pollution prevention program described in Part 8e. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The City of Verona shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(f) Within the jurisdiction of the City of Verona, give special attention to activities affecting the quality of storm water discharges in the Badger Mill Creek watershed. The City of Verona shall ensure that post-construction site storm water management at new development facilitates infiltration within the Badger

Mill Creek watershed to the maximum extent practicable. The City of Verona shall work with developers, consultants, contractors, and others representing the development community to prevent and reduce negative water quality impacts from storm water discharges within the City of Verona and to promote infiltration. If requested by the Department of Natural Resources, the City of Verona shall notify the Department of Natural Resources of new development in the Badger Mill Creek watershed early in the City's review process to accommodate the Department of Natural Resources' input. The Department of Natural Resources may make similar requests beyond the Badger Mill Creek watershed.

(7) VILLAGE OF DEFOREST: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the Village of DeForest shall meet the following requirements:

(a) By October 1, 2004, develop a proposed illicit discharge detection and elimination program in conformance with the requirements of Part I, Section C. (3) of this permit, with an implementation date of March 31, 2005. The Village of DeForest shall submit the proposed program to the Department of Natural Resources by the compliance date.

(b) Continue the implementation and administration of the construction site pollution control program described in Part 8c. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The Village of DeForest shall ensure that the program is consistent with the requirements of Part I, Section C. (4) of this permit by the compliance date specified in Part I, Section H.

(c) Continue the implementation and administration of the post-construction storm water management program described in Part 8d. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The Village of DeForest shall ensure that the program is consistent with the requirements of Part I, Section C. (5) of this permit by the compliance date specified in Part I, Section H.

(d) Continue the implementation and administration of the municipal pollution prevention program described in Part 8e. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The Village of DeForest shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(e) Within the jurisdiction of the Village of DeForest, give special attention to activities affecting the quality of storm water discharges to the Yahara River and Token Creek watersheds. The Village of DeForest shall ensure that post-construction site storm water management at new development facilitates infiltration within the Yahara River and Token Creek watersheds to the maximum extent practicable. The Village of DeForest shall work with developers, consultants, contractors, and others representing the development community to prevent and reduce negative water quality impacts from storm water discharges within the Village of DeForest and to promote infiltration. If requested by the Department of Natural Resources, the Village of DeForest shall notify the Department of Natural Resources of new development in to the Yahara River and Token Creek watersheds early in the Village's review process to accommodate the Department of Natural Resources' input.

(8) VILLAGE OF MAPLE BLUFF: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the Village of Maple Bluff shall meet the following requirements:

(a) By October 1, 2004, develop a proposed illicit discharge detection and elimination program in conformance with the requirements of Part I, Section C. (3) of this permit, with an implementation date of March 31, 2005. The Village of Maple Bluff shall submit the proposed program to the Department of Natural Resources by the compliance date.

(b) Continue the implementation and administration of the construction site pollution control program described in Part 8c. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The Village of Maple Bluff shall ensure that the program is consistent with the requirements of Part I, Section C. (4) of this permit by the compliance date specified in Part I, Section H.

(c) By October 1, 2004, develop a proposed post-construction storm water management program consistent with the requirements of Part I, Section C. (5) of this permit, with an implementation date of March 31, 2005. The Village of Maple Bluff shall submit the proposed program to the Department of Natural Resources by the compliance date.

(d) By October 1, 2004, develop a proposed municipal pollution prevention program consistent with the requirements of Part I, Section C. (6) of this permit, with an implementation date of March 31, 2005. The Village of Maple Bluff shall submit the proposed program to the Department of Natural Resources by the compliance date and shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(9) VILLAGE OF MCFARLAND: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the Village of McFarland shall meet the following requirements:

(a) By October 1, 2004, develop a proposed illicit discharge detection and elimination program in conformance with the requirements of Part I, Section C. (3) of this permit, with an implementation date of March 31, 2005. The Village of McFarland shall submit the proposed program to the Department of Natural Resources by the compliance date.

(b) By October 1, 2004, develop a proposed construction site pollution control program consistent with the requirements of Part I, Section C. (4) of this permit, with an implementation date of March 31, 2005. The Village of McFarland shall submit the proposed program to the Department of Natural Resources by the compliance date.

(c) By October 1, 2004, develop a proposed post-construction storm water management program consistent with the requirements of Part I, Section C. (5) of this permit, with an implementation date of March 31, 2005. The Village of McFarland shall submit the proposed program to the Department of Natural Resources by the compliance date.

(d) Continue the implementation and administration of the municipal pollution prevention program described in Part 8e. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The Village of McFarland shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(10) VILLAGE OF SHOREWOOD HILLS: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the Village of Shorewood Hills shall meet the following requirements:

(a) By March 31, 2005, implement the illicit discharge detection and elimination program described in Part 8b. of the permit application submitted to the Department of Natural Resources on January 6, 2003, and as may be amended by October 1, 2004, to comply with the requirements of Part I, Section C. (3) of this permit.

(b) By October 1, 2004, submit a joint letter or copy of an agreement between the Village of Shorewood Hills and Dane County indicating that the implementation and administration of the construction site pollution control program as described in Part 8c. of the permit application submitted to the Department of Natural Resources on January 6, 2003, is undertaken by Dane County on the Village's behalf.

(c) By October 1, 2004, submit a joint letter or copy of an agreement between the Village of Shorewood Hills and Dane County indicating that the implementation and administration of the post-construction storm water management program as described in Part 8d. of the permit application submitted to the Department of Natural Resources on January 6, 2003, is undertaken by Dane County on the Village's behalf.

(d) Assist Dane County as appropriate in fulfilling the County's implementation and administration of the construction site pollution control program within the Village.

(e) Assist Dane County as appropriate in fulfilling the County's implementation and administration of the post-construction storm water management program within the Village.

(f) Continue the implementation and administration of the municipal pollution prevention program described in Part 8e. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The Village of Shorewood Hills shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(11) VILLAGE OF WAUNAKEE: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the Village of Waunakee shall meet the following requirements:

(a) By March 31, 2005, implement the illicit discharge detection and elimination program described in Part 8b. of the permit application submitted to the Department of Natural Resources on January 6, 2003, and as may be amended by October 1, 2004, to comply with the requirements of Part I, Section C. (3) of this permit.

(b) Continue the implementation and administration of the construction site pollution control program described in Part 8c. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The Village of Waunakee shall ensure that the program is consistent with the requirements of Part I, Section C. (4) of this permit by the compliance date specified in Part I, Section H.

(c) Continue the implementation and administration of the post-construction storm water management program described in Part 8d. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The Village of Waunakee shall ensure that the program is consistent with the requirements of Part I, Section C. (5) of this permit by the compliance date specified in Part I, Section H.

(d) Continue the implementation and administration of the municipal pollution prevention program described in Part 8e. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The Village of Waunakee shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(e) Within the jurisdiction of the Village of Waunakee, give special attention to activities affecting the quality of storm water discharges in the Six Mile Creek watershed. The Village of Waunakee shall ensure that post-construction site storm water management at new development facilitates infiltration within the Six Mile Creek watershed to the maximum extent practicable. The Village of Waunakee shall work with developers, consultants, contractors, and others representing the development community to prevent and reduce negative water quality impacts from storm water discharges within the Village of Waunakee and to promote infiltration. If requested by the Department of Natural Resources, the Village of Waunakee shall notify the Department of Natural Resources of new development in the Six Mile Creek watershed early in the Village's review process to accommodate the Department of Natural Resources' input.

(12) TOWN OF BLOOMING GROVE: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the Town of Blooming Grove shall meet the following requirements:

(a) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a proposed illicit discharge detection and elimination program consistent with the requirements of Part I, Section C. (3) of this permit, taking into consideration the characteristics of the Town's MS4 and the potential for illicit discharges. The implementation date for the program shall be March 31, 2005. The Town of Blooming Grove shall submit the proposed program to the Department of Natural Resources by the compliance date. The Town of Blooming Grove may coordinate this requirement with other Town co-permittees.

(b) Assist Dane County in implementation of the County's construction site pollution control program within the Town by participating in public education and outreach efforts and information sharing.

(c) Assist Dane County in implementation of the County's post-construction storm water management program within the Town by participating in public education and outreach efforts and information sharing.

(d) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a municipal pollution prevention program, taking into consideration the characteristics of the Town's MS4. The implementation date for the program shall be March 31, 2005. The Town of Blooming Grove shall submit the proposed program to the Department of Natural Resources by the compliance date. The Town of Blooming Grove may coordinate this requirement with other Town co-permittees.

(13) TOWN OF BURKE: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the Town of Burke shall meet the following requirements:

(a) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a proposed illicit discharge detection and elimination program consistent with the requirements of Part I, Section C. (3) of this permit, taking into consideration the characteristics of the Town's MS4 and the potential for illicit discharges. The implementation date for the program shall be March 31, 2005. The Town of Burke shall submit the proposed program to the Department of Natural Resources by the compliance date. The Town of Burke may coordinate this requirement with other Town co-permittees.

(b) Assist Dane County in implementation of the County's construction site pollution control program within the Town by participating in public education and outreach efforts and information sharing.

(c) Assist Dane County in implementation of the County's post-construction storm water management program within the Town by participating in public education and outreach efforts and information sharing.

(d) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a municipal pollution prevention program, taking into consideration the characteristics of the Town's MS4. The implementation date for the program shall be March 31, 2005. The Town of Burke shall submit the proposed program to the Department of Natural Resources by the compliance date. The Town of Burke may coordinate this requirement with other Town co-permittees.

(e) Within the jurisdiction of the Town of Burke, give special attention to activities affecting the quality of storm water discharges in the Token Creek watershed. The Town of Burke shall ensure that post-construction site storm water management at new development facilitates infiltration within the Token Creek watershed to the maximum extent practicable. The Town of Burke shall work with developers, consultants, contractors, and others representing the development community to prevent and reduce negative water quality impacts from storm water discharges within the Town of Burke and to promote infiltration. If requested by the Department of Natural Resources, the Town of Burke shall notify the Department of Natural Resources of new development in the Token Creek watershed early in the Town's review process to accommodate the Department Natural Resources' input.

(14) TOWN OF MADISON: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the Town of Madison shall meet the following requirements:

(a) By October 1, 2004, develop a proposed illicit discharge detection and elimination program in conformance with the requirements of Part I, Section C. (3) of this permit, with an implementation date of March 31, 2005. The Town of Madison shall submit the proposed program to the Department of Natural Resources by the compliance date.

(b) Assist Dane County in implementation of the County's construction site pollution control program within the Town by participating in public education and outreach efforts and information sharing.

(c) Assist Dane County in implementation of the County's post-construction storm water management program within the Town by participating in public education and outreach efforts and information sharing.

(d) By October 1, 2004, develop a proposed municipal pollution prevention program consistent with the requirements of Part I, Section C. (6) of this permit, with an implementation date of March 31, 2005. The Town of Madison shall submit the proposed program to the Department of Natural Resources by the compliance date and shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(15) TOWN OF MIDDLETON: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the Town of Middleton shall meet the following requirements:

(a) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a proposed illicit discharge detection and elimination program consistent with the requirements of Part I, Section C. (3) of this permit, taking into consideration the characteristics of the Town's MS4 and the potential for illicit discharges. The implementation date for the program shall be March 31, 2005. The Town of Middleton shall submit the proposed program to the Department of Natural Resources by the compliance date. The Town of Middleton may coordinate this requirement with other Town co-permittees.

(b) Assist Dane County in implementation of the County's construction site pollution control program within the Town by participating in public education and outreach efforts and information sharing.

(c) Assist Dane County in implementation of the County's post-construction storm water management program within the Town by participating in public education and outreach efforts and information sharing.

(d) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a municipal pollution prevention program, taking into consideration the characteristics of the Town's MS4. The implementation date for the program shall be March 31, 2005. The Town of Middleton shall submit the proposed program to the Department of Natural Resources by the compliance date. The Town of Middleton may coordinate this requirement with other Town co-permittees.

(e) Within the jurisdiction of the Town of Middleton, give special attention to activities affecting the quality of storm water discharges in the Black Earth Creek watershed. The Town of Middleton shall ensure that post-construction site storm water management at new development facilitates infiltration within the Black Earth Creek watershed to the maximum extent practicable. The Town of Middleton shall work with developers, consultants, contractors, and others representing the development community to prevent and reduce negative water quality impacts from storm water discharges within the Town of Middleton and to promote infiltration. If requested by the Department of Natural Resources, the Town of Middleton shall notify the Department of Natural Resources of new development in the Black Earth Creek watershed early in the Town's review process to accommodate the Department of Natural Resources' input.

(16) TOWN OF WESTPORT: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the Town of Westport shall meet the following requirements:

(a) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a proposed illicit discharge detection and elimination program consistent with the requirements of Part I, Section C. (3) of this permit, taking into consideration the characteristics of the Town's MS4 and the potential for illicit discharges. The implementation date for the program shall be March 31, 2005. The Town of Westport shall submit the proposed program to the Department of Natural Resources by the compliance date. The Town of Westport may coordinate this requirement with other Town co-permittees.

(b) Assist Dane County in implementation of the County's construction site pollution control program within the Town by participating in public education and outreach efforts and information sharing.

(c) Assist Dane County in implementation of the County's post-construction storm water management program within the Town by participating in public education and outreach efforts and information sharing.

(d) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a municipal pollution prevention program, taking into consideration the characteristics of the Town's MS4. The implementation date for the program shall be March 31, 2005. The Town of Westport shall submit the proposed program to the Department of Natural Resources by the compliance date. The Town of Westport may coordinate this requirement with other Town co-permittees.

(e) Within the jurisdiction of the Town of Westport, give special attention to activities affecting the quality of storm water discharges in the Yahara River and Six Mile Creek watersheds. The Town of Westport shall ensure that post-construction site storm water management at new development facilitates infiltration within the Yahara River and Six Mile Creek watersheds to the maximum extent practicable. The Town of Westport shall work with developers, consultants, contractors, and others representing the development community to prevent and reduce negative water quality impacts from storm water discharges within the Town of Westport and to promote infiltration. If requested by the Department of Natural Resources, the Town of Westport shall notify the Department of Natural Resources of new development in the Yahara River and Six Mile Creek watersheds early in the Town's review process to accommodate the Department of Natural Resources' input.

(17) TOWN OF WINDSOR: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the Town of Windsor shall meet the following requirements:

(a) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a proposed illicit discharge detection and elimination program consistent with the requirements of Part I, Section C. (3) of this permit, taking into consideration the characteristics of the Town's MS4 and the potential for illicit discharges. The implementation date for the program shall be March 31, 2005. The Town of Windsor shall submit the proposed program to the Department of Natural Resources by the compliance date. The Town of Windsor may coordinate this requirement with other Town co-permittees.

(b) Assist Dane County in implementation of the County's construction site pollution control program within the Town by participating in public education and outreach efforts and information sharing.

(c) Assist Dane County in implementation of the County's post-construction storm water management program within the Town by participating in public education and outreach efforts and information sharing.

(d) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a municipal pollution prevention program, taking into consideration the characteristics of the Town's MS4. The implementation date for the program shall be March 31, 2005. The Town of Windsor shall submit the proposed program to the Department of Natural Resources by the compliance date. The Town of Windsor may coordinate this requirement with other Town co-permittees.

(e) Within the jurisdiction of the Town of Windsor, give special attention to activities affecting the quality of storm water discharges in the Yahara River and Token Creek watersheds. The Town of Windsor shall ensure that post-construction site storm water management at new development facilitates infiltration within the Yahara River and Token Creek watersheds to the maximum extent practicable. The Town of Windsor shall work with developers, consultants, contractors, and others representing the development community to prevent and reduce negative water quality impacts from storm water discharges within the Town of Windsor and to promote infiltration. If requested by the Department of Natural Resources, the Town of Windsor shall notify the Department of Natural Resources of new development in the Yahara River and Token Creek watersheds early in the Town's review process to accommodate the Department of Natural Resources' input.

(18) DANE COUNTY: In addition to the requirements specified in Part I, Sections A. through H. of this permit, Dane County shall meet the following requirements:

(a) As specified in the education and outreach agreement, maintain a half-time position to provide public education and outreach services under this permit on behalf of the co-permittees.

(b) In consultation with the Department of Natural Resources and other co-permittees, function as the lead agency in implementation of the information and education plan prepared on behalf of the co-permittees.

(c) Provide updates on the status and implementation of the information and education plan at the quarterly meetings, and provide information on plan implementation for the annual report required under Part I, Section G.

(d) As necessary, assist the Village of Shorewood Hills in meeting the requirements of Part I, Section I. (10) (b) and (c).

(e) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a proposed illicit discharge detection and elimination program consistent with the requirements of Part I, Section C. (3) of this permit, taking into consideration the characteristics of the County's MS4 and the potential for illicit discharges. The implementation date for the program shall be March 31, 2005. Dane County shall submit the proposed program to the Department of Natural Resources by the compliance date. Dane County may coordinate this requirement with other co-permittees.

(f) Continue the implementation and administration of the construction site pollution control program described in Part 8c. of the permit application submitted to the Department of Natural Resources on January 6, 2003. Dane County shall ensure that the program is consistent with the requirements of Part I, Section C. (4) of this permit by the compliance date specified in Part I, Section H.

(g) Continue the implementation and administration of the post-construction storm water management program described in Part 8d. of the permit application submitted to the Department of Natural Resources on January 6, 2003. Dane County shall ensure that the program is consistent with the requirements of Part I, Section C. (5) of this permit by the compliance date specified in Part I, Section H.

(f) By October 1, 2004, and in consultation with the Department of Natural Resources, develop a municipal pollution prevention program, taking into consideration the characteristics of the County's MS4. The implementation date for the program shall be March 31, 2005. Dane County shall submit the proposed program to the Department of Natural Resources by the compliance date. Dane County may coordinate this requirement with other co-permittees.

(g) For activities under the jurisdiction of Dane County and within the area covered by this permit, give special attention to activities affecting the quality of storm water discharges in the Badger Mill Creek, Black Earth Creek, Six Mile Creek, Token Creek, and Upper Yahara River watersheds. Dane County shall ensure that post-construction site storm water management at new development facilitates infiltration within the watersheds of these waterways to the maximum extent practicable. Dane County shall work with developers, consultants, contractors, and others representing the development community to prevent and reduce negative water quality impacts from storm water discharges under its jurisdiction and to promote infiltration within the area covered by this permit. If requested by the Department of Natural Resources, Dane County shall notify the Department of Natural Resources of new development in these watersheds early in the County's review process to accommodate the Department of Natural Resources' input.

(19) UNIVERSITY OF WISCONSIN – MADISON: In addition to the requirements specified in Part I, Sections A. through H. of this permit, the University of Wisconsin – Madison shall meet the following requirements:

(a) Continue to implement the storm water management policies and procedures of the University of Wisconsin – Madison's storm water management program created pursuant to the joint WPDES Permit No. WI-S058416-1 issued on October 16, 1995, to the City of Madison and the University of

Wisconsin – Madison, including revisions made to the program since issuance of WPDES Permit No. WI-S058416-1.

Note: This requirement does not include the continuation of the monitoring program undertaken by the University of Wisconsin – Madison under joint WPDES Permit No. WI-S058416-1.

(b) Continue to implement the illicit discharge detection and elimination program described in Part 8b. of the permit application submitted to the Department of Natural Resources on January 6, 2003, and as may be amended by October 1, 2004, to comply with the requirements of Part I, Section C. (3) of this permit. The University of Wisconsin – Madison shall not be required to perform the initial screening activity undertaken pursuant to the joint WPDES Permit No. WI-S058416-1 issued on October 16, 1995, to the City of Madison and the University of Wisconsin – Madison. However, screening shall be required when unidentified flows are detected.

(c) Implement policies and procedures to the extent of its legal authority to control discharges to and from those portions of the MS4 that it owns or operates. In accordance with Part I, Section H. of this permit, the University of Wisconsin – Madison shall submit a legal opinion to the Department of Natural Resources describing its legal authority to:

1. Control the contribution of pollutants to and the discharge from the MS4.

2. Prohibit illicit discharges to the MS4.

3. Control the discharge of spills, dumping and disposal of materials other than storm water into the MS4.

4. Require compliance with conditions in ordinances, permits, contracts, orders or administrative rules.

5. Require compliance with the standards of ss. NR 151.11 and 151.23, or equivalent local standards, and implement the requirements of Part I, Section C. (4).

6. Require compliance with the standards of ss. NR 151.12 and 151.24, or equivalent local standards, and implement the requirements of Part I, Section C. (5).

7. Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance with permit conditions including the prohibition of illicit discharges to the MS4.

(d) Where the University of Wisconsin – Madison lacks the legal authority to carry out the requirements of Part I, Section I. (19) (c) 1. through 7., the University of Wisconsin – Madison shall include with the legal opinion a demonstration of how the equivalent of these requirements can be met. This demonstration may include the development and implementation of additional policies and procedures and/or arrangements with the Wisconsin Department of Administration.

(e) Continue the implementation and administration of the municipal pollution prevention program described in Part 8e. of the permit application submitted to the Department of Natural Resources on January 6, 2003. The University of Wisconsin – Madison shall ensure that the program is consistent with the requirements of Part I, Section C. (6) of this permit to meet the performance standard specified in Part I, Section C. (6) (j).

(f) To the maximum extent practicable, the University of Wisconsin – Madison is encouraged to utilize the resources available through its academic and research programs to facilitate compliance with the requirements of this permit.

Part II - GENERAL CONDITIONS

A. CONDITIONS

The conditions in s. NR 205.07(1) and (3), Wis. Adm. Code, are hereby incorporated by reference in this permit. Each co-permittee shall be responsible for meeting these requirements within its jurisdiction where it owns or operates the MS4. Some of these requirements are outlined below in Part II, Section A. (1) through (17). Requirements not specifically outlined below can be found in s. NR 205.07(1) and (3), Wis. Adm. Code.

(1) DUTY TO COMPLY: Each co-permittee shall comply with all conditions of this permit. Any permit noncompliance is a violation of the permit and is grounds for enforcement action, permit revocation or modification, or denial of a permit reissuance application.

(2) NONCOMPLIANCE NOTIFICATION:

(a) In addition to immediately reporting hazardous substance spills to the Department of Natural Resources, upon becoming aware of any permit noncompliance that may endanger public health or the environment, a co-permittee shall report this information by a telephone call to the Department of Natural Resources with 24 hours. A written report describing the noncompliance shall be submitted to the Department of Natural Resources within 5 days after the co-permittee became aware of the noncompliance. The Department of Natural Resources 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.

(b) Reports of any other noncompliance not covered under Part II, Section A. (2) (a) shall be submitted with the annual report required in Part I, Section G. The reports shall contain all the information listed in Part II, Section A. (2) (a).

(3) DUTY TO MITIGATE: Each co-permittee shall take all reasonable steps to minimize or prevent any adverse effect on the waters of the state resulting from noncompliance with this permit.

(4) PROPER OPERATION AND MAINTENANCE: Each co-permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the co-permittee to achieve compliance with the conditions of this permit and the storm water management program.

(5) BYPASS: A co-permittee may temporarily bypass a storm water treatment facility 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.

(6) DUTY TO HALT OR REDUCE ACTIVITY: Upon failure or impairment of a best management practice identified in the storm water management program, a co-permittee shall, to the extent practicable and necessary to maintain permit compliance, modify or curtail use of the best management practice until it can be restored or an alternative method of storm water pollution control is provided.

(7) 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 in compliance with all applicable Federal, State, and Local regulations.

NOTE: **Storage and/or treatment of material collected under Part II, Section A. (7) may be subject to solid waste rules found under the NR 500 series of the Wisconsin Administrative Code or the hazardous waste rules found under the NR 600 series of the Wisconsin Administrative Code.**

(8) ADDITIONAL MONITORING: If a co-permittee monitors any pollutant more frequently than required by this permit, using test procedures specified in ch. NR 219, Wis. Adm. Code, the results of that monitoring shall be recorded and reported in accordance with this chapter. Results of this additional monitoring shall be included in the calculation and reporting of the data submitted in the annual report.

(9) INSPECTION AND ENTRY: Each co-permittee shall allow authorized representatives of the Department of Natural Resources, upon the presentation of credentials, to:

(a) Enter upon the co-permittee's premises where a regulated facility or activity is located or conducted, or where records are required under the under the conditions of this permit.

(b) Have access to and copy, at reasonable times, any records that are required under the conditions of the permit.

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit.

(d) Sample or monitor at reasonable times and for the purposes of assuring permit compliance, any substances or parameters at any location.

(10) DUTY TO PROVIDE INFORMATION: Each co-permittee shall furnish the Department of Natural Resources, within a reasonable time, any information which the Department of Natural Resources may request to determine whether cause exists for modifying, revoking or reissuing this permit or to determine compliance with this permit. Each co-permittee shall also furnish the Department of Natural Resources, upon request, copies of records required to be kept by the co-permittee.

(11) RECORDING OF RESULTS: For each monitoring measurement or sample taken, the following information shall be recorded by the co-permittee:

(a) Date, exact place, method and time of sampling or measurements.

(b) Individual who performed the sampling or measurements.

(c) Date the analysis was performed.

(12) PROPERTY RIGHTS: This permit does not convey any property rights of any sort, or any exclusive privilege. This 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.

(13) DUTY TO REAPPLY: If a co-permittee wishes to continue an activity regulated by this permit after the expiration date, the co-permittee shall apply for a new permit within 180 days prior to expiration date of this permit.

(14) OTHER INFORMATION: When a co-permittee becomes aware that it has failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department of Natural Resources, the co-permittee shall promptly submit such facts or correct information to the Department of Natural Resources.

(15) RECORD RETENTION: Each co-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 application for the permit for a period of at least 5 years from the date of the sample, measurement, report or application. The Department of Natural Resources may request that this permit be extended by issuing a public notice to modify the permit to extend this period.

(16) PERMIT ACTIONS: As provided in s. 283.53, Wis. Stats., after notice and opportunity for a hearing this permit may be modified, suspended or revoked for cause. If a co-permittee files a request for a permit modification, revocation or reissuance, or a notification of planned change or anticipated noncompliance, this action by itself does not relieve the co-permittee of any permit condition.

(17) SIGNATORY REQUIREMENT: All applications, reports or information submitted to the Department of Natural Resources shall be signed for by a ranking elected official, or other person authorized by the co-permittee who has responsibility for the overall operation of the municipal separate storm sewer systems and storm water management program activities regulated by this permit. The authorized representative shall certify that the information was gathered and prepared under his/her supervision and based on inquiry of the people directly under their supervision that, to the best of his/her knowledge, the information is true, accurate, and complete.

