

# Help Keep Our Rivers And Streams Clean

## Ozaukee County Intergovernmental Water Quality Network

**This Information and Education Program will target the following individuals:**

- Homeowners
- Business owners
- Elected officials
- Conservation groups
- Civic organizations
- Media
- Teachers and youth

**A STORM WATER INFORMATION AND EDUCATION PLAN FOR  
OZAUKEE COUNTY AND LOCAL UNITS OF GOVERNMENT**

# Help Keep Our Rivers And Streams Clean

## Ozaukee County Intergovernmental Water Quality Network

### Goals of the Plan

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

- Improve quality of stormwater runoff from existing urban areas to meet or exceed state and local standards
- Improve quality of stormwater from all new development and redevelopment to meet or exceed state and local standards
- Identify and eliminate all not permitted wastewater discharges to the stormwater system

### Measurable Goals

- EPA defines measurable goals as quantifiable benchmark that track progress and effectiveness of stormwater best management practices.
- Audiences will understand where stormwater drains, ditches and swales go to and will not dump material in them
- Number of new site plans that incorporate low-impact development practices
- Number of municipal rain garden demonstration sites
- Number of citizens/students participating in stream monitoring
- Number of new developments that meet construction erosion control
- Number of people who attend workshops and training presentations
- Number of rain barrels installed/sold
- Number of households reached with each mailing and e notification
- Number of people exposed to newspaper, television and radio Public Service Announcements

**A STORM WATER INFORMATION AND EDUCATION PLAN FOR  
OZAUKEE COUNTY AND LOCAL UNITS OF GOVERNMENT**

# WPDES Permit Goals

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

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

- 2.1.1 Promote the detection and elimination of illicit discharges and water quality impacts associated from such discharges from municipal separate storm sewer systems
- 2.1.2 Inform and educate public about the proper management of materials that may cause storm water pollution from sources including automobiles, pet waste, household hazardous waste and household practices
- 2.1.3 Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides
- 2.1.4 Promote management of streambanks and shorelines by riparian landowners to minimize erosion and restore and enhance ecological value of waterways
- 2.1.5 Promote infiltration of residential storm water runoff from rooftop downspouts, driveways and side walks
- 2.1.6 Inform and where appropriate educate those responsible for the design, installation and maintenance of construction site erosion control practices and storm water management facilities and how to design install and maintain the practices
- 2.1.7 Identify businesses and activities that may pose a stormwater containment concern and where appropriate, educate specific audiences on methods of storm water pollution prevention
- 2.1.8 Provide environmentally sensitive land development designs by developers and designers

**A STORM WATER INFORMATION AND EDUCATION PLAN FOR  
OZAUKEE COUNTY AND LOCAL UNITS OF GOVERNMENT**



# Water Quality Monitoring for Future Generations



## Timetable & Actions

### General Public

#### PRINTED MATERIALS

1	2.1.1-2.1.5 (DEPENDS ON TOPIC) 2.2	DEVELOP AND DISTRIBUTE NEWSPAPER ARTICLES, NEWSLETTER STORIES, PRESS RELEASES IN THE OZAUKEE PRESS AND NEWS GRAPHIC	ALL COMMUNITIES AND COUNTY	SPRING 2009 FALL 2009 SPRING 2010 FALL 2010
2	2.1.1-2.1.5 (DEPENDS ON TOPIC)	DEVELOP UTILITY INSERTS, DIRECT MAIL PIECES AND COUNTER PUBLICATION WITH SEASONAL MESSAGES	ALL WILL SHARE CURRENT RESOURCES AND PUBLICATIONS	YEARLY ACTIVITY
3	2.1.2-2.1.5,2.2	CREATE A WEBLINK TO AN EXISTING RESOURCE LIST FOR CITIZES ON RAIN GARDENS, RAIN BARRELS, POROUS PAVEMENT	ALL COMMUNITIES	FALL 2009
4	2.1.4, 2.1.5 2.2	PROVIDE A RESOURCE LIST FOR YOUTH, COLLEGE COMMUNITY GROUPS, ETC TO GET INVOLVED	WHOLE GROUP OR SELECT COMMUNITIES	FALL 2009

#### PRESENTATIONS

5	2.1.2, 2.1.3	PROVIDE CITY CABLE PROGRAMS REGARDING NR 216 AS THEY BECOME AVAILABLE	WHOLE GROUP OR SELECT COMMUNITIES	TBA
6	2.1.1-2.1.5	COUNTY STORMWATER FORUM	COUNTY	WINTER 2009
7		DEVELOP OUTSIDE PRESENTATION UWEX RAIN GARDEN FAIR	COUNTY	SUMMER 2010
8		ONSITE REUSE OF LEAVES AND GRASS	TOWN OF CEDARBURG	SUMMER 2009(10) FALL 2009(10)

9	2.1.1 - 2.1.5 (DEPENDS ON TOPIC)	SHARE ALREADY PREPARED STORMWATER RUNOFF AND OTHER UWEX VIDEOS	ALL COMMUNITIES	TBA
10	2.1.1-2.1.5 (DEPENDS ON TOPIC)	ENLIST AN EXISTING SPEAKERS BUREAU TO GIVE STORMWATER PRESENTATIONS	FRIENDS OF THE MILWAUKEE RIVER	WINTER 2009
WEB BASED				
11	2.1.1- 2.1.5, 2.2	UPDATE LOCAL WEBSITES WITH LOCAL INFORMATION AND RESOURCE LISTS FOR ENVIRONMENTAL ACTIONS AND LINK TO PARTNERING AGENCIES	LOCAL GOV. WEBSITES	SUMMER 2009
12		USE EXISTING LIST SERVES TO DISSEMI- NATE INFORMATION	VILLAGE/TOWN OF GRAFTON TOWN OF CEDARBURG CITY OF MEQUON COUNTY	FALL 2009
DISPLAY				
13	2.1.1- 2.1.5 (DEPENDS ON TOPIC)	USE ALREADY DEVELOPED DISPLAYS AND SETUP AT FAIRS, EXPOS ETC.	ALL COMMUNITIES WILL WORK TO DEVELOP FAIR DISPLAYS	SUMMER 2009 SUMMER 2010
14	2.1.1 - 2.1.5 (DEPENDS ON TOPIC)	CREATE POSTERS, PLACECARDS, DECALS AND/OR YARD SIGNS	COMMUNAL DISPLAY BOARDS MADE BY UWEX AND ALL WILL USE THEM	TBA
SPECIAL PROGRAMS				
15		HOUSEHOLD AND PHARMACEUTICAL COLLECTIONS	COUNTY, UWEX LOCAL GOVT.	SPRING 2009
16	2.1.1-2.1.3 (DEPENDS ON TOPIC)	CREATE A MEDIA CAMPAIGN TO INCLUDE PUBLIC SERVICE ANNOUNCEMENT AND NEWSPAPER ADS	ALL WILL WORK TOGETHER TO BUY PRESS RELEASES AND E-NOTIFY	FALL 2009

17	2.1.5	PROVIDE RAIN BARRELS TO THE PUBLIC	OZAUKEE COUNTY	FALL 2009
18	2.1.2, 2.1.5, 2.2	PROVIDE ORGANIZATIONS, COMMUNITY GROUPS ASSISTANCE WITH WORK PROJECTS	RIVERFEST, SCOUT GROUPS, MARITIME HERITAGE FEST	TBA
19	2.1.1, 2.2	SUPPORT EXPANSION OF CITIZEN MONITORING PROGRAMS BY FRIENDS GROUPS	ULAO CREEK PARTNERSHIP, SAUK CREEK	WINTER 2009 SPRING 2010
20	2.1.1, 2.1.2, 2.2	PROMOTE STORM DRAIN STENCILING AND MARKING PROGRAMS	ALL COMMUNITIES IMPLEMENT DIFFERENT PROGRAMS	TBA
21	2.1.2- 2.1.5	DEVELOP AND PROMOTE BMP DEMONSTRATION SITES	COMMUNITY RAIN GARDEN DEMOS AND BIORETENTION PONDS	SUMMER 2009
22	2.1.2 2.1.5 2.1.8	DEVELOP AND COORDINATE RAIN GARDEN CONSERVATION DESIGN, BMP AND PARADE OF HOMES TOURS IN CONJUNCTION WITH FRIENDS GROUPS	RAIN GARDEN VIRTUAL TOUR	SUMMER 2009
23	2.1.5	MMSD AND COUNTY WILL COOPERATE TO DISTRIBUTE AND SELL RAIN BARRELS TO THE PUBLIC	COUNTY	WINTER 2009
<b>SCHOOL/YOUTH</b>				
24	2.1.2	PROVIDE ASSISTANCE WITH CURRICULUM DEVELOPMENT	COMMUNITIES WILL PROMOTE EXISTING CURRICULUM TO SCHOOLS	TBA

# Timetable & Actions

## Business

### WEB BASED

25	2.1.5-2.1.8	LIST VALUABLE WEB LINKS ON WEBSITE(S)	ALL COMMUNITIES	TBA
----	-------------	---------------------------------------	-----------------	-----

### PROGRAMS

26	2.1.7, 2.1.8	DEVELOP AND PROVIDE A GREEN BUSINESS HONOR OR AWARD	COUNTY, POSSIBLY OTHER COMMUNITIES IN THE FUTURE	TBA
----	--------------	---	--	-----

## Developers, Home Builders, Contractors, Consultants

### PRINTED MATERIALS

27	2.1.6	DEVELOP CHECKLIST, FLOW CHART, AND OR FACT SHEET FOR PERMITTEE	LOCAL COMMUNITIES ARE ALREADY DOING THIS	ON GOING
----	-------	--	--	----------

28	2.1.5 2.1.6 2.1.8	PUBLICIZE PERFORMANCE STANDARDS VIA PRE CONSTRUCTION MEETINGS, PROVIDE INFORMATION ON EROSION CONTROL AND WATER QUALITY PRACTICES FOR DEVELOPMENT	UPDATE ORDINANCE INFO ON LIST-SERVES TOWN OF CEDARBURG IS ON WEBSITE	TBA
----	-------------------------	---	--	-----

29	2.1.2 2.1.4 TO 2.1.8	COORDINATE WITH LOCAL BUILDERS ASSOCIATION FOR NEWSLETTER & WORK-SHOP SCHEDULE; LEAGUE OF WI MUNICIPALITIES PUBLICATIONS	LOCAL COMMUNITIES	TBA
----	----------------------------	--	-------------------	-----

### WEB BASED

30	2.1.6 2.1.8	LINK LOCAL WEBSITES TO EXISTING RESOURCES SUCH AS WWW.MYFAIRLAKES OR RUNOFFINFO.UWEX.EDU	ALL LOCAL COMMUNITIES	TBA
----	----------------	--	-----------------------	-----

**TECHNICAL TRAINING**

30	2.1.6- 2.1.8	PROVIDE ONE-ON-ONE PERSONAL CONTACT DURING REVIEW PROCESS	ALL LOCAL COMMUNITIES REQUIRE PRE-DESIGN MEETING	TBA
31	2.1.5 2.1.6 2.1.8	PROMOTE RAIN GARDEN, CONSERVATION DESIGN, BMP AND PARADE OF HOMES TOUR	COORDINATE WITH MBA	
32	2.1.1 2.1.4 2.1.6 2.1.8	PROMOTE EXISTING WORKSHOPS ON BMP'S MONITORING RESEARCH RESULTS	ALL LOCAL COMMUNITIES	TBA

**Elected Officials**

**PRESENTATIONS**

33	2.1.1 2.1.3 2.1.5	SEND CORRESPONDENCE TO INFORM OF STORM WATER IMPACT, REGULATIONS AND EXPECTATIONS	LOCAL GOVT. PROVIDE OFFICIALS WITH ORDINANCES RELATING TO STORMWATER	TBA
34	2.1.1 2.1.3 2.1.5	ATTEND MEETINGS AND PRESENT INFORMATION	ALL COMMUNITIES ON A NEEDED BASIS	TBA
35	2.1.5	INVITE TO RAIN GARDEN DEMOS, PARADE OF HOME TOURS AND CONSERVATION DESIGN BMP	ALL COMMUNITIES ON A NEEDED BASIS	TBA
36	2.1.2 2.1.3 2.1.5	PROVIDE BRIEF AUDIO VISUAL PRESENTATIONS AND DISPLAYS AT MEETINGS	ALL COMMUNITIES ON A NEEDED BASIS	TBA
37	2.1.8	PROVIDE INFORMATION ON ORDINANCES FOR CONSERVATION DESIGN PRACTICES	ALL COMMUNITIES ON A NEEDED BASIS	TBA

## **SUMMARY OF ACTIVITY SCHEDULE**

- **SPRING 2009**                    BIENNIAL NEWSPAPER AND NEWSLETTER ARTICLES  
   HOUSEHOLD AND PHARMACEUTICAL COLLECTIONS
  
- **SUMMER 2009**                    EDUCATING THE PUBLIC ON THE REUSE OF LEAVES AND GRASS  
   UPDATE LOCAL WEBSITES WITH RESOURCE LINKS  
   DISPLAYS AT THE FAIR AND MARITIME HERITAGE FEST  
   DEVELOP BMP DEMONSTRATION SITES  
   COORDINATE RAIN GARDEN DEMONSTRATION SITES
  
- **FALL 2009**                        BIENNIAL NEWSPAPER AND NEWSLETTER ARTICLES  
   CREATE A WEB LINK TO AN EXISTING RESOURCE LIST FOR  
   RAIN BARRELS AND RAIN GARDENS  
  
