



Office of
Department of Public Works

Town of Marshfield

Department of Public Works
870 Moraine Street
Marshfield, Massachusetts, 02050

APR 30 2009

April 30, 2009

United States Environmental Protection Agency
Water Technical Unit (WTU)
P.O. Box 8127
Boston, Massachusetts 02114

Massachusetts Department of Environmental Protection
Division of Watershed Management
627 Main Street
Worcester, Massachusetts 01608

RE: NPDES Phase II Small MS4 General Permit
Town of Marshfield, Massachusetts Annual Report
MADEP Transmittal No. W-036194
EPA Permit Number MA 041048

To Whom It May Concern:

The Town of Marshfield, Massachusetts is pleased to provide you with the attached National Pollutant Discharge Elimination System (NPDES) Phase II Small MS4 General Permit Annual Report for the period from March 2008 to March 2009.

Should you have any questions, do not hesitate to call me at (781) 834-5575. The contact person for this project is Rod Procaccino, Town Engineer.

Sincerely,

David E. Carriere

Supt. of Public Works

cc: Rocco Longo, Town Administrator

Municipality/Organization: Town of Marshfield, MA

EPA NPDES Permit Number: MA041048

MADEP Transmittal Number: W-036194

MAY - 1 2009

**Annual Report Number
& Reporting Period: No. 5 : March 08-March 09**

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: **Rod Procaccino**

Title: **Town Engineer**

Telephone #: **781-834-5575**
Rprocaccino@townofmarshfield.org

Email:

Certification:

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: 

Printed Name: **Rod Procaccino**

Title: **Town Engineer**

Date: **April 30, 2009**

Part II. Self-Assessment

The Town of Marshfield's stormwater management activities for the sixth year of the General Permit (March 2009) were consistent with the Notice of Intent (Massachusetts DEP form BRP WM 08A) and schedule submitted. The following assessment of activities that were included in the plan is provided below:

Public Education: 1. Continue Partnership with North and South River Watershed Association (NSRWA) (B). The Town continues its support of NSRWA Greenscapes Program. Brochures and Reference guide are on display at responsible stormwater practice referenced in the Town's CCR (Water Quality) Report.

(Website - <http://www.townofmarsfield.org>)

The Town's Conservation Agent, attended a workshop regarding Stormwater and Low Impact Development, The Conservation Agent also attended seminar with Mass. Assoc. Planning Directors on June 5, 2008 in North Hampton regarding Revisions to Stormwater Management, by Mass DEP.

2. Develop Brochures: (BMP ID No. 2)

The Town added language to the Water Quality Report to emphasize Storm Water Management. This information is updated on an annual basis. The water quality report was sent out to all customers representing 98% of the Town.

The DPW contracts with the North and South River Watershed Association Greenscapes program to make brochures available to the general public. The brochures promoted alternative landscaping, ground water recharge, pesticide and fertilizer alternatives, and conservation and impacts to stormwater.

The CCR (Water Quality Report), and DPW quarterly report are available at the DPW office.

3. Develop Web Site for Public Service Posting: (BMP ID No. 3)

The IT department has developed the Town wide website and is responsible for its maintenance. Visit the Town website at <http://www.townofmarsfield.org> Access is provided to the NPDES Phase II Small MS4 General Permit Annual

Public Participation:

1. Water Quality Testing (BMP ID No. 4)

No Water Quality Testing was initiated this period by the DPW. Dye testing was conducted on Union Street to determine connectivity to drainage influenced by several private connections discharging to the Town's drainage system.

Green Harbor is being monitored by volunteer Professor and students from Whitman/Hanson High School. State CZM personnel are monitoring the Green Harbor River Estuary while participating in a joint state-town effort to capture real time water levels and subsequently water quality data with newly purchased instrumentation with access to collected data on web-based server. This information is also being used to assist the DPW in its efforts to restore drainage in the Rexhame/Fieldston area and the permitting for Bass Creek dredging project.

Representatives from the North and South River Watershed Association (NSRWA) met with the Board of Public Works on 11-06-08 to review water quality results obtained from monitoring the North and South River and to discuss future stormwater low impact development projects.

Community Cleanup Days (BMP ID No. 5)

2. The Town conducted its annual cleanup day in May 3, 2008. (Rid Litter day) The next Rid litter day is scheduled for April 4, 2009. The Town's Solid Waste Transfer Station also supports other neighborhood clean-up efforts and the NSRWA annual River Clean-up Day.

3. The DPW, Town Assessors, and Conservation Commission and other volunteers from the general public developed an Open Space Plan. Watershed protection was the highest priority included in the evaluation criteria. The DPW obtained support and authorization through Open Space Committee and funding from Town Meeting to acquire one 10 acre parcel for watershed and water supply protection at 70 Union St. and another adjacent 9.5 acre parcel at 4 Union St. The Town also purchased 25 acres at 915 Union St., 15 acres on Careswell St. and 1.5 acres at 2148 Ocean St. along the South River through the Community Preservation Fund. Several other parcels were sought after but the department was unsuccessful.