Appendix A - *Cooperative Agreement to Apply Jointly for Storm Water Discharge Permit under NR 216 of the Wisconsin Administrative Code*

COOPERATIVE AGREEMENT
TO APPLY JOINTLY FOR STORM WATER DISCHARGE PERMIT
UNDER CHAPTER NR 216 OF THE WISCONSIN ADMINISTRATIVE CODE

THIS COOPERATIVE AGREEMENT, hereinafter referred to as the "Agreement," entered into by and between the Cities of Madison, Monona, Middleton, Verona, Sun Prairie and Fitchburg; the Villages of Shorewood Hills, Waunakee, DeForest, Maple Bluff and McFarland; the Towns of Madison, Burke, Blooming Grove, Westport, Windsor, Middleton; Dane County; and the University of Wisconsin - Madison; hereinafter referred to as the "Municipalities".

WITNESSETH:

WHEREAS, the Municipalities concerned must, pursuant to Chapter 283 of the Wisconsin Statutes and Chapter NR 216 of the Wisconsin Administrative Code, obtain storm water discharge permits enabling them to discharge storm water to receiving streams and watercourses from all portions of their municipal separate storm sewer systems;

WHEREAS, under the authority of Section 216.03(1) of the Wisconsin Administrative Code, municipal corporations and "municipalities" may prepare and submit group applications to the Wisconsin Department of Natural Resources for the required permits to discharge storm water to receiving streams and watercourses;

WHEREAS, each of the Municipalities is located, within the Yahara River or the Sugar River watersheds and has a common interest in storm water management;

WHEREAS, there are certain mutual advantages to a group permit application procedure, including potential cost savings, as compared to an individual community permit application procedure;

WHEREAS, Municipalities are authorized by Wisconsin Statutes 66.30 and 36.11 to exercise the powers implicit herein;

WHEREAS, all Municipalities agree to participate in the overall coordination of the group permit application preparation under the lead of the City of Madison;

WHEREAS, the City of Madison and UW-Madison's joint permit is scheduled for renewal in the year 2000 and the remaining Municipalities will require a permit by 2003; and,

WHEREAS, each of the Municipalities has indicated, by resolution of the appropriate governing body or by action of the Chief Administrative Officer, its intent to prepare a group storm water discharge permit application in fulfillment of the requirements of Section 283 of the Wisconsin Statutes and Chapter 216 of the Wisconsin Administrative Code; and

NOW, THEREFORE, in consideration of the mutual promises, covenants, and agreements hereinafter set forth, the Municipalities agree as follows:

1. DEFINITIONS

For purposes of the Agreement, the meanings of applicable terms shall be as set forth in Section NR 216.02 of the Wisconsin Administrative Code. In addition, for purposes of this Agreement, the term "Municipalities" has also been defined to include the corporate boundaries of the Cities of Madison, Monona, Middleton, Verona, Sun Prairie and Fitchburg; the Villages of Shorewood Hills, Waunakee, DeForest, Maple Bluff and McFarland; the Towns of Madison, Burke, Blooming Grove, Westport, Windsor, Middleton; Dane County; and the University of Wisconsin - Madison.

2. JURISDICTION

A. Each of the Municipalities shall have jurisdiction to enforce the terms of the permit within the boundaries of the municipality. Nothing in this Agreement shall be construed to waive or cede any jurisdiction that any of the Municipalities may possess.

B. In the case of an illicit discharge which originates from any of the Municipality(ies) and which discharges directly to a storm sewer or property under the jurisdiction of any other of the Municipality(ies), the Municipality discovering the discharge shall notify the affected Municipality(ies).

C. In the case where an illicit discharge is detected within a storm sewer under the control of the Municipality(ies), but no one is able to positively identify the source of the discharge, the parties to this Agreement shall work cooperatively to determine what actions to take which will best resolve the situation.

D. Nothing in this Agreement shall create either joint liability or joint and several exposure to any participating Municipality for statutory or administrative violations associated with illicit discharges or compliance responsibility. Joint action under this Agreement is strictly limited to the permitting, planning, and other related processes as described herein, unless otherwise agreed.

3. SCOPE OF WORK AND DIVISION OF RESPONSIBILITIES

The parties concerned agree to cause to be prepared a joint application for a permit to discharge storm water from all portions of their municipal separate storm sewer systems pursuant to Chapter NR 216 of the Wisconsin Administrative Code. The joint permit application shall include all work elements and components required under Section 216.06 of the Wisconsin Administrative Code. The basic division of responsibilities for carrying out each work element are described in the following paragraphs.

A. The Municipalities shall cooperatively carry out the following work elements under the basic framework agreement:

1) Develop recommended minimum standards to serve as a guide for preparation of each of the major permit application components.

2) Hold inter-municipality coordination meetings, on a quarterly basis.

3) Develop a schedule to be used as a guide for completion of work elements.

4) Prepare storm sewer watershed boundary mapping tools for the entire study area.

5) Develop an overall sampling strategy and monitoring program for the entire study area.

B. The Municipalities (individually) shall have the responsibility for carrying out the following work elements under the basic framework agreement.

1) Demonstration of adequate legal authority and ordinance development, as needed.

2) Storm sewer system mapping.

3) Description of existing storm water management programs.

4) Identification of industrial sources of discharge to the municipal storm sewer system.

5) Characterization of storm water discharges using existing data.

6) Preparation of a schedule of estimated pollutant loadings to receiving waters.

7) Preparation of a schedule to develop storm water management program.

8) Fiscal analysis of capital and operation and maintenance costs to implement storm water management program.

NOTE: It is the intent of the Department to hold each Municipality individually responsible for its portion of the above items, which are to be submitted jointly. Should any individual municipality find itself unable to comply with the submittal requirements that failure and the consequences shall be directed toward that municipality and shall not be reason to find the entirety of the group permit in noncompliance.

C. The City of Madison shall undertake the following work on behalf of all municipalities:

1) Develop a common numbering system for drainage basins and sub-basins.

2) Provide consultation and advice regarding the use of the SLAMM Model for estimating pollutant loadings to receiving waters. This is to include, when requested, providing copies of the most recent SLAMM land use files, providing SLAMM files which have been calibrated for use in the Madison Municipal Area, and assisting in the use of the SLAMM model for use in estimating annual loadings to Waters of the State.

3) Coordinate the development of and package all permit application materials.

4) Prepare the storm water discharge permit application submittal, including a summary of documents, watershed-municipality indicator map, and general permit application summary. The findings and recommendations of the work to be conducted shall be assembled and documented in a form acceptable to the Wisconsin Department of Natural Resources as an application for a permit to discharge storm water from all portions of the municipal separate storm sewer systems concerned.

4. COSTS AND COST SHARING

A. The actual costs for the work required of each Municipality, as noted in Section 3B, shall be borne by each of the Municipalities directly.

B. The cost of the $10,000 annual permit fee itself shall be apportioned among the Municipalities with each paying $1,000, except the City of Madison, who shall pay the remaining share. In the event that the fee is increased, each Municipality shall pay the proportional increase. In the event that enough Municipalities choose to participate so the City of Madison's share becomes less than $1,000, the permit fee shall be apportioned equally.

C. Each Municipalities' share of the costs of any future joint sampling, or other activities not provided for under this Agreement, or any other costs resulting from this Agreement, shall be allocated according to the mutual agreement of the Municipalities and shall be covered by a separate agreement or a formal amendment to this Agreement, as set forth in Section 8.

D. No Municipality is responsible for the cleanup or remediation costs of illicit discharges to its storm sewer system which occur from or by sewers or lands under the control or within the jurisdictional boundaries of another Municipality. Further, each Municipality is individually responsible for cleanup or remediation costs associated with illicit discharges to its system from lands or portions of the sewer system under its control or jurisdictional boundaries. As required under Section 2 (B), each Municipality is responsible for compliance with the notification requirements as set forth in that section.

Nothing in this section shall prevent a Municipality from seeking enforcement of existing liability laws against a co-applicant with respect to damage to the Municipalities sewer system.

5. PERFORMANCE SCHEDULE

Work on the preparation of the permit application, required under this Agreement, shall commence immediately upon execution of this Agreement by all parties concerned. The work shall be completed in accord with a schedule (initial schedule attached as EXHIBIT #1). This schedule has been developed as a guide for the completion of the work.

The finished permit application shall be ready for transmittal to the Wisconsin Department of Natural Resources no later than the earliest due date for any of the co-applicants (January 7, 2003). This performance schedule shall not include the City of Madison's permit renewal in the year 2000.

6. MEETINGS

The parties to this Agreement shall meet quarterly during the course of the required work to review and approve schedules, receive work progress reports, and discuss issues pertaining to the preparation of the permit. Each party shall designate a representative to attend these meetings. The representative of the City of Madison shall facilitate the conduct of the meetings and provide a record of the proceedings in the form of minutes. The final permit shall be reviewed and approved by the parties at a meeting specifically called for this purpose. The meetings shall be held at times and places determined by the parties. Adequate notices of and agendas for the meetings shall be provided by the facilitator to the designated representatives for each Municipality.

7. BINDING ON PARTIES

This agreement shall be binding on the parties hereto, their respective assigns and successors and cannot be varied or waived by any oral representations or promise of any agent or other person of the parties hereto unless the same be in written form and signed by the duly authorized agent or agents who executed this Agreement or their legal successors.

8. AMENDMENTS

This Agreement may be amended and extended at any time upon the mutual agreement of the parties. Should a formal amendment or extension provide for implementation of all or portions of the storm water management planning program recommended in the permit application, such as storm water management planning, storm water system simulation modeling and monitoring, the parties shall at a joint meeting agree unanimously on the terms of the amendment or extension, on the attendant costs and on the cost allocation. Such amendment will be the subject of any formal approval process required by each Municipality. Alternatively, a separate agreement will be developed for such work activities.

9. EFFECTIVE DATE

Upon execution by all parties, this Agreement shall become effective, and shall run concurrently with the Permit to which the Agreement relates. Should a party withdraw, or terminate pursuant to the terms of Section 14, this Agreement shall continue in effect as to the other parties.

The City of Madison and the University of Wisconsin at Madison have an existing co-applicant agreement, for their current WPDES stormwater discharge permit. The existing agreement shall be superseded by the this new co-applicant agreement. This supersession will become effective upon complete execution of this new co-applicant agreement by all parties. Should this new co-applicant agreement, for any reason, not be executed in full the existing agreement between the City of Madison and the University of Wisconsin at Madison shall remain in force.

10. INDEMNIFICATION

Each Municipality shall be responsible for injuries, claims, or losses (including costs, damages, and attorneys' fees) arising from or caused by the acts or omissions of its agents, employees, officers, agencies, boards, commissions, or representatives. The obligations of the parties under this section shall survive the expiration or termination of this agreement.

11. NON DISCRIMINATION

During the term of this agreement, each municipality, each for itself, agrees to abide by its own Affirmative Action Plan and in doing so shall not discriminate in the employment or training of any person by reason of race, religion, marital status, age, color, sex, handicap, national origin, or ancestry, income level, or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, political beliefs, or student status.

12. SEVERABILITY

The provisions of this Agreement are severable. If any provision of this agreement is found invalid by a competent court of law or if the application of any provision to any person or circumstance is invalid, such invalidity shall not affect other provisions or applications of the Agreement which can be given effect without the invalid provision or application.

13. NO WAIVER

No failure to exercise, and no delay in exercising, any right, power, or remedy hereunder on the part of any participating Municipality shall operate as a waiver thereof, nor shall any single or

partial exercise of any right, power, or remedy preclude any other or further exercise of any other right, power, or remedy.

14. TERMINATION OF AGREEMENT

In the event that any municipality, participating with the City of Madison as a co-applicant to the City of Madison's WPDES stormwater discharge permit, determines that it is in the municipality's best interest to terminate its cooperative agreement with the City of Madison and all other co-applicants, the municipality may do so at any time by taking the following action:

A) The municipality shall send a written correspondence to the City of Madison, and the Wisconsin Department of Natural Resources indicating its desire to be removed as a co-applicant to the City of Madison's WPDES storm water discharge permit. This correspondence shall include any necessary documentation, resolutions, etc.. indicating that the requested action has been authorized by a governmental body possessing the legal authority required to terminate this Agreement, and that the signatories to this correspondence are duly authorized to sign a correspondence terminating an Agreement of this nature.

B) Upon receipt of this correspondence, the City of Madison shall consider the requesting Municipality removed as a co-applicant to the City of Madison's WPDES stormwater discharge permit. Written notice of this action shall be provided by Madison to all other co-applicants and the WDNR.

It is noted here that there may be regulatory consequences to removing the co-applicant/group status from a given municipality. Regulatory consequences may vary and depend upon when in the permit process the decision is made to drop co-applicant status. It is acknowledged that prior to making a decision with regard to this issue each Municipality has been advised to contact the WDNR to discuss this matter.

15. PERFORMANCE

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

16. THIRD PARTY RIGHTS

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

17. EXECUTION IN COUNTERPART

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

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

SIGNATURE PAGES FOLLOW

IN WITNESS WHEREOF, the parties have executed this agreement effective as of 28th day of March 2000.

By: Mark Vivian
Mark Vivian, Mayor

Attest: Karen A. Peters
Karen A. Peters, City Clerk

Approved As to Form:

By: M. Elizabeth Winters
Beth Winters, City Attorney

STATE OF WISCONSIN)ss.
COUNTY OF DANE)

Personally came before me this 28th day of March 2000, the above named Mark Vivian and Karen A. Peters, to me known to be the Mayor and City Clerk of the City of Fitchburg and the persons who executed the foregoing instrument and acknowledged the same.

Marlene Gordon

Notary Public, State of Wisconsin

My Commission Expires: 2-17-2002

CITY OF MADISON, WISCONSIN
a municipal corporation

MAYOR — DATE 4-13-00

CITY CLERK — DATE 4.10.00

APPROVED AS TO FORM:

CITY COMPTROLLER — DATE 4/10/00

CITY ATTORNEY — DATE 4-11-00

RISK MANAGER — DATE 4/10/00

CITY OF MIDDLETON

By: _____ Date: 4/15/00
Dan A. Ramsey, Mayor

Attest: _____ Date: 4/6/00
Timothy R. Studer, City Clerk

CITY OF MONONA

By: _____ Date 4/10/00
V. Thomas Metcalfe, Mayor

Attest: _____ Date 4/11/00
Jim Beilke, City Clerk

Countersigned: _____ Date 4/10/00
David L. Berner, City Administrator

CITY OF SUN PRAIRIE

By: _____
(SIGNATURE)

Jo Ann C. Orfan
(PRINT NAME)

_____
(TITLE)

Date 4-17-00

Attest: _____
(SIGNATURE)

Diane J. Hermann-Brown
(PRINT NAME)

City Clerk
(TITLE)

Date 4-17-00

State of Wisconsin
County of Dane

Signed or attested before me on April 17, 2000 by Jo Ann C. Orfan and Diane J. Hermann-Brown

Virginia Ziegler
Notary Public

My Commission expires 9-10-2000.

VIRGINIA ZIEGLER NOTARY PUBLIC STATE OF WISCONSIN

111 Lincoln Street
Verona, WI 53593-0188
Phone: 608-845-6495
Fax: 608-845-8613
www.city.verona.wi.us

CITY OF VERONA

By: _____ 4/24/00
John B. Volker, Mayor — Date

Attest: _____ 4/24/00
JoAnn M. Wainwright, Clerk — Date

VILLAGE OF DEFOREST

By: _____ Date: 04-14-00
Theresia Marty - Village President

Attest: _____ Date: 4-3-2000
Sandy Ollhoff - Deputy Clerk

VILLAGE OF MAPLE BLUFF

_____ 4/11/2000
Harry A. Johnson, Village President DATE

_____ 4/11/2000
Mark V. Behl, Village Administrator DATE

VILLAGE OF SHOREWOOD HILLS

Jim Thomas, Village President

4/11/00
DATE

ATTEST: Tom Popp, Village Clerk

DATE

VILLAGE OF MCFARLAND

Cathy Kirby, President

3-30-2000
DATE

Don Peterson, Village Administrator

3-30-2000
DATE

VILLAGE OF WAUNAKEE

By:_____ Date:_____

Timothy F. Nixon, Village President

_____ Date:_____

(Witnessed)

_____

(Print Name)

TOWN OF BLOOMING GROVE

Rocky Redpenning, Public Works Supervisor — 3-30-00 DATE

Witness — 3-30-00 DATE

Gloria R. Noble (Print Name)

TOWN OF BURKE

By: David Wiganowsky, Chair — Date: 4-3-2000

Attest: Amy Volkmann, Deputy Clerk — Date: 4-3-00

TOWN OF MADISON

BY: _____
James Campbell, Chairperson

DATE 4-10-00

BY: _____
Donna Meier, Town Clerk

DATE 4-10-00

TOWN OF MIDDLETON

By: _____
Ed Tallard - Town Chair

Date: 4/3/00

Attest: _____
Jim Mueller - Town Clerk

Date: 4/3/00

TOWN OF WESTPORT

By: _____ Date: 4/10/00
John A. Van Dinter, Chair

Attest: _____ Date: 4/10/00
Thomas G. Wilson, Attorney/Administrator/Clerk-Treasurer

TOWN OF WINDSOR

_____ 4/17/00
Dennis Linn, Business Manager DATE
Town of Windsor
4084 Mueller Road
DeForest, WI 53532

_____ 4-17-00
ATTEST: Cheryl Theis, Clerk DATE

DANE COUNTY

By: _____ Date: 4/13/00
Kathleen M. Falk, Dane County Executive

Attest: _____ Date: 4-14-00
Joseph T. Parisi, Dane County Clerk

UNIVERSITY OF WISCONSIN - MADISON

_____ 4/4/00
John Torphy, Vice Chancellor for Administration DATE

_____ 4-4-2000
ATTEST: DATE

print name: Susan R Daniel

EXHIBIT I

INITIAL SCHEDULE

WORK ELEMENTS

Municipal Storm Water Discharge Permitting under NR 216
Storm Sewer System Map Requirements for Group Application

UNLESS NOTED ALL ELEMENTS DUE JANUARY 7, 2003

A) Adequate Legal Authority - Applicants shall demonstrate to the Department their authority to control discharges to the public storm sewer system. Each community shall work independently, on this task. The City of Madison has provided a copy of its efforts in this area to all Municipalities, and it is recommended that all co-applicants provide a draft of this information to the Department by January 7, 2002.

B) Storm Sewer System Map - Applicants shall provide a storm sewer system map required under s. NR 216.06(2). The existing information shall be gathered and summarized, by the City of Madison. This shall be completed by the quarterly meeting on August 10, 2000. At that meeting, the City of Madison shall provide a summary of the information that each municipality is required to obtain to meet the requirements below. Further, at the August 10, 2000 meeting, recommendations shall be given to each Municipality with regard to a schedule for individual Municipalities to meet the January 7, 2003 deadline.

The system map shall be sufficiently sized, detailed, and scaled, show the following information:

Identify and outline:

- The storm water drainage basins, or sewersheds for the major outfalls
- Watersheds such as Lake Mendota, Lake Monona, Sugar River, and others as appropriate[1]
- The limits of the MS4 owned by each municipality
- Other MS4s within but not owned or operated by a municipality
- Municipal borders
- The urban storm water planning area

Depict the locations of all major outfalls[2]:

- A single pipe with an inside diameter ≥ 36 inches and associated with a drainage area > 50 acres, or
- A similar conveyance (box culvert, ditch, etc., other than a round pipe) with a cross sectional area ≥ 1018 sq. inches and associated with a drainage area > 50 acres, or
- A single pipe, serving land zoned for industrial activity, with an inside diameter of ≥ 12 inches and associated with a drainage area > 2 acres, or
- A similar conveyance, serving land zoned for industrial activity, with a cross sectional area ≥ 113 sq. inches and associated with a drainage area > 2 acres

Depict the location of each currently operating or closed municipal landfill or other treatment, disposal or storage facility for municipal waste[3]

Depict the location of any known discharge to the MS4 issued a specific WPDES permit (not a general WPDES permit and not discharging to the sanitary sewer system)[4]

Depict the location of major structural controls (e.g., retention basins, detention basins, major infiltration devices)

Depict the locations of publicly owned parks, recreational areas, and other open lands (e.g., e-ways, conservancies, etc.)

Other recommendations:
Show streets, highways, and rail lines; surface waters and wetlands; contour lines; ranges, townships, and section corners

NOTES:
[1]The DNR also would like to see sub-watersheds (e.g., Token Creek, Pheasant Branch Creek, etc.) indicated on the map.
[2]Storm sewer record maps showing all known MS4 outfalls to waters of the states and indicating the pipe size will need to be prepare independently for each municipality and made available to the DNR for examination upon request.
[3]The code specifies that a description of each currently operating or closed municipal landfill or other treatment, disposal or storage facility for municipal waste shall be provided. This should be done in separate documentation rather than on the storm sewer system map.
[4]The DNR will provide the information necessary to locate WPDES permit holders on the map, along with the permit numbers.

C) Existing Management Programs - The permit applicant shall identify existing management programs to control pollutants entering the MS4 (public separate storm sewer system). The City of Madison shall provide a listing and examples of its efforts on this item to all co-applicants at the August 10, 2000 quarterly meeting. It is recommended that each Municipality begin collecting data on these items immediately as in many cases new programs may be needed. Any new programs should be in place by July 7, 2001 and full collection of this information is recommended to be completed by November 7, 2002.

D) Existing Industrial Facilities - The permit applicant shall identify, by watershed, all existing industrial facilities that may discharge storm water to the MS4. The Department shall assist the Municipalities with this work. As such the timeline for this item shall be determined latter; although as with all items included in this Group Application it is due no later than January 7, 2003.

E) Stormwater Quality & Quantity Characterization - The permit applicant shall identify the affects of stormwater discharges to the receiving waters. The Department has not at this time determined the extent of the work required for this effort and intends to assist the Municipalities with this work. As such the timeline for this item shall be determined latter; although as with all items included in this Group Application it is due no later than January 7, 2003.

F) Pollutant Loading Schedule - The permit applicant shall provide a schedule to the Department by January 7, 2003, to provide estimated annual pollutant loadings to the receiving waters. The

Department has not at this time determined the extent of the work required for this effort and intends to assist the Municipalities with this work. As such the timeline for this item shall be determined latter; although as with all items included in this Group Application it is due no later than January 7, 2003.

G) Proposed Monitoring Program - The permit applicant shall provide a proposed monitoring program to the Department by January 7, 2003. There are extensive requirements/possibilities for this program listed in NR 216.07(5). The Department has not at this time determined the extent of the work required for this effort and intends to assist the Municipalities with this work. It is recommended that the Department and the Municipalities begin discussions on this matter no later than the November 9, 2000 quarterly meeting.

H) Proposed Stormwater Management Program - The permit applicant shall provide a proposed management program to the Department by January 7, 2003. There are extensive requirements/possibilities for this program listed in NR 216.07(7). The Department has not at this time determined the extent of the work required for this effort and intends to assist the Municipalities with this work. It is recommended that the Department and the Municipalities begin discussions on this matter no later than the November 9, 2000 quarterly meeting.

I) Estimated Fiscal Analysis - The permit applicant shall provide the Department with a fiscal analysis of the estimated capital, operation, and maintenance expenditures necessary to implement the Proposed Stormwater Management Program (H above). This shall include a description of the source of the funds and any restriction on the use of the funds. No fiscal analysis can be completed until such time as the proposed management plan is assembled. The proposed management plan is to be put together with Department input, under H above, and discussions with the Department on this item are not scheduled to begin in earnest until November 9, 2000. Therefore it is recommended that the final schedule for this item be determined after more discussion has occurred on the proposed storm water management program

Appendix B - *Intergovernmental Agreement to Create and Fund a Position Responsible for Storm Water Management Education and Outreach*

INTERGOVERNMENTAL AGREEMENT TO CREATE AND FUND A POSITION RESPONSIBLE FOR STORM WATER MANAGEMENT, EDUCATION, AND OUTREACH

THIS INTERGOVERNMENTAL AGREEMENT, hereinafter referred to as "this Agreement", made and entered into by, between and among Dane County, the Cities of Madison, Monona, Middleton, Verona, Sun Prairie and Fitchburg; the Villages of Shorewood Hills, Waunakee, DeForest, Maple Bluff and McFarland; the Towns of Madison, Burke, Blooming Grove, Westport, Windsor, Middleton; and the University of Wisconsin-Madison; hereinafter collectively referred to as the "Municipalities".

WITNESSETH:

WHEREAS the Municipalities entered into a Cooperative Agreement to jointly apply for a storm water discharge permit (the "Permit"), under Chapter NR 216 of the Wisconsin Administrative Code in April, 2000, a copy of that agreement is attached and incorporated herein as Schedule A; and

WHEREAS the Municipalities agreed that the joint permit application would include all work elements and components required by WIS. ADMIN. CODE sec. NR 216.06; and

WHEREAS one of the required work elements is a description of existing and proposed storm water management programs, including public education and outreach; and

WHEREAS the Municipalities agree pursuant to sec. 66.0301 and Ch. 36, Wis. Stats. to obtain the services of a half-time employee of Dane County to provide public education and outreach services consistent with the work elements and components of the Permit:

NOW, THEREFORE in consideration of the above premises and the covenants of the parties hereinafter set forth, the receipt and sufficiency of which is hereby acknowledged by each party for itself, the Municipalities agree as follows:

1. During the term of the Permit Dane County shall create and maintain a half-time position (the "Position"), in its Land Conservation Department to provide public education and outreach services in furtherance of the storm water management programs conducted under the Permit.

2. The Information and Education Subcommittee of the Joint Storm Water Permit Group, created pursuant to Schedule A, shall provide oversight to the position that shall be directly supervised by the Dane County Conservationist.

3. The Position will be filled as soon as feasible after issuance of the Permit by DNR, which is estimated to occur in July, 2003, and will continue during the life of the Permit (5 years) or longer if agreed by the Municipalities.

4. The position shall be funded by the Municipalities as set forth in Schedule B.

5. This Agreement shall be binding on all the parties hereto, their respective assigns and successors and cannot be varied or waived by any oral representations or promises unless the same be in written form and signed by the duly authorized agent or agents who executed this Agreement or their legal successors.

6. This Agreement may be amended or extended at any time upon agreement of the parties, as set forth in Paragraph 8 of Schedule A.

7. Upon execution by all parties, this Agreement shall become effective, and shall run concurrently with the Permit. Should a party withdraw, or terminate participation in this Agreement pursuant to the terms of Paragraph 14 of Schedule A, this Agreement shall continue in effect as to the other parties, unless terminated by the written consent of the remaining parties.