   PROVIDE RESOURCE LIST OF VOLUNTEER OPPORTUNITIES FOR  
   COMMUNITY GROUPS  
  
   PROVIDE RAIN BARRELS TO PUBLIC  
  
   EDUCATING THE PUBLIC ON THE REUSE OF LEAVES AND GRASS  
  
   DISSEMINATE INFORMATION VIA E-NOTIFICATION  
  
   CREATE A MEDIA CAMPAIGN WITH PSA AND NEWSPAPER ADS
  
- **WINTER 2009**                    EDUCATIONAL STORMWATER FORUM  
   ENLIST AN EXISTING SPEAKERS BUREAU FOR PRESENTATIONS  
   SUPPORT AND EXPAND CITIZEN WATER TESTING MONITORING  
   SELL AND DISTRIBUTE RAIN BARRELS

**A STORM WATER INFORMATION AND EDUCATION PLAN FOR  
OZAUKEE COUNTY AND LOCAL UNITS OF GOVERNMENT**

## **CONT. OF SUMMARY OF ACTIVITY SCHECULE**

- SUMMER 2010      DEVELOP A RAIN GARDEN FAIR  
                             DISPLAYS AT THE FAIR AND MARITIME HERITAGE FEST
  
- FALL 2010        BIANNUAL NEWSPAPER AND NEWSLETTER ARTICLES  
                             PROVIDE RESOURCE LIST OF VOLUNTEER OPPORTUNITIES FOR  
                             COMMUNITY GROUPS  
  
                             EDUCATING THE PUBLIC ON THE REUSE OF LEAVES AND GRASS  
  
                             DISSEMINATE INFORMATION VIA E-NOTIFICATION  
  
                             CREATE A MEDIA CAMPAIGN WITH PSA AND NEWSPAPER ADS

# Value of the Project as a Demonstration

## I. Physical Characteristics of the Demonstration Project

The Mequon Nature Preserve (MNP) is located in Mequon Township (T9N, R21E, S33) in Ozaukee County, and contains 438 acres that are approximately bounded by County Line Road on the south, Wauwatosa Road on the east, Donges Bay Road on the north, and Swan Road on the west. Kohl Park is located immediately to the south, across County Line Road, in Milwaukee County. A recent addition to the MNP is the PieperPower Education Center (PEC), formerly the Spirit Life Church, located near the southeast corner of the MNP property along County Line Road. Detailed information pertaining to the mission, activities and physical characteristics of the MNP and the PEC is provided on the City of Mequon web site (<http://mequon.govoffice.com/>, Nature Preserve tab. Of particular interest are the following two documents that can be obtained from this web-site.

- *MNP Resource Plan, Restoration and Research, Phase I, 2004.* Prepared by Lori Artiomow and Jill Hewitt.
- *MNP Master Plan, June 2006.* Prepared by JJR and Applied Ecological Services.

The PEC Center will serve visitors to MNP and the neighboring Milwaukee County Kohl Park. The PEC will welcome students of all ages and environmental education organizations from throughout the metropolitan area. As part of its environmental mission, the PEC will demonstrate innovative strategies relating to the application of on-site stormwater best management practices. Consistent with this mission, the project proposed for the MMSD 2006 *Stormwater Best Management Practices (BMP) Partnership* is the design and installation of a bio-retention / wetland system that will receive stormwater runoff from an approximately one acre asphalt parking lot that borders the PEC on three sides, as illustrated on Figure 1.

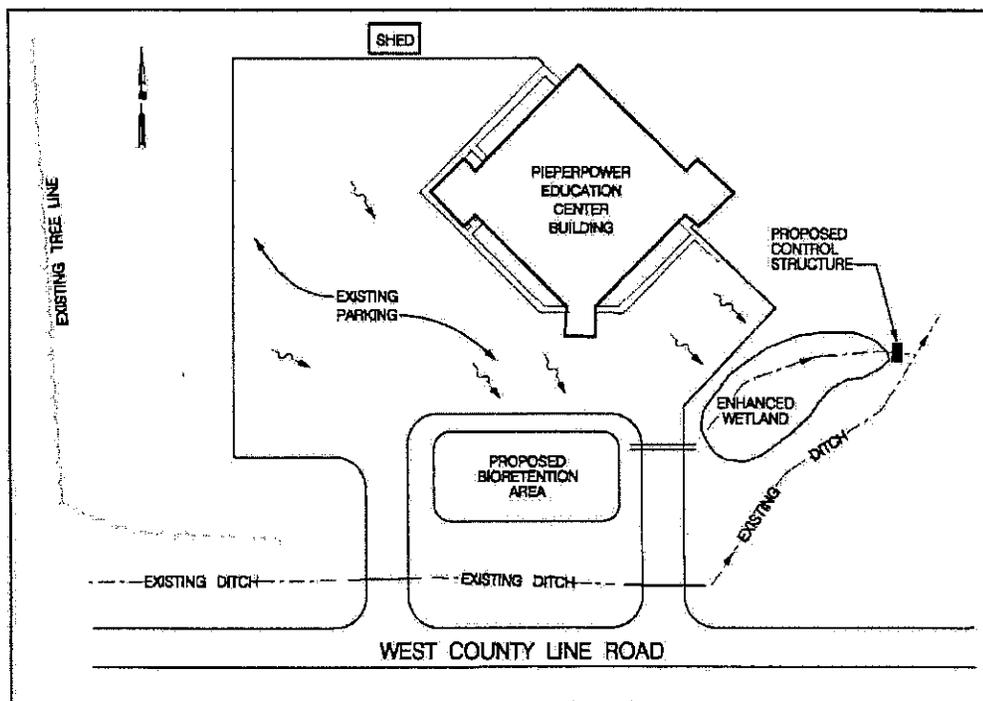


Figure 1 – Proposed MNP Parking Lot Bio-Retention / Wetland System

## Value of the Project as a Demonstration

The existing asphalt parking lot drains in a southerly direction, causing stormwater runoff to pond in a shallow depression that borders the parking lot on the south between the entrance and exit driveways. This runoff discharges in an easterly direction through a culvert located beneath the entrance drive and through an existing wetland, eventually discharging to a surface conveyance that provides drainage for abutting agricultural fields and is tributary to the Milwaukee River, approximately 2.5 miles to the east.

The proposed *MNP Parking Lot Bio-Retention / Wetland System Project* will include the following:

- **Bio-Retention System:** Construction of a bio-retention system on the south side of the parking lot between the entrance and exit drives that will measure approximately 50 feet by 100 feet. This system will include an engineered soil sub-grade and an underdrain system that will discharge beneath the entrance drive to the eastern wetland.
- **Existing Wetland Enhancement:** The existing eastern wetland will be enhanced through removal of non-native vegetation and development of a permanent pool through excavation, re-grading and the construction of an outfall structure. To increase botanical diversity and habitat values, the wetland enhancement will also include planting of desirable native wetland vegetation.
- **Routine Inspection and Maintenance:** On-site MNP staff and volunteers will provide routine inspection and maintenance of the proposed bio-retention / wetland system.
- **Educational Outreach:** The physical characteristics and stormwater management benefits associated with the proposed bio-retention / wetland system will be incorporated into the ongoing educational mission of the MNP and the PEC. Educational components will include placement of appropriate signage and development of written materials that will be placed on the City of Mequon's website, incorporated in the City's newsletter, and used in public outreach activities that showcase innovative strategies such as the proposed project.

## II. Relevant Historical Information

### Mequon Nature Preserve Master Plan

The following historical information is excerpted from the *MNP Master Plan (1.1 Project Overview)*, which was referenced previously.

- The Mequon Nature Preserve (MNP) was founded in 2000 through a partnership between the City of Mequon, Ozaukee Washington Land Trust (OWLT), and the Greater Milwaukee Foundation. The ultimate goal of the MNP is to purchase Section 33 within the City limits and restore it to the deciduous hardwood forests and wetlands that existed prior to European settlement. This effort to acquire and preserve one square mile of land (640 acres) was inspired by a generous gift from the Paddock Fund at the Greater Milwaukee Foundation. Mr. Richard Paddock envisioned connections between the new Preserve and the immediately adjacent Kohl Park to encourage cooperation between Ozaukee and Milwaukee Counties.
- With its location on the urban edge of metropolitan Milwaukee, the MNP is uniquely situated to provide an environmental education and passive recreation resource for a rapidly growing population. Not only will the public be able to visit and observe the transition of the MNP from agricultural fields to hardwood forest, they would be invited to be active participants in the Preserve's restoration and management. Also, the MNP is a key piece of a regional network of green space, recreational parks, river corridors and wetlands. At more than 1,700 acres, the

## Value of the Project as a Demonstration

combined area of the MNP, Kohl Park, and other protected green space forms a contiguous network that is approximately double the size of New York City's Central Park.

- The City of Mequon and the OWLT entered into a Memorandum of Understanding to formalize the partnership and create a legal structure for management of the MNP in March 2004. In the memorandum, the partners agreed that OWLT would initially own the purchased property, with the title transferred to the City at a mutually agreed upon future date. When the ownership of the MNP is transferred, the City will grant OWLT a conservation easement on the property to ensure protection of the Preserve in perpetuity.
- To move the MNP forward, this current master planning process was launched for the MNP in 2005. This process builds on the considerable groundwork provided by the ideas, strategies, and the adaptive restoration mission set forth in the 2004 Resource Plan.

### PieperPower Education Center

The PEC, which is sited in an existing on-site building, has an auditorium, classrooms, meeting and display spaces, and restrooms. Currently undergoing renovation as part of an effort to achieve LEED-EB certification, the PEC will eventually house educational organizations from throughout the metropolitan area and will provide a place where such organizations can collaborate, develop and stage programs, and reach out to the surrounding neighborhoods and beyond. Because Milwaukee County Kohl Park is located across the street, the Center will welcome Kohl Park visitors after that Park is developed.

The large size, variety of features, and proximity to local universities make MNP particularly popular for conducting field work and research. Environmental organizations with ties to the MNP include Schlitz Audubon Nature Center, Riveredge Nature Center, Concordia University-Wisconsin, UW-Milwaukee's Geosciences Department, Wisconsin Waterfowl Association, Ducks Unlimited, US Fish and Wildlife Service, and Wisconsin DNR.

### III. Project Benefits

As described previously, the *MNP Parking Lot Bio-Retention / Wetland System Project* will include development of bio-retention and wetland areas located on the south side of the parking lot that services both the MNP and the PEC. The proposed project's highly visible location is adjacent to the parking lot entrance and exit drives, and County Line Road to the south. The bio-retention facility will contain a vegetated surface depression that provides opportunity for stormwater infiltration, filtration, storage, and water uptake by vegetation. In addition, the planted vegetation will include a diverse mixture of sedges, grasses and forbes (flowering species) that will not only add aesthetic value to the area but will provide a thick underground root matrix that will increase soil stabilization and erosion deterrence. Beneath the surface, the bio-retention facility will contain engineered soil sub-grade material, and an underdrain system that will discharge to the eastern wetland area. Consideration will be given to establishing hydraulic controls within the bio-retention cell that produce varying levels of water retention, which would allow the maintenance of wetland species during dry periods.

The eastern wetland will be enhanced as part of this project through re-grading, development of a permanent pool, and restoration with native wetland vegetation, as described previously. The enhanced wetland will provide habitat and pollutant removal benefits, while promoting infiltration and water uptake by vegetation. The existing monotypic stand of cattails would be revegetated with

## Value of the Project as a Demonstration

a diverse mixture of native deep and shallow marsh species, resulting in increased botanical diversity, elimination of a seed source for non-native species, and improved aesthetics.

The proposed bio-retention / wetland system will provide an on-site demonstration of innovative stormwater BMPs that can be incorporated into the environmental educational programs conducted by the MNP and cooperating partners. On-site staff and volunteers will be trained to provide routine monitoring and maintenance of the bio-retention / wetland system, providing assurance of long-term success. Appropriate signage will be installed to describe the design and function of the facility to the public. The *MNP Parking Lot Bio-Retention / Wetland System Project* will provide educational benefits to the 2020 Facilities Planning process, and demonstrate how a bio-retention / wetland system can manage the quantity and quality of storm water runoff from an asphalt parking lot.

### IV. Information Specific to Southeastern Wisconsin

Southeastern Wisconsin has a preponderance of poorly drained soils, as compared to other regions of the State. The proposed bio-retention / wetland system is particularly well suited for application within drainage areas with poorly drained soils. In particular, the proposed bio-retention system includes an engineered soil sub-grade that promotes stormwater infiltration and storage, and an underdrain system with a positive drainage outfall to an enhanced wetland. Of course, stormwater wetlands are ideally suited for application within poorly drained soils.

### V. Proposed BMP Treatment Train

The proposed *MNP Parking Lot Bio-Retention / Wetland System Project* will include a treatment train consisting of a bio-retention area that will remove sediment, organic material, trash and attached pollutants; and a wetland area that will promote the removal of dissolved pollutants. Both treatment areas will promote infiltration and water uptake by vegetation.