Illicit Discharge Detection and Elimination:

1. Catch basin/Outfall and Receiving Water Mapping (BMP ID No. 6)

The Town is in its 5th year developing GIS Mapping capabilities. The Town's IT dept. contracted to have the Town re flown over to conduct photography in March 2007 in order to obtain the most up to date information at a very high resolution. **This information has yet to be reduced and made available to the DPW.** The Town was last flown over in 2004. The Topography Map overlay was added in 2005. This topographical information has been a very useful tool in determining the extent of drainage areas and trouble shooting drainage problems. (Previous year - Approximately 80 percent of the Towns 4500 catch basins, manholes, and outfalls, along with receiving waters were presented on 40 scale maps. The Town's consultant has located and screened a total of 962 outfalls. The locations have been added to the GIS generated Map.)

Detention Basins were located and field checked for sediment accumulation by seasonal hired student. A total of 44 basins (11 Town Owned) were inspected and an estimated 7000 cubic feet of sediment will be required to be removed at some point. This effort will require coordination with the Conservation Agent.

Potential Illicit Discharge locations previously identified through outfall screening process were reviewed for connectivity. Field inspection is expected to be completed in June 2009.

Water Quality Testing (BMP ID No.4)

Dye testing was conducted on Union St. to determine connectivity to municipal drainage system.

Dye testing and camera work was conducted at 965 Ferry St. to determine connectivity of private drain to municipal drainage system.

3. Regulatory Review (BMP ID No. 7)

A Storm Water Overlay district was adopted in April 2006 to control development within the Telegraph Hill Area. Developers had to obtain site plan approval for and meet criteria set forth in the bylaw. Several site plans

have been submitted and approved through the process. There has been an appeal filed in one case.

The DPW developed a Municipal Storm Drain Bylaw and regulations, and obtained Town Meeting approval in April 2007. Regulations will allow connections to the Town's municipal drain system as part of the bylaw. The Town has yet to implement a town wide investigation due to manpower requirement, however based on discussions with the BPW, staff plans on sending each resident a questionnaire allowing the opportunity for residents to disclose private connections and sump pumps in areas identified as problem areas. Residents will be asked to obtain a license from the DPW and comply with the bylaw and obtain a license to be connected to the Town's storm drain system.

Construction Site Runoff Control:

1. Regulatory Review (BMP ID No. 7)

Storm water management measures are required by subdivision regulation. Historically, these structures required by regulation fail during the construction phase. The BMP's are often short circuited during the initial phases of construction. Town officials have had to issue stop work orders to several developers during the past permit year. The developers were instructed to take corrective action. The DPW, Conservation Dept. and Planning Dept. have recognized the need to require more detailed explanation of construction methods being proposed. Erosion control plans, and proper construction sequencing should be addressed in the model bylaws and corresponding regulations are being developed. The Town hired Horsley and Witten Group to review WRPD Zoning Requirements and Regulations in October of 08 to update and make recommendations. These recommendations will be reviewed and a series of public meetings are planned to prepare for modification to the Zoning By-Law through Town Meeting and Regulation changes in 2010.

Permit Enforcement (BMP ID No. 8)

The Town has issued enforcement orders on the following subdivisions to address erosion control problems during construction:

Developers on Indiana St. and Peregrine White Drive were warned several times to contain site erosion. Corrective measures were taken to stabilize a severe slope which was disturbed as a result of installation of a drainage pipe.

Sediment was removed from drainage structures.

Developers of Proprietors Way and Enterprise Drive were contacted and they responded to a major erosion problem impacting the Town's drainage system on Enterprise drive.

Developers on Waltham Ave. were contacted to respond to an erosion problem impacting the Town's drainage system.

Developers of site improvements on Snow road were contacted to respond to erosion control problems impacting the Town's drainage system on Webster St. and the access road leading behind Curtlo Property.

Developers of Walgreens Pharmacy located on Ocean St. have had numerous problems with construction related erosion problems which have been reported and subsequently resolved.

3. Misconnection/ Illegal Dumping (BMP ID No. 9)

The Town had discovered a five gallon container of waste oil located on Town owned land during an annual land inspection of former Davis Property located off Church St. No evidence of spill had occurred and the oil was taken to the transfer station for proper disposal. A significant amount of debris has accumulated in the abandoned Marshhawk Subdivision located off Grove St. as reported by the Conservation Agent. The current owner has been notified.

Post Construction Site Runoff Control

1. Regulatory Review (BMP ID No. 7)

Permit Enforcement (BMP ID No. 8)

To resolve a severe erosion control problem caused by development on Telegraph Hill (Spy Glass Landing) within an area off Mather Road, The Engineering and Planning Department have met onsite with the designer and notified the owner that there is problem. The Town will be looking into the feasibility of extending drainage pipes to resolve the issue. The designer will be looking at the detention basin to reduce impact from single discharge point from outfall.