8. In the event that a party withdraws and terminates its participation in the permit pursuant to Paragraph 14 of Schedule A, the withdrawing party shall be responsible for its financial contribution towards funding of the Position under Schedule B until December 31 of the year following withdrawal. When a withdrawing party is no longer financially responsible under this Paragraph, the cost shall be re-apportioned among the remaining parties consistent with their respective proportional share as set forth in Schedule B.

9. In the event that a party withdraws and terminates its participation in the permit pursuant to Paragraph 14 of Schedule A, the withdrawing party is responsible for complying on its own with Permit requirements for stormwater education and outreach.

9. During the term of this Agreement, each municipality agrees to abide by its own Affirmative Action Plan and in doing so shall not discriminate in the employment or training of any person by reason of race, religion, marital status, age, color, sex, handicap, national origin, or ancestry, income level, or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, political beliefs, or student status.

10. This Agreement constitutes the entire agreement of the parties regarding creation and funding a position responsible for storm water management, education, and outreach, and supercedes any and all negotiations leading hereto.

11. This Agreement is intended to be an agreement solely between the parties hereto and for their benefit only. No part of this Agreement shall be construed to add to, supplement, amend, abridge or repeal existing rights, benefits or privileges of any third party or parties, including but not limited to employees of any of the parties.

IN WITNESS WHEREOF, each Municipality, by its respective duly authorized agents, have set their seals.

FOR DANE COUNTY

Kathleen Falk, County Executive

Joseph Parisi, County Clerk

FOR THE CITY OF MADISON

Susan J.M. Bauman, Mayor

Ray Fisher, City Clerk

FOR THE CITY OF MONONA

V. Thomas Metcalfe, Mayor

James A. Belike, City Clerk

FOR THE CITY OF MIDDLETON

Dan A. Ramsey, Mayor

Timothy R. Studer, City Clerk

FOR THE CITY OF VERONA

John B. Volker, Mayor

JoAnn M. Wainwright, City Clerk

FOR THE CITY OF SUN PRAIRIE

Jo Ann Orfan, Mayor

Diane Hermann-Brown, City Clerk

FOR THE CITY OF FITCHBURG

Mark Vivian, Mayor

Karen A. Peters, City Clerk

FOR THE VILLAGE OF SHOREWOOD HILLS

Peter Hans, President

Jennifer W. Anderson, Clerk

FOR THE VILLAGE OF WAUNAKEE

President

Julee Helt, Clerk

FOR THE VILLAGE OF DeFOREST

Theresa Marty, Village President

Jack Sullivan, Village Trustee

Duane A. Gau, Village Administrator

FOR THE VILLAGE OF MAPLE BLUFF

Philip J. Bradbury, President

Sandra L. Wilke, Clerk

FOR THE VILLAGE OF McFARLAND

Erik Thoresen, President

Don Peterson, Clerk

FOR THE TOWN OF MADISON

James Campbell, Chair

Donna L. Meier, Clerk

FOR THE TOWN OF BURKE

Kevin Viney, Chair

Jane Hoepker, Clerk

FOR THE TOWN OF BLOOMING GROVE

Thomas Anderson, Chair

Audrey Rue, Clerk

FOR THE TOWN OF WESTPORT

John A. Van Dinter, Chair

Thomas G. Wilson, Clerk

FOR THE TOWN OF WINDSOR

Alan Harvey, Chair

Cheryl L. Theis, Clerk

For the Town of Middleton

Milo J. Brednig, Chair

Jim Mueller, Clerk

FOR THE UNIVERSITY OF WISCONSIN-MADISON

John Torphy, Vice Chancellor
University Administration

Schedule B
Financial Contributions Toward a Position Responsible for Stormwater Management Education and Outreach

The contributions per entity listed below for the first year of the position assume a half-time annual salary & benefits package of $30,000, and a working estimate of $10,000 annual outreach materials and supplies budget. Any funds not needed for salary in the first year (due to the position beginning upon Permit issuance) will be used for outreach materials and supplies.

The salary and benefits paid for the position in the 2nd and subsequent years shall be based upon the collective bargaining agreement for the employee and health and dental contract negotiation outcomes. Any increase in cost shall be apportioned among the municipalities based upon their respective proportional contribution as set forth herein.

The actual outreach materials and supplies budget for implementing the information and education plan will be refined once the Group Permit Information and Education Plan is completed, submitted as part of the permit application, and approved as part of DNR permit issuance. The annual budget for outreach materials and supplies may therefore need to be greater than $10,000 annually. Any increase in cost shall be apportioned among the municipalities based upon their respective proportional contribution as set forth herein. The Municipalities will pursue grant opportunities wherever possible to supplement the outreach materials and supplies budget.

Entity	2003 Contribution
Dane County*	$1,000
UW-Madison**	$2,000
C. Madison	$8,000
C. Fitchburg	$3,000
C. Sun Prairie	$3,000
C. Middleton	$3,000
V. Waunakee	$2,000
C. Monona	$2,000
V. DeForest	$2,000
C. Verona	$2,000
T. Madison	$2,000
V. McFarland	$2,000
T. Windsor	$2,000
T. Middleton	$1,000
T. Westport	$1,000
T. Burke	$1,000
T. Blooming Grove	$1,000
V. Shorewood Hills	$1,000
V. Maple Bluff	$1,000
Total	**$40,000**

* = contribution not based on population; also contributing office space, computer, phone, supervision)
**= contribution not based on population

Appendix C - *Intergovernmental Agreement to Fund a Joint Storm Water Monitoring Program through the Scientific Evaluation of Rain Gardens*

INTERGOVERNMENTAL AGREEMENT TO FUND A JOINT STORM WATER MONITORING PROGRAM THROUGH THE SCIENTIFIC EVALUATION OF RAIN GARDENS

THIS INTERGOVERNMENTAL AGREEMENT, hereinafter referred to as "this Agreement", made and entered into by, between and among Dane County, the Cities of Madison, Monona, Middleton, Verona, Sun Prairie and Fitchburg; the Villages of Shorewood Hills, Waunakee, DeForest, Maple Bluff and McFarland; the Towns of Madison, Burke, Blooming Grove, Westport, Windsor, Middleton; and the University of Wisconsin-Madison; hereinafter collectively referred to as the "Municipalities".

WITNESSETH:

WHEREAS, the Municipalities entered into a Cooperative Agreement to jointly apply for a storm water discharge permit (the "Permit"), under Chapter NR 216 of the Wisconsin Administrative Code in April, 2000, a copy of that agreement is attached and incorporated herein as Schedule A; and,

WHEREAS, the Municipalities agreed that the joint permit application would include all work elements and components required by WIS. ADMIN. CODE sec. NR 216.06; and,

WHEREAS, one of the required work elements is a storm water monitoring program (the "Monitoring Program"); and,

WHEREAS, the Municipalities agree that a scientific, controlled evaluation of the use of the rain garden technology would both address the goals of the storm water discharge permit and comply with the required work elements of the storm water monitoring program; and,

WHEREAS, the staff representative of the Wisconsin Department of Natural Resources concurs; and,

WHEREAS, the Municipalities agree, pursuant to sec. 66.031, Wis. Stats, that the City of Madison shall administer the Monitoring Program to the mutual benefit of the Municipalities and on their behalf consistent with the work elements and components of the Permit.

NOW, THEREFORE in consideration of the above premises and the covenants of the parties hereinafter set forth, the receipt and sufficiency of which is hereby acknowledged by each party for itself, the Municipalities agree as follows:

1. The representatives of the Municipalities, who meet more or less quarterly as the Joint Storm Water Discharge Permit Group shall provide oversight to the Joint Storm Water Monitoring Program through the scientific evaluation of rain gardens, hereinafter referred to as the "Program".

2. PROGRAM SCOPE OF SERVICES

   a) The Program shall consist of a study of the effectiveness of rain gardens at infiltrating roof water directed at the rain garden. The program shall include monitoring of soil moisture properties at differing soil depths beneath the garden. The USGS (United States Geological Survey) shall be the lead investigator with assistance of the staff of the City of Madison and the staff of the Wisconsin Department of Natural Resources.

   b) Two sites will be established with up to two rain gardens at each site. Comparisons will be made between rain gardens constructed using minimal engineering techniques (using the guidance provided in homeowner handouts) and those constructed to engineering standards through the use of soil additives and designed and placed soils. Each rain

garden will be planted with native (prairie) vegetation that is suitable to the soil conditions found at the site.

c) It is the intent of the study to identify one site with silt/clay soils and one site with sand/silt soils. In this way the performance of the rain gardens can be bracketed within a range of effectiveness.

d) There will be a water mass balance completed on each garden to determine the movement of water into the garden, through and beyond the root zone, or as use as evapotranspiration. The rain gardens will be monitored for five (5) years to determine the affect of maturing plants on the rain gardens as well as to have a large window of opportunity to observe rain gardens during runoff from an infrequent storm event such as the 10-year design storm.

3. The Municipalities shall fund the Program as set forth in Schedule B.

4. The City of Madison shall invoice each of the Municipalities commencing in January 2004 and the four successive Januarys thereafter for their respective contribution set forth in Schedule B to support the Program.

5. The Program shall not exceed 5 years unless the Municipalities agree to a longer period.

6. This Agreement shall be binding on all the parties hereto, their respective assigns and successors and cannot be varied or waived by any oral representations or promises unless the same be in written form and signed by the duly authorized agent or agents who executed this Agreement or their legal successors.

7. This Agreement may be amended or extended at any time upon agreement of the parties, as set forth in Paragraph 8 of Schedule A.

8. Upon execution by all parties, this Agreement shall become effective, and shall run concurrently with the Permit. Should a party withdraw, or terminate participation in this Agreement pursuant to the terms of Paragraph 14 of Schedule A, this Agreement shall continue in effect as to the other parties, unless terminated by the written consent of the remaining parties.

9. In the event that a party withdraws and terminates its participation in the Permit pursuant to Paragraph 14 of Schedule A, the withdrawing party shall be responsible for its financial contribution towards funding of the Monitoring Program under Schedule B until December 31 of the year following withdrawal. When a withdrawing party is no longer financially responsible under this Paragraph, the cost shall be re-apportioned among the remaining parties consistent with their respective proportional share as set forth in Schedule B.

10. During the term of this Agreement, each municipality agrees to abide by its own Affirmative Action Plan and in doing so shall not discriminate in the employment or training of any person by reason of race, religion, marital status, age, color, sex, handicap, national origin, or ancestry, income level, or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, political beliefs, or student status.

11. This Agreement constitutes the entire agreement of the parties and supercedes any and all negotiations leading hereto.

12. This Agreement is intended to be an agreement solely between the parties hereto and for their benefit only. No part of this Agreement shall be construed to add to, supplement, amend, abridge or repeal existing rights, benefits or privileges of any third party or parties, including but not limited to employees of any of the parties.

IN WITNESS WHEREOF, each Municipality, by its respective duly authorized agents, have set their seals.

FOR THE CITY OF MADISON

CITY OF MADISON, WISCONSIN
a municipal corporation

MAYOR — DATE: 4-7-03

CITY CLERK — DATE: 3-24-03

APPROVED AS TO FORM:

CITY COMPTROLLER — DATE: 3/28/03

CITY ATTORNEY — DATE: 3/29/03

RISK MANAGER — DATE: 3/27/03

FOR THE CITY OF FITCHBURG

Mark Vivian, Mayor

Karen A. Peters, City Clerk

FOR THE CITY OF MIDDLETON

Dan A. Ramsey, Mayor

Timothy R. Studer, City Clerk

FOR THE CITY OF MONONA

Robb B. Kahl, Mayor

James A. Beilke, City Clerk

FOR THE CITY OF SUN PRAIRIE

David D. Hanneman, Mayor

Diane Hermann-Brown, City Clerk

Resolution 03/152
Approved 5/4/03

FOR THE CITY OF VERONA

John B. Volker, Mayor

JoAnn M. Wainwright, City Clerk

FOR THE VILLAGE OF DeFOREST

Theresa Marty, President

Carol Millard, Clerk

FOR THE VILLAGE OF MAPLE BLUFF

Philip J. Bradbury, President

Sandra L. Wilke, Clerk

FOR THE VILLAGE OF McFARLAND

Erik Thoresen, President

~~Don Peterson~~, Clerk
DEB NEAL

FOR THE VILLAGE OF SHOREWOOD HILLS

Peter Hans, President

Jennifer W. Anderson, Clerk

FOR THE VILLAGE OF WAUNAKEE

President

Julee Helt, Clerk

FOR THE TOWN OF BLOOMING GROVE

Tom Anderson, Chair

Audrey Rue, Clerk/Treasurer/Admin

FOR THE TOWN OF BURKE

Kevin Viney, Chair

Amy Volkmann, Deputy Clerk

FOR THE TOWN OF MADISON

James Campbell, Chair

Donna L. Meier, Clerk

FOR THE TOWN OF MIDDLETON

Milo J. Brennig, Chair

Jerry Mueller, Clerk

FOR THE TOWN OF WESTPORT

John A. Van Dinter, Chair

Thomas G. Wilson, Clerk

FOR THE TOWN OF WINDSOR

Alan Harvey, Chair

Cheryl L. Theis, Clerk

FOR THE COUNTY OF DANE

Kathleen M Falk, County Executive — DATE 4-15-03

Joseph T Parisi, County Clerk — DATE 4-16-03

FOR THE UNIVERSITY OF WISCONSIN-MADISON

John Torphy, Vice Chancellor
University Administration — 01/16/03

SCHEDULE B
FINANCIAL CONTRIBUTIONS TOWARD A JOINT STORM WATER MONITORING PROGRAM

Entity	Contribution/Year	
Dane County	5.0%	$3,634.00
UW-Madison	5.0%	$3,634.00
C. Madison	20.0%	$14,536.00
C. Fitchburg	7.5%	$5,451.00
C. Sun Prairie	7.5%	$5,451.00
C. Middleton	7.5%	$5,451.00
V. Waunakee	5.0%	$3,634.00
C. Monona	5.0%	$3,634.00
V. DeForest	5.0%	$3,634.00
C. Verona	5.0%	$3,634.00
T. Madison	5.0%	$3,634.00
V. McFarland	5.0%	$3,634.00
T. Windsor	5.0%	$3,634.00
T. Middleton	2.0%	$1,453.60
T. Westport	2.0%	$1,453.60
T. Burke	2.0%	$1,453.60
T. Blooming Grove	2.0%	$1,453.60
V. Shorewood Hills	2.25%	$1,635.30
V. Maple Bluff	2.25%	$1,635.30
Total	**100.0%**	**$72,680.00**

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-S058416-2
April 28, 2004

Group WPDES Municipal Storm Water Discharge Permit for:

The Cities of Fitchburg, Madison, Middleton, Monona, Sun Prairie, and Verona; the Villages of DeForest, Maple Bluff, McFarland, Shorewood Hills, and Waunakee; the Towns of Blooming Grove, Burke, Madison, Middleton, Westport, and Windsor; Dane County; and the University of Wisconsin – Madison

BACKGROUND:

The Cities of Fitchburg, Madison, Middleton, Monona, Sun Prairie, and Verona; the Villages of DeForest, Maple Bluff, McFarland, Shorewood Hills, and Waunakee; the Towns of Blooming Grove, Burke, Madison, Middleton, Westport, and Windsor; Dane County; and the University of Wisconsin – Madison own and operate municipal separate storm sewer systems that discharge to Badfish Creek, Black Earth Creek, Middle Sugar River, Six Mile and Pheasant Branch Creeks, Upper Koshkonong Creek, Upper Sugar River, the Yahara River and Lake Kegonsa, the Yahara River and Lake Mendota, and the Yahara River and Lake Monona. These 19 municipalities are collectively described as the co-permittees for the purposes of this Fact Sheet.

The co-permittees entered into an intermunicipal agreement to form a group and submit a joint permit application to the Wisconsin Department of Natural Resources (DNR) pursuant to ch. NR 216, Wis. Adm. Code. The co-permittees submitted the joint permit application on January 6, 2003, to be covered under the permit as a group. During the application process, the co-permittees developed an extensive joint information and education plan, a joint storm water monitoring plan, and have agreed to cooperate as appropriate on permit requirements.

The Wisconsin DNR has issued WPDES Permit No. WI-S058416-2 with an effective date of May 1, 2004. This permit will regulate storm water discharges from the co-permittees municipal separate storm sewer systems in accordance with ch. 283, Wis. Stats., and ch. NR 216, Wis. Adm. Code.

Permit requirements are intended to reduce the amount of pollutants entering storm water runoff or otherwise entering a municipal separate storm sewer system. Pollution prevention efforts and performance standards are emphasized over runoff treatment. Major components of the permit include storm water management programs to address public education and outreach, public involvement and participation, illicit discharge detection and elimination, construction site pollution control, post-construction site storm water management, pollution prevention, monitoring, and annual reporting.

COMPLIANCE REVIEW:

The City of Madison and the University of Wisconsin – Madison were covered under the initial issuance of this permit on October 16, 1995. The Cities of Fitchburg, Middleton, Monona, Sun Prairie, and Verona; the Villages of DeForest, Maple Bluff, McFarland, Shorewood Hills, and Waunakee; the Towns of Blooming Grove, Burke, Madison, Middleton, Westport, and Windsor were subsequently designated on January 29, 1999, as needing to obtain municipal storm water discharge permit coverage, in accordance with s. NR 216.02(4), Wis. Adm. Code. Dane County was designated as needing to obtain a municipal storm water discharge permit, in accordance with s. NR 216.02(4), Wis. Adm. Code, on

September 1, 1999. In March 2000, these 19 municipalities collectively entered into an intermunicipal agreement to apply for a joint municipal storm water discharge permit. In accordance with s. NR 216.06, Wis. Adm. Code, the 19 municipalities submitted a joint municipal storm water discharge permit application to the Wisconsin DNR on January 6, 2003. The application included the following:

- Information on existing legal authority to regulate construction site erosion control, long-term storm water management, and illicit discharges.
- A storm sewer system map.
- Verification/updates to a list of WPDES industrial storm water discharge permitted facilities and addresses.
- Any information on the characterization of the quality and quantity of storm water.
- A description of existing storm water management programs.
- A comprehensive public information and education plan.
- Proposed monitoring program.
- Proposed storm water management program.
- A summary of fiscal resources available for storm water management.

GENERAL DESCRIPTION OF DISCHARGE:

Discharges from the co-permittees municipal separate storm sewer systems may consist of runoff from rain events, snow and ice melt, spills, improper disposal or dumping of waste, discharges from other WPDES permittees, and fluids from illicit connections. Pollutants of concern in discharges from a municipal separate storm sewer system include, but are not limited to, organic materials, suspended solids, metals, nutrients, bacteria, pesticides, fertilizer, and traces of toxic materials.

SPECIFIC PERMIT CONDITIONS:

This section of the Fact Sheet describes the proposed permit requirements.

A. Applicability

The permit covers all areas within the jurisdiction of the co-permittees that contribute to their municipal separate storm sewer systems. In addition, the permit authorizes storm water point source discharges to waters of the state from the permitted area.

Specific numerical effluent limitations are not included in the permit at this time. Rather, the emphasis of the permit is on the implementation of storm water management programs, and compliance with general storm water discharge limitations and performance standards.

B. General Responsibilities for All Co-Permittees

The co-permittees are required to meet the requirements of the permit, fulfill the commitments they have made through intermunicipal agreements, work cooperatively with each other, and exercise and enforce adequate legal authority to implement the requirements of the permit. In some cases, a co-permittee may not have exercised adequately legal authority to implement the requirements of the permit. Each co-permittee must submit a legal opinion certifying that it has adequate legal authority or identify deficiencies in that legal authority. All co-permittees are to rectify any deficiencies in legal authority by March 31, 2005.

C. Storm Water Management Program Requirements

(1) Public Education and Outreach – The co-permittees will undertake a comprehensive public education and outreach effort to increase the awareness of storm water impacts on waters of the state. The co-permittees have jointly prepared an information and education plan that will be implemented throughout the permit period. This includes a commitment of apportioned funds to support a half-time position with Dane County to assist with plan implementation on behalf of the co-permittees.

(2) Public Involvement and Participation – Each co-permittee will encourage involvement and participation by the public regarding activities required by the permit, and will accommodate requests by the public for involvement and participation.

(3) Illicit Discharge Detection and Elimination – Each co-permittee will develop and implement a program to detect and remove illicit discharges and connections to the municipal separate storm sewer system. The program will include necessary ordinances, visual observation and field testing at storm sewer outfalls as needed, and procedures for tracking sources of illicit discharges and connections.

(4) Construction Site Pollution Control – Each co-permittee will develop and implement a program to reduce the discharge of sediment from construction sites. The program will include necessary ordinances and procedures for inspection and enforcement or erosion and sediment control measures at construction sites to meet the performance standards of ss. NR 151.11 and 151.23, Wis. Adm. Code.

(5) Post-Construction Site Storm Water Management – Each co-permittee will develop and implement a program to control the long-term quality and quantity of storm water discharges from new development and redevelopment. The program will include necessary ordinances and procedures for ensuring the installation and maintenance of storm water management facilities to meet the performance standards of ss. NR 151.12 and 151.24, Wis. Adm. Code.

(6) Municipal Pollution Prevention – Each co-permittee will develop and implement a municipal pollution prevention program. The program will include inspection and maintenance of municipal owned or operated long-term storm water best management practices, street sweeping and catch basin cleaning, de-icing management, management of leaves and other yard waste, pollution prevention activities at municipal public works facilities, and implementation of policies and procedures to achieve a 20% reduction in the total suspended solids loading discharged to water of the state by October 1, 2008 pursuant to s. NR 151.13(2)(b)1.b., Wis. Adm. Code.

D. Storm Sewer System Map Requirements

The City of Madison will manage and annually update a common storm sewer system map for the co-permittees, with appropriate annually updates being provided by each co-permittee for its respective municipal separate storm sewer system. Each co-permittee will maintain documentation of its own municipal separate storm sewer system.

E. Monitoring Requirements

The co-permittees have jointly prepared a plan to perform a scientific study of four constructed rain gardens for the period of the permit. This includes a commitment of apportioned funds to support the study.

F. Assessment of Controls

Each co-permittee is required to conduct an annual review and assessment of its storm water management program in conjunction with the preparation of an annual report. For year 3 of the permit, the co-permittees will need to perform an overall assessment of the effectiveness of their respective storm water management programs to determine if they are on course to meet the 20% reduction in total suspended solids performance standard by March 10, 2008.

G. Annual Report

The co-permittees will develop and submit an annual report by March 31 of each year of the permit covering the previous calendar year. The annual report will discuss and describe implementation and compliance activities undertaken by the co-permittees. The annual report will be used to gauge the progress on implementing the requirements of the permit and compliance with the conditions of the permit.

H. Schedule of Compliance

The schedule of compliance contains submittal and implementation dates for several of the permit requirements.

I. Individual Responsibilities for Each Co-Permittee

Based upon information submitted in the permit application and the particular situation of the individual co-permittees, each co-permittee has individual permit compliance responsibilities. Co-permittees with similar circumstances may coordinate and cooperate on their efforts to meet these requirements. Compliance with these individual requirements is needed in addition to compliance with the requirements of other sections of the permit.

WISCONSIN DNR CONTACT:

Jim Bertolacini
Storm Water Management Specialist
South Central Region
Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

RESPONSE TO COMMENTS
WPDES MUNICIPAL STORM WATER DISCHARGE PERMIT
PERMIT NO. WI-S058416-2
April 26, 2004

Prepared by Jim Bertolacini, Storm Water Management Specialist
DNR South Central Region

This document summarizes the substantive public comments received by the Department of Natural Resources on the proposed Wisconsin Pollutant Discharge Elimination System (WPDES) Municipal Storm Water Discharge Permit, Permit No. WI-S058416-2. The public comment period ended April 12, 2004.

1. Comment: Part I, Section B.(7)(a) says, "Control the contribution of pollutants to and the discharge from the MS4." My question refers to "discharge". Do you intend the item to mean control the discharge in general (pollutants, water volume, peak flows)? Or specifically just the discharge of pollutants? If the latter, I suggest using this redundant-sounding sentence to eliminate the potential ambiguity: "Control the contribution of pollutants to and the discharge of pollutants from the MS4."

   Response: The Department agrees that this sentence is somewhat unclear. Part I, Section B.(7)(a) has been changed as suggested to read as follows: "Control the contribution of pollutants to and the discharge of pollutants from the MS4."

2. Comment: Part I, Section G.(2) says, "Subsequent to the first annual report, the annual report for the preceding calendar year shall be submitted by March 31 of the next year." Using "preceding" *AND* "next" seems to leave out "current" year. I suggest the following: "For all subsequent years beginning with 2005, the annual report for any given calendar year shall be submitted by March 31 of the following year."

   Response: The Department agrees that this sentence needs clarification. The 2nd sentence in Part I, Section G.(2) has been changed as suggested to read as follows: "For all subsequent years beginning with 2005, the annual report for any given calendar year shall be submitted by March 31 of the following year."

3. Comment: I find the following paragraph difficult to interpret. Could you clarify its meaning and consider some wording change? It's from Part 1, Section G.(7)(h): "A summary of development and/or implementation of any storm water management plans guiding or prepared by the co-permittee." I am confused by the last phrase "guiding or prepared by the co-permittee". Should this be "**guided** or prepared by the co-permittee"? And does this include any developer-designed and built plans for which the co-permittee had plan review authority? If not, what is "**guided** by the co-permittee"? If "guiding" is correct, the sentence reads: "...storm water management plans guiding [the co-permittee] or prepared by the co-permittee." I don't know what "...**guiding** the co-permittee..." means. In general, I take this paragraph to mean you want a summary of all **new**

developments and a summary of any **new** storm water management plans associated therewith, ***and*** a summary of any **new** storm water management plans not necessarily associated with new development. And by "plans", I take it you mean site-specific implementations of practices, not the City-wide storm water management "plan". If I interpret (h) correctly, I would propose the following wording: "A summary of new developments and of any new implementations of storm water management practices within the jurisdiction of the co-permittee."

Response: The intent of Part I, Section G.(7)(h) is to have co-permittees report on development and implementation of municipal-wide storm water management plans that they have prepared or other plans that they may be using to guide them. Examples of these other plans include the Lake Mendota Priority Watershed Plan, the Dane County Land and Water Resource Management Plan, and the Dane County Water Quality Plan. To clarify this provision in the permit, Part I, Section G.(7)(h) has been changed to read as follows: "A summary of development and/or implementation of any municipal-wide storm water management plans prepared by the co-permittee, and a summary of implementation of any other plans guiding the co-permittee, such as the Lake Mendota Priority Watershed Plan, the Dane County Land and Water Resource Management Plan, and the Dane County Water Quality Plan."