### VI. Project Approach

#### A. Project Management and Coordination

Bill Hoppe, City of Mequon – City Engineer, is the proposed Project Manager for the *MNP Parking Lot Bio-Retention / Wetland System Project*. Bill will be the main point of contact for the MMSD Project Manager, and direct all activities related to the design and installation of the proposed improvements. Bill's proactive and communicative approach to project management ensures that the Project Team members are fully informed and aware of their responsibilities. Tom Sear (Tetra Tech) will lead the Tetra Tech Project Team supporting this effort, and report directly to Bill Hoppe. The Tetra Tech Project Team includes Laura Gerold (Tetra Tech, Water Resources Engineer), Rose Chmielewski (Ecological Services of Milwaukee, Senior Ecologist) and David Flowers (Natural Water Solutions, Senior Environmental Engineer).

#### B. Site or Construction Plans

The design of facility improvements will be led by Tom Sear, with engineering and ecological design support provided by Laura Gerold and Rose Chmielewski, respectively. Ms. Chmielewski will lead efforts related to the completion of the necessary environmental permits. Bill Hoppe and David Flowers will provide senior review of all project deliverables. Deliverables will include a technical design memorandum that summarizes the technical analysis and presents relevant design criteria; and needed construction documents (likely two design drawings, and specifications).

# Value of the Project as a Demonstration

## **C. Project Construction / Implementation**

Bill Hoppe will direct the construction / implementation of project improvements, with necessary field assistance provided by Tom Sear and Rose Chmielewski, who will also assist in working with volunteers to accomplish the specified revegetation, monitoring and maintenance efforts. At this point in time it is envisioned that the construction of the project will be accomplished by the City of Mequon's Public Works Department.

## **D. Maintenance and Monitoring Plan to Demonstrate BMP Benefits**

Tom Sear and Rose Chmielewski will develop the facility monitoring plan, which will be implemented by MNP / PEC staff and /or volunteers. The intent of this plan is to provide methods to assess the viability and efficacy of the system following installation; to identify corrective measures, if necessary; and to provide guidance for the long-term management of the planted vegetation and enhanced wetland to create self-sustaining plant communities.

## **E. Educational Materials**

The PEC will produce written materials describing the design and benefits of PEC's Bio-Retention/Wetland System and how such a facility can be incorporated into residential, institutional and commercial properties. The materials will be available at PEC as well as published in city newsletters and on the city's website, and the text of these materials will be incorporated in signage at the proposed project. All materials will acknowledge MMSD's assistance. Finally, coverage in metropolitan newspapers will be sought.

## **WHOSE POND IS IT ANYWAY?**

### **What is a storm water pond?**

Storm water ponds are one of the best ways to improve water quality and reduce downstream flooding, and are required by a City of Mequon ordinance for new developments. These ponds are typically part of the overall development plan and must be constructed and certified by the developer. Upon development transfer, five year certification and annual maintenance of the ponds are the responsibility of the Home Owner's Association in perpetuity.

### **What is required?**

Storm ponds are required to be certified every five years. This is necessary to assure that the ponds are operating as designed to reduce pollutants and flooding. The City will send the owner notification and instructions when the pond certification is due. The owner should contact a civil engineering firm or surveying company, licensed in the State of Wisconsin, to perform the certification.

### **How should the pond be maintained?**

Annual maintenance of the ponds and surrounding areas consists of the following tasks:

**Inspect the pond.** Remove debris that may be blocking the pond outlet. Look for things like bank erosion, woody growth, burrows, soft spots, leakage, or excessive vegetation. Hire someone with experience in certifying storm water ponds to assess sediment accumulation, permanent pool depth, or other objectionable issues.

**Nuisance algae growth?** Does your subdivision have lawn fertilizer guidelines? Start with a soil test to determine what your lawn really needs. Create a natural area around the pond. This helps to filter the pesticides, fertilizers and organics that cause algae growth and reduce the pond's effectiveness.

Mow the natural areas to a 6-inch height, once in the spring and fall to eliminate large woody growth and keep the drainage ways clear.

Dredging may be required once sediment reaches available sediment storage level as found in your maintenance agreement or storm water management plan. The dredging storm water ponds require state and local permits.

More information regarding pond landscaping, maintenance, plant management, etc. may be found on the Wisconsin Department of Natural Resources website (<http://dnr.wi.gov>) or at the University of Wisconsin website (<http://www.uwex.edu>).

## **APPENDIX E**

### **DPW Yard Inspections Report**

- Visual Inspection Reports
- Site Location Maps
- Site Inventory Maps

**Notice:** This form is authorized by s. NR 216.29(2), Wis. Adm. Code. Submittal of a completed form to the Department is mandatory for industrial facilities covered under a tier 1 storm water general permit. Facilities covered under a tier 1 permit are not required to submit AFSCI reports after submittal of the second AFSCI report, unless so directed by the department. However, these inspections and quarterly visual inspections shall still be conducted and results shall be kept on site for department inspection. Facilities covered under a tier 2 storm water general, industry-specific general or individual permit shall keep the results of their AFSCI and quarterly visual inspections on site for department inspection. Failure to comply with these regulations may result in fines up to \$25,000 per day pursuant to s. 283.91, Wis. Stats. Personally identifiable information on this form may be used for other water quality program purposes.

<b>Facility Information</b>			
Facility Name <i>HIGHWAY DIVISION FACILITIES</i>			
Street Address <i>10800 N. INDUSTRIAL DR.</i>		City <i>MEQUON</i>	State <i>WI</i>
County <i>OZAUKEE</i>		ZIP Code <i>53092</i>	
Facility Contact Person <i>DON CURRAN</i>		Signature	

This form must be signed by an official representative of the permitted facility, in accordance with s. 216.29(8), Wis. Adm. Code.

IF THIS FORM IS NOT SIGNED, OR IS FOUND TO BE INCOMPLETE, IT WILL BE RETURNED

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative <i>[Signature]</i>		Date Signed <i>3-23-10</i>	
Type or Print Name <i>MARK LLOYD</i>	Position Title <i>DEPUTY DIRECTOR PUBLIC WORKS</i>		
Company Name <i>CITY OF MEQUON</i>		Telephone Number <i>262-236-2957</i>	
Mailing Address <i>11333 N. CEDARBURG RD.</i>	City <i>MEQUON</i>	State <i>WI</i>	ZIP Code <i>53092</i>

The first level of storm water monitoring consists of a comprehensive annual facility site compliance inspection (AFSCI) to determine if your facility is operating in compliance with your Storm Water Pollution Prevention Plan (SWPPP). You should use the results of this inspection to determine the extent to which your SWPPP needs to be updated to prevent pollution from new source areas, as well as to correct any inadequacies that the plan may have in handling existing source areas. This first level of monitoring is addressed in Section III of this Annual Report.

The second level of storm water monitoring consists of quarterly visual observations of storm water leaving the site during runoff events caused by snow-melt or rainfall. This is a practical, low cost tool for identifying obvious contamination of storm water discharges, and can also help identify which practices are ineffective. The goal of quarterly inspections is to obtain results from a set of four inspections that are distributed as evenly as possible throughout the year and which depict runoff quality during each of the four seasons. This second level of monitoring is addressed in Section IV of this Annual Report.

<b>DNR Use Only</b>
FIN
FID

# Annual Facility Site Compliance Inspection Report (AFSCI)

Form 3400-176 (R 4/04)

Page 2 of 4

## Annual Facility Site Compliance Inspection

The Annual Facility Site Compliance Inspection shall be adequate to verify that; your Storm Water Pollution Prevention Plan (SWPPP) remains current, potential pollution sources at your facility are identified, the facility site map and drainage map remain accurate, and Best Management Practices prescribed in your SWPPP are being implemented, properly operated, and adequately maintained.

Name of Person Conducting Inspection <b>MARK LLOYD</b>	Inspection Date <b>3-23-10</b>
Employer <b>CITY OF MEQUON</b>	Telephone Number <b>262-236-2957</b>

Your inspection should start with a review of your written SWPPP kept at your facility. The SWPPP should be amended if, through these inspections, you find that the provisions in your SWPPP are ineffective in controlling contaminated storm water from being discharged from your facility.

Has your SWPPP been updated to include current Non-Storm Water Discharge Evaluation results?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Has your SWPPP been amended for any new construction that would effect the site map or drainage conditions at the facility?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Has your SWPPP been amended for any changes in facility operations that could be identified as new source areas for contamination of storm water?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are there any materials at the facility that are handled, stored, or disposed in a manner to allow exposure to storm water that are not currently addressed in your SWPPP?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Are there any maintenance or material handling activities conducted outdoors that have not been addressed in your SWPPP?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Are outside areas kept in a neat and orderly condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are regular housekeeping inspections made?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Do you see spots, pools, puddles, or other traces of oils, grease, or other chemicals on the ground?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Are particulates on the ground from industrial operations or processes being controlled?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Do you see leaking equipment, pipes or containers?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Do drips, spills, or leaks occur when materials are being transferred from one source to another?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Are drips or leaks from equipment or machinery being controlled?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are cleanup procedures used for spilled solids?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are absorbent materials (floor dry, kitty litter, etc.) regularly used in certain areas to absorb spills?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Can you find discoloration, residue, or corrosion on the roof or around vents or pipes that ventilate or drain work areas?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Are Best Management Practices implemented to reduce or eliminate contamination of storm water from source areas at the facility?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are Best Management Practices adequately maintained?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are there significant changes that will have to be made to your SWPPP to correct any inadequacies that the plan may have to effectively control a discharge of contaminated storm water from your facility?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A

Comments:

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It **does not** have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, you could be subject to penalties up to \$10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name <b>HIGHWAY DIVISION FACILITIES</b>			
Street Address <b>10800 N. INDUSTRIAL DR</b>		City <b>MERQUON</b>	State <b>WI</b>
		ZIP Code <b>53092</b>	
Name of Person Conducting Inspection <b>MARK LLOYD</b>			Inspection Date <b>5-11-10</b>
Employer <b>CITY OF MERQUON</b>			Telephone Number <b>262-236-2957</b>
Outfall Number (make reference to site map) <b>27/21-27-3</b>		Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.) <b>8" CMP @ SE END OF PROPERTY</b>	
Time of Rainfall Event <b>5:45 AM</b>	Time of Visual Inspection <b>9:10 AM</b>	Optional: Amount of Rainfall at the Time of Observation (nearest tenth of an inch) <b>0.20-in</b>	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Red	<input type="checkbox"/> Yellow	<input type="checkbox"/> Brown	<input type="checkbox"/> Other:
Odor:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Musty	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rotten Egg	<input type="checkbox"/> Other:
Clarity:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Cloudy	<input type="checkbox"/> Opaque	<input type="checkbox"/> Suspended Solids	<input type="checkbox"/> Other:
Floatables:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Foam	<input type="checkbox"/> Garbage	<input type="checkbox"/> Oily Film	<input type="checkbox"/> Other:
Deposits / Stains:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Oily	<input type="checkbox"/> Sludge	<input type="checkbox"/> Sediments	<input type="checkbox"/> Other:

Comments:

This outfall could not be evaluated during this quarter due to the following reason:

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It **does not** have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, you could be subject to penalties up to \$10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name <b>HIGHWAY DIVISION FACILITIES</b>			
Street Address <b>10800 N. INDUSTRIAL DR.</b>		City <b>MEQUON</b>	State <b>WI</b>
		ZIP Code <b>53092</b>	
Name of Person Conducting Inspection <b>MARK LLOYD</b>			Inspection Date <b>8-20-10</b>
Employer <b>CITY OF MEQUON</b>			Telephone Number <b>262-236-2957</b>
Outfall Number (make reference to site map) <b>27/21-27-3</b>	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.) <b>8" CMP @ SOUTH END OF PROPERTY</b>		
Time of Rainfall Event <b>11:00 AM</b>	Time of Visual Inspection <b>11:25 AM</b>	Optional: Amount of Rainfall at the Time of Observation (nearest tenth of an inch) <b>0.1-inch</b>	
Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.			
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Red	<input type="checkbox"/> Yellow
	<input type="checkbox"/> Brown	<input type="checkbox"/> Other:	
Odor:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Musty	<input type="checkbox"/> Sewage
	<input type="checkbox"/> Rotten Egg	<input type="checkbox"/> Other:	
Clarity:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Opaque
	<input type="checkbox"/> Suspended Solids	<input type="checkbox"/> Other:	
Floatables:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Foam	<input type="checkbox"/> Garbage
	<input type="checkbox"/> Oily Film	<input type="checkbox"/> Other:	
Deposits / Stains:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Oily	<input type="checkbox"/> Sludge
	<input type="checkbox"/> Sediments	<input type="checkbox"/> Other:	
Comments:			

This outfall could not be evaluated during this quarter due to the following reason:

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It **does not** have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, you could be subject to penalties up to \$10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your Storm Water Pollution Prevention Plan as needed.