The Town entered into a Memorandum of Agreement with developer of Pleasant Spring Farm subdivision to install and maintain drainage structures that will be installed in Canoe Tree St. and discharged into a privately constructed detention basin and outfall.

Construction of the subdivision started in March 2009. The Town will begin construction of drainage in Canoe Tree St. upon the completion and stabilization of the detention basin.

The Town met with the Developer of Peregrine White Drive to discuss future maintenance and dredging of manmade pond impacted by numerous flood events and soil erosion. Further discussion is required with Conservation Agent.

The Town installed a drainage pipe in South River St. near Willow St. to help reduce flooding of private residence. This was combined public-private effort with partial private contributions.

The Town installed temporary structures to help reduce flooding of a private residence on Emery Road and committed to install drainage pipe to provide permanent solution. This was a combined public-private effort with partial private contributions.

Municipal Good House Keeping:

1. Improved Street sweeping (BMP ID No. 11)

The DPW swept the entire Town during the spring of 2008 (170 miles). Several major streets were swept several times.

2. Improved Catch Basin Cleaning (BMP ID No. 12)

The Marshfield Highway Department has cleaned 2500 catch basins, and repaired the following:

43 catch basins, 12 manholes, 7 drop inlets, jet rod cleaned 1500 ft. of drainage lines (emergency)

The DPW installed 600 ft. of new drainage.

3. Household Hazardous Waste Days: (BMP ID No. 13)

The Town conducted its Household Hazardous Waste Day on September 20, 2008 and continues to participate in the South Shore Recycling Organization. As a member of this organization residents are allowed to participate throughout the year in hazardous waste collection days offered by surrounding member Towns.

The Town accepts **waste oil and paint** from May to November at the Transfer Station.

The Town conducts roadside clean-up with seasonal personnel several times a week during the summer (16 weeks).

4. Drain Stenciling: (BMP ID No. 14)

The Town has taken no action to date.

5. Degraded pond -Landfill

The DPW investigated solutions to improve a degraded pond located at the Town's Landfill which is part of the Landfill's Stormwater Management System. The composting operation is affecting the water quality of this isolated manmade pond. The pond was dredged and spoils were stored onsite for reuse as capping material for the landfill. (the material sampled and tested for contaminants) The Town installed an electrical connection and obtained a grinder pump to control water levels.

BMP's for Meeting TMDL:

Water Quality Testing (BMP ID No. 4)

Water quality testing was performed in the Green Harbor River. The Town received the draft report on Green Harbor River Tidal Hydraulics Study, by Applied Coastal Research and Engineering, Inc. March 2007 and draft report on Hydrology and Ecological Analysis of the Upper Green Harbor River, by Dr. David S. White & Dr. Brian L. Howes Coastal Systems Program February 23, 2007. Louis Berger Group Inc. is the Prime Contractor. This study was funded by a Grant obtained through CZM and the Gulf of Maine Council on Marine Environment. The Tidal Hydraulics portion of the study considered the impact of altering the flow through the tide gates for the purpose of improving the water quality of a severely degraded upper Green Harbor. The water quality portion of the project involved estimate of freshwater flow and nutrient discharge from the fresh water portion of the Green Harbor River, evaluate the nutrient loading from two tributaries Bass Creek and Wharf Creek, and evaluate sediment/ porewater constituents in restricted and unrestricted wetland habitats within the Green Harbor River. The DPW helped fund the project by providing Topographical Survey of the area with one

foot contour accuracy. The DPW provided contract labor to support inspection and manipulation of the tidegates.

The Town has purchased the adjustable tide gate for Dyke Rd. funded through a CZM grant program (\$20,000) and the Town will install the tide gate in June 2009.

Implementation of other BMP's :

The DPW is reviewing a proposed drainage improvement at the Union St. Bridge proposed as part of the Bridge reconstruction project. The State Highway Dept. refused to participate in the proposed improvement due to potential delays in permitting and the need to expedite the bridge reconstruction. The DPW is working with the Conservation Agent and NSWRA to implement the proposal.

The DPW installed a sediment trap (\$6,000) in Sea St. Drainage system to help mitigate impact from runoff to South River.

Approximately 200 feet of drainage pipe was replaced on Mayflower Rd. by subcontractor, P. J. Hayes Inc.

Storm Water Modeling (BMP ID no. 15)

1. The Town hired Amory Engineers to design BMP in Ferry St. at Medford St. – Modeling is underway to determine impact to wetland.

Status of the following drainage improvement projects:

Telegraph Hill Drainage Trunkline	\$360,000	Project constructed
Ferry St. (Drainage from Medford St.)		Design Funded and underway (\$8,000)
Summer St. Drainage		Obtained partial funding (\$100,000) ATM April 2009
Rexhame/