4. Comment: Part II, Section A.(8) and (11) refer to monitoring. Do these apply to us at this time? Ever?

   Response: Part II, Section A.(8) is intended to ensure that storm water monitoring done above and beyond what is required in the permit is performed and reported in accordance with ch. NR 219, Wis. Adm. Code. The Department does not know of situations where this currently applies. However, it's possible that there will be situations in the future where it may apply. Part II, Section A.(11) applies whenever a sample may be taken.

5. Comment: I have the following comment to make regarding the proposed permit. I request that Part I, Section I.(14)(b) and (c) be removed from the Town of Madison's individual responsibilities under the permit. These two paragraphs refer to assisting Dane County in fulfilling the County's implementation and administration of the construction site pollution control program and post-construction storm water management program within the Town of Madison. Dane County is the only municipal entity in Dane County that has the authority to implement, administer and enforce County ordinances. It is not appropriate, as a condition of the permit, to require Towns to assist Dane County in implementing and administering County ordinances. Since Towns have no authority to implement, Dane County ordinances, it would appear to be redundant language for not only the Town of Madison, but also any Town in Dane County that does not have its own ordinances on construction site pollution control and post-construction storm water management. Please consider removing Part I, Section I.(14) (b) and (c) from the Town of Madison's individual responsibilities under the permit.

Response: It is not the intent of the Department of Natural Resources to require the Town co-permittees to implement, administer and enforce the County's construction site pollution control and post-construction storm water management ordinances within the Towns. However, the Department believes that the Towns have a role to play in the implementation of the County's programs. To address the ambiguity pointed out by this comment, the language pertaining to the Towns in Part I, Section I.(12)(b) and (c), (13)(b) and (c), (14)(b) and (c), (15)(b) and (c), (16)(b) and (c), and (17)(b) and (c) has been changed as follows:

> **(b) Assist Dane County in implementation of the County's construction site pollution control program within the Town by participating in public education and outreach efforts and information sharing.**
>
> **(c) Assist Dane County in implementation of the County's post-construction storm water management program within the Town by participating in public education and outreach efforts and information sharing.**

USEPA Region 5 Comments

6. Comment: Concerning Part I, Section A.(8), WATER QUALITY STANDARDS, this condition states that compliance with water quality standards will be addressed by adherence to the conditions of the permit and the applicable sections of the storm water management plan. USEPA has very similar language in our storm water permit for construction activities. We also have additional language addressing what steps will be taken if, at a time after permit authorization, it is determined that the discharge is not meeting water quality standards. I would suggest you consider adding language similar to the following taken from USEPA's permit:

"At any time after authorization, EPA may determine that your storm water discharges may cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard If such a determination is made, EPA will require you to:

i. Develop a supplemental BMP action plan describing SWPPP modifications in accordance with subpart 3.11[Maintaining an Updated Plan] to address adequately identified water quality concerns;

ii. Submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or

iii. Cease discharges of pollutants from construction activity and submit an individual permit application according to Subpart 4.2 [Requiring an Individual Permit or Alternate General Permit]

All written responses required under this part must include a signed certification consistent with Appendix G, Section 3.11 [Maintaining an Updated Plan]."

Response: It is not clear to the Department of Natural Resources at this time how to apply water quality standards to storm water discharges from an MS4. However, in the event that applicable water quality standards are developed and implemented for storm water discharges from an MS4, the Department of Natural Resources has addressed this comment by inserting the following language at the end of Part I, Section A.(8): "If the Department of Natural Resources determines that the discharge of storm water from a co-permittee's MS4 contributes to an exceedance of any applicable water quality standard, the Department of Natural Resources may require the co-permittee to develop an action plan to adequately address the identified water quality concern, or submit valid and verifiable data and information that are representative of ambient conditions to indicate that the receiving water is attaining the water quality standard."

7. Comment: In Part I, Section C.(6)(g), add to the end of the sentence, "in accordance with s. NR 151.13 (1)(b)3."

Response: The Department of Natural Resources would like a co-permittee to develop and implement broader policies and procedures for the use and application of lawn and garden fertilizers on municipally controlled properties than what is stated in s. NR 151.13(1)(b)3., Wis. Adm. Code. To address this comment, the following language has been added to the end of Part I, Section C.(6)(g): "By March 10, 2008, the application of lawn and garden fertilizers on municipally controlled properties, with pervious surface over 5 acres each, shall be done in accordance with s. NR 151.13(1)(b)3., Wis. Adm. Code." The compliance date to meet this deadline has also been added to the Schedule of Compliance in Part I, Section H of the permit.

8. Comment: Concerning Part I, Section I.(2)(f): Since Madison is a Phase I MS4 (medium MS4 by definition), does chapter 5 of the City of Madison's SWMP continue to implement those Phase I permit requirements?

Response: Chapter 5 of the City of Madison's Storm Water Management Program was submitted with the City's application as a Phase 1 MS4 and made part of the storm water permit issued to it in 1995. Chapter 5 has guided the City on a number of storm water management program elements such as street snow and deicing management, leaf collection and disposal, street sweeping, and municipal housekeeping. This provision in the permit will require the City of Madison to continue these programs.

Appendix D

UNPS Grant Award

State of Wisconsin
Department of Natural Resources
Bureau of Community Financial Assistance
Post Office Box 7921 – CF/8
Madison, Wisconsin 53707-7921

WISCONSIN URBAN NONPOINT SOURCE WATER POLLUTION ABATEMENT & STORMWATER MANAGEMENT GRANT PROGRAM

-- GRANT AWARD -- YOUR COPY

Note: This document is authorized by s. 281.66, Wis. Stats., and chs. NR 164 and 155, Wis. Adm. Code. Acceptance of this form is mandatory. Failure to return a signed form to the Department of Natural Resources will result in the denial of grant funds. The information contained in this form will be used to establish reimbursement eligibility for the Urban Nonpoint Source Water Pollution Abatement Grant Program. Personally identifiable information collected will be used for program administration and may be made available to requesters as required under Wisconsin's Open Records Law [ss. 19.31 - 19.39, Wis. Stats.]

PART 1. GRANT ADMINISTRATION INFORMATION

Grant Number USP-LR10-13038-05	Grant Award Date SEPTEMBER 24, 2004		
Grantee TOWN OF MIDDLETON			Total Grant Amount $ 65,290
Project Name STORMWATER PLANNING ACTIVITIES		Watershed PHEASANT BRANCH, BLACK EARTH, UPPER SUGAR	
Authorized Representative (Name and Title) JAMES J. MUELLER, ADMINISTRATOR			
Street Address 7555 WEST OLD SAUK ROAD		Project/Grant Period From JANUARY 1, 2005 Through DECEMBER 31, 2006	
City, Zip Code, County VERONA, 53593 DANE COUNTY		Contact E-Mail Address trimid@chorus.net	
Telephone Number (Include Area Code) (608) 833-5887 Fax No. (608) 833-6996			
Name of Department Regional Coordinator and Phone Number JAMES AMRHEIN (608) 275-3280			WDNR Region SOUTH CENTRAL

PART 2. ELIGIBLE COST-SHARE BUDGET DATA

Note: Line items cannot be exceeded without prior amendment.

	Planning Cost-Sharing
1. Project Cost-Share Reimbursements For: a. Stormwater Planning Components	65,290
2. Force-Account Reimbursement	0
3. **Total Nonpoint Source Grant Amount**	**65,290**

PART 3. PURPOSE AND SCOPE

This Urban Nonpoint Source and Stormwater Management planning grant provides funding, and authorizes cost-share reimbursement by the department, for the following projects **during calendar years 2005-2006: development of a storm water management plan, to include creation of stormwater, erosion & illicit discharge control ordinances, mapping, assessment of alternative practice installations, and evaluation of alternative funding options.**

The amount listed in the line-item under Part 2 (above) is the maximum amount which the department may reimburse you under this grant. Reimbursement requests for eligible expenses **must be submitted quarterly**, or more frequently, in order to obtain departmental reimbursement. Your initial request shall include expenses incurred and paid prior to March 31, 2005, and must be received no later than **April 30, 2005**. Subsequent **mandatory request deadlines** are listed on the reverse side of this page; your final reimbursement request must be postmarked **no later than January 31, 2007**. Reimbursement will not be guaranteed for requests which fail to meet these deadlines. Progress reports demonstrating activity completed to-date and projecting phase and final completion timelines must also be submitted quarterly to the department project manager listed above.

Reimbursement restrictions, project eligibility specifications, and other project Scope limitations are continued on the other side of this page. Additional departmental grant conditions are listed on the following pages. Consultant or personal-service contracts must be pre-approved by the department project manager prior to signing. Reimbursement request must be accompanied by sufficient payment documentation.

-- SCOPE CONTINUED - OVER --

Project Eligibility

Stormwater Planning. This grant authorizes cost-sharing reimbursement of up to 70% of actual and eligible expenses related to development and implementation of a comprehensive stormwater management program for the municipality, consistent with the application dated April 15, 2004, to the maximum amount in Part 2. Contracts or scope-of-service agreements to develop the plan must be pre-approved by the regional project manager. Eligibility issues and adequacy (see below) of the proposed product may be further defined by the resulting contract approval letter from the department. Research and findings must include at least preliminary determinations on the potential for cultural, historical, endangered and threatened resources, along with the potential for wetland and Chapter 30 conflicts, within the areas of prospective structural practice installations.

Eligible activities of the stormwater planning project will include analysis of the existing and projected stormwater flows through the City, recommendations to implement water quality best management practices, evaluation of wetland protection, development of Village stormwater ordinances specifically to address Chapter 151 requirements and illicit discharges, public education, analysis of practice alternatives, and creation of a stormwater utility funding mechanism.

Adequacy of Planning Product. *Attachment E: Summary of Non-Agricultural Performance Standards* is attached to this grant and is hereby incorporated by reference. Planning grant activities must produce a product which comprehensively addresses all of the standards under either s. NR 151.11, 12 or 13, Wis. Adm. Code, applicable to the type of project being conducted.

Contract Approvals. All contracts must be approved by the Department prior to grantee signing in order to determine reimbursement eligibility, consistency with the non-agricultural performance standards under ch. NR 151, Wis. Adm. Code, and practice technical standards. If the community has a consultant on retainer, at the very minimum, a detailed scope of services with costs per activity must be provided, reviewed and approved for eligibility and applicability.

Grantee Stipulated Obligations. Your application stipulated that you will have in place by the conclusion of this grant period erosion control ordinance(s) and stormwater management ordinance(s). In addition, under the Multiplier section of the application, you committed to implement: (1) a pollution prevention I & E program for your community; (2) a nutrient management plan for municipally-owned properties; and, (3) a stormwater permit tracking system. Prior to receiving your final reimbursement for this grant activity, you must provide adequate supporting documentation to certify fulfillment of these obligations to your regional project manager.

Municipal Employee Expenses. Legal restrictions limit reimbursement for municipal employee grant-related expenses for planning activities to (1) a project employee specifically retained to perform this particular project, or (b) an existing municipal employee only if a project person were hired to "back-fill" the employee's regular duties.

Final Reimbursement/Report. Within two (2) months after the end of the Grant Period, grantee shall submit a final report to the regional project manager detailing the project's implementation and effectiveness. The Department may withhold up to 20% of the grant amount until receipt of the final report.

REIMBURSEMENT DEADLINES

Eligible Expenses Incurred	Reimbursement Request Due Date
Expenses incurred and paid prior to March 31, 2005	April 30, 2005
Expenses incurred between April 1, 2005 and June 30, 2005	July 31, 2005
Expenses incurred between July 1, 2005 and September 30, 2005	October 31, 2005
Expenses incurred between October 1, 2005 and December 31, 2005	January 31, 2006
Expenses incurred between January 1, 2006 and March 31, 2006	April 30, 2006
Expenses incurred between April 1, 2006 and June 30, 2006	July 31, 2006
Expenses incurred between July 1, 2006 and September 30, 2006	October 31, 2006
Expenses incurred between October 1, 2006 and December 31, 2006	FINAL PAYMENT January 31, 2007

All expenses incurred and paid by the grantee during the quarterly period listed above must be submitted to the department for reimbursement by the reimbursement request deadline/due date specified above. Failure to meet those deadline requirements may mean that such expenses will not be reimbursed by the department.

Reimbursements under this grant may only be made [per s. 281.66 (3)(a)2., Wis. Stats.] where the grantee community "ensures adequate implementation of construction site pollution control, and of storm water management after development, for development and redevelopment of sites of one or more acres".

-- Continued --

PART 4. CONDITIONS

The State of Wisconsin Department of Natural Resources (Department) and the Grantee, in mutual consideration of the provisions of this document, agree as follows:

Section A – General Requirements

A1. This agreement and all activities undertaken pursuant to this agreement are subject to the provisions of s. 281.66, Wis. Stats., and chs. NR 151, 154, and 155, Wis. Adm. Code. All amendments to this grant agreement shall be executed in writing.

A2. Eligibility for cost-sharing reimbursement is governed by the provisions of s. NR 154.04 and ch. NR 155, Wis. Adm. Code, by the stipulations or limitations in this grant's *Scope* provisions, and by the applicable contract approvals by the department, as required under provision B1.

A3. The Grantee may not receive reimbursement for costs which either exceed the amounts listed in Part 2, or are not authorized by the *Scope* of this agreement. Cost-share rates and applicability may be further limited by departmental contract approval(s), which may restrict the grant cost-share amount due to the eligibility requirements of the statute and codes. Reimbursements are contingent upon availability of State funds.

Section B – Grantee Responsibilities

B1. All professional service contracts must be approved by the department project manager prior to signing or entering into such commitments. If expenses for municipal employees are expected to be cost-shared under this grant, grantee shall obtain the advice of the departmental project manager prior to commencing project activities; legal stipulations strictly limit cost-sharing of municipal employee expenses.

B2. The Grantee shall submit reimbursement requests on the worksheets provided by the Department and accompanied by verification of project expenses, at least quarterly, as specified in the *Scope* section.

B3. The Grantee shall comply with the cost containment and procurement procedures in the applicable administrative codes governing this grant. The Grantee shall maintain a financial management system, separate from all other grantee activities, for this grant. Accounting and fiscal records shall be maintained in accordance with the applicable administrative codes governing this grant. At a minimum, grantee shall retain and make available all fiscal records pertaining to this grant for three years after the date of final settlement, or three years after the end of the Grant Period, whichever is later, or for a longer period if required by the department for audit purposes.

B4. The Grantee shall submit progress reports at the conclusion of each quarter of the project period to the Department's project manager identified in Part 1 of this agreement. Within six months after the end of the grant period, grantee must submit a final report to the project manager comparing planning activities projected in the grant application vs. planning products completed. An amount not to exceed 20% of the grant amount may be withheld from the final payment until the final inspection is completed and the final report is received.

Section C – State and Federal Requirements

C1. The Grantee shall indemnify the Department and all of its officers, employees and agents against, and hold harmless from, any and all claims, actions, suits, proceedings, costs, expenses, damages and liabilities, to person or property, including attorney's fees, arising out of, connected with or resulting from the occupancy, use, acts or omissions of the Grantee's employees, agents or representatives.

C2. The Grantee or its employees or agents are not employees or agents of the Department for any purpose including Worker's Compensation.

C3. In connection with the performance of work under this agreement, the Grantee agrees not to discriminate against any employee or applicant for employment because of age, race, religion, color, handicap, sex, physical condition, developmental disability as defined in s. 51.01(5), Wis. Stats., sexual orientation or national origin. This provision includes but is not limited to employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Grantee agrees to provide and post notices in conspicuous places, available for employees and applicants for employment, setting forth the provisions of this nondiscrimination clause. Except with respect to sexual orientation, Grantee shall take affirmative action to ensure equal employment opportunities.

– Continued – Over –

PART 5. INELIGIBLE COSTS

1. Costs incurred, or work performed, either prior to or after the grant period (page 1, Part 1), unless specifically authorized in the grant Scope.
2. Costs for a planning activity which does not meet the conditions of the applicable administrative codes and department policies governing this grant, or which are inconsistent with the grant application.
3. Costs for practices identified as ineligible practices in the applicable administrative codes governing this grant or which are specifically excluded in the contract approval letter.
4. Costs which exceed or do not satisfy the cost containment procedures of the applicable administrative code governing this grant.
5. Costs for work performed by the grantee's own employees are not cost-shareable unless specifically authorized by the regional project manager [see s. NR 155.16(1)(c), Wis. Adm. Code].
6. Costs specified in NR. 155.15(2), Wis. Admin. Code.

FOR THE GRANTEE
By:

Authorized Representative

Admin / Clerk / Treas
Title

1-19-05
Date Signed

(Printed Name, if Different Than Authorized Representative on P.1)

FOR THE STATE OF WISCONSIN
By

Michele A. Young, Director
Bureau of Community Financial Assistance

1-14-2005
Date Signed

When returning the signed grant, you must also include evidence of your community's local share of the grant project costs – such as a copy showing its inclusion in the municipal budget, or other evidence that the community has, in fact, committed the necessary funding to complete the project. Alternatively, you may certify that commitment below.

Certification provided as an alternative to evidence of local share:

I, the undersigned, hereby certify and attest that the grantee has incorporated the "local share" of funding for the project covered by this grant within the municipal budget, or has otherwise made provisions to provide the local share.

Authorized Representative

Resolution Number Authorizing Expenditure

Consistency Requirement

To be consistent with non-agricultural performance standards under ch. NR 151, Wis. Adm. Code, the project must comprehensively address the performance standard that the project focuses on. In addition, any standards addressed by the project (e.g., thermal) must not work at cross-purposes to these standards. The following criteria apply:

- A project may address one or more of the following performance standards for a given geographic area:
  - Construction site performance standards for new development and redevelopment (s. NR 151.11, Wis. Adm. Code)
  - Post-construction performance standard for new development and redevelopment (s. NR 151.12, Wis. Adm. Code)
  - Developed urban area performance standard (s. NR 151.13, Wis. Adm. Code)
- For any of the three specific standards listed above that are selected as a project focus, the project must be comprehensive in its scope. This means that the project must work towards implementing the entire standard, not just bits and pieces. For example, if a community proposes to prepare a storm water plan for new development and re-development, it must address all components of s. NR 151.12, Wis. Adm. Code. This means that the plan must address total suspended solids, peak discharge, infiltration, protective areas, and fueling and maintenance areas. This criterion is waived for components that are already covered by an existing plan of comparable detail in a manner consistent with ch. NR 151, Wis. Adm. Code. For example, the DNR will fund development of ordinance provisions that address only infiltration if the other components of the standard (s. NR 151.12, Wis. Adm. Code) are already covered by the existing ordinance.
- Planning products can be expanded to include other components for which there is no performance standard (storm water practices to achieve thermal standards). The non-performance standard based component must not detract from, or in any way work at cross-purposes to, achieving performance standards under ch. NR 151, Wis. Adm. Code.

a.Non-Agricultural Performance Standards

The following is a summary of non-agricultural performance standards under subchapters III and IV of ch. NR 151, Wis. Adm. Code. The administrative code should be consulted for more detailed information.

Section NR 151.11, Wis. Adm. Code: Construction Sites in New Development and Redevelopment

During construction, land disturbance of one acre or more will need to control 80% of the sediment load coming off the construction site to the maximum extent practicable. In addition, these sites must also prevent tracking of sediment onto roads; prevent the discharge of sediment during site de-watering; protect storm drain inlets; and properly use, store and dispose of chemicals, cement and other construction materials.

Section NR 151.12, Wis. Adm. Code: Post-Construction in New Development and Redevelopment

After October 1, 2004, construction sites of one acre or more that were subject to the construction performance standards of s. NR 151.11, Wis. Adm. Code, must provide storm water management plans that meet the performance standards listed below:

Total Suspended Solids - Eighty-percent of the total suspended solids that would normally run off the site in an average year must be retained. The reduction goal for redevelopment is 40%. For in-fill development under five acres that occurs prior to October 1, 2012, the reduction goal is 40%. All other in-fill development has a reduction goal of 80%.

Peak Discharge Rate - The pre-development peak runoff discharge rate for the 2-year, 24-hour design storm must be maintained or reduced.

I.Infiltration - A portion of the volume of water running off the site must be infiltrated.

For residential land uses, that portion is either 90% of the pre-development infiltration volume or 25% of the post-development runoff from the 2-year, 24-hour storm. No more than 1% of the site would have to be dedicated to meeting the infiltration requirement.

For non-residential land uses (commercial, industrial, institutional), the portion to be infiltrated is 60% of the pre-development infiltration volume or 10% of the post-development runoff from the 2-year, 24-hour storm. For these sites, the cap is set at 2% of the project site.

The rule identifies situations where infiltration is optional and others where it is prohibited in order to protect groundwater.

Protective Areas - Permanent vegetative buffer areas must be maintained around lakes, streams, and wetlands to filter pollutants and protect against erosion. Buffer sizes range from 50-75 feet for most resources, varying according the type and classification of the waterbody.

Fueling and Maintenance Areas - Petroleum product runoff from fueling and vehicle maintenance areas must be controlled to remove any visible sheen.

Section NR 151.24, Wis. Adm. Code: Transportation Facilities

Roads and associated structures are also subject to the post-construction performance standards. Some specific modifications are made in recognition of the unique character of transportation facilities:

- Exemption from post-construction performance standards for highway resurfacing, reconditioning or minor re-construction.
- Option to use a water quality designed swale to meet the post-construction performance standard.

Note: ch. NR 152, Wis. Adm. Code: Model Ordinances for Construction Site Erosion Control and Storm Water Management contains, as appendices, model ordinances for both storm water management and for construction erosion control sites, exclusive of building construction, which is regulated by the Wisconsin Department of Commerce. The performance standards included in the model ordinances are taken from ch. NR 151, Wis. Adm. Code. Adoption of the ordinances by the governmental unit is voluntary. The purpose of ch. NR 152, Wis. Adm. Code, is to bring about voluntary uniformity of regulations that affect municipalities.

Section NR 151.13, Wis. Adm. Code: Developed Urban Area Performance Standards

These performance standards apply to incorporated cities, villages and towns with a population density of 1,000 people or more per square mile. By March 10, 2008, these local units of government will be responsible for implementing a storm water management program that includes the following:

- Public education on the proper management of leaves and grass clippings, lawn and garden fertilizers, and pet wastes, and the prevention of oil and chemical runoff into storm sewers.
- A municipal program for proper management of leaves and grass clippings, including public information about the program.
- Application of nutrients on municipally owned property in accordance with a nutrient application schedule.
- Detection and elimination of illicit discharges.

Those municipalities that are subject to a storm water permit under ch. NR 216, Wis. Adm. Code, must also reduce total suspended solids within the municipal boundary by 20% by March 10, 2008. By March 10, 2013, these municipalities will be required to reduce total suspended solids by 40% (an additional 20% reduction).

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

WISCONSIN DEPT. OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TTY 608-267-6897

January 14, 2005

James J. Mueller, Administrator
Town of Middleton
7555 West Old Sauk Road
Verona WI 53593

RE: Urban Nonpoint Source & Stormwater Management Program
Planning Grant No. USP-LR10-13038-05

Mr. Mueller:

I am pleased to approve this grant to assist in planning runoff management standards for your community. Certain modifications have been made this year in eligibility qualifications and grant requirements; please be sure to review the Scope section of your grant and discuss those provisions with your regional coordinator (listed on your grant document).

This grant, and any reimbursements made under it, are governed by very detailed statutes and administrative codes. Accordingly, please read the grant documents thoroughly, paying particular attention to the *Scope* and *Conditions* sections for eligibility conditions, grantee requirements and reimbursement deadlines. It is imperative that you meet these specified requirements and conditions in order to assure that you remain eligible for all authorized reimbursements. There are also a number of steps where you must obtain prior departmental review and authorization before proceeding (please see the attached *Grantee Responsibilities*).

An original and a copy of this grant are enclosed. To accept this grant, sign the original and the copy on the signature lines provided for your authorized representative. Please return the signed original, <u>along with the completed *Grantee Contact Page*</u>, to the Bureau of Community Financial Assistance. Retain the copy. When returning the signed grant, you must also <u>include evidence that your community has committed the necessary funding for the local share</u>. A mandatory workshop will be scheduled shortly in your area to review department grant requirements and to answer your questions about the grant process.

Please review the grant's provisions and your project with James Amrhein of the Fitchburg office at (608) 275-3280. Should you have any additional questions, please contact Tim Parsons of the Bureau of Community Financial Assistance at (608) 267-9385. Thank you for your continued cooperation with Wisconsin's Nonpoint Pollution Abatement program.

Sincerely,

Michele A. Young, Director
Bureau of Community Financial Assistance

MAY:TMP:tp
Enclosure

c: Jim Amrhein – SCR, Fitchburg

State of Wisconsin
DNR Department of Natural Resources
PO Box 7921, Madison WI 53707-7921

Urban Nonpoint Source & Storm Water (UNPS&SW) Planning Program Grant Application

Form 8700-299A (R 1/04)

Notice: Application is hereby made to the Wisconsin Department of Natural Resources, Bureau of Watershed Management for grant assistance consistent with s. 281.66, Wis. Stats., and Chapter NR 155, Wis. Adm. Code. Collection of this information is authorized under the authority of s. 281.66, Wis. Stats. The information contained in this form will be used for program budget analysis and project evaluation in the Urban Nonpoint Source Water Pollution Abatement and Storm Water Management Grant Program. Personally identifiable information collected will be used for program administration and may be made available to requesters as required under Wisconsin's Open Records Law [ss. 19.31 - 19.39, Wis. Stats.].

Instructions: Complete all sections as applicable.

Applicant Information

Governmental Unit Applying: (name & type) (example: Madison, Town of) 13038-05

Middleton, Town of

Name of Authorized Representative (First Last): Jim Mueller	Name of Governmental Contact Person (First Last) (if different):
Title: Town Administrator	Title:
Area Code + Telephone Number: (608) 833-5887	Area Code + Telephone Number:
Area Code + Fax Number: (608) 833-8996	Area Code + Fax Number:
E-Mail Address:	E-Mail Address:
Mailing Address - Street or Route: 7555 W. Old Sauk Road	Mailing Address - Street or Route:
City: Verona; State: WI; Zip Code: 53593	City: ; State: ; Zip Code:

Consulting Firm Name (if applicable): Vierbicher Associates

Consulting Contact Person Name: Charles Nahn

Title: Project Manager

Area Code + Telephone Number: 608-826-0532	DNR Use Only
Area Code + Fax Number: 608-826-0530	
E-Mail Address: cnah@vierbicher.com	
Mailing Address - Street or Route: 999 Fourier Drive, Ste 201	
City: Madison; State: WI; Zip Code: 53717	

Project Information

A. Project Name

Town Stormwater Plan

B. Location of Project Area

County	Town (N)	Range (E/W)	Section	Quarter/Quarter
Dane	6	7E	19-35	
	7	7E	1-18	

This document was drafted by the Department of Natural Resources.