Facility Name <b>HIGHWAY DIVISION FACILITIES</b>				
Street Address <b>10800 N. INDUSTRIAL DR.</b>		City <b>MERLON</b>	State <b>WI</b>	ZIP Code <b>53092</b>
Name of Person Conducting Inspection <b>MARK UOYD</b>			Inspection Date <b>11-22-10</b>	
Employer <b>CITY OF MERLON</b>			Telephone Number <b>262-236-2957</b>	
Outfall Number (make reference to site map) <b>27/21-27-3</b>		Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.) <b>8" CMP @ SOUTH END OF PROPERTY</b>		
Time of Rainfall Event <b>7:50 AM</b>	Time of Visual Inspection <b>9:05 AM</b>	Optional: Amount of Rainfall at the Time of Observation (nearest tenth of an inch) <b>0.15-INCH</b>		

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Red	<input type="checkbox"/> Yellow	<input type="checkbox"/> Brown	<input type="checkbox"/> Other:
Odor:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Musty	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rotten Egg	<input type="checkbox"/> Other:
Clarity:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Cloudy	<input type="checkbox"/> Opaque	<input type="checkbox"/> Suspended Solids	<input type="checkbox"/> Other:
Foatables:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Foam	<input type="checkbox"/> Garbage	<input type="checkbox"/> Oily Film	<input type="checkbox"/> Other:
Deposits / Stains:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Oily	<input type="checkbox"/> Sludge	<input type="checkbox"/> Sediments	<input type="checkbox"/> Other:

Comments:

This outfall could not be evaluated during this quarter due to the following reason:

**Annual Facility Site Compliance Inspection Report (AFSCI)**  
 For Storm Water Discharge Associated With Industrial Activity Under  
 Wisconsin Pollutant Discharge Elimination System (WPDES) Permit  
 Form 3400-176 (R 4/04) Page 1 of 4

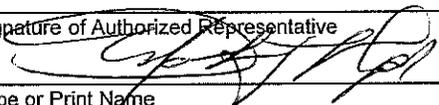
**Notice:** This form is authorized by s. NR 216.29(2), Wis. Adm. Code. Submittal of a completed form to the Department is mandatory for industrial facilities covered under a tier 1 storm water general permit. Facilities covered under a tier 1 permit are not required to submit AFSCI reports after submittal of the second AFSCI report, unless so directed by the department. However, these inspections and quarterly visual inspections shall still be conducted and results shall be kept on site for department inspection. Facilities covered under a tier 2 storm water general, industry-specific general or individual permit shall keep the results of their AFSCI and quarterly visual inspections on site for department inspection. Failure to comply with these regulations may result in fines up to \$25,000 per day pursuant to s. 283.91, Wis. Stats. Personally identifiable information on this form may be used for other water quality program purposes.

Facility Information			
Facility Name <i>PUBLIC WORKS MAINTENANCE YARD</i>			
Street Address <i>6300 W. MEADOW RD.</i>		City <i>MEQUON</i>	State, ZIP Code <i>WI 53092</i>
County <i>DIAUKEE</i>		Facility Contact Person <i>DALE ENGEL</i>	
Signature			

This form must be signed by an official representative of the permitted facility, in accordance with s. 216.29(8), Wis. Adm. Code.

IF THIS FORM IS NOT SIGNED, OR IS FOUND TO BE INCOMPLETE, IT WILL BE RETURNED

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative 		Date Signed <i>3-23-10</i>	
Type or Print Name <i>MARK LLOYD</i>	Position Title <i>DEPUTY DIRECTOR PUBLIC WORKS</i>		
Company Name <i>CITY OF MEQUON</i>		Telephone Number <i>262-236-2957</i>	
Mailing Address <i>11333 N. CEDARBURG RD.</i>	City <i>MEQUON</i>	State <i>WI</i>	ZIP Code <i>53092</i>

The first level of storm water monitoring consists of a comprehensive annual facility site compliance inspection (AFSCI) to determine if your facility is operating in compliance with your Storm Water Pollution Prevention Plan (SWPPP). You should use the results of this inspection to determine the extent to which your SWPPP needs to be updated to prevent pollution from new source areas, as well as to correct any inadequacies that the plan may have in handling existing source areas. This first level of monitoring is addressed in Section III of this Annual Report.

The second level of storm water monitoring consists of quarterly visual observations of storm water leaving the site during runoff events caused by snow-melt or rainfall. This is a practical, low cost tool for identifying obvious contamination of storm water discharges, and can also help identify which practices are ineffective. The goal of quarterly inspections is to obtain results from a set of four inspections that are distributed as evenly as possible throughout the year and which depict runoff quality during each of the four seasons. This second level of monitoring is addressed in Section IV of this Annual Report.

DNR Use Only
FIN
FID

# Annual Facility Site Compliance Inspection Report (AFSCI)

Form 3400-176 (R 4/04)

Page 2 of 4

## Annual Facility Site Compliance Inspection

The Annual Facility Site Compliance Inspection shall be adequate to verify that; your Storm Water Pollution Prevention Plan (SWPPP) remains current, potential pollution sources at your facility are identified, the facility site map and drainage map remain accurate, and Best Management Practices prescribed in your SWPPP are being implemented, properly operated, and adequately maintained.

Name of Person Conducting Inspection <b>MARK LLOYD</b>	Inspection Date <b>3-23-10</b>
Employer <b>CITY OF HEARDON</b>	Telephone Number <b>262-236-2957</b>

Your inspection should start with a review of your written SWPPP kept at your facility. The SWPPP should be amended if, through these inspections, you find that the provisions in your SWPPP are ineffective in controlling contaminated storm water from being discharged from your facility.

Has your SWPPP been updated to include current Non-Storm Water Discharge Evaluation results?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Has your SWPPP been amended for any new construction that would effect the site map or drainage conditions at the facility?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Has your SWPPP been amended for any changes in facility operations that could be identified as new source areas for contamination of storm water?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are there any materials at the facility that are handled, stored, or disposed in a manner to allow exposure to storm water that are not currently addressed in your SWPPP?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Are there any maintenance or material handling activities conducted outdoors that have not been addressed in your SWPPP?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Are outside areas kept in a neat and orderly condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are regular housekeeping inspections made?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Do you see spots, pools, puddles, or other traces of oils, grease, or other chemicals on the ground?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Are particulates on the ground from industrial operations or processes being controlled?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Do you see leaking equipment, pipes or containers?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Do drips, spills, or leaks occur when materials are being transferred from one source to another?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Are drips or leaks from equipment or machinery being controlled?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are cleanup procedures used for spilled solids?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are absorbent materials (floor dry, kitty litter, etc.) regularly used in certain areas to absorb spills?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Can you find discoloration, residue, or corrosion on the roof or around vents or pipes that ventilate or drain work areas?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Are Best Management Practices implemented to reduce or eliminate contamination of storm water from source areas at the facility?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are Best Management Practices adequately maintained?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Are there significant changes that will have to made to your SWPPP to correct any inadequacies that the plan may have to effectively control a discharge of contaminated storm water from your facility?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A

Comments:

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It **does not** have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, you could be subject to penalties up to \$10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name <b>PUBLIC WORKS MAINTENANCE YARD</b>			
Street Address <b>6300 W. MEQUON RD.</b>		City <b>MEQUON</b>	State <b>WI</b>
		ZIP Code <b>53092</b>	
Name of Person Conducting Inspection <b>MARK LLOYD</b>			Inspection Date <b>5-11-10</b>
Employer <b>CITY OF MEQUON</b>			Telephone Number <b>262-236-2957</b>
Outfall Number (make reference to site map) <b>26/21-22-3</b>	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.) <b>CATCH BASIN TO SWALE / SWALE</b>		
Time of Rainfall Event <b>5:45 AM</b>	Time of Visual Inspection <b>7:35 AM</b>	Optional: Amount of Rainfall at the Time of Observation (nearest tenth of an inch) <b>0.20 inch</b>	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Red	<input type="checkbox"/> Yellow	<input type="checkbox"/> Brown	<input type="checkbox"/> Other:
Odor:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Musty	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rotten Egg	<input type="checkbox"/> Other:
Clarity:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Opaque	<input type="checkbox"/> Suspended Solids	<input type="checkbox"/> Other:
Floatables:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Foam	<input type="checkbox"/> Garbage	<input type="checkbox"/> Oily Film	<input type="checkbox"/> Other:
Deposits / Stains:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Oily	<input type="checkbox"/> Sludge	<input type="checkbox"/> Sediments	<input type="checkbox"/> Other:

Comments:

This outfall could not be evaluated during this quarter due to the following reason:

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It **does not** have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, you could be subject to penalties up to \$10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name <b>PUBLIC WORKS MAINTENANCE YARD</b>			
Street Address <b>6300 W. MEQUON RD.</b>		City <b>MEQUON</b>	State <b>WI</b>
		ZIP Code <b>53092</b>	
Name of Person Conducting Inspection <b>MARK LLOYD</b>			Inspection Date <b>8-20-10</b>
Employer <b>CITY OF MEQUON</b>			Telephone Number <b>262-236-2957</b>
Outfall Number (make reference to site map) <b>26/21-22-3</b>		Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.) <b>CATCH BASIN TO SWALE NORTH OF PROPERTY</b>	
Time of Rainfall Event <b>11:00 AM</b>	Time of Visual Inspection <b>11:40 AM</b>	Optional: Amount of Rainfall at the Time of Observation (nearest tenth of an inch) <b>0.1 inch</b>	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Red	<input type="checkbox"/> Yellow	<input type="checkbox"/> Brown	<input type="checkbox"/> Other:
Odor:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Musty	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rotten Egg	<input type="checkbox"/> Other:
Clarity:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Opaque	<input type="checkbox"/> Suspended Solids	<input type="checkbox"/> Other:
Floatables:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Foam	<input type="checkbox"/> Garbage	<input type="checkbox"/> Oily Film	<input type="checkbox"/> Other:
Deposits / Stains:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Oily	<input type="checkbox"/> Sludge	<input type="checkbox"/> Sediments	<input type="checkbox"/> Other:

Comments:

This outfall could not be evaluated during this quarter due to the following reason:

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It **does not** have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, you could be subject to penalties up to \$10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name <b>PUBLIC WORKS MAINTENANCE YARD</b>			
Street Address <b>6300 W. MEQUON RD.</b>		City <b>MEQUON</b>	State <b>WI</b>
		ZIP Code <b>53092</b>	
Name of Person Conducting Inspection <b>MARK LLOYD</b>			Inspection Date <b>11-22-10</b>
Employer <b>CITY OF MEQUON</b>			Telephone Number <b>262-236-2957</b>
Outfall Number (make reference to site map) <b>26/21-22-3</b>	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.) <b>CATCH BASIN TO SWAGE NORTH OF PROPERTY</b>		
Time of Rainfall Event <b>7:50 AM</b>	Time of Visual Inspection <b>9:25 AM</b>	Optional: Amount of Rainfall at the Time of Observation (nearest tenth of an inch) <b>0.15-INCH</b>	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Red	<input type="checkbox"/> Yellow	<input type="checkbox"/> Brown	<input type="checkbox"/> Other:
Odor:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Musty	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rotten Egg	<input type="checkbox"/> Other:
Clarity:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Cloudy	<input type="checkbox"/> Opaque	<input type="checkbox"/> Suspended Solids	<input type="checkbox"/> Other:
Floatables:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Foam	<input type="checkbox"/> Garbage	<input type="checkbox"/> Oily Film	<input type="checkbox"/> Other:
Deposits / Stains:	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Oily	<input type="checkbox"/> Sludge	<input type="checkbox"/> Sediments	<input type="checkbox"/> Other:

Comments:

This outfall could not be evaluated during this quarter due to the following reason:

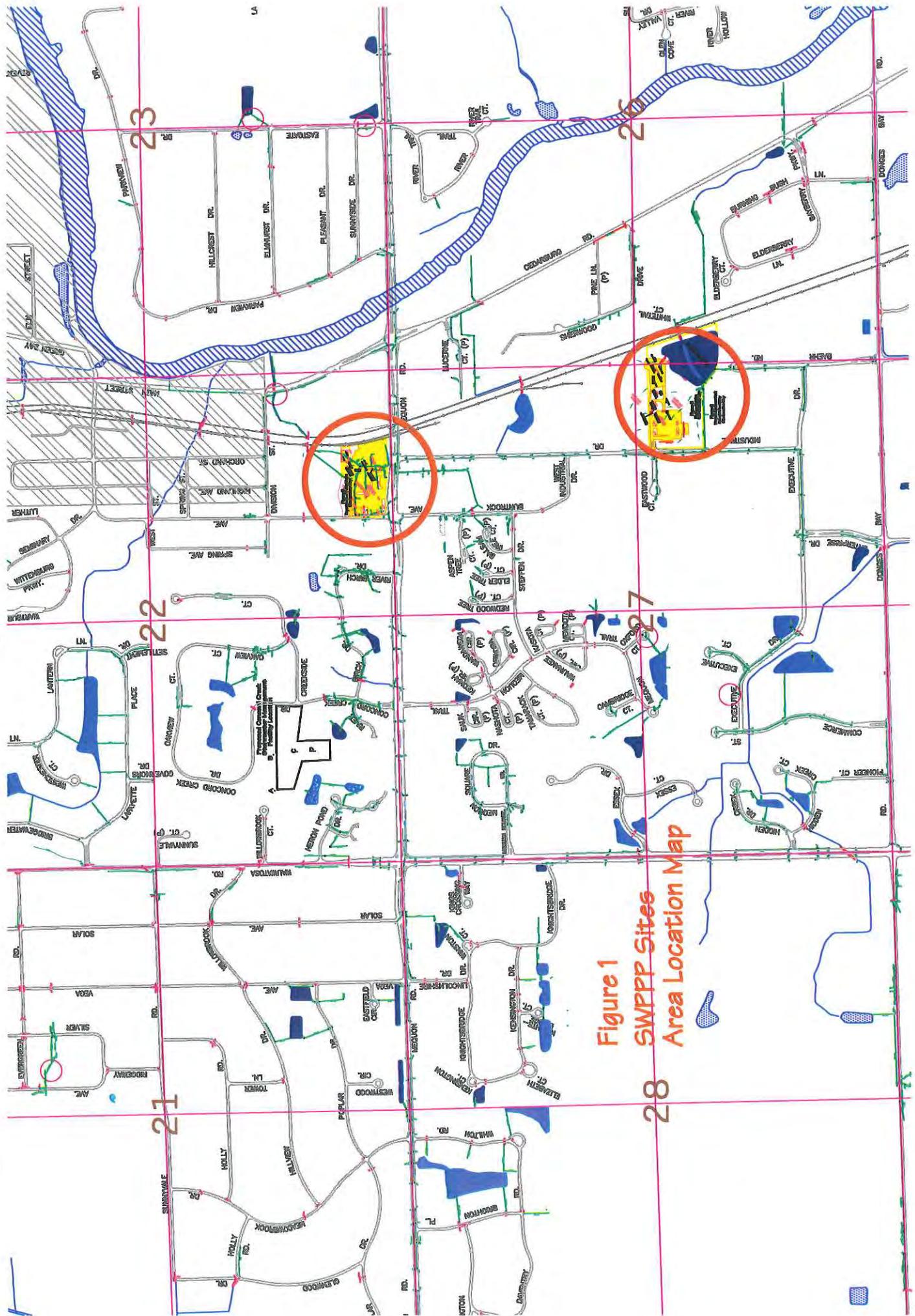


Figure 1  
SWPPP Sites  
Area Location Map



WHITE TAIL CT

36" Rep. - 323'

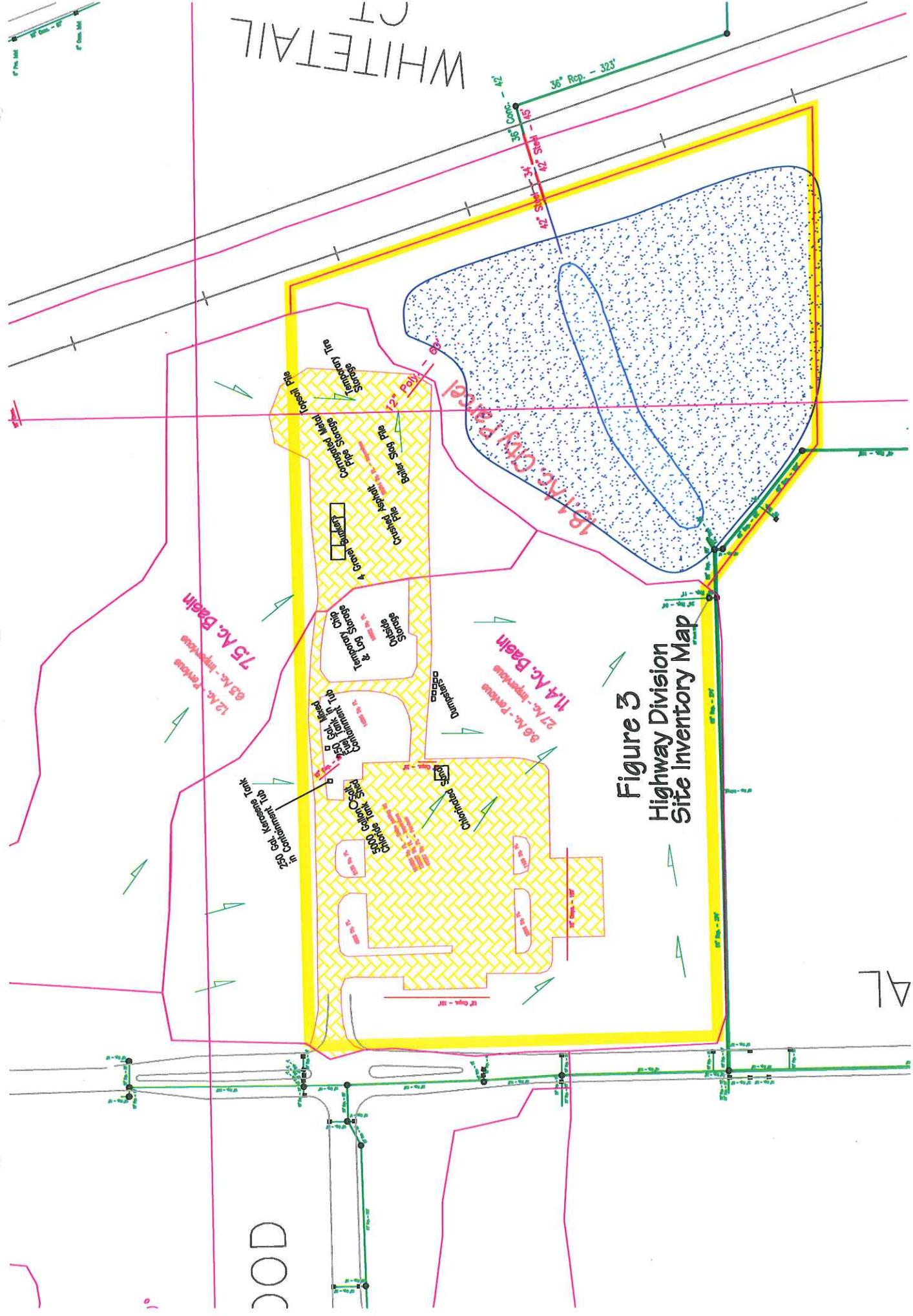


Figure 3  
Highway Division  
Site Inventory Map

AL

Figure 4  
Department of  
Public Works Site  
Basin Map

Figure 5  
Department of Public Works  
Site Inventory Map

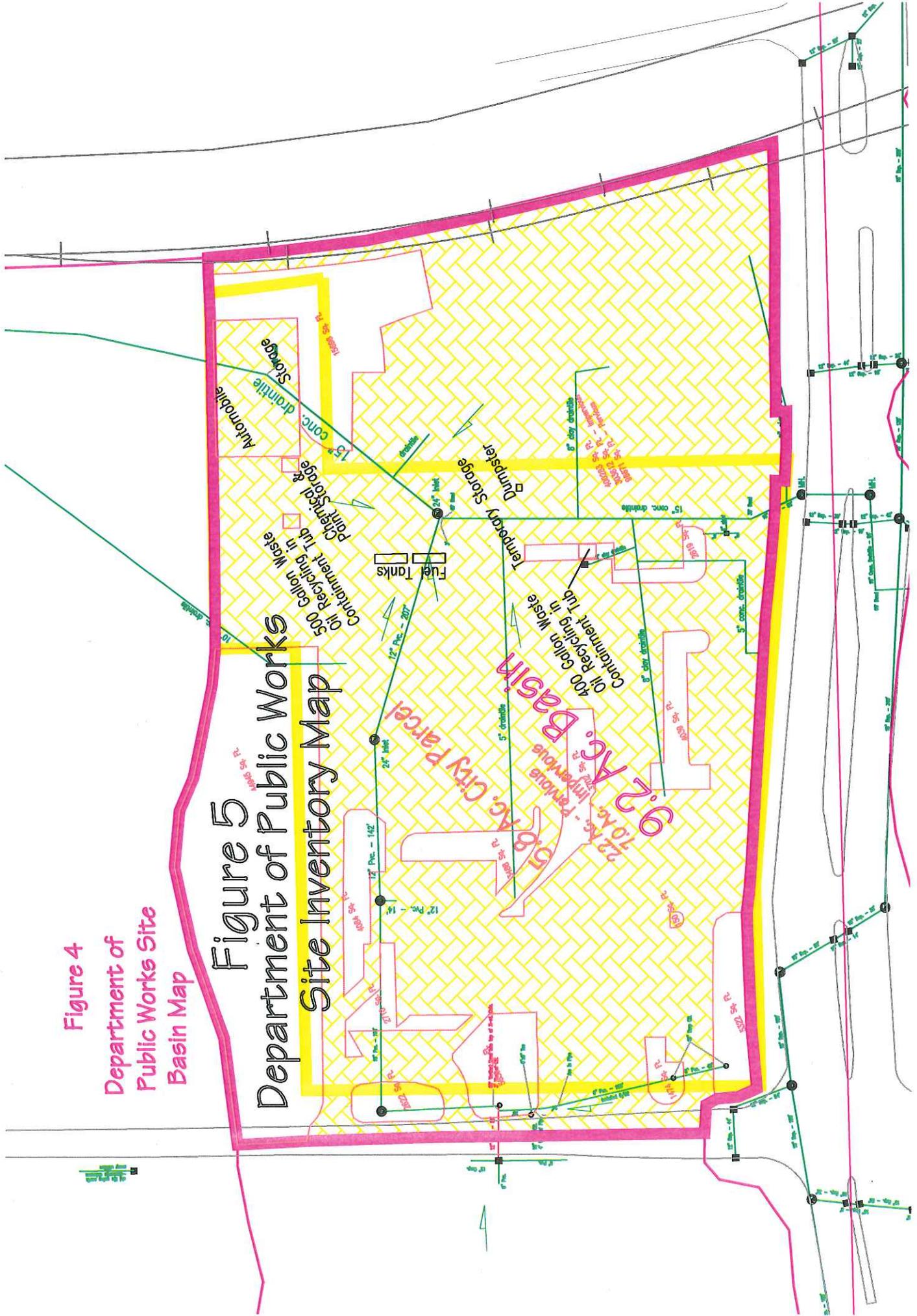
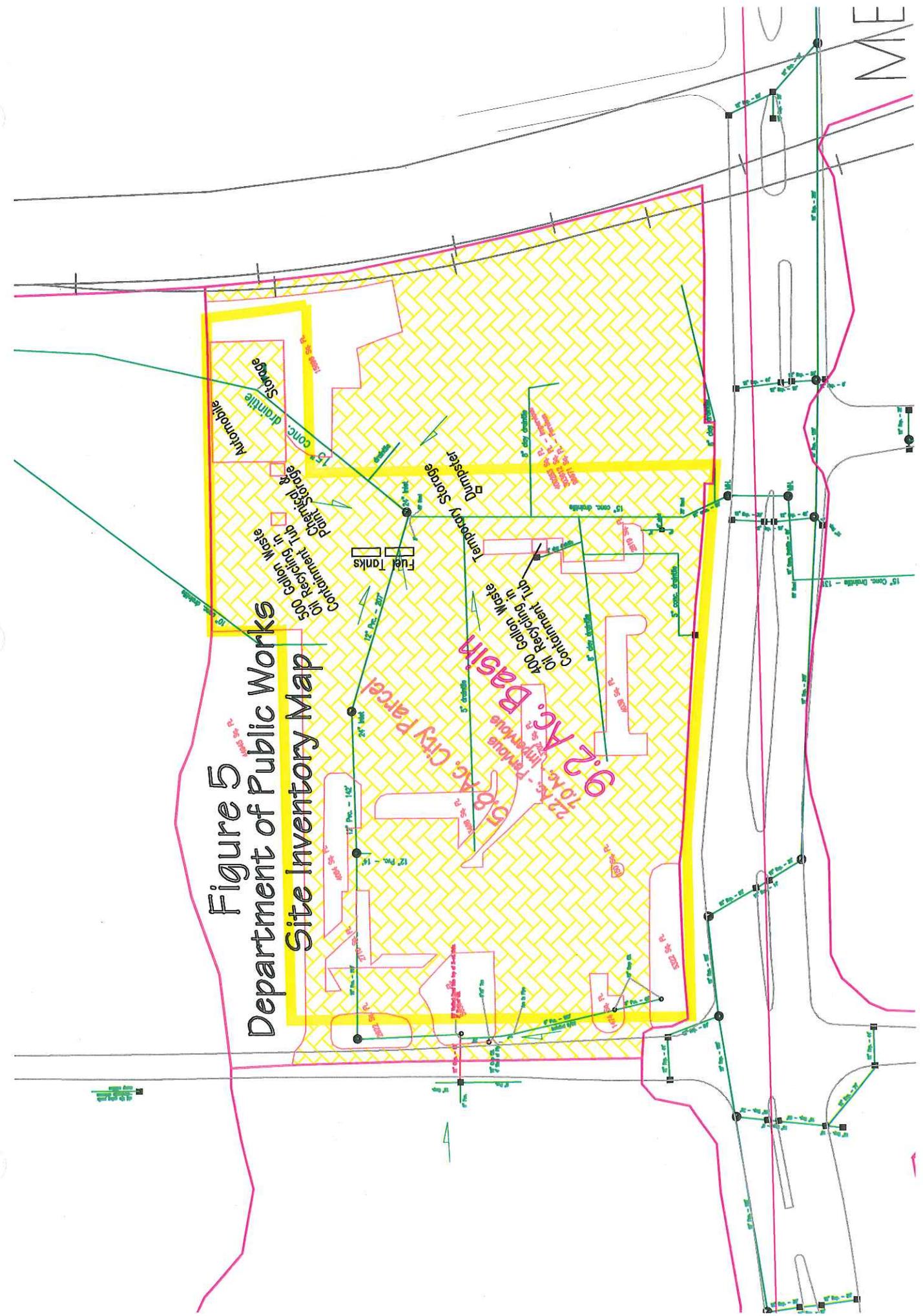