UNPS&SW Grant Project Name
Town Stormwater Plan

Part II. Minimum Qualifications (continued)

Question 2. Project Evaluation Strategy

Yes No What information will be developed and presented to DNR to evaluate the environmental benefits of completing this project? (check all that apply)

☒ ☐ A. Information that quantifies how project implementation is projected to decrease storm water impacts on state waters will be provided to DNR. The information may be provided as part of the planning product (e.g., storm water plan, I&E plan) or as a stand-alone report.

B. Tracking

☒ ☐ 1. Information that tracks the progress in implementing the planning product (such as a storm water management plan, ordinance, utility district evaluation/formation, information and education) will be provided to the Department.

2. Describe in concept how this tracking process will work:

At project start, detailed schedule of tasks will be input into Microsoft Project complete with start date, end date, project milestones, project meetings and deliverable dates. Completion dates will be input as project proceeds and schedule will be e-mailed to WDNR at monthly intervals. (with hard copy to follow in the mail)

Question 3. Evidence of Local Support

Yes No The level of Local Support that currently exists for the proposed project.

A. Government

☐ ☒ 1. The local-share funds for the project expenses are already included specifically in an adopted budget.

OR

☒ ☐ 2. The local-share funds for the project expenses are or will be included in a proposed budget.

B. Community

☒ ☐ 1. The governmental unit is submitting evidence of community support specifically for the project in this application.

OR

☐ ☒ 2. The governmental unit is submitting evidence of local support for addressing water resource needs in the community even though the specific project being proposed has not been discussed.

Question 4. Basin Priorities (check one)

☐ A. Clean Water Act s. 303(d) List
Waterbody is included on the 303(d) List for nonpoint source reasons.

☒ B. Outstanding and Exceptional Resource Waters
Waterbody is included in s. NR 102.10, Wis. Adm. Code, (Outstanding Resource Waters) and/or s. NR 102.11, Wis. Adm. Code, (Exceptional Resource Waters).

☐ C. NPS Rankings
Project is located in a large-scale watershed, a small-scale watershed, lake watershed, or other area ranked high or medium on the NPS Rankings List, where the goals of the project are directly associated with the reason for the ranking on the NPS Rankings List.

☐ D. Amendment of the NPS Rankings List Using State of the Basin Reports
Project is located within a watershed ranked low or not ranked on the NPS Rankings List, but information in a DNR State of the Basin report indicates a need to amend the NPS Rankings List because the stream or stream segment or lake is being affected by nonpoint sources of pollution.

☐ E. Amendment of the NPS Rankings List Using Other Data Sources
Additional data is available indicating a high or medium ranking in a State of the Basin report should apply.

☐ F. Sources of Information for Areas Not Included in State of the Basin Reports
For some border waters, there is no State of the Basin report (i.e., along the Mississippi River or the Great Lakes). For these situations, another governmental document, accepted by the Regional NPS Coordinator, can be used to classify the resource as having a significant nonpoint source pollution impairment.

UNPS&SW Grant Project Name
Town Stormwater Plan

Project Information (continued)

C. Project Summary

The Town of Middleton is a growing township approximately 16 square miles in size of over 5200 population, west of and adjacent to the Cities of Middleton and Madison. Due to the rapid increase in pavement and impervious surfaces associated with development, stormwater quality has declined as urban non-point source pollutant loading has increased into the following waterways:

- ☐ Black Earth Creek,
- ☐ Pheasant Branch Creek (ultimate discharge to Lake Mendota)
- ☐ Badger Mill Creek
- ☐ Upper Sugar River.

Those non-point pollutants include total suspended sediments, nutrients (nitrogen and phosphorus), heavy metals (cadmium, lead, zinc and others), pesticides and herbicides. Although the Town of Middleton has been implementing stormwater BMPs for many years including infiltration basins, infiltration trenches, wet detention basins, a comprehensive storm water study is needed for the entire town to mitigate the impacts of past development activities and future development including:

- Increases in the magnitude, frequency and duration of damaging flows in Black Earth, Pheasant Branch and Badger Mill Creek and the Sugar River which contribute to channel erosion and slope failure.

- Increase in the transport of sediment, nutrients and other contaminants into the Pheasant Branch Marsh, Black Earth Creek, Badger Mill Creek and ultimately Lake Mendota.

- Decreases in groundwater recharge in Pheasant Branch Creek and hence groundwater discharge in to Lake Mendota.

- Preservation of the Black Earth Creek as a Class I trout stream given the thermal impacts and groundwater recharge reduction associated with paved areas.

This project will address this issues and formulate a comprehensive strategy to deal with stormwater quantity increases and stormwater quality decreases in both the existing and future condition.

D. Watershed

Watershed Name (see Attachment A)	Watershed Code (see Attachment A)
West Branch Sugar River/Mt. Vernon Creek	SP16-180
Upper Sugar River	SP15-180
Black Earth Creek	LW17-173
Six Mile and Pheasant Branch Creeks	LR10-012

Note: The planning project area can include more than one watershed. Do not submit separate applications for the same activity in different watersheds.

UNPS&SW Grant Project Name
Town Stormwater Plan

Part I. Screening Requirements

Yes No A. Map

☒ ☐ A map is attached.

B. Planning Activities For Which Funding is Requested (check all that apply)

☒ Storm water management planning (including plans for new and/or existing development).
☒ Ordinance development and administration (including construction site erosion control and/or storm water management).
☒ Evaluation and/or establishment of local financing options (such as storm water utilities).
☒ Public education and outreach.
☐ Other (specify): _____

(see Attachment D for additional planning activity information)

Yes No C. Filters

Note: You must be able to answer "Yes" or "N/A" where available, to each of the following to be eligible for a grant.

☒ ☐ 1. Project is in an area that is urban or will be urban within 20 years. (see Attachment B)
☒ ☐ 2. Project will be completed within 24 months of the start of the grant period.
☒ ☐ 3. Staff and consultants designated to work on this project have adequate training, knowledge, and experience to implement the proposed project.
☒ ☐ 4. Staff or contractual services, in addition to those funded by this grant, will be provided if needed.
☒ ☐ 5. Planning products prepared under this grant will not work at cross-purposes to (are consistent with) non-agricultural performance standards under ch. NR 151, Wis. Adm. Code. (see Attachment E)
☒ ☐ 6. The local DNR Regional Nonpoint Source Coordinator (see Attachment C) has been contacted about this project.

Name of the Regional Nonpoint Source Coordinator contacted	Date contacted	Subject of contact
Carolyn Betz	April 6, 2006	Scope of Project and Grant Application
Further?		

Yes No NA

☒ ☐ ☐ 7. a. The grant application is for a local governmental unit having jurisdiction over the project area.

☐ ☐ ☒ b. The grant application is for a local governmental unit not having jurisdiction over the project area and both of the following conditions are met:
- The Applicant is required to obtain a permit under subchapter I of ch. NR 216, Wis. Adm. Code.
- Inter-governmental agreements are in place, or will be put in place prior to the end of the project period, as needed to assure urban best management practices recommended by the planning project are installed and maintained.

Note: A governmental unit is considered to have jurisdiction over the project area if it has control over the project.

☐ ☐ ☒ 8. If the applicant is the University of Wisconsin Board of Regents, the project is for practices, techniques or measures to control storm water discharges on a University of Wisconsin System campus located in a municipality that meets both of the following criteria:
- is required to obtain a municipal storm water permit under ch. NR 216, Wis. Adm. Code, and
- is located either in a priority watershed or lake area identified under s. 281.65, Wis. Stats., or in an area of concern as identified by the International Joint Commission under the Great Lakes Water Quality Agreement.

If you answered "No" to any of the above, stop here. This project is ineligible.

UNPS&SW Grant Project Name
Town Stormwater Plan

Part II. Minimum Qualifications

Question 1. Fiscal Accountability

A. Timeline and Source of Staff

For each applicable milestone listed below, fill in the appropriate data:

Milestone	Target Completion Date (month/year)	Source of Staff
Consultant selection	Jan 2005	Municipal Staff
Kick-off meeting	Jan 2005	Municipal Staff, WDNR, Consultant
Significant milestones:		
Inventory	Feb 2005	Consultant
Problem Definition	March 2005	Consultant
Alternative Analysis	April 2005	Consultant
Recommendations	May 2005	Consultant
Finalize project	June 2005	Municipal Staff, WDNR, Consultant
Submit project and final report to DNR	July 2005	
Other (specify)		

B. Adequate Financial Budget

Provide the following information for the project.
The state share may not exceed 70% of eligible costs. The grant amount is capped at $85,000 for the eligible planning activities.

FINANCIAL BUDGET TABLE – PLANNING ACTIVITIES

A	B	C
Project Activity	Estimated Total Cost ($)	Amount from Column B Eligible for Cost Sharing ($)
Description of Watersheds	3,349	3,349
Potential Infiltration locations	6,698	6,698
Inventory of Detention Ponds and pollutant removal	3,349	3,349
Inventory of and Public Lands Maintenance Practices	1,674	1,674
Inventory of Streams, Ponds, Wetlands	1,674	1,674
Inspection and Maintenance of Storm Water Detention Ponds	1,674	1,674
Statement of Problems	3,349	3,349
Sources of Problems (quality and quantity)	1,674	1,674
Illicit Discharge Detection	13,732	13,732
Alternative Analysis- Stormwater Quantity	10,047	10,047
Alternative Analysis- Stormwater Quality	10,047	10,047
Recommended Improvements	6,698	6,698
Municipal Pollution Prevention Program	6,698	6,698
Water quantity improvements	6,698	6,698
Ordinance Modification for stormwater quality/quantity control	3,349	3,349
Cost Estimates for Recommendations	3,349	3,349
Prioritization of improvement for next ten years	3,349	3,349
Description of Funding Sources	3,349	3,349
Meetings (10)	2,511	2,511
1. Total	$93,268	$93,268

UNPS&SW Grant Project Name
Town Stormwater Plan

Part II: Minimum Qualifications (continued)

Cost-Sharing Worksheet

Eligible Costs:	
2. 70% column C, Total (1) above	$65,288
Cap Test:	
3. Maximum State Share (Lesser of (2) or $85,000)	$65,288
State & Local Share:	
4. Requested State-Share Amount (=Requested Grant Amount)	$65,288
5. Local-Share Amount [Total (1), column B less (4)]	$27,980

70%

Local-Share Source(s):

General Tax Roll

Method(s) Used to Calculate Cost Estimates:

Average Range of Costs based on combined hourly rate of $76.12/hour. (15% Project Manager($102.5/hr), 25% Senior Engineer($85/hr), 45% Junior Engineer ($70/hr), 10% CADD Technician($60/hour), 5% Clerical ($40/hr) All rates increased by 5% to account for 2005 rates)

UNPS&SW Grant Project Name
Town Stormwater Plan

Part III. Competitive Elements

Question 5. Water Quality Needs

The water quality category which best identifies the water quality goals for the project directly deals with: (check one A-G)

Note: For border waters where a State of the Basin Report does not exist, another government document acceptable to the Regional Nonpoint Source Coordinator may be used to identify the water quality need.

☐ A. 303(d) Listed Waterbody
A waterbody included on the 303(d) List for nonpoint source reasons.

☐ B. Exceeds Groundwater Enforcement Standard
Groundwater within the project area where representative information indicates nitrate levels are predominantly greater than 10 mg/L or there are comparable levels for other NPS contaminants.

☒ C. Not Fully Meeting Uses
A waterbody (lake or stream) identified in a DNR State of the Basin report as not meeting or partially meeting designated uses due to nonpoint sources, but is not on the 303(d) List.

☐ D. Threatened Waterbody
A waterbody (lake or stream) viewed as "threatened" by nonpoint sources in a DNR State of the Basin report.

☐ E. Exceeds Groundwater Preventive Action Limit
Groundwater within the project area where representative information indicates nitrate levels are predominantly greater than 2 mg/L but less than 10 mg/L or there are comparable levels for other NPS contaminants.

☐ F. Outstanding or Exceptional Resource Waters
Prevention of degradation due to nonpoint sources of Outstanding or Exceptional Resource Waters or high quality, recreationally significant waters, but not including waters listed as "threatened."

☐ G. Surface or Groundwater Quality
Prevention of degradation due to nonpoint sources of water quality (surface or groundwater). Waters in this category are neither high quality, recreationally significant waters nor "threatened" waters.

Bonus Points:

Yes	No	
☒	☐	Water quality goals relate to the control of nonpoint source contaminants in public drinking water supplies.
		1. If yes, and the source of drinking water affected by the project area is groundwater, the project protects:
☐		One wellhead
☒		More than one wellhead
		2. If yes, and the source of drinking water affected by the project area is surface water, check the source water assessment area in which the project is located:

	Source Water Area (SWA)	Drinking Water System
☐	Pike River and Creek	Kenosha
☐	Root River	Racine
☐	Oak Creek	Oak Creek
☐	Oak Creek	South Milwaukee
☐	Milwaukee River	Cudahy
☐	Milwaukee River	Milwaukee
☐	Milwaukee River	North Shore
☐	Sauk Creek	Port Washington
☐	Sheboygan and Onion Rivers	Sheboygan
☐	Manitowoc River	Manitowoc
☐	Twin Rivers	Two Rivers
☐	Kewaunee & Ahnapee	Green Bay
☐	Menominee River	Marinette
☐	Fish Creek	Ashland
☐	St. Louis and Nemadji River	Superior
☐	Lake Winnebago	Oshkosh
☐	Lake Winnebago	Appleton
☐	Lake Winnebago	Neenah
☐	Lake Winnebago	Menasha

UNPS&SW Grant Project Name
Town Stormwater Plan

Part III. Competitive Elements (continued)

Question 6. Extent of Pollutant Control

A project can consist of one or more of the following parts (A-E). For each part below, check the boxes that apply to the project.

A. Ordinances

The project will develop or complete one or more of the following ordinances, including associated information, education and public participation activities. (check all that apply)

☒ 1. Construction erosion control ordinance including all the requirements of s. NR 151.11, Wis. Adm. Code.

☒ 2. Storm water ordinance for new development and re-development including all the requirements of s. NR 151.12, Wis. Adm. Code.

☒ 3. Low impact development/conservation subdivision ordinances.

☒ 4. Other ordinances such as illicit discharge ordinance, storm water ordinances affecting runoff from developed urban areas (e.g., pet waste management ordinances, nutrient management ordinances), or ordinances that partially or fully implement s. NR 151.14, Wis. Adm. Code.

B. Financing Mechanisms

The project will evaluate financing mechanisms for storm water management, including associated information, education and public participation activities. (check one of the following)

☐ 1. The project develops a dedicated revenue source, such as a storm water utility, to implement a storm water program focusing on implementation of performance standards in Subchapter III of chapter NR 151, Wis. Adm. Code.

OR

☒ 2. The project is a feasibility analysis of alternative funding mechanisms.

C. Storm Water Plan for Developed Urban Areas

The project will develop a storm water management plan for developed urban areas that addresses all of the performance standards under s. NR 151.13, Wis. Adm. Code, including associated information, education and public participation activities. (check one of the following)

☒ 1. This project, either by itself or in conjunction with other previously completed or ongoing projects, will cover the entire geographic area of the governmental unit.

OR

☐ 2. This project, either by itself or in conjunction with other previously completed or ongoing projects, will cover only part of the geographic area of the governmental unit.

D. Storm Water Plan for New or Redevelopment

The project will develop a storm water management plan for new development and re-development that addresses all of the performance standards under s. NR 151.12, Wis. Adm. Code, including associated information, education and public participation activities. (check one of the following)

☒ 1. This project, either by itself or in conjunction with other previously completed or ongoing projects, will cover the entire geographic area of the governmental unit.

OR

☐ 2. This project, either by itself or in conjunction with other previously completed or ongoing projects, will cover only part of the geographic area of the governmental unit.

E. Information & Education Activities

☐ The project will develop and/or implement information and education activities or public participation strategies other than those that are components of the other project categories.

F. Inter-Municipal Cooperation (Bonus)

☒ This project is being conducted as part of an inter-governmental storm water management strategy for a common water resource.

UNPS&SW Grant Project Name
Town Stormwater Plan

Part III. Competitive Elements (continued)

Question 7. Likelihood of Success of the Project

Yes	No	NA		
☒	☐	☐	A.	Existence of Land Use Plan The governmental unit has an approved land use, approved growth management, or exclusive zoning plan that directs future development into areas that will have the least impact on the quality of the surface/ground waters.

Describe how the land use plan directs future development:

Land Use Plan was adopted in 1994. Plan does not allow development in steeply sloped areas(>20%). Plan identifies sensitive natural areas and limits development in those areas. Plan identifies minimum lot sizes of 20,000 sq feet for cluster development and 65,000 sq feet for non-cluster developments. Plan calls for preservation of existing native woodlands. Minimum lot size has since been changed to 28,000 square feet. A minimum of five acre lot size is required for all Certified Survey Maps (CSM) in the Town.

☒	☐	☐	B.	Consistency with resource management plans The project focuses on plans to implement a water quality recommendation from a locally approved resource management plan.

Summarize the water quality recommendation:

A 1990 report titled "Natural Systems Land Use Feasability Study for the Town of Middleton by Zimmerman and Kailing recommends six major elements to "keep the natural ecosystems healthy and self-sustaining." 1) Education and Information 2) Town Planning Initiatives 3) Alternate Planning and Zoning Strategies 4) Private Land Conservation 5) Agency Cooperation 6) Legislative Action. This Stormwater plan will specifically address items #1,#2 and #3 from this report.

C. Supporting Regulations

The governmental unit has adopted:

☐	☒	☐	1.	a construction site erosion control ordinance consistent with the performance standards of s. NR 151.11, Wis. Adm. Code.
☐	☒	☐	2.	a stormwater management ordinance consistent with the performance standards of s. NR 151.12, Wis. Adm. Code.

Describe in relation to the goals of the project:

Existing Town ordinances for storm water and erosion control will be reviewed and modified to be compliant with the Dane County standards calling for infiltration, 80% removal of Total Suspended Solids (TSS) and peak shaving control as a part of this project.

Question 8. Use of Additional Funding

Yes	No	NA	
☐	☒	☐	Funding requested is below the 70% cost-share rate and below the $85,000 cap.

Question 9. City of Racine

Yes	No	NA	
☐	☒	☐	This is an application from the City of Racine for a project that is necessary for the city to comply with state storm water permitting requirements.

Part IV. Eligibility for Multipliers

Completion of this part of the application is optional. However, an applicant can increase the final project score by qualifying for a project multiplier.

Local Implementation Program (select all that are in place as of the application submittal date)

Yes

☒ A. The governmental unit is implementing a pollution prevention information and education program targeted for property owners and other residents.

UNPS&SW Grant Project Name
Town Stormwater Plan

Part III. Competitive Elements (continued)

☒ B. The governmental unit is implementing a nutrient management plan for municipally owned properties of at least five acres of pervious area where nutrients are applied.

☒ C. The governmental unit is implementing a tracking of storm water permitting activity (construction and post-construction) in the governmental unit and will make summary information available to the DNR.

UNPS&SW Planning Program Grant Application
Form 8700-209A (R 1/04) Page _ of _

UNPS&SW Grant Project Name
Town Stormwater Plan

Optional Additional Information

Carefully review the answers to all of the questions above. Is there additional information that will add to the understanding of this project? If so, please describe:

The proposed town study will include:

1. Description of Watersheds
- Potential Infiltration locations within the four watersheds (Black Earth, Pheasant Branch, Upper Sugar, and Badger Mill Creek)
- Inventory of Detention Ponds and pollutant removal
- Inventory of and Public Lands Maintenance Practices
- Inventory of Streams, Ponds, Wetlands
- Inspection and Maintenance of Storm Water Detention Ponds
2. Statement of Problems
3. Sources of Problems (quality and quantity)
- Illicit Discharge Detection
4. Alternative Analysis- Stormwater Quantity
5. Alternative Analysis- Stormwater Quality
6. Alternative Analysis- Stormwater Infiltration (particular emphasis in Black Earth Creek)
6. Recommended Improvements
- Municipal Pollution Prevention Program
- Water quantity improvements
- Ordinance Modification for stormwater quality and quantity control
7. Cost Estimates for Recommendations
8. Prioritization of Improvement for next ten years
9. Description of Funding Sources

Applicant Certification

An Authorized Representative must sign and date the application form prior to submittal to the DNR. All four copies must include the Authorized Representative's signature.

I certify that, to the best of my knowledge, the information contained in this application and attachments is correct and true.

Signature of Authorized Representative	Date Signed
	4-15-04

Name and Title (Please type or print legibly)

James J. Mueller Clerk/Administrator

To be considered for funding, submit four printed and signed copies of a completed application form [DNR Form 8700-209A (R 1/04)] postmarked by midnight on April 15, 2004. Mail grant application and attachments to:

Department of Natural Resources
Attn: Kathy Thompson - WT/2
P.O. Box 7921
Madison WI 53707-7921

Electronic submissions will not be accepted.

TOWN STORM WATER
Plan13/17

TOWN BOARD MINUTES
TOWN OF MIDDLETON
March 15, 2004

Chair Breunig called the meeting to order at 7:04 p.m. In attendance were Supervisors Acker, Shaw, Irvine and Oberle and Attorney Voss, Administrator Mueller, Engineer Zubella and many individuals including Gary Whitney.

1. Proof of Publication & Posting
Administrator/Clerk Mueller informed the meeting that the meeting notice was published, posted at the three official locations, placed on the web site, e-mailed to the Town list and distributed to all members.

2 Approve the Minutes of the Meetings of February 16 and 27 and March 1, 2004

Moved and seconded by Oberle and Irvine to approve the minutes of February 16, 2004 (in item 7 add a period after time and capitalize however) Motion carried.

Moved and seconded by Irvine and Acker to approve the minutes of February 27, 2004 with the correction to 11:06 a.m. Motion carried.

Moved and seconded by Oberle and Irvine to approve the minutes of March 1 after amending item 4 to show Shaw as the second and item 10 to note Oberle's request for the City of Middleton to install a speed bump sign at Evergreen and Airport Roads. Motion carried.

3. Public Input-None

4. 7:00 p.m. Public Hearing-Preliminary Plat of Highwood Circle Estates
Mike Murphy presented the preliminary plat. He indicated that the lot line between lots 5 & 6 will be moved slightly south to line up with the north edge of the outlot and that he would provide an outlot for the trail easement instead of an easement.

John Peters, a resident for 12 years, indicated that the plat was compatible with the preexisting lots and therefore he was supportive of the plat.

Moved and seconded by Breunig and Irvine to close the public hearing. Motion carried at 7:15 p.m..

Zubella reviewed his letter of January 30. There was a lengthy discussion about the application of the Town's open space requirements and parkland dedication. Comparisons were made to the Tumbledown Trails Plat and Murphy differentiated that by saying that in the present case it is the same family that dedicated the road and is now developing the abutting lands.

Moved and seconded by Acker and Irvine to approve the lay out of the lots and condition the approval of the preliminary plat to the issues in the Engineer's letters of January 30 and Feb. 4th and subject to agreement of crediting open space and subject to the developer and the Park Commission agreeing on the size of the park space in the outlot and whether the trail between lots 5 & 6 is an easement or is contained in an outlot. Motion carried.

5. 7:20 p.m. Public Hearing- 4-Lot Certified Survey Map, Jim and Dee Judd, 7801 w. Old Sauk Road

Town Storm Water Plan 14/17

approve the plans as submitted with the exception that the lighting which is to be on the east side shall be a maximum of a 60 watt incandescent bulb is to be controlled by a motion detector. Motion carried.

8.Waiver Requested for Gary Karls, 6 Lot Certified Survey Map
Gary Karls presented a concept 6 lot division of his two parcels along Mineral Point Road. Bob Wink, President of the Cherrywood Acres Homeowners Association and the owners of lots 8 and 9 were in attendance. Wink stated that all of the owners of the abutting properties in Cherrywood Acres supported 6 lots without outlots provided that the outbuildings and sheds are removed, that usage is restricted to single family and that there are covenants regarding square footage, prohibiting above ground pools, controlling outbuildings, etc. It was recommended that a document agreeing to the land division and signed by all neighbors could be obtained.

Karls will submit a preliminary plat to the Plan Commission.

9.Engineer's Report

a. Bronner Road-Twin Valley Road Connection
Zubella presented a profile, elevations and cross sections for a possible road connection. He also presented cost estimates and a concept for impact fees. The Board decided to continue to pursue investigating the feasibility and estimated costs of this project.

b. Storm water Grants and Services
The Board directed the Engineers work with Mueller to develop projects and grant applications for storm water control. One project could be in Applewood. A future project could be in the Seybold Road area.

c. Hillside Protection
Zubella presented his letter and asked the Board to provide direction on this matter. The Board will consider the matter.

d. Private Consulting on Project in Town
Zubella indicated that Vierbicher has a client that would like to pursue a development in the Town. The Board consented to Vierbicher representing their client provided that the Town will be able to retain an Engineer familiar with the Town and its Ordinances to represent the Town. Greg Heid has been contacted and will consider representing the Town.

10.Attorney's Report
Attorney Voss informed the Board that progress was being made toward the closing with the Hinrichs for the addition to the Dane County Old Lake Middleton Park. H e also reported on a conversation with representatives of the Middleton-Cross Plains School District regarding their interest in real estate.