Figure 5  
Department of Public Works  
Site Inventory Map



ME

## APPENDIX F

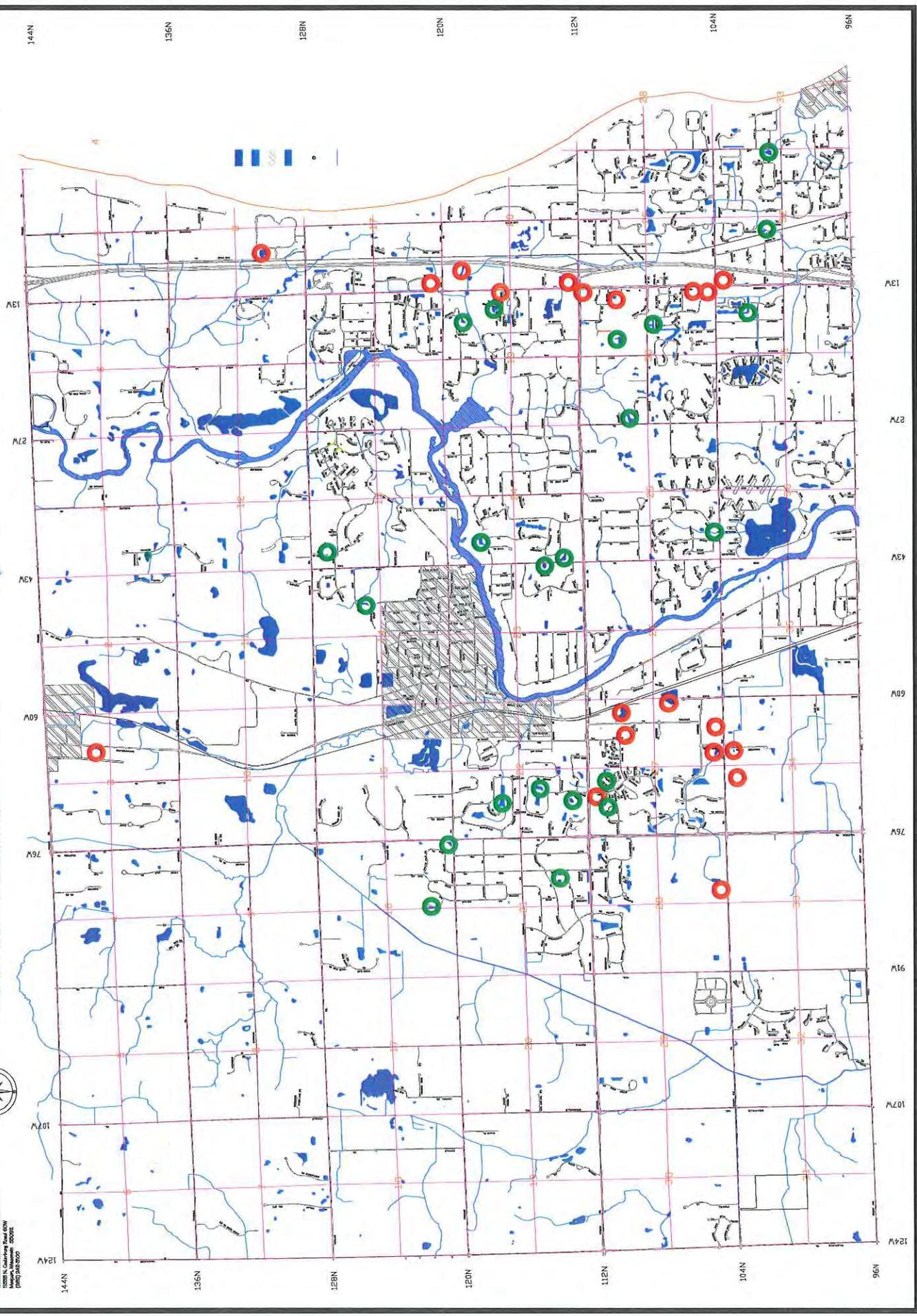
### **Detention Pond Certification Program**

- Pond Location Map
- Pond Owner List
- Sample Pond Certification Package



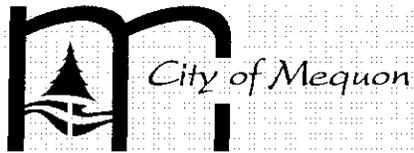
## 2010 Pond Certifications

## City of Mequon



RESIDENTIAL STORM WATER MANAGEMENT FACILITY CERTIFICATION LOG - WITH CERTIFICATION DATE

Subdivision	Pond 1	Pond 2	Pond 3	Pond 4	Pond 5	H.O. Assoc. Rep.	Address	City	St	Zip	Home #	Business #	Date Letter sent	Response Received	Amt. LOC	LOC Expires	Date Certified	Next Certification	Dry Ponds - Don't Send LTR-City Insp	Aesthetic ponds No Insp Required	Constructed	Comments	Done or to be done by	
Parkside	22_32_3					Wally Lange	533 E Cedar Lane	Mequon	WI	53092	262-241-3927		03/19/10				05/23/01	05/23/06	City Insp			08/09/07- call for pond cert info, left message. 08/10/07 Wally said he sent e-mail to Mark or me, didn't get. He said this was prior to Ordinance and felt he shouldn't be responsible. Talked to Mark he said he would look into it.		
Asterwoods	22_19_7	22_19_8				Shaun Nelson Property Manager Hunt Management Incorp	10520 N Baehr Road Ste Q	Mequon	WI	53092		262-238-1480	03/19/10		128,000	12/19/07	08/26/10	08/26/15	Wet			Check Storm Saptor. 08/01/07 Changes contact Person. 09/05/07 Called Mr. Shaver, said he would check on the forms. 09/15/10-Received Pond Cert Forms from Jaren Hiller.		
Highgate						Paul Royce	12125 N Ridgeway Dr	Mequon	WI	53097	262-242-7770		03/19/10		44,000	05/01/09		05/01/09	NA				LC #0041026 Bank One. 04/28/10 No Pond.	
Mequon Century Acres						Mike Devorkin Irgens Development	12435 N River Road	Mequon	WI	53092		262-241-9910	03/19/10					01/01/10	City Insp		1991	03/05/10 Check for HOA		
Sarah Cudnow Campus	22_30_14	22_30_15	22_30_16			Randy Crosby Milwaukee Jewish Home	1414 N Prospect Avenue Ste 202	Milwaukee	WI	53202		414-277-8810	03/19/10				8/25/10	08/25/15	Wet		2003	05/27/10-Received Comp Cert Form. 08/24/10 Jim Hensel from NSE said the Pond Cert would be submitted in a week. 08/26/10 Received Pond Cert Forms from NSE	05/27/10 - North Shore Engineering	
Woodridge Outlot 2						John Mikkelsen Mikkelsen Builders	1025 W Glen Oaks Ln	Mequon	WI	53092	262-242-0298	262-241-8740	03/19/10		16,000	02/22/10		02/22/10	City Insp			Oz Bank LOC 10630. CC Approval Extension 01/10/05		
Vintage Estates	22_32_1	22_32_2				Robert Miller	108 W Miller Dr	Mequon	WI	53092	262-241-5522	414-964-5050	03/19/10				03/08/05	03/05/10	City Insp		Pre-1997		02/17/08 Bonestroo	
Country Squire Estates II 2-ponds	21_23_1	21_23_2				Margaret Ambrookian	11405 N Carriage Ct	Mequon	WI	53092	262-242-2350		03/19/10				03/08/05	03/08/10						
Gebhardt Farm	22_30_1	22_30_2				Robert Rakers, Treasurer	4104 W Hillands Ct	Mequon	WI	53092	262-242-4519		03/19/10				03/08/05	03/08/10		Not Required		One Pond, 2nd Pond Private		
Westchester	22_22_1	22_22_2				David Johnson	7011 W Lantern Ln	Mequon	WI	53092	262-238-9887	414-828-9887	03/19/10				03/09/05	03/09/10				06/08/10-Received Ltr from Dave Johnson asking for a Waiver for this years Pond Cert. 06/15/10 John Huck issued a memo to Mark L regarding the request for a Waiver.	02/09/05 Bonestroo	
Stonefields & Stonefields IV	21_24_1	21_24_2	21_24_3			John Fricker	4012 N Canterbury Ct	Mequon	WI	53092	262-512-9711		03/19/10				07/02/10	07/02/15	21_24_1 Wet (Northeast Pond) 21_24_2 Wet (Southwest Pond)	21-24-3 Dry Pond No Insp		3 Ponds, River Rd, Stonefield IV & 2 connected ponds 2003 Payments. 04/28/10 - 1990. 05/24/10-Per J Huck Pond 212403 is a dry pond and does not need Insp. The 212401 and 212402 do. Called Mr. John Fricker (414-765-7344) and replied to his message concerning this information. 05/25/10 received form for 2010 Cert. 07/09/10 Received Pond Cert Form for ponds 21-24-1 and 21-24-2.	05/25/10 - Bonestroo	
Concord Place Condos (De La Warr)	22_30_10	22_30_11	22_30_12			Jeffrey Hunt Hunt Management Inc	10520 N Baehr Rd Suite Q	Mequon	WI	53092		262-238-1480	03/19/10				03/11/05	03/11/10				Hunt Management Letter 07/14/03. 09/24/09-Partially on Hidden Reserve per John Huck Agreed to Western Pond. 04/28/10 - 1984. 05/27/10 received Comp Cert Form. 08/24/10 J. Hensel said the form would be submitted in 2 weeks. 10/18/10 Received Pond Certification Form from NSE.	05/27/10 - North Shore Engineering	
Cedar Ridge	22_31_1					Terry Handel Hunt Management	10520 N Baehr Rd Suite Q	Mequon	WI	53092		262-238-1480	03/19/10				10/11/10	10/11/15	Wet				05/27/10 - North Shore Engineering	
Westwood	21_21_1	21_21_2 & 3		21_21_4	21_21_5	Vaughan Jobert	8137 W. Poplar Drive	Mequon	WI	53097			03/19/10				3/15/2004	03/15/10	Dry-City Insp			03/01/11- Change of contact person.	02/18/04 Bonestroo	
Mequon on the Square	21_27_4					Sheldon Saltzberg Mequon on the Square	7521 W Mequon Square Dr	Mequon	WI	53092	262-238-8091	414-759-6060	03/19/10				04/01/05	04/01/10	Dry-City Insp				02/19/04 Bonestroo	
Mequon Trail	21_27_1	21_27_2	21_27_3			Linda Maxwell David J. Yung	7014 W Tamarack Ct CSM Corp 2575 University Ave	Mequon	WI	53092	262-242-2240 651-646-1717		03/19/10	04/08/10			04/01/05	04/04/10	Dry-City Insp			04/16/10 Notified Ms. Freeman that this is a dry pond and is no longer required to be certified	02/17/04 Bonestroo	
Gazebo Hills	21_25_2	21_25_3	21_25_4			Michael C. Williams	4123 W Gazebo Hills Blvd	Mequon	WI	53092	262-512-0424	414-297-3374	03/19/10				04/11/05	04/11/10	City Insp			Only Ponds A, B & C. 06/02/10-received a call from Mike Williams and informed him that this a dry pond and will not be required to be certified at this time. Sent letter 06/03/10 to that effect. 06/02/10- Contacts name changed.		
Concord Creek Reserve	21_22_6					Kathy Blaszczyk Concord 19 LLC	11501 N Port Washington Rd Ste 200	Mequon	WI	53092		262-241-9910 x 112 414-861-5284 M	03/19/10		44,000	03/23/10	07/14/05	07/24/10	Wet			05/28/10 Name changed from Concord Creek Condos	04/27/10 - Mc Clure Engineering	
Concord Creek I & II	21_22_3	21_22_4	21_22_5	21_22_6	21_22_7	Kathy Blaszczyk Concord 19 LLC	11501 N Port Washington Rd Ste 200	Mequon	WI	53092		262-241-9910 x 112 414-861-5284 M	03/19/10		156,000	08/09/10	07/20/10	07/20/15	Wet			2 Phases could be done @ same time. 39 lot Development. 08/18/10 Received Pond cert Form from McClure Eng.	04/27/10 - Mc Clure Engineering	
Preserve at Glen Oaks	22_19_5	22_19_6				Thomas Zabjek Lakeside Development	10033 N Port Washington Rd	Mequon	WI	53092		262-241-2300	03/19/10		68,000	10/4/2010	7/29/10	7/29/15	Wet			Certified by National Survey. 06/16/10 Received Call that they will get the form in as soon as possible and will arrange to have certified. 07/06/10 Received Compliance Cert Form. 08/17/10 Received Pond Cert Forms	07/06/10 To be done by R.A. Smith National - Chris Hitoh 262-317-3266	
Hidden Farms	21_1_1	21_1_2				Joseph C. Carlin	4250 W. Ravenwood Ct	Mequon	WI	53097	262-242-4025		03/19/10		44,000	10/26/05	06/19/00	10/26/10	Wet		2000	Recertified 10/26/05. 04/14/10 Received Comp Cert Form/	04/14/10 - North Shore Eng	
Somerset -DONT MAIL NOTICE	21_16_2	21_16_3				Scott Rolfs	7831 W Rolling Field Dr	Mequon	WI	53092	262-512-2977	414-978-6576	03/19/10				07/19/10	07/19/15				03/30/09-Received Comp Cert Form- Pond cert will be done by Bonestroo 03/18/10- Bonestroo called. Now has contract will do with others. DONT MAIL NOTICE. 07/30/10 Pond Cert Form Received.	03/30/04 Bonestroo	
Gold Hawk Builders						City of Mequon	11333 N cedarburg Rd	Mequon	WI	53092		262-236-2957	03/19/10					01/01/10	City Insp			4 lot CSM Highland Road. 03/05/10 Per J Huck City to inspect. Lot 1, 2, & 3 each have a rain garden/detention pond per plan.		



11333 N. Cedarburg Rd 60W  
Mequon, WI 53092-1930  
Phone (262) 236-2934  
Fax (262) 242-9655

www.ci.mequon.wi.us

ENGINEERING

January 26, 2010

[NAME]  
[SUBDIVISION]  
[ADDRESS]  
Mequon, WI 53092

**RE: Storm Water Detention Pond Certification**

Dear [NAME]:

Our records identify you as the contact for the [SUBDIVISION] Homeowners Association. If our records are in error, please contact Barbara Vento, in the Engineering Department, at (262) 236-2934 (or email at [bvento@ci.mequon.wi.us](mailto:bvento@ci.mequon.wi.us)) with the correct information.

A requirement of the City of Mequon's Ordinance, Section 58-606 (enclosed), and the Developer's / Owner's Agreement is the participation of your subdivision in the City's Storm Water Detention Pond Certification Program. The storm water pond(s) in your subdivision must be inspected and checked, by a Wisconsin licensed engineer or land surveyor, to certify that the pond(s) complies with the original design standards. The [SUBDIVISION] Homeowners Association is responsible for the proper maintenance and operation of these ponds. This certification ensures that the storm water ponds are operating as designed to limit pollutant transport and flooding of down stream properties and area waters.

The City requests that you complete the enclosed agreement form and return it to Barbara Vento, in the Engineering Department, by **(Date)**, indicating your preference to use a City consultant, or identifying a consultant of your choice, to inspect the pond(s). Submission of the tabular data and survey information is due by **(Date)**. All information must be returned complete using the City's electronic spreadsheet with survey information in ESRI personal geodatabase or shapefile, or an AutoCAD drawing file using NAD 1927 State Plane Wisconsin South FIPS 4803 coordinates. The access spreadsheet will be available if you choose to use your own consultant.

We would like to share with you the most frequently asked questions and their answers.

**How often is the recertification required?** Detention Pond Recertification is required every five years.

**How are the new residential and non-residential developments certified?** New subdivision ponds are certified as a condition of final plat approval and are to be recertified every fifth year thereafter. New subdivisions are required to establish a Drainage Letter of Credit for 5 years, based on \$4,000-per lot or unit. The storm water facilities are recertified as a condition of releasing the Letter of Credit.

Non residential developments are required to re-certify their facility as a condition of obtaining the occupancy permit.

**Our development has more than one detention pond, how will it be charged? What is our cost share of the project?** The City solicited cost proposals from qualified Engineering consultants. The consultant's cost ranged from \$1,100 to \$3,800 (for each pond) depending on the size of the pond. The City has used the following consultants:

Bonestroo / Matt Bednarski (262) 241-4466,  
Hayes Engineering / Tim Hayes (414) 272-3200  
Kapur & Associates / Kurt Kruger (414) 351-6668, or  
North Shore Engineering / Jim Hensel (262) 240-9100

that employ the City's global positioning system to survey the ponds and are familiar with the City's certification procedure. The [SUBDIVISION] Homeowners Association should contact one of the above consultants or a qualified consultant of their choosing to perform the certification. The City will charge a fee of \$80/hour to review the pond certification reports for completeness and accuracy and to administer the program. The above referenced consultants are familiar with the City's certification requirements which should minimize City review time and related charges.

Enclosed is a sample of the data form that will be used for the collection of the required field information. If you chose your own consultant, please request an electronic copy of this spreadsheet upon return of the agreement so that you may provide them this form for electronic submission. All inspection and survey information must be submitted in the required formats.

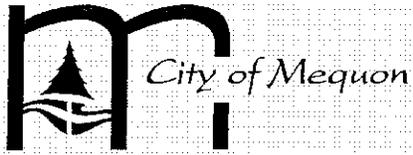
The City is requesting your cooperation and that the agreement forms be returned no later than the above mentioned due date. Any disputes will be addressed by the Public Works Committee for those who have not responded by the due date or contest the certification. If you have any questions, you can contact me at 262-236-2957 or by e-mail at [mlloyd@ci.mequon.wi.us](mailto:mlloyd@ci.mequon.wi.us).

Respectfully,  
The City of Mequon



Mark Lloyd, P.E.  
Assistant City Engineering

Enclosures: Agreement Form, Data Sheet, Ordinance Section 58-606



11333 N. Cedarburg Rd 60W  
Mequon, WI 53092-1930  
Phone (262) 236-2957  
Fax (262) 242-9655

www.ci.mequon.wi.us

ENGINEERING

## DENTENTION BASIN / POND MAINTENANCE

### COMPLIANCE CERTIFICATION

Subdivision name or business address: \_\_\_\_\_  
(Please Print Clearly)

Association representative or facility owner:

Name: \_\_\_\_\_  
(Please Print Clearly)

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

In accordance with the City of Mequon Code of Ordinances Section 58-606, the undersigned acknowledges their responsibility to provide normal, visual and customary cleaning and maintenance to the detention basin(s), lake(s) and pond(s); to certify that the existing facility complies with the original design standards and is functioning in an effective and efficient fashion; and to allocate funds for the effort and ongoing maintenance.

The facility owner agrees to the contract compliance certification with the following consultant listed below. (Please check one):

Bonestroo / Matt Bednarski (262) 241-4466 \_\_\_\_\_

or

Hayes Engineering / Tim Hayes (414) 272-3200 \_\_\_\_\_

or

Kapur & Associates / Kurt Kruger (414) 351-6668 \_\_\_\_\_

or

North Shore Eng. / Jim Hensel (262) 241-9100 \_\_\_\_\_

\_\_\_\_\_  
(Other — please print clearly)

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_  
Authorized Representative

## Detention/Retention Facility Compliance Report

**NOTE:** All Information Must Be Submitted Electronically In The City's Access Database. Survey Information Must Be Submitted In An ESRI Personal Geodatabase or Shapefile Using State Plane NAD 27 Coordinates.

1/4 Section		Town		North		Range		East
Nearest Intersection:								
Subdivision / Business Name:								
Owner's Representative	Name					Pond I.D.		
	Address					Year Approved		
						Year Constructed		
	Phone					Year Last Certified		
Compliance Report by:								
Certifying Professional	Name					Field Inspector Initials		
	Address					Date Inspected		
						Date Certified		
	Phone					File No.		
<b>Basin Performance Data</b>								
	Approved	Actual	Compliant (Y/N)	Comments				
Design Storm (yr)								
NWL								
DHWL								
Emergency Spillway El.								
Area @ NWL (ac)/(ft <sup>2</sup> )								
Area @ DHWL (ac)/(ft <sup>2</sup> )								
Design Storage (ft <sup>3</sup> )								
Design Discharge (cfs)								
Bottom Elevation								
Average Depth (ft)								
Wet Volume (ft <sup>3</sup> )								
<b>Basin Outlet Structure (check one)</b>								
			Multi-stage			Single-stage		
<b>Primary Outlet Performance</b>								
Primary Outlet	Approved	Actual	Compliant (Y/N)	Comments				
Opening diameter (in)								
Upstream Invert								
Downstream Invert								
Outlet length (ft)								
Outlet Slope (%)								
<b>Secondary Outlet Performance</b>								
Secondary Outlet	Approved	Actual	Compliant (Y/N)	Comments				
Opening diameter (in)								
Upstream Invert								
Downstream Invert								
Outlet length (ft)								
Outlet Slope (%)								
<b>Certification Summary</b>								
Compliant (check one)		YES				NO		
Next Certification required before								
Date:					Signature:			

## Detention/Retention Facility Field Inspection Report

**NOTE:** All Information Must Be Submitted Electronically In The City's Access Database. Survey Information Must Be Submitted In An ESRI Personal Geodatabase Or Shapefile Using State Plane NAD 27 Coordinates.

Live Storage Properties	Points Shot	Survey Equipment Description
NWL		
Area at NWL (ac)/(ft <sup>2</sup> )		
DHWL/OUTFALL		
Area at DHWL (ac)/(ft <sup>2</sup> )		
Live Storage Volume (ft <sup>3</sup> )		
Date of Field Inspection:		

Wet Storage Properties	Points Shot	Survey Equipment Description
Max. Bottom Elevation		
Avg. Pond Bottom Elevation		
Pond Bottom Area (ac)/(ft <sup>2</sup> )		
Max. Pond Depth (ft)		
Avg. Pond Depth (ft)		
NWL		
Area at NWL (ac)/(ft <sup>2</sup> )		
Wet Storage Volume (ft <sup>3</sup> )		
Date of Field Inspection:		

Volume of Live and Wet Storage computed as follows:  $V = ((A1+A2)/2)(\Delta\text{elev.})$   
 *$\Delta\text{elev}$  = elevation difference between sections,  $A1$ =area of bottom section,  $A2$ =area of top section*

For live storage use:  $\Delta\text{elevation}$  NWL-DHWL,  $A1$ = area at NWL in acres,  $A2$ =area at DHWL in acres

For wet storage use: $\Delta\text{elevation}$  Bottom-NWL,  $A1$ = area pond bottom in acres,  $A2$ =area at NWL in acres

Outlet Sketch	Photo of Pond - General View
	Date of Photo:
	<b>Photo of Outlet - Detail View</b>
	Date of Photo:
<b>Survey Benchmark</b>	
Location	
Description	
Elevation	

## CITY OF MEQUON; CODE OF ORDINANCES (partial)

### Sec. 58-606. Best management practice (BMP) maintenance.

- (a) All BMPs shall be maintained and cared for by the Developer and subsequently, at such time as the developer passes control of the property and responsibility for general maintenance to the homeowner's association/condominium association/owner, it shall be maintained by the homeowner's association/condominium association/owner.
- (b) If, in the opinion of the City of Mequon, either the developer (in keeping with the limitations upon its responsibility as expressed below) or the association/owner fail to maintain such BMP, and/or the owner of the remainder of the open space shall fail to maintain it, the city is authorized to give the developer and/or the association/owner written notice requiring either or both within 30 days thereafter, to cure the failure and to maintain and to provide the required care. If the developer (in keeping with their limitations upon its responsibility as expressed below) or the association/owner fails to comply with the demands of the notice, the city shall have the right to provide the required maintenance and to include in the annual tax bill for each lot in the subdivision or condominium unit a proportionate share of the cost of such maintenance.
- (c) Developer covenants and the city acknowledges that the subdivision, homeowner's association or condominium association will be created or caused to be created by the developer as a non-profit, non-stock, Wisconsin corporation; the members of which will be the individual owners of the lots in the subdivision or condominium units.
- (d) The city further acknowledges that the developer intends to impose through agreement the above referenced maintenance responsibilities prior to the sale by the developer of all the lots in the subdivision or condominium units. The developer shall have no further responsibility for such maintenance, only after arms length sale of all the platted lots by the developer.
- (e) The developer/association/owner agrees, at its expense, to provide normal, visual and customary cleaning, maintenance and certification to the BMPs located in subdivision/property, which may include weed and algae control, dam stabilization, outlet structure (including trash rack), dredging and biological control.
- (f) Dredging of the detention basin/pond requires approval under Wis. Stats. § 30.20, a permit to remove materials from the bed of a pond ultimately connected to the Milwaukee River from the Wisconsin department of natural resources (WDNR).
- (g) The application of EPA/state registered chemicals to detention basins/ponds or lakes is regulated by the WDNR. With few exceptions, a permit must be filed with, and approved by the WDNR, prior to chemical treatment. In certain circumstances, a representative of the department will monitor or supervise the chemical treatment. Contact the department for additional information.
- (h) Detention basins/ponds shall be inspected and checked by an independent engineer or licensed land surveyor and recertified that the detention basin/pond complies with the original design standards before transfer to the homeowner's association or

condominium association. Thereafter, the Association would be responsible to recertify the detention basin/pond as follows:

- (1) All initially constructed detention basins/ponds must be inspected within two years from the date of adoption of the ordinance from which this section is derived;
- (2) Thereafter, all detention basins/ponds constructed prior to January 1, 1994, shall be required to be inspected and recertified every five years;
- (3) All detention basins/ponds constructed after January 1, 1994, shall be inspected and recertified in one additional two-year cycle and every five years thereafter. Any deficiencies shall be corrected immediately. The city engineering department shall be notified three working days in advance of the inspection and no more than five working days after corrections have been made. A written report, not limited to photographs or diagrams of the deficiency and corrections with the certification, shall be submitted to the city engineering department for review and approval. Specific areas shall include, but not be limited to:

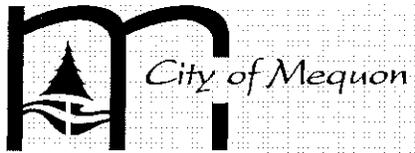
Pond containment berms are stable and free of animal burrowings  
Detention storage  
Erosion  
Vegetative cover  
Sediment accumulation  
Trash rack/culvert functions  
Outlet flow

- (i) BMPs may not be altered from the original city approved design without prior written approval by the city engineer. Failure to comply will result in the issuance of a municipal citation as in this section.
- (j) The city engineer has the authority to stop work, amend, or alter remediation measures to the detention basins/ponds. Any person violating any of the provisions of this section shall be subject to a forfeiture as provided in chapter 2 of this Code of Ordinances, and the city may recover all attorneys' fees, court costs, and other expenses associated with enforcement of this section, including sampling and monitoring expenses. Each day a violation exists shall constitute a separate offense.
- (k) If a homeowner's association or condominium association does not exist, the city shall require recertification of the detention basin/pond to the time just prior to the city's release of the Developer's drainage escrow.
- (l) This agreement shall be binding on the heirs, personal representatives, successors and assigns of the parties hereto.