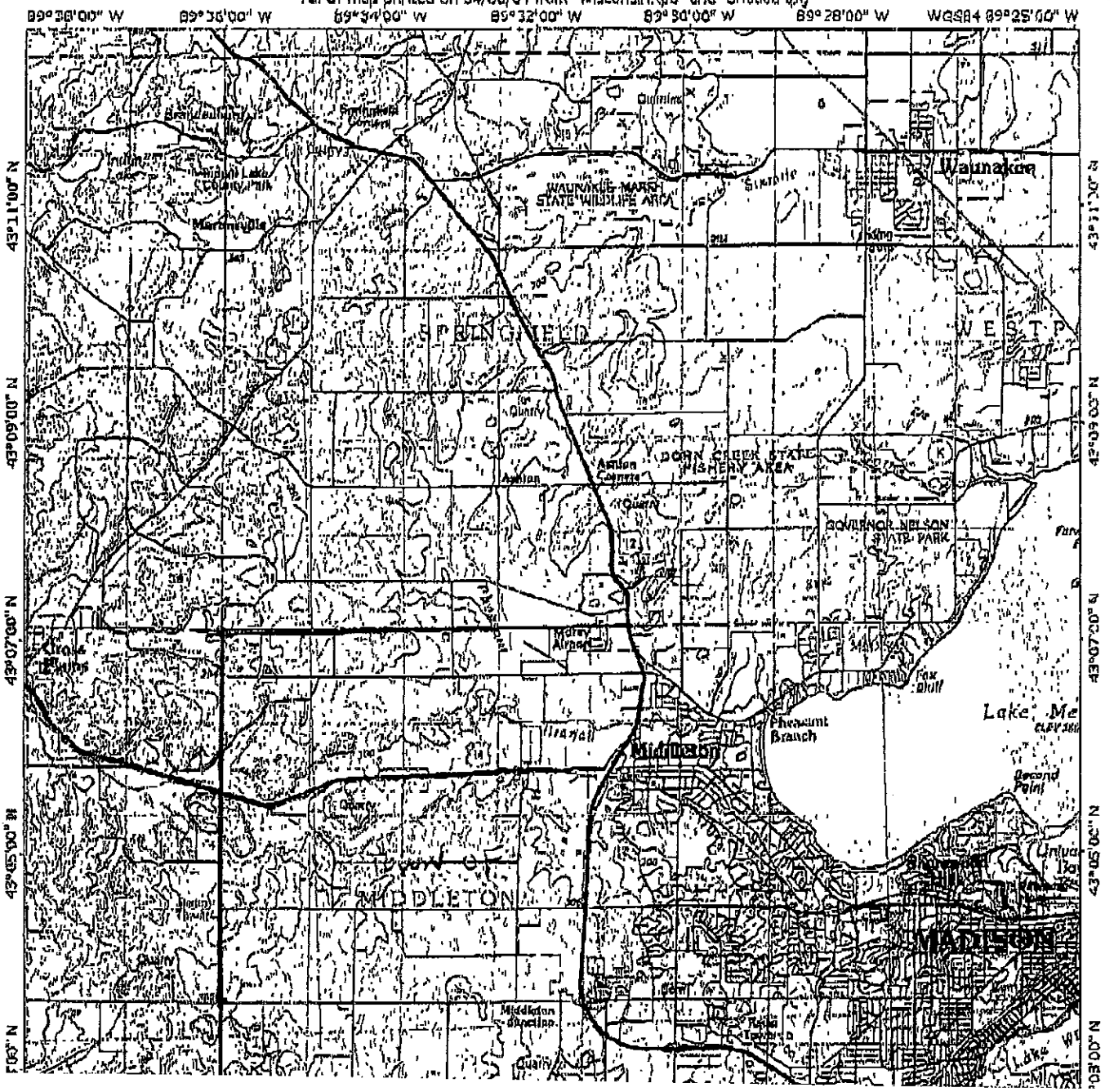
11. Appointment of Mel Pope to the Park Commission
Chair Breunig appointed Mel Pope to the Park Commission Term ending June 30 , 2007. Moved and seconded by Irvine and Shaw to confirm Mel Pope's appointment. Motion carried.

12. Amend Weight Limit Ordinance
Mueller recommended increasing the weight limit for through trucks from the present 8,000 pounds to ten tons to be in line with neighboring Towns and to be at a practical level.

Moved and seconded by Breunig and Acker to amend the weight limit to ten tons from 8,000

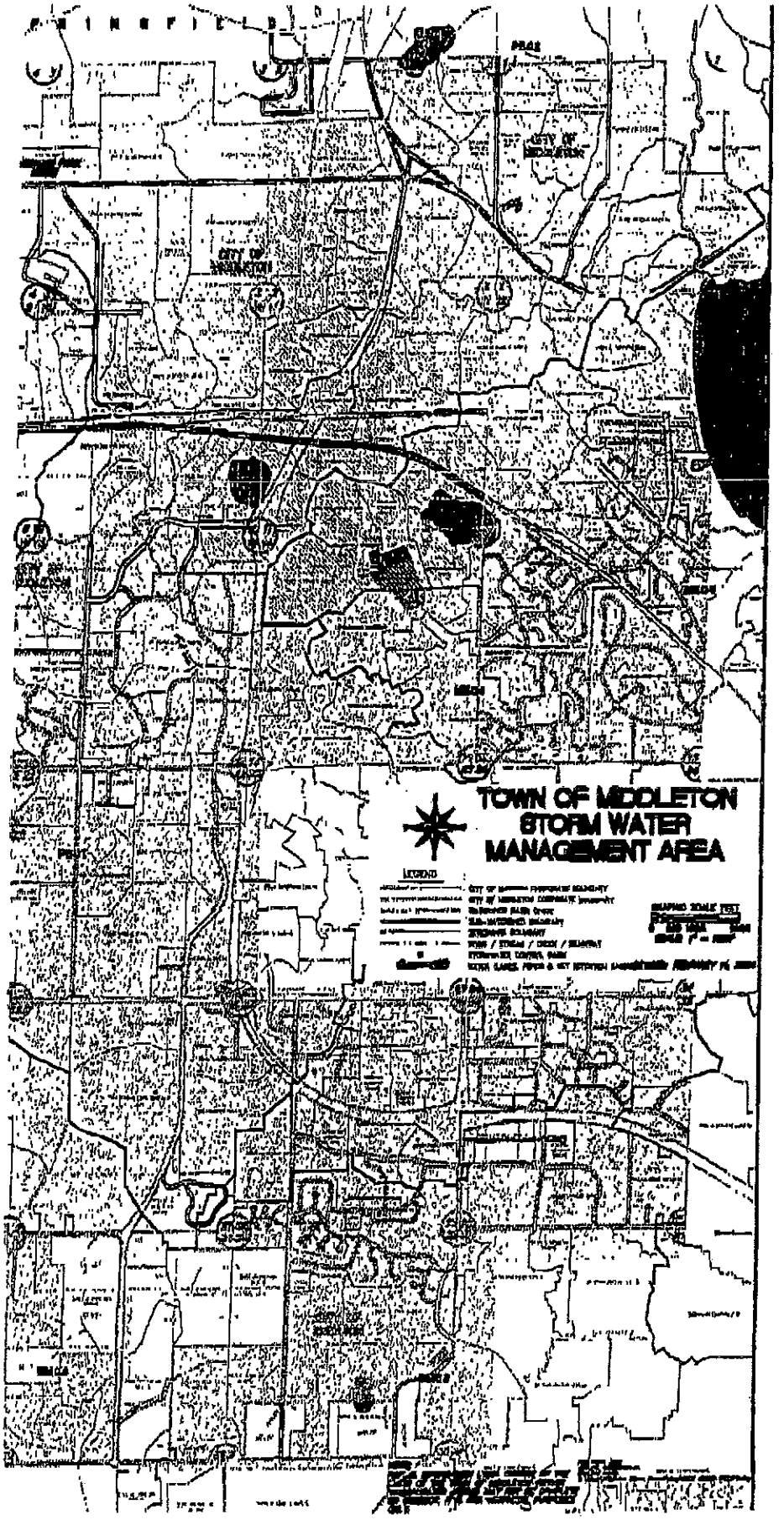
Town Stormwater Plan.. 15/18

TOPO! map printed on 04/06/01 from "Wisconsin.tpo" and "Untitled.tpg"



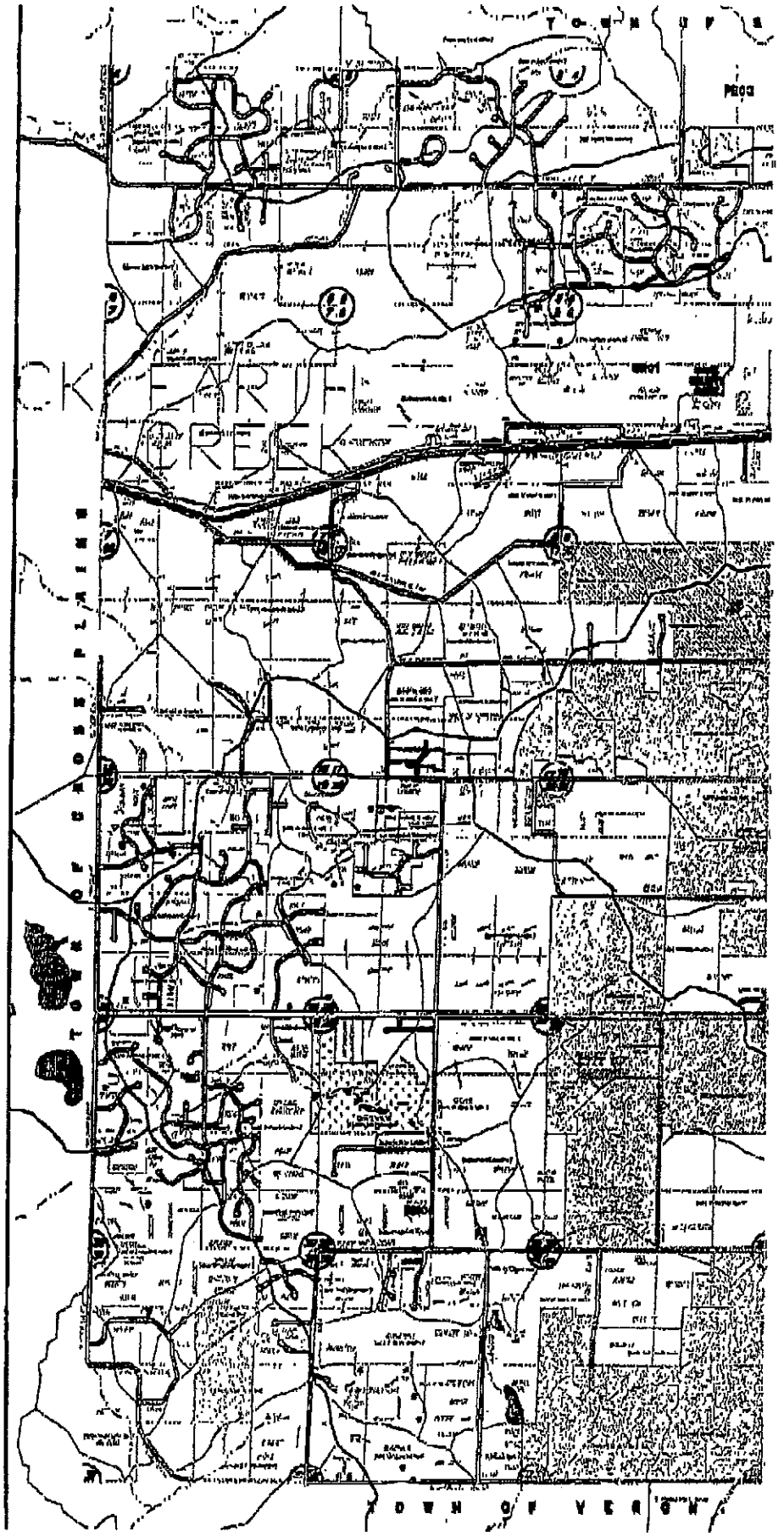
16/17

Town Storm water Plan



17/17

Town Storm Water Plan



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

WISCONSIN DEPT. OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TTY 608-267-6897

Jim Mueller, Town Administrator
Town of Middleton
7555 W. Old Sauk Road
Verona, WI 53593

Subject: Selection of Urban Planning Projects for Calendar Year 2005
Project Information: Town of Middleton, Town Stormwater Plan

Dear Jim Mueller:

The Department of Natural Resources (Department) has finalized the selection of the projects to receive Urban Planning funding in calendar year (CY) 2005. We are pleased to inform you that your application met the minimum qualifications and scored well enough to be funded.

Using the criteria included in the grant application materials, Departmental staff reviewed each application and assigned a score. All scored applications were ranked, in descending order, based upon the score assigned to it by reviewers. Projects were selected for funding based upon the application score and available funding.

Departmental staff will soon develop your grant contract, which will include the exact amount of funding to be offered for your project. Please note that the amount of funding originally requested in your application may be reduced, if necessary, to reflect administrative rule requirements concerning eligible activities and cost-share rates. If appropriate, your regional Nonpoint Source (NPS) Coordinator will soon be discussing the need for reduced funding with you.

The Department intends to make all grant funds available by January 1, 2005. If during the next three months you conclude that you will not be able to move forward with your project for any reason, please notify your regional NPS Coordinator immediately. If you have any questions regarding the availability of your grant contract or grant funds, please contact the regional NPS Coordinator at the telephone number listed below, or Kathleen Thompson, Runoff Management Grant Coordinator, at (608) 267-7568 or Kathleen.Thompson@dnr.state.wi.us.

In early 2005, the Department may host several Implementation Workshops for managers of projects receiving Calendar Year 2005 grant funding. These half-day workshops will include an important overview of the two-year implementation period and the procedures for quarterly reporting and requesting reimbursements. At a later date, a letter of invitation containing the schedule and locations of workshops will be sent to you regarding the workshops.

We congratulate you on the selection of your project and look forward to working with you.

Sincerely,

Gordon R. Stevenson, P. E.
Chief
Runoff Management Section
Bureau of Watershed Management

Mary Ross Reves
Chief
Grants Section
Bureau of Community Financial Assistance

cc: Jim Amrhein, SCR NPS Coordinator, (608) 275-3280
Jim Mueller, Town Administrator
Charles Nahn, Project Manager, Vierbicher Associates, Inc.

Att: Final Ranking List

EXHIBITS

Exhibits include all mapping. This is a UNPS grant requirement and a task identified in the agreement between the Town of Middleton and Vierbicher Associates, Inc. to address UNPS grant requirements and develop a Stormwater Master Plan. The maps developed for this master plan include a Detention Basin Maintenance Plan, a Surface Watersheds Map (Dane County), a Soils Map, a Wetland map, and a Stormwater Facilities Map. There is also a map produced with the Stormwater GIS included in Exhibit 6. At the time this master plan was completed, new draft FIRM (floodplain) maps had just been issued. There are no floodplain maps included in this master plan.

- **Exhibit 1: Detention Basin Maintenance Plan**
- **Exhibit 2: Surface Watersheds – Dane County**
- **Exhibit 3: Soils Map**
- **Exhibit 4: Wetland Map**
- **Exhibit 5: Stormwater Facilities Map** (This map will likely be replaced by the plan produced by the Stormwater GIS. This map does not reflect January, 2007 changes to the MAMSWaP sewershed basin boundary lines).
- **Exhibit 6: Stormwater GIS**
- **Exhibit 7: Physical Geography and Hydrology** (Map 3 from the Black Earth Creek Resource Area Plan)
- **Exhibit 8: Proposed Trails and Corridor Lands** (Map 10 from the Black Earth Creek Resource Area Plan)
- **Exhibit 9: Spill Reporting and Cleanup Information**
- **Exhibit 10: Tumbledown Golf Course** (Topographic Survey, Site Visit & Photo Log: Drainway Downstream From Tumbledown Golf Course)

Exhibit 1

Detention Basin Maintenance Plan

Detention Basin Maintenance Plan

Routine and preventive maintenance activities for Town owned detention basins should include inspections on an annual basis and after major storm events. At a minimum, inspections should include the following activities:

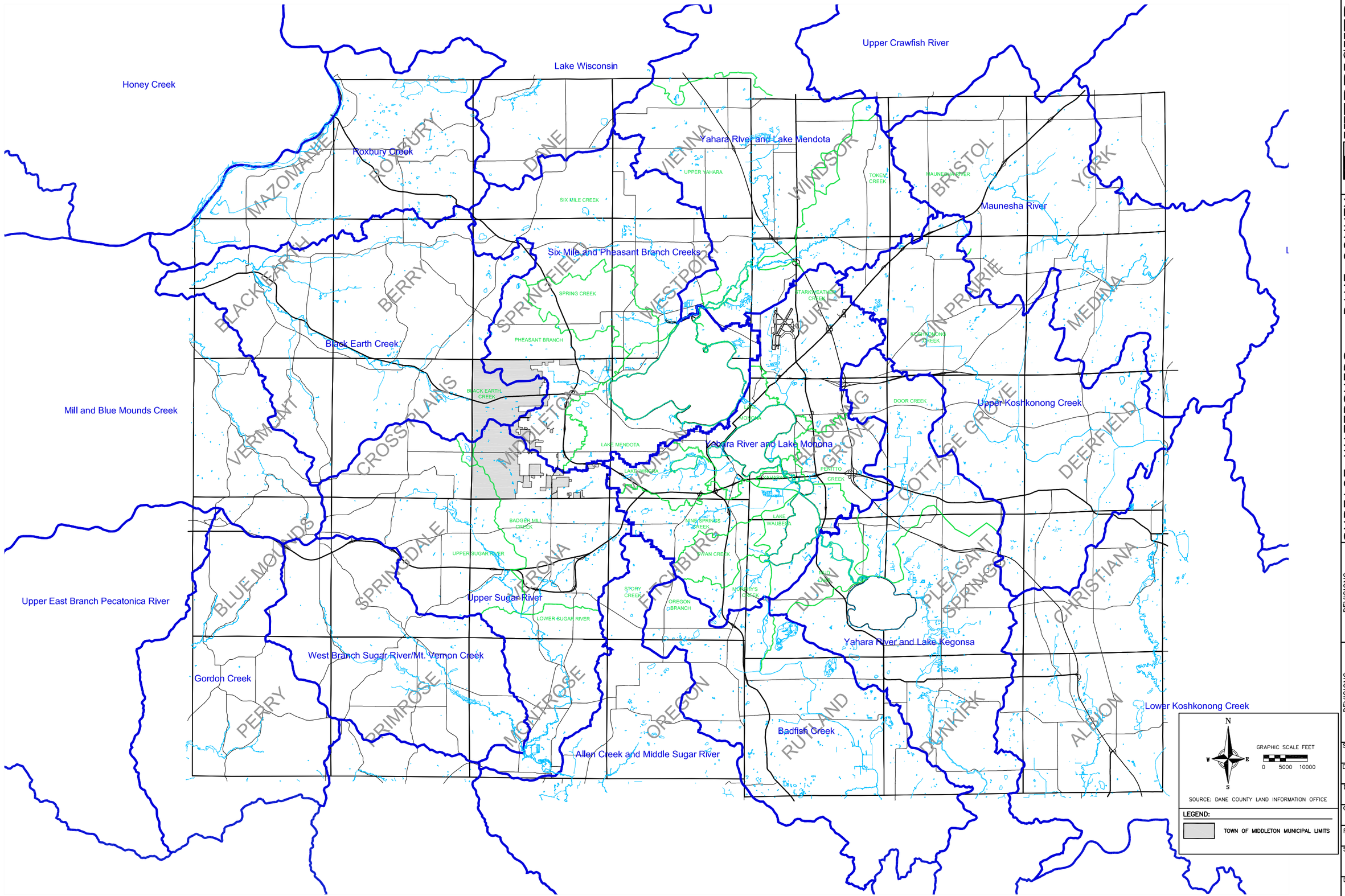
1. Visually inspect the detention basin, outfalls and outlet structure annually and after every rain storm greater than 2.5 inches. Record inspection reports as hard copies and in electronic file format, and link the electronic files to the Stormwater GIS System.
2. Check for adequate access for maintenance equipment.
3. Mow the detention basin a minimum of twice annually. Mowing shall maintain a minimum grass height of 6 to 8 inches. All undesirable vegetation and volunteer tree growth shall be removed, including close proximity to any outfall and the outlet structure.
4. Check for areas where riprap must be repaired or replaced.
5. Determine the need for reseeding eroded areas or areas that have poor or no vegetative cover.
6. If restored with native plant species, check for invasive plant species, non-native plant species, and noxious weeds. Follow up with removal of undesirable species as necessary.
7. Check fences for loose or damaged posts, loose or broken wires, accumulated debris, and the condition of any gates.
8. Check the principal and emergency release structures/outlets for:
    - Deterioration or damage to the structures
    - Obstructions blocking outlet pipe, channel, or spillway.
    - Sediment level in relation to the release structure controls
    - Operation of gates, valves and/or emergency drawdown devices (infiltration areas)
    - The condition of the receiving area/channel at the downstream end of the outlet, including conditions downstream from the outlet (scour, erosion etc.).
9. Require routine surveys of detention basins on a facility by facility basis, to determine the amount of sediment accumulation. Survey frequency could be as frequent as every three (3) years.
10. When sediment in the basin affects the functionality of the facility, the sediment shall be dredged and disposed of off-site in accordance with NR 347.
11. Maintain detailed records of inspections, mowings and other maintenance activities, and survey data for annual reporting purposes.
12. Maintenance activities for areas restored with native species are critical during the first three (3) years of their restoration. Develop a restoration plan for areas with native species on a facility by facility basis. Include both native plant density and eradication of weeds and invasive, non-native species.
13. Maintenance activities for infiltration areas (including bio-retention areas) should be developed on a facility by facility basis.

DRAFT

Exhibit 2

Surface Watersheds – Dane County

©2005 Vierbicher Associates, Inc.



VIERBICHER ASSOCIATES
Committed to Quality Service Since 1976
REEDSBURG • MADISON • PRAIRIE DU CHIEN
999 Fourier Drive, Suite 201 Madison, Wisconsin 53717
Phone: (608) 828-0532 Fax: (608) 828-0530

SURFACE WATERSHEDS – DANE COUNTY

Stormwater Master Plan
Town of Middleton, WI

REVISIONS			
NO.	DATE	REMARKS	

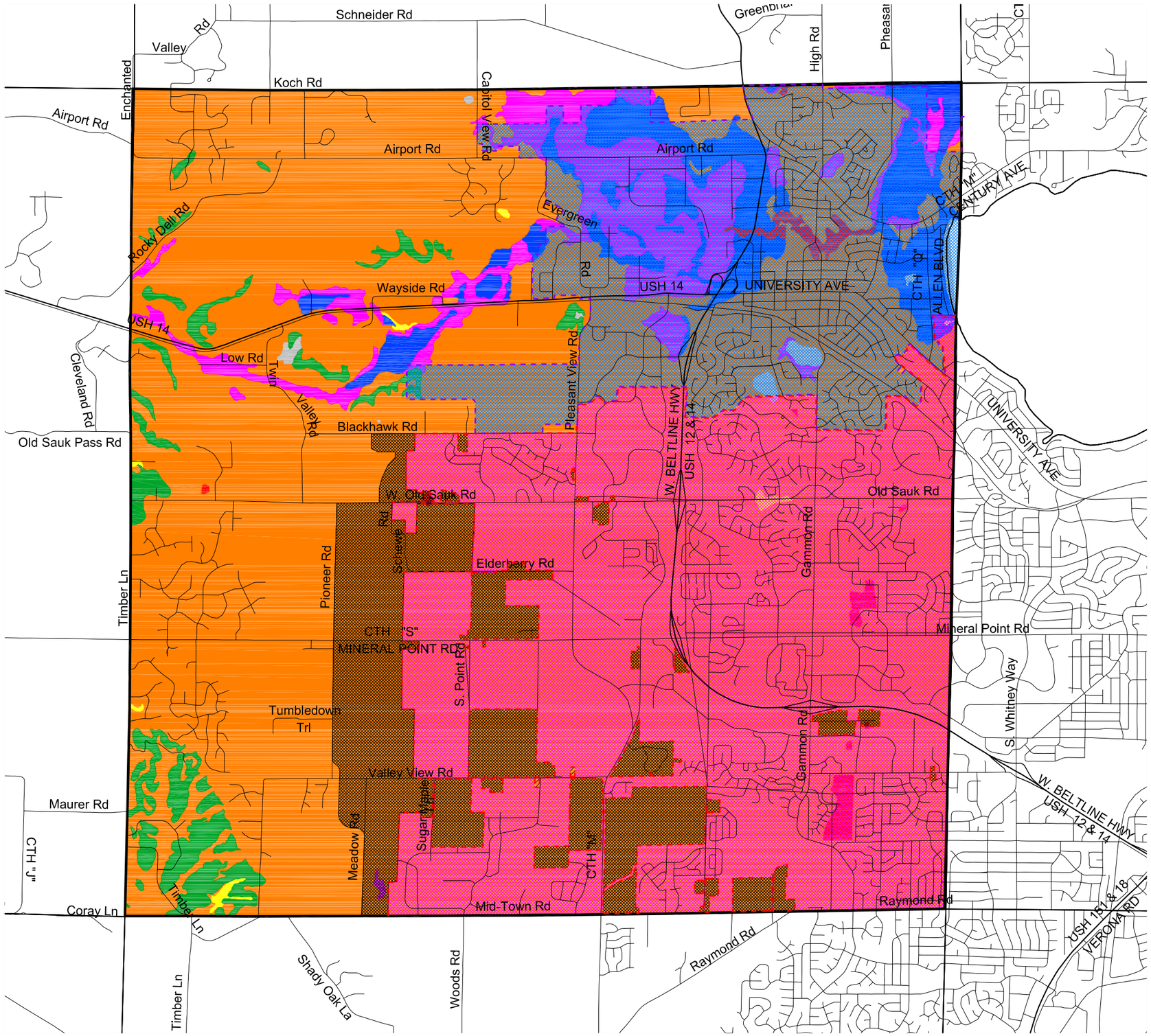
REVISIONS			
NO.	DATE	REMARKS	

SCALE: AS SHOWN
DATE: 09-06
DRAFTER: JSR
CHECKED:
PROJECT NO. 026045069.00
SHEET OF
DWG. NO. EXHIBIT 2

04 Apr 2007 – 10:45a V:\LDD2\MIDDLETON-STORM PERMIT\dwg\TMidd_SW_BASEMAP.dwg by: jrad

Exhibit 3

Soils Map



LEGEND

- TYPE A SOILS
- TYPE A/D SOILS
- TYPE B SOILS
- TYPE B/D SOILS
- TYPE C SOILS
- TYPE D SOILS
- TYPE N/A SOILS
- CITY OF MIDDLETON
- CITY OF MADISON
- BOUNDARY ADJUSTMENT AREA WITH CITY OF MADISON

N
W E
S

GRAPHIC SCALE FEET

0 2000 4000

SOURCE: DANE COUNTY LAND INFORMATION OFFICE

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REEDSBURG - MADISON - PRAIRIE DU CHIEN
999 Fourier Drive, Suite 201 Madison, Wisconsin 53717
Phone: (608) 826-0532 Fax: (608) 826-0530

SOILS MAP

Stormwater Master Plan
Town of Middleton, WI

REVISIONS		
NO.	DATE	REMARKS

REVISIONS		
NO.	DATE	REMARKS

SCALE: AS SHOWN
DATE: 2006
DRAFTER: JSR
CHECKED:
PROJECT NO. 026045069.00
SHEET OF
DWG. NO. EXHIBIT 3

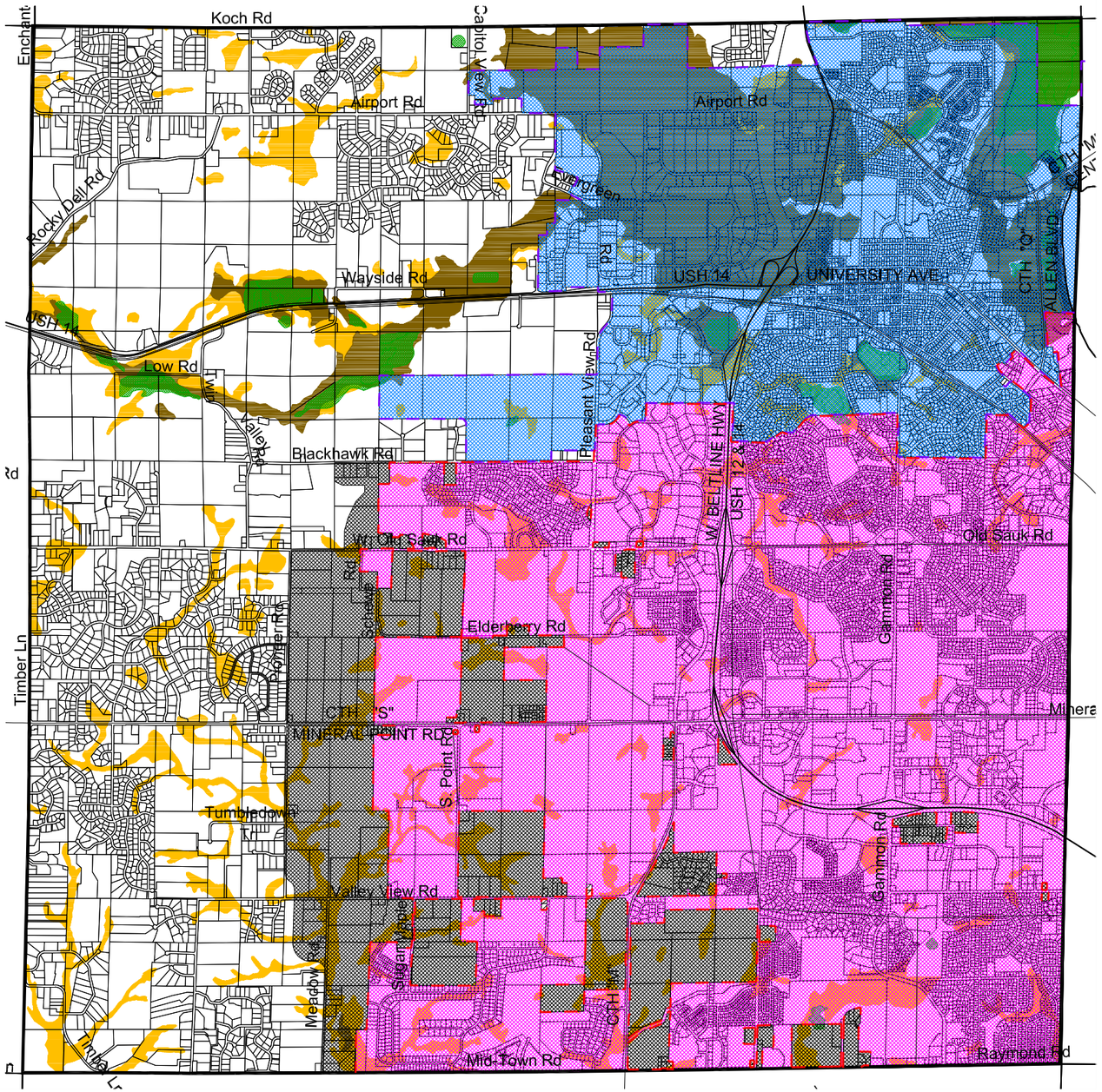
©2005 Vierbicher Associates, Inc.

04 Apr 2007 – 11:03a V:\LDD2\MIDDLETON-STORM PERMIT\dwg\TMidd_SOILS_PLOT.dwg by: jrad

Exhibit 4

Wetland Map

©2005 Vierbicher Associates, Inc.



LEGEND

- WETLANDS
- HYDRIC SOILS
- HYDRIC INCLUSION SOILS
- CITY OF MIDDLETON
- CITY OF MADISON
- BOUNDARY ADJUSTMENT AREA WITH CITY OF MADISON

NOTE: THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY.

N
W E
S

GRAPHIC SCALE FEET

0 2000 4000

SOURCE: DANE COUNTY LAND INFORMATION OFFICE

VIERBICHER ASSOCIATES
Committed to Quality Service Since 1976
REEDSBURG - MADISON - PRAIRIE DU CHIEN
999 Fourier Drive, Suite 201 Madison, Wisconsin 53717
Phone: (608) 826-0532 Fax: (608) 826-0530

WETLAND MAP

Stormwater Master Plan
Town of Middleton, WI

REVISIONS		
NO.	DATE	REMARKS

REVISIONS		
NO.	DATE	REMARKS

SCALE: AS SHOWN
DATE: 2006
DRAFTER: JSR
CHECKED:
PROJECT NO. 026045069.00
SHEET OF
DWG. NO. EXHIBIT 4

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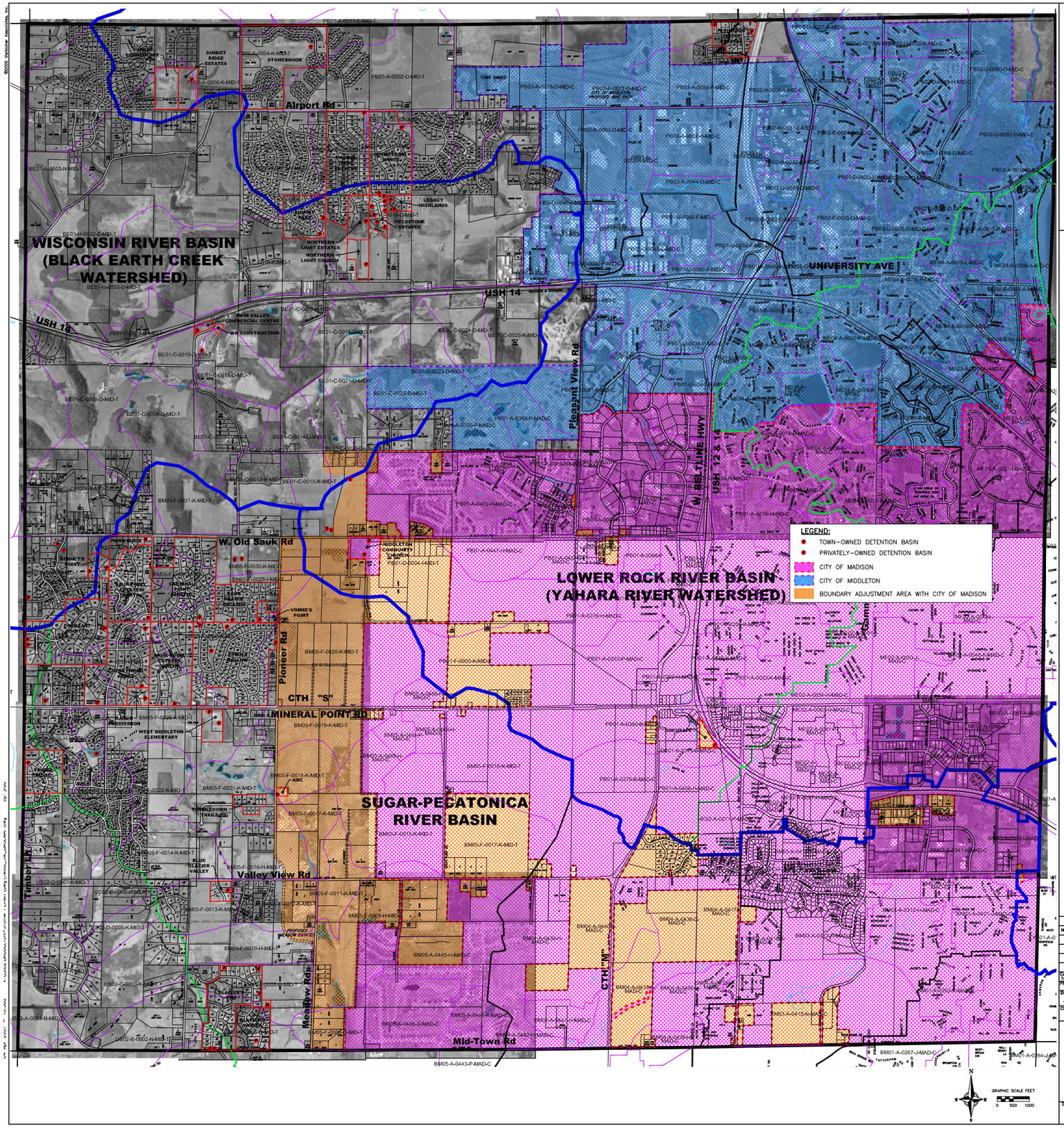
Exhibit 5

Stormwater Facilities Map



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STORMWATER FACILITIES MAP

Stormwater Master Plan
Town of Middleton, WI

REVISIONS		
NO.	DATE	REMARKS

CAD FILE/ FIELD BOOK
Middle_SW_BASEMAP.dwg

PROJECT NO. 026045089.00

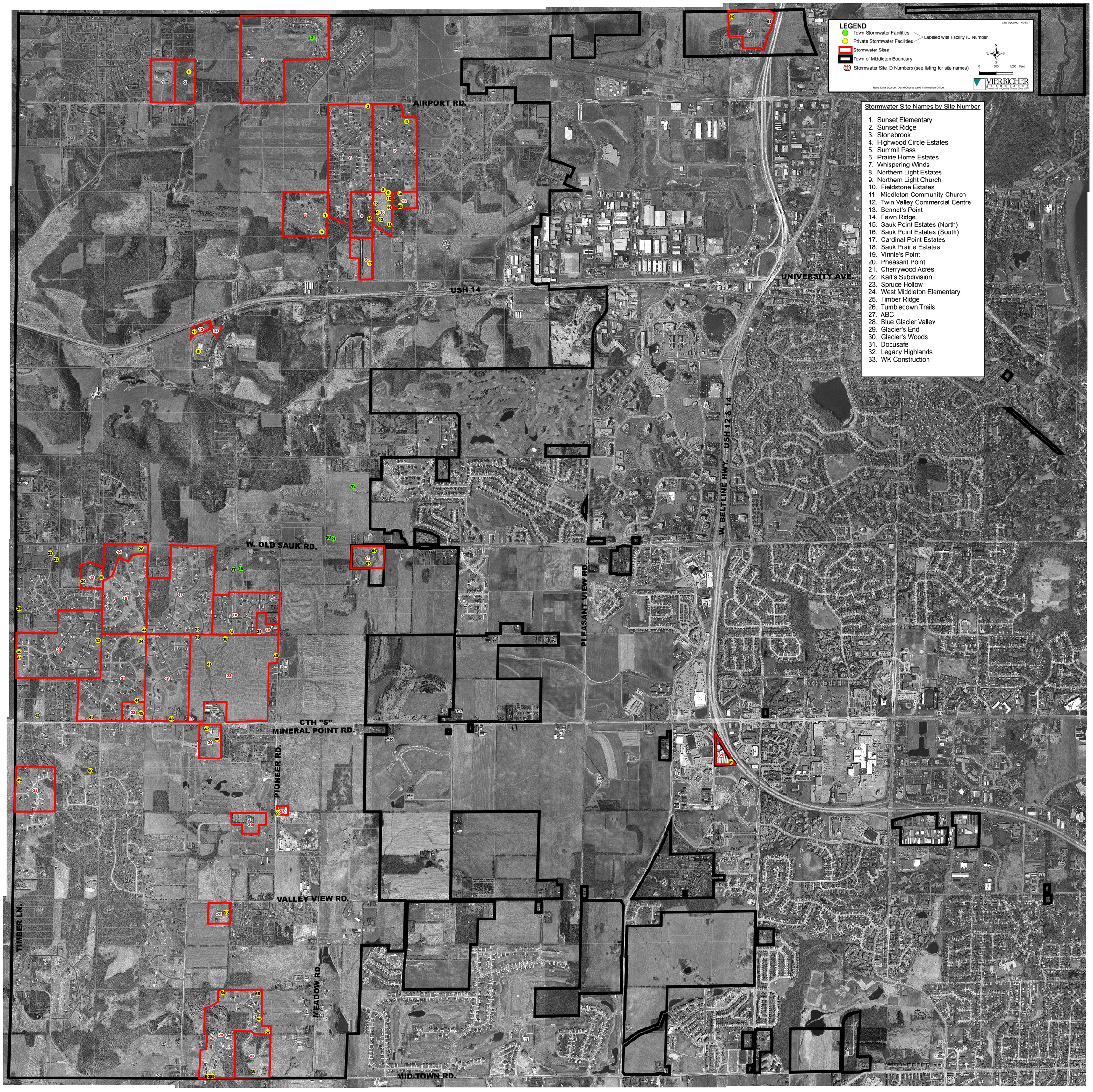
DRAFTER	SCALE
JSR	
CHECKED	DATE
	09-06

DWG. NO.
EXHIBIT 5

Exhibit 6

Stormwater GIS

TOWN OF MIDDLETON STORMWATER GIS



Stormwater Site Names by Site Number

1. Sunset Elementary
2. Sunset Ridge
3. Stonebrook
4. Highwood Circle Estates
5. Summit Pass
6. Prairie Home Estates
7. Whispering Winds
8. Northern Light Estates
9. Northern Light Church
10. Fieldstone Estates
11. Middleton Community Church
12. Twin Valley Commercial Centre
13. Bennet's Point
14. Fawn Ridge
15. Sauk Point Estates (North)
16. Sauk Point Estates (South)
17. Cardinal Point Estates
18. Sauk Prairie Estates
19. Vinnie's Point
20. Pheasant Point
21. Cherrywood Acres
22. Karl's Subdivision
23. Spruce Hollow
24. West Middleton Elementary
25. Timber Ridge
26. Tumbledown Trails
27. ABC
28. Blue Glacier Valley
29. Glacier's End
30. Glacier's Woods
31. Docusafe
32. Legacy Highlands
33. WK Construction

Fact Sheet: Stormwater GIS
Town of Middleton, Wisconsin
February 9, 2007

What is a GIS?

A Geographic Information System (or Geospatial Information System) is a system for capturing, storing, analyzing and managing data and associated attributes which are spatially referenced to the earth. In the strictest sense, it is a computer system capable of integrating, storing, editing, analyzing, sharing, and displaying geographically-referenced information. In a more generic sense, GIS is a tool that allows users to create interactive queries (user created searches), analyze the spatial information, edit data, and present the results of all these operations.[1]

What information does the Town's Stormwater GIS include?

The Stormwater GIS for the Town of Middleton contains aerial photographs of the Town, the municipal boundary, polygon shapes for each logged site, and data points for each logged stormwater facility or management practice. Data associated with each polygon and data point is described on the Site Information and Facility / Management Practice Information summary sheets (attached).

Why does the Town have a Stormwater GIS?

The Stormwater GIS for the Town of Middleton was developed primarily to track stormwater and erosion control permits, to inventory stormwater management facilities and practices, and to track inspection and maintenance activities associated with long-term stormwater maintenance agreements.

Who will keep the system updated and who will have access?

In the initial stages of this system Vierbicher Associates, Inc. (VAI) will be the primary maintainer of data and operator of the system (ArcGIS), though the Town could take over ownership and maintenance of the system at a later date. The Town will be able to get information by request from VAI and if desired, routine reports could be issued to the Town. For example, at the middle of each month, a report could be generated and issued to the Town that lists all detention basins that require maintenance the following month.

[1] From: http://en.wikipedia.org/wiki/Gis

Site Information (Polygons)

Through ArcGIS, the user will be able to access the information listed below for each logged site. For new plats, data should be entered for each phase even if phase limits drawn in ArcGIS are not exact.

FieldName	Description	Contains	Notes
SiteID	Site ID number	text (vs. integer)	want it to be "0001", not "1". e.g.
SiteName	site / plat name	text	one polygon per phase
Location	location description	text	large field
LandUse	land use	text	--
VAIPrjNo	VAI project number	VAI project # (text)	project and task number
SWECPerm	SW/EC permit information	[link to .pdf file]	Update .pdf to contain all phases as necessary. File should contain name and address of applicant and landowner.
PermStat	SW/ES permit status	one of 4 choices:	submitted conditionally approved approved/active closed/expired
ApprDate	SW/EC permit approval date	integer	YYYMMDD approved
ExprDate	SW/EC permit expiration date	integer	YYYYMMDD expired
Inspctns	inspections	file path (text)	location of folder containing field reports
PermVltn	permit violations	[link to .pdf file]	.pdf file should be the violation form or notice of violation letter. Could be from the Town, the County, or the State.
WrntPnch	warranty punchlist	[link to .pdf file]	.pdf file format. This Is required to begin the warranty period for improvements to the plat. Punchlist approval begins the warranty period.
PnchAppr	punchlist approval date	integer	YYYYMMDD approved
WrntExp	warranty expiration date	integer	YYYYMMDD expired
Photos	location of pictures	file path (text)	location of folder containing picture files of site inspections

Facility / Management Practice Information (Data Points)

Through ArcGIS, the user will be able to access the information listed below for each logged stormwater facility or management practice location. Current setup allows tracking of wet detention basins, dry detention basins, infiltration areas, and a category called "other BMP" for management practices such as catch basin inserts, thermal control, street sweeping, and others.

FieldName	Description	Contains	Notes
FacilID	SW facility ID number	text (vs. integer)	want it to be "0001", not "1". e.g.
SWWetDet	SW facility option	[yes/no operator]	Does the data point/location contain a wet detention basin?
SWDryDet	SW facility option	[yes/no operator]	Does the data point/location contain a dry detention basin?
SWInfilt	SW facility option	[yes/no operator]	Does the data point/location contain an Infiltration area/facility?
SWOthBMP	SW facility option	[yes/no operator]	Does the data point/location contain other BMPs?
Owner	Private or public owner	text [P or T]	--
MainResp	Prv/pub mnt. Responsib.	text [P or T]	--
FacInfo SW	facility information	[link to .xls file]	Excel spreadsheet could include such items as tributary drainage area, permanent water surface elevation or dry basin bottom elevation, bottom of wet detention area, top of berm, total storage volume, outlet culvert information, release structure information, treatment goals (peak, TSS, infiltration, thermal, oil and grease), year constructed, construction plan info. (date, design engineer, VAI file loc.), stormwater report info. (date, design engineer, VAI file loc.), as-built survey info. (complete/incomplete, date, surveyor, VAI file loc.).
MaintAgr	SW maint. agreement	[link to .pdf file]	link to file on record at County Register of Deeds. Should contain name and address of party responsible for maintenance.
MaintFrq	maintenance frequency	text (by # of months)	06 month (= inspect twice per year) 12 month (= inspect annually) 24 month (= inspect every other year)
DtLstIns	date of last inspection	integer	YYYYMMDD of last inspection
DtNxtIns	date of next inspection	integer	YYYYMMDD **IMMEDIATELY PLACE APPOINTMENT IN OUTLOOK**

Inspctns	inspections	file path (text)	location of folder containing inspection Reports, including transmittals to the County and/or Town
Photos	location of pictures	file path (text)	location of folder containing picture files of site inspections.

Exhibit 7

Physical Geography and Hydrology
(Map 3 from the Black Earth Creek Resource Area Plan)

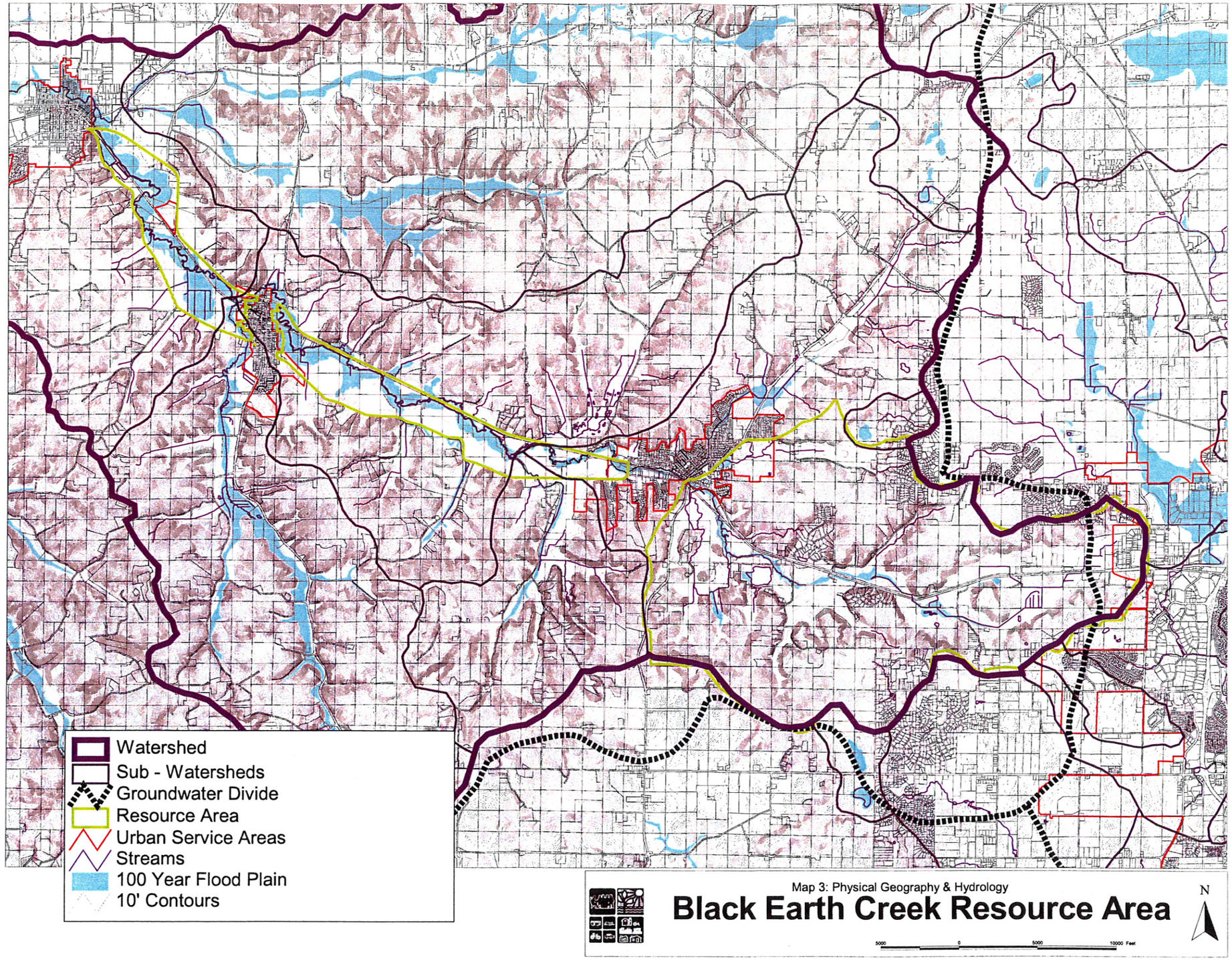

Watershed
Sub - Watersheds
Groundwater Divide
Resource Area
Urban Service Areas
Streams
100 Year Flood Plain
10' Contours
Map 3: Physical Geography & Hydrology
Black Earth Creek Resource Area
N
5000
0
5000
10000 Feet

EXHIBIT 7

Exhibit 8

Proposed Trails and Corridor Lands
(Map 10 from the Black Earth Creek Resource Area Plan)

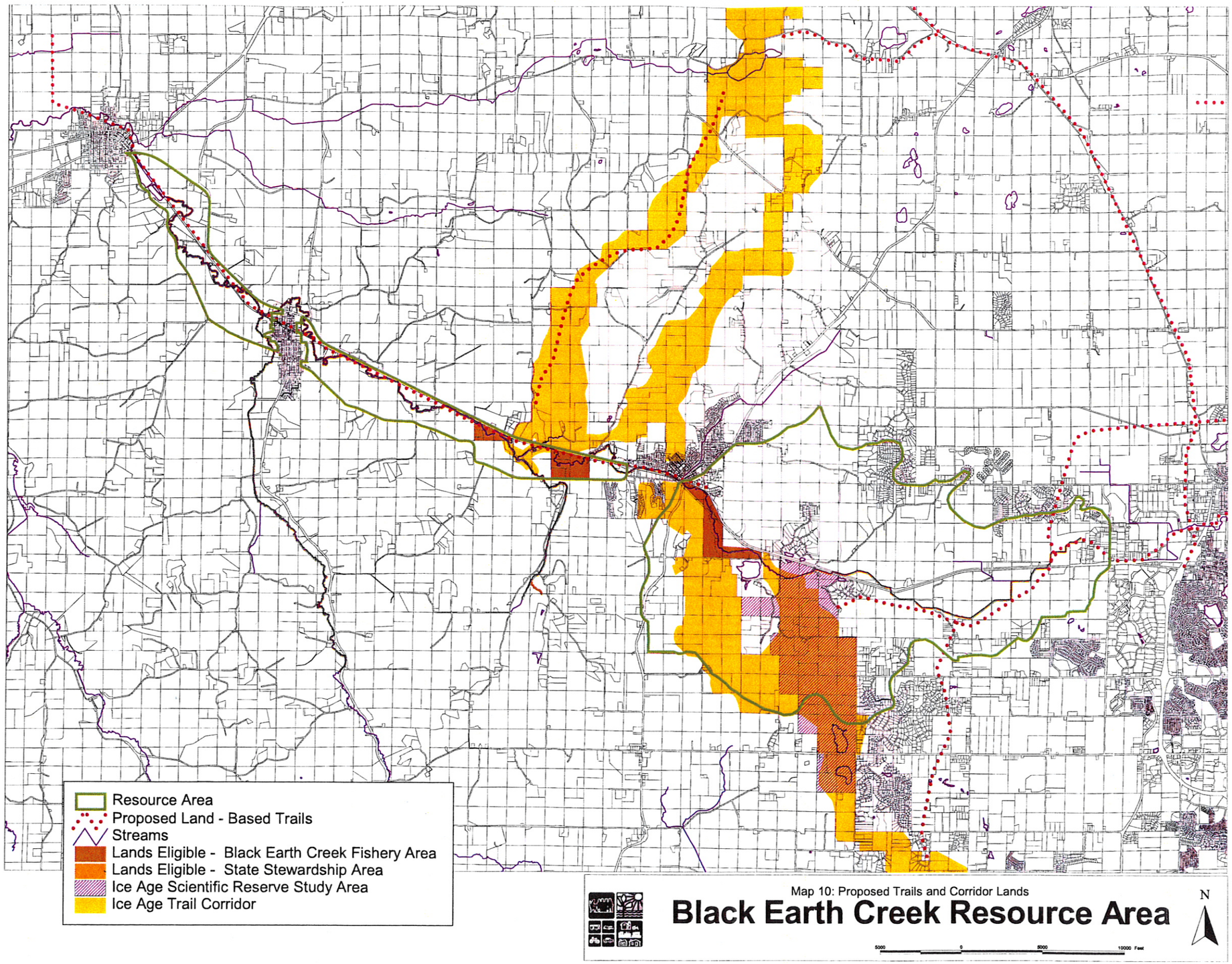

Resource Area
Proposed Land - Based Trails
Streams
Lands Eligible - Black Earth Creek Fishery Area
Lands Eligible - State Stewardship Area
Ice Age Scientific Reserve Study Area
Ice Age Trail Corridor
Map 10: Proposed Trails and Corridor Lands
Black Earth Creek Resource Area
N

EXHIBIT 8

Exhibit 9

Spill Reporting and Cleanup Information

Wisconsin Spill Reporting Requirements - *Condensed Version*

PUB-RR-560 August 2002

ALL discharges of hazardous substances that adversely impact, or threaten to adversely impact public health, welfare or the environment must be IMMEDIATELY reported to the DNR.