END OF SEC.58-606

COMMERCIAL STORM WATER MANAGEMENT FACILITY CERTIFICATION LOG

Tax Key No.	Pond 1	Pond 2	Pond 3	Pond 4	Property Address	Owner	Address	City	St	Zip	Home #	Business #	Date Letter sent	Response Received	Amt. LOC	LOC Expires	Date Certified	Next Certification	Wet Ponds	Dry Ponds - Don't Send LTR-City Insp	Aesthetic ponds No Insp Required	Comments	BY Whom	
140281500600					8200 W Donges Bay Road	Scott Engroff Mequon Soccer Club	9733 N Ash Court	Mequon	WI	53092			03/27/03					2010				Original plans require Pond cert 2010. Plans in Development File. Start base line. Pond used for irrigation. <b>04/28/10 PREDATES ORDINANCE.</b>		
140340201200					10333 N Enterprise Dr	Thomas & Karen Hodgert	4228 W Bonniwell Rd	Mequon	WI	53097	262-242-3095		04/04/03	06/05/03				2010			CITY INSP	Mailing Address 4228 W Bonniwell Road. Kids Kingdom. Insp site amendment in 2000. Revised water system.		
150200600100					1001-25 W Glen Oaks Lane	Glen Oaks Office Park, LLC	1025 N Glen Oaks Lane	Mequon	WI	53092			03/27/03	04/21/03				2010	X			08/22/07 received Comp Form back 08/22/07 Compliance to be done by North Shore engineering	NSE	
150300101000					10935 N Pt Washington Rd	Duane Strobel Mequon Senior Housing LLC	W61N488 Washington Ave	Cedarburg	WI	53012			03/27/03					2010	X			Certification done by BRAA late summer 2002. Project completed late summer of 2002 2 ponds	BRAA	
150300101500					11147 N Pt Washington Rd	HEMON, LLC (Mobil)	10763 N San Marino Dr	Mequon	WI	53092			No Letter					2010				Stormceptor Final Occupancy. <b>02/11/10 Storm Ceptor to also be done. No Pond</b>		
140271500200	21-27-10				10400 N Enterprise Dr	Gary Schleicher (Lee A. Doerr & Janice M Doerr) (SPI Lighting)	10400 N Enterprise Drive	Mequon	WI	53092		262-242-1420					03/10/05	03/10/10	X			Done By BRAA 03/14/05 Pond ID 21-27-10	BRAA	
140030300200 140030300700 140030300800	21-03-05				10433 N Cedarburg Road	VGL Partnership	PO Box 127	Cedarburg	WI	53012					\$8,000.00	07/19/10	06/01/05	06/01/10	X			LOC 10648 Ozaukee Bank. Done by Landcraft Pond ID 21-3-5 Eastbrook/Pt Washington Rd Certified by Steve Kaiser 08/12/05		
151760002000	22-19-9				11725 N Pt Waashington Rd	Blue Oyster Commercial Office	10033 N Pt Washington Rd	Mequon	WI	53092							08/12/05	08/12/10	X			Owner Contracted with Raintree Engineering for Pond Cert.		
150301601000					10401 N Pt Washington Rd	Robert Briese (Chalet Hotel) Telhac, Inc	10401 N Port Washington Road	Mequon	WI	53092			03/27/03	06/10/03			10/16/05	10/16/10			CITY INSP			
150301600900	22_30_14				10509 N Pt Wash Rd	Concord Development	11510 N Pt Washington Rd	Mequon	WI	53092		262-240-1216					12/00/05	12/00/10	X			Date Inspected 12/21/05 Natl Survey		
140270101200					10910 N Industrial Dr	TelSmith Inc	10910 N Industrial Road	Mequon	WI	53092			City									Pond Cert by BRAA	BRAA 02/22/10 Cking with Bonestroo	
140270300500					10950 N Buntrock	Melita Renfert Lane Revocable Trust	7740 N River Edge Dr	Glendale	WI	53209			04/04/03	05/21/03							CITY INSP	Unfair Cost to much NA		
140270600900					7211 W Mequon Rd	Sommer Holdings, LLC	7211 W Mequon Rd	Mequon	WI	53092					\$12,542.00	09/24/12					CITY INSP	4,626 sf bldg & parking lot w/asphalt removal. No Pond		
140271300700					10800 N Industrial Dr	City of Mequon	11333 N Cedarburg Rd	Mequon	WI	53092			City						X			City Pond to Certify		
140271602100					6300-6350 W Donges Bay Rd	Gary Bergin Cliff Bergin & Assoc Inc	6300 W Donges Bay Road	Mequon	WI	53092		262-242-2456	08/08/07	08/13/07								By Environmental Services Pond Cert 07/31/07 <b>Check Maintenance on Baysaver.</b> 08/13/07-Bonestroo to Cert.	Bonestroo. 02/24/10 cking w.BRAA	
140340500200					6911/6921 W Donges Bay Rd	Badowski, LLC etal	6911B W Donges Bay Rd	Mequon	WI	53092			03/27/03										Cert by McClure Engineering. 02/23/10 Name Chg from Badowski LLC etal. 02/23/10 2005 site amendment, 2nd detention pond (s.w. property) checking with McClure.	
150080900100					12800 N Lake Shore Dr	Allen Prochow Concordia University	12800 N Lake Shore Dr	Mequon	WI	53092		262-243-4303	03/27/03	05/09/03					X				08/17/07 to be done by Bonestroo. 05/28/09 Rec'd e-mail regarding Storm Water Management Plan	
150171101000					12075 N Corporate Pkwy	Bonten V, LLC	2335 W Hwy 36	St Paul	MN	55113			No Letter								CITY INSP			
150201100500					11250 N Port Washington Rd	Marshall Clay McDonalds Corp.	7501 W Rawson Avenue	Franklin	WI	53132		414-354-3743	03/27/03	06/13/03								No Detention Pond		
151070114001					10330 N Pt Wshington Rd	Tom Scholl Mequon Motel Investment	890 Elm Grove Road Ste 105-1	Elm Grove	WI	53122		262-784-7771	08/08/07	08/15/07							CITY INSP	4/15/03 Letter from Scholl Ord. NA., 06/10/03 Letter Sent., 06/23/03 Scholl does not consider applicable. 08/15/07- Received letter stating that this does not apply to him due to Ordinance. <b>Refuses to do.</b>		



11333 N. Cedarburg Rd 60W  
Mequon, WI 53092-1930  
Phone (262) 236-2934  
Fax (262) 242-9655

[www.ci.mequon.wi.us](http://www.ci.mequon.wi.us)

ENGINEERING

January 27, 2009

**RE: Storm Water Detention Pond Certification**

Dear:

Our records identify you as the contact for the property at **(Address)**. If our records are in error, please contact Barbara Vento, in the Engineering Department, at (262) 236-2934 (or email at [bvento@ci.mequon.wi.us](mailto:bvento@ci.mequon.wi.us)) with the correct information.

A requirement of the City of Mequon's Ordinance, Section 58-606 (enclosed), is the participation in the City's Storm Water Detention Pond Certification Program. The storm water pond(s) on your property must be inspected and checked, by a Wisconsin licensed engineer or land surveyor, to certify that the pond(s) complies with the original design standards. The Owner is responsible for the proper maintenance and operation of these ponds. This certification ensures that the storm water ponds are operating as designed to limit pollutant transport and flooding of down stream properties and area waters.

The City requests that you complete the enclosed agreement form and return it to Barbara Vento, in the Engineering Department, by **(Date)**, indicating your preference to use a City consultant, or identifying a consultant of your choice, to inspect the pond(s). Submission of the tabular data and survey information is due by **(Date)**. All information must be returned complete using the City's electronic spreadsheet with survey information in ESRI personal geodatabase or shapefile, or an AutoCAD drawing file using NAD 1927 State Plane Wisconsin South FIPS 4803 coordinates. The access spreadsheet will be available if you choose to use your own consultant.

We would like to share with you the most frequently asked questions and their answers.

**How often is the recertification required?** Detention Pond Recertification is required every five years.

**How are the new residential and non-residential developments certified?** New ponds are certified as a condition of final plat approval and are to be recertified every fifth year thereafter. New properties are required to establish a Drainage Letter of Credit for 5 years. The storm water facilities are recertified as a condition of releasing the Letter of Credit.

January 27, 2009  
Storm Water Detention Pond Certification

Non residential developments are required to re-certify their facility as a condition of obtaining the occupancy permit.

**Our development has more than one detention pond, how will it be charged? What is our cost share of the project?** The City solicited cost proposals from qualified Engineering consultants. The consultant's cost ranged from \$1,100 to \$3,800 (for each pond) depending on the size of the pond. The City has used the following consultants:

Bonestroo / Matt Bednarski (262) 241-4466,  
Hayes Engineering / Tim Hayes (414-272-3200,  
Kapur & Associates / Kurt Kruger (414) 351-6668, or  
North Shore Engineering / Jim Hensel (262)-241-9400

that are familiar with the City's certification procedure. The owner of the property at (**Address**) should contact one of the above consultants or a qualified consultant of their choosing to perform the certification. The City will charge a fee of \$80/hour to review the pond certification reports for completeness and accuracy and to administer the program. The above referenced consultants are familiar with the City's certification requirements which should minimize City review time and related charges.

Enclosed is a sample of the data form that will be used for the collection of the required field information. If you chose your own consultant, please request an electronic copy of this spreadsheet upon return of the agreement so that you may provide them this form for electronic submission. All inspection and survey information must be submitted in the required formats.

The City is requesting your cooperation and that the agreement forms be returned no later than the above mentioned due date. Any disputes will be addressed by the Public Works Committee for those who have not responded by the due date or contest the certification. If you have any questions, you can contact me at 262-236-2957 or by e-mail at [mlloyd@ci.mequon.wi.us](mailto:mlloyd@ci.mequon.wi.us).

Respectfully,  
The City of Mequon



Mark Lloyd, P.E.  
Assistant City Engineering

Enclosures: Agreement Form, Data Sheet, Ordinance Section 58-606

## Detention/Retention Facility Compliance Report

**NOTE: All Information Must Be Submitted Electronically In The City's Access Database. Survey Information Must Be Submitted In An ESRI Personal Geodatabase or Shapefile Using State Plane NAD 27 Coordinates.**

1/4 Section		Town		North		Range		East
Nearest Intersection:								
Subdivision / Business Name:								
Owner's Representative	Name					Pond I.D.		
	Address					Year Approved		
						Year Constructed		
	Phone					Year Last Certified		
Compliance Report by:								
Certifying Professional	Name					Field Inspector Initials		
	Address					Date Inspected		
						Date Certified		
	Phone					File No.		
		Approved	Actual	Compliant (Y/N)	Comments			
Design Storm (yr)								
NWL								
DHWL								
Emergency Spillway El.								
Area @ NWL (ac)/(ft <sup>2</sup> )								
Area @ DHWL (ac)/(ft <sup>2</sup> )								
Design Storage (ft <sup>3</sup> )								
Design Discharge (cfs)								
Bottom Elevation								
Average Depth (ft)								
Wet Volume (ft <sup>3</sup> )								
Basin Outlet Structure (check one)		Multi-stage			Single-stage			
Primary Outlet		Approved	Actual	Compliant (Y/N)	Comments			
Opening diameter (in)								
Upstream Invert								
Downstream Invert								
Outlet length (ft)								
Outlet Slope (%)								
Secondary Outlet		Approved	Actual	Compliant (Y/N)	Comments			
Opening diameter (in)								
Upstream Invert								
Downstream Invert								
Outlet length (ft)								
Outlet Slope (%)								
<b>Certification Summary</b>								
Compliant (check one)		YES			NO			
Next Certification required before								
Date:		Signature:						

## Detention/Retention Facility Field Inspection Report

**NOTE: All Information Must Be Submitted Electronically In The City's Access Database. Survey Information Must Be Submitted In An ESRI Personal Geodatabase Or Shapefile Using State Plane NAD 27 Coordinates.**

Live Storage Properties	Points Shot	Survey Equipment Description
NWL		
Area at NWL (ac)/(ft <sup>2</sup> )		
DHWL/OUTFALL		
Area at DHWL (ac)/(ft <sup>2</sup> )		
Live Storage Volume (ft <sup>3</sup> )		
Date of Field Inspection:		

Wet Storage Properties	Points Shot	Survey Equipment Description
Max. Bottom Elevation		
Avg. Pond Bottom Elevation		
Pond Bottom Area (ac)/(ft <sup>2</sup> )		
Max. Pond Depth (ft)		
Avg. Pond Depth (ft)		
NWL		
Area at NWL (ac)/(ft <sup>2</sup> )		
Wet Storage Volume (ft <sup>3</sup> )		
Date of Field Inspection:		

Volume of Live and Wet Storage computed as follows:  $V = ((A1+A2)/2)(\Delta\text{elev.})$   
 $\Delta\text{elev} = \text{elevation difference between sections, } A1 = \text{area of bottom section, } A2 = \text{area of top section}$

For live storage use:  $\Delta\text{elevation NWL-DHWL}$ ,  $A1 = \text{area at NWL in acres}$ ,  $A2 = \text{area at DHWL in acres}$

For wet storage use:  $\Delta\text{elevation Bottom-NWL}$ ,  $A1 = \text{area pond bottom in acres}$ ,  $A2 = \text{area at NWL in acres}$

Outlet Sketch	Photo of Pond - General View
	Date of Photo:
	<b>Photo of Outlet - Detail View</b>
	Date of Photo:
<b>Survey Benchmark</b>	
Location	
Description	
Elevation	