De Minimis Exemptions in Chapter NR 706, Wis. Adm. Code (effective 3/1/97):
***Only* apply when the discharged substance:**

√ **has evaporated or been cleaned up in accordance** with NR 700 - 726;
√ **does not adversely impact or threaten to adversely impact** the air, lands, waters of the state as a single discharge, or when accumulated with past discharges
√ **does not cause or threaten to cause** chronic/acute human health impacts
√ **does not present or threaten to present** a fire or explosion or other safety hazard

1. Petroleum compounds:
- gasoline or another petroleum product completely contained on an impervious surface.
- < 1 gallon of gasoline onto a pervious surface or runs off an impervious surface.
- < 5 gallons of other petroleum products onto a pervious surface or runs off an impervious surface.

2. Agrichemical compounds:
- < 250 pounds dry fertilizer
- < 25 gallons of a liquid fertilizer
- pesticides that would cover < 1 acre of land if applied according to label instructions.

3. Federal reportable quantities:
- < the federal reportable quantity for a specific substance

Statutory Exemptions - no reporting is required for:
- discharges within the limits authorized by a valid permit or program (Chs. 281, 285, or 289 - 299, Wis Stats)
- law enforcement /fire departments using hazardous substances to protect human health, safety, welfare;
- proper applications of a registered pesticide or a fertilizer

Call 24-hour Hotline 1-800-943-0003 to report a spill of a hazardous substance

Notes:

This document may contain some information about certain state statutes and rules but does not necessarily include all of the details found in the statutes/rules. Readers should consult the actual language of the statutes/rules to answer specific questions.

The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240

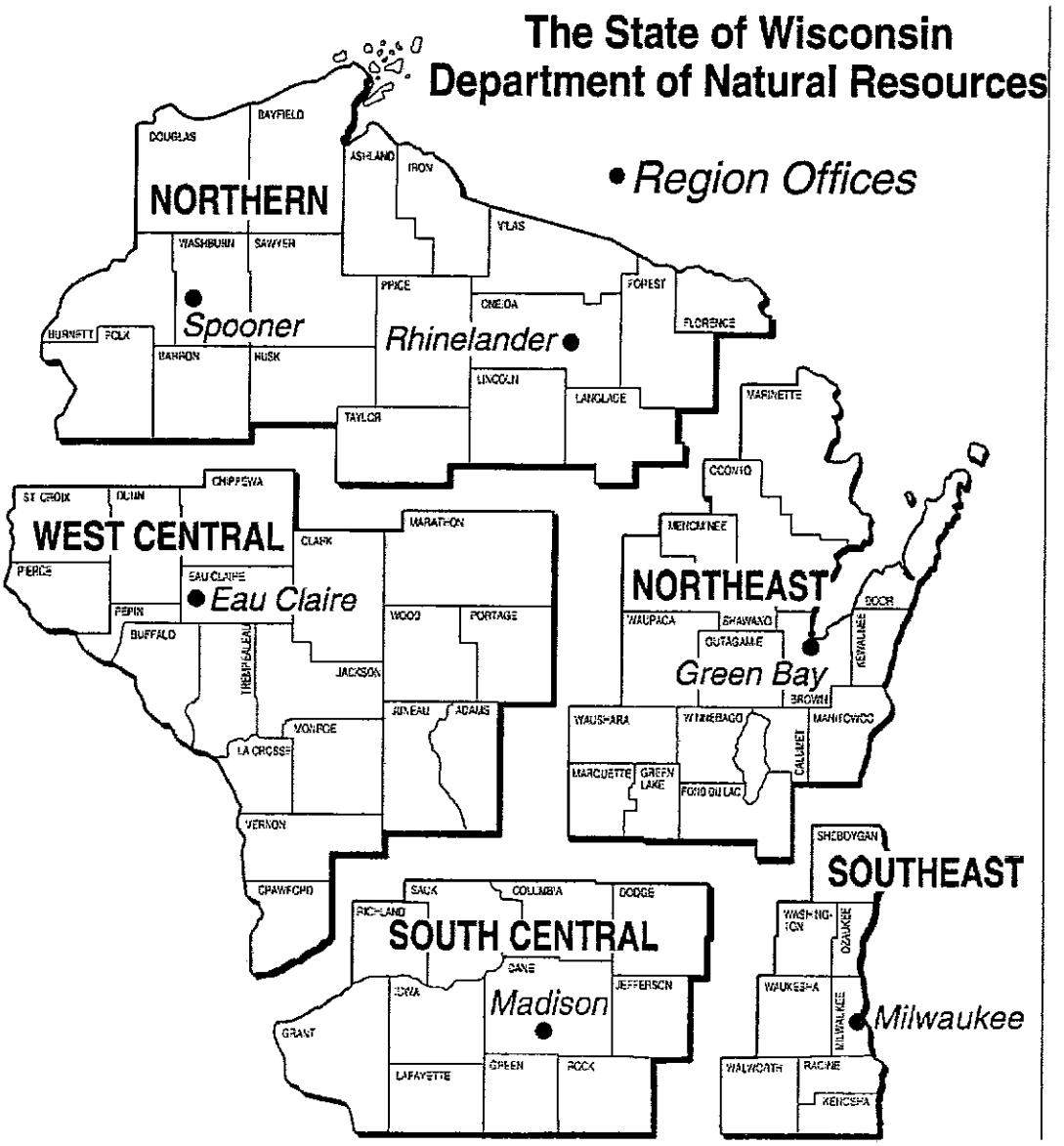
This publication is available in alternative format upon request. Please call 608-267-3543 for more information.

For More Information

To order this and any other publications, or to find out more information about the Remediation and Redevelopment Program, please call our Information Line at 800-367-6076 (long distance in-state) or 608-264-6020 (local or out-of-state); or check out our web site at http://www.dnr.state.wi.us/org/aw/rr.

State Spill Coordinators

Region	Name	Phone Number
Northeast Regional Spill Coordinator	Jason Moeller	(920) 662-5492
Northern Regional Spill Coordinator	Norm Dunbar	(715) 365-8963
Southeast Regional Spill Coordinator:	Scott Ferguson	(414) 263-8685
South Central Regional Spill Coordinator	Ted Amman	(608) 275-3332
West Central Regional Spill Coordinator	Thomas Kendzierski	(715) 839-1604



*Recommended Spill Cleanup Kit.

CONNEY

Oil-Dri® Concentrate Absorbent

Quicker clean-ups and superior absorption make this absorbent the professional's choice. Absorbent soaks up oil, grease, water and much more and is perfect for use in garages, workshops, driveways or any industrial facility. Granules offer more surface area and allow for up to twice as much absorption as conventional floor absorbents, so you only use half as much.

		1-5	6+
79522	20 Lb. Pail	$9.10	8.25

Oil-Dri™ Bucket Spill Kit

Everything you need for an emergency clean-up is packed in this 5-gallon reusable pail. Kit includes universal socks and pads to absorb oil, grease, coolants, water and more. Pail is small enough to store in a vehicle or keep on hand where quick response is a must. Contains up to a 4½ gallon spill.

Kit Contains:
- 2 4' Socks
- 10 Universal Perforated Pads
- 1 Disposal Bag with Ties
- 1 5-Gallon Pail

		1-5	6+
80163		$29.00	26.45

SPC Large-Capacity Spill Kits

Be prepared for larger spills at your plant, laboratory, work station or construction site. Spill Drum absorbs up to 40 gallons and Spill Trunk absorbs up to 178 gallons.

- Oil Only is for use against oil and petroleum and will not absorb water
- Allwik® is for absorption of oil, water and moderately aggressive liquids
- Hazwik® is for use with aggressive liquids and hazardous materials

A. Spill Drum, 24" Diameter X 37"H

▼ 80404	Oil Only	$351.40
▼ 80405	Allwik	351.40
▼ 80406	Hazwik	363.35

Spill Drum Contains:
- 150 6" X 20" Pads
- 4 9" X 12" SOCs
- 8 18" X 18" Pillows
- 5 Disposal Bags
- 1 Pair of Goggles
- 1 Pair of Nitrile Gloves
- 1 Emergency Response Handbook

B. Spill Truck, 48"L X 44"W X 29½"H

▼ 80407	Oil Only	1,704.00
▼ 80408	Allwik	1,719.25
▼ 80409	Hazwik	1,864.95

Spill Truck Contains:
- 150 16" X 20" Pads
- 30 3" X 4" SOCs
- 20 3" X 12" SOCs
- 8 18" X 18" Pillows
- 30 Disposal Bags
- 1 Pair of Goggles
- 1 Pair of Nitrile Gloves
- 1 Emergency Response Handbook

Oil-Dri™ Shop Towels

Clean up tools, machine parts or even your hands with these 100% cotton towels. Towels are perfect for both industrial and automotive applications and are washable for continued use.

		1-11	12+
79618	18" X 15" Shop Towels, 25/Pkg.	$9.95	8.90
79619	14" X 17" Terry Towels, 12/Pkg.	8.25	7.50

Dispose of rags with Oily Waste Containers on page 246.

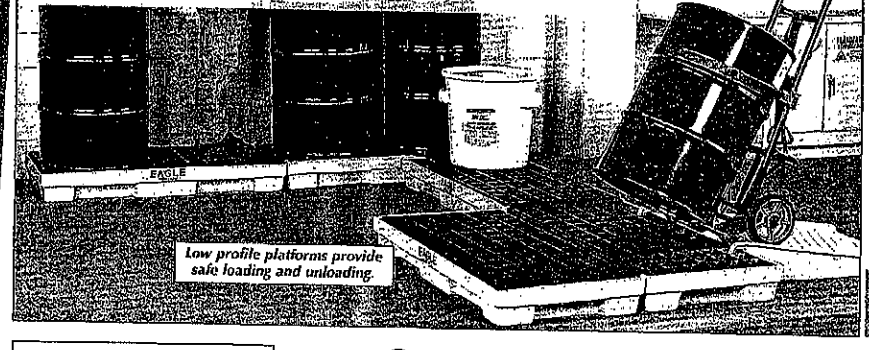
CONNEY

EAGLE

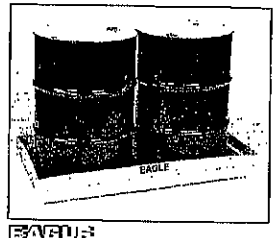
Modular Spill Containment Platforms

Control incidental spills and leaks while optimizing your drum storage area. Modular platforms interconnect to provide many customized layouts. Platforms are constructed of high density polyethylene with a patented grating for optimal load bearing capacity. **2 Drum Platform** has a volume capacity of 30 gallons and a load capacity of 5,000 lbs. **4 Drum Platform** has a volume capacity of 60 gallons (2 X 30) and a load capacity of 10,000 lbs. It can be set up as a 2 X 2 or 4 drum inline platform. Optional Poly Ramp attaches to the platforms. Meets EPA 40 CFR 264.175 for 30 gallon drums or smaller.

- 81257 2 Drum Platform, 6¾"H X 51½"W X 26¾"L $127.25
- 81258 4 Drum Platform, 6¾"H X 52½"W X 51½"L 243.83
- 80707 Poly Ramp 154.35



Low profile platforms provide safe loading and unloading.

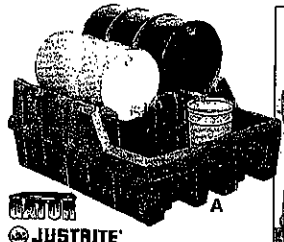


EAGLE

Budget Spill Basin

This economical basin features a low profile for easy loading and unloading. Basin is constructed of high density, chemical-resistant polyethylene. Basin measures 6¾"H X 26¾"W X 51¾"L, with a volume capacity of 34 gallons and an unlimited load capacity.

▼ 81259 ..... $73.50



GATOR JUSTRITE

Drum Management System

3 module polyethylene storage system meets EPA requirements and provides organized storage of drums. Use with Class 1B/1C flammables or combustible liquids as well as non-hazardous liquids. **Base Module** supports up to 3,000 lbs. and has a spill sump capacity of 66 gallons. **Stack Module** is used when four drums are to be stored. Front and rear forklift pockets for two-way access. Dispensing Shelf attaches to Stack Module to facilitate dispensing at both levels. EPA and UFC compliant. Modules and shelf are sold separately.

New double-duty design permits combination storage of 30 and 55 gallon drums. Stack with 30 gallon drums above 55 gallon or all the same.

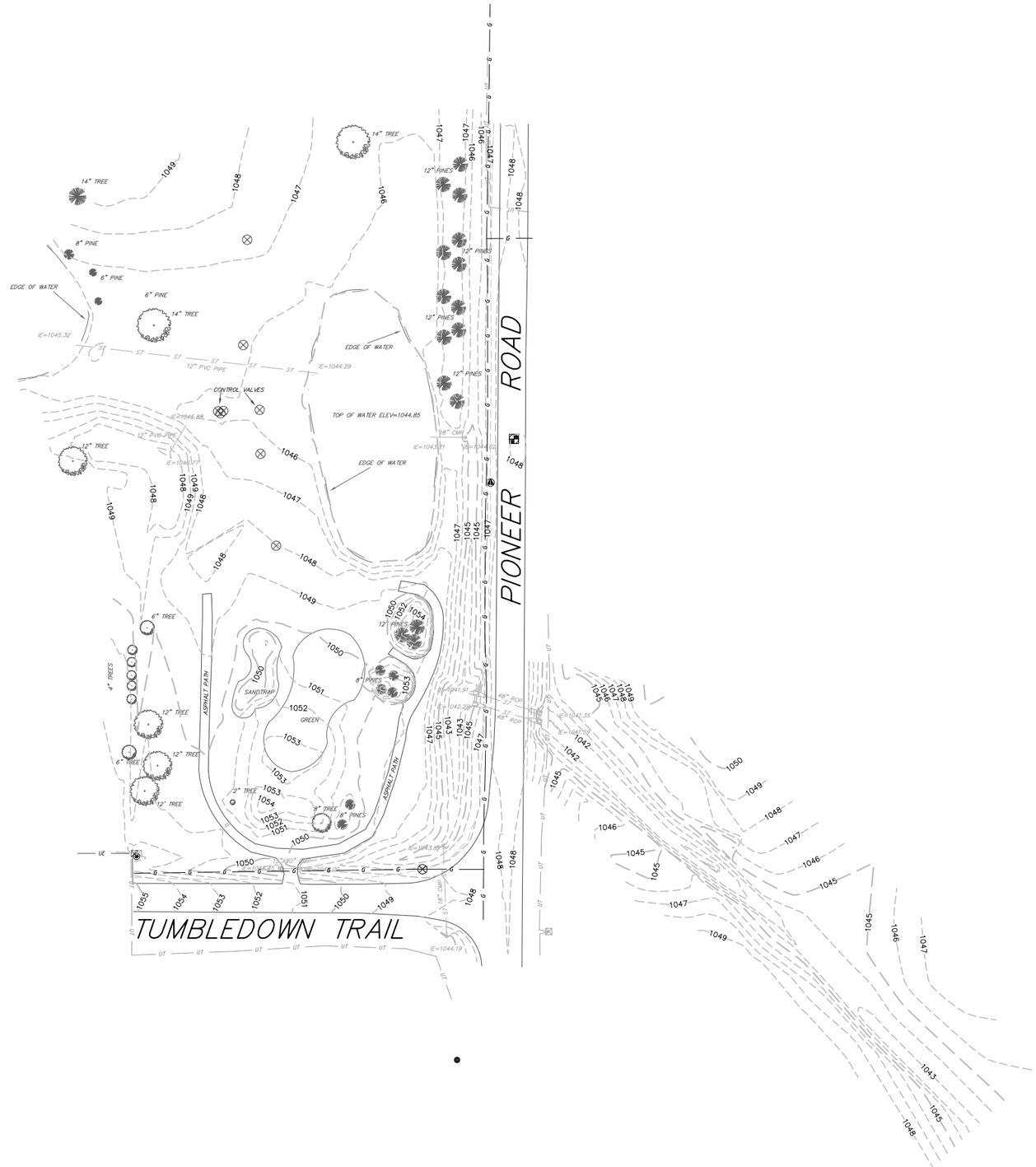
- ▼ A. 80004 Base Module, 26"H X 58"W X 49"L $480.00
- ▼ B. 80005 Stack Module, 12"H X 46"W X 49"L 191.00
- ▼ C. 80006 Shelf, 18¼"H X 18¾"W X 19¾"L 72.75

COMPLETE & ACCURATE Order with Confidence

Exhibit 10

Tumbledown Golf Course

1. Topographic Survey (March 15, 2007)
2. Site Visit & Photo Log: Drainway Downstream From Tumbledown Golf Course (Pioneer Road to Valley View Road)



TOPOGRAPHIC LEGEND

- SAN — EXISTING SANITARY SEWER (SIZE NOTED)
- FM — EXISTING SANITARY FORCEMAIN (SIZE NOTED)
- W — EXISTING WATER MAIN (SIZE NOTED)
- ST — EXISTING STORM SEWER (SIZE NOTED)
- G — EXISTING GAS MAIN
- UE — EXISTING UNDERGROUND ELECTRIC
- OHE — EXISTING OVERHEAD ELECTRIC
- GUY — EXISTING GUY LINE
- OHU — EXISTING OVERHEAD UTILITIES
- UT — EXISTING UNDERGROUND TELEPHONE
- FO — EXISTING FIBER OPTIC TELEPHONE
- OHT — EXISTING OVERHEAD TELEPHONE
- UTV — EXISTING UNDERGROUND CABLE TV
- OHTV — EXISTING OVERHEAD CABLE TV
- FOD — EXISTING FIBER OPTIC DATA LINE
- WETL — EXISTING DELINEATED WETLAND LINE
- EXISTING SANITARY MANHOLE
- C.O. EXISTING SANITARY CLEANOUT
- S.V. EXISTING SEPTIC VENT
- W — EXISTING WATER MAIN VALVE
- EXISTING WATER MANHOLE
- EXISTING CURB STOP
- EXISTING FIRE HYDRANT
- EXISTING CURB INLET
- EXISTING FIELD INLET
- EXISTING STORM MANHOLE
- EXISTING ENDWALL
- EXISTING UTILITY POLE
- EXISTING GUY POLE
- EXISTING LIGHT POLE
- EXISTING DOWN GUY
- EXISTING ELECTRIC MANHOLE
- EXISTING ELECTRIC PEDESTAL
- EXISTING TRANSFORMER
- G — EXISTING GAS VALVE
- EXISTING TELEPHONE MANHOLE
- EXISTING TELEPHONE PEDESTAL
- EXISTING TV PEDESTAL
- X — EXISTING FENCE
- O — EXISTING CHAINLINK FENCE
- F.F. ELEV = 0.00 FIRST FLOOR ELEVATION
- EXISTING MAILBOX
- EXISTING SIGN (TYPE NOTED)
- W EXISTING WELL
- MW EXISTING MONITORING WELL
- B EXISTING SOIL BORING
- LIMITS OF BRUSH, TREES OR VEGETATION
- EXISTING SHRUB
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- TRAFFIC LIGHT
- EXISTING FLAG POLE

SURVEY LEGEND

- FOUND 1 1/4" ø IRON ROD
- FOUND 3/4" ø IRON ROD
- FOUND RAILROAD SPIKE
- FOUND P.K. NAIL
- FOUND NAIL
- FOUND 2" ø IRON PIPE
- FOUND 1" ø IRON PIPE UNLESS OTHERWISE NOTED
- PUBLIC LAND CORNER AS NOTED
- BENCHMARK
- FOUND IRON STAKE, TYPE NOTED
- FOUND CHISELED "X"
- SET 1 1/4" REBAR, 24" LONG, 4.17 LBS PER LINEAL FOOT WEIGHT
- SET 3/4 " REBAR, 24" LONG, 1.51 LBS PER LINEAL FOOT WEIGHT
- SET CHISELED "X"
- SET NAIL
- SET P.K. NAIL
- SET RAILROAD SPIKE
- SET IRON STAKE, TYPE NOTED
- CONTROL POINT

GRAPHIC SCALE FEET

0 25 50 100

N W E S

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Phone: (608) 826-0532 Fax: (608) 826-0530

TUMBLEDOWN GOLF COURSE

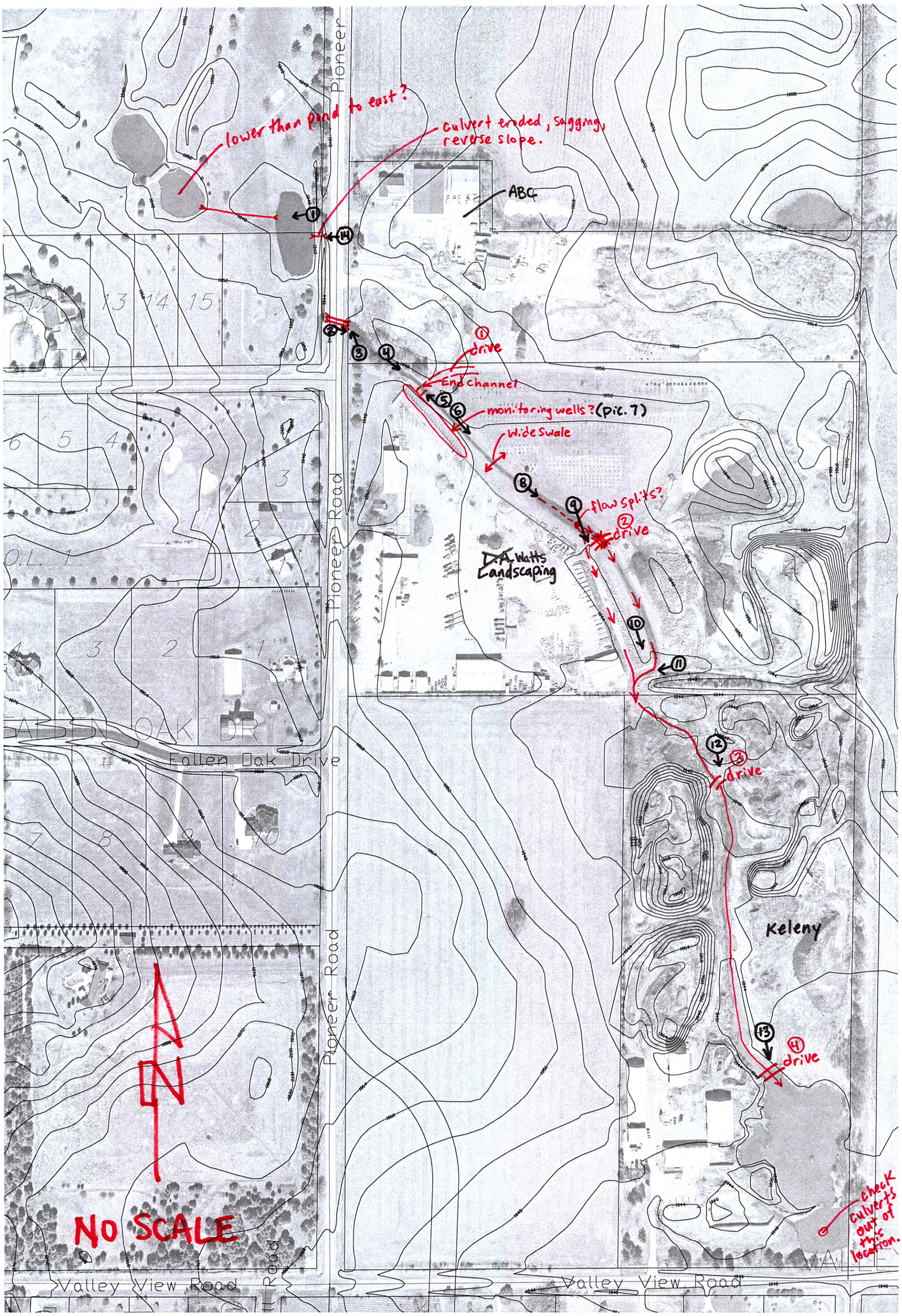
Southeast Corner at Pioneer Road
Town of Middleton
Dane County, WI

REVISIONS		
NO.	DATE	REMARKS

REVISIONS		
NO.	DATE	REMARKS

SCALE: AS SHOWN
DATE: 03-16-07
DRAFTER: LAHL
CHECKED:
PROJECT NO. 026045069.00
SHEET 1 OF 1
DWG. NO.

04 Apr 2007 – 11:16a V:\LDD2\Middleton_26045069_Tumbledown\dwg\Middleton_Storm Topo At Tumbledown_5069.dwg by: jrad


lower than pond to east?
culvert eroded, sagging, reverse slope.
ABC
1
drive
End channel
monitoring wells? (pic. 7)
Wide Swale
flow splits?
2
drive
D.A. Watts Landscaping
3
drive
Keleny
4
drive
check culverts out of this location.
Pioneer Road
Fallen Oak Drive
Valley View Road
N
NO SCALE

11/10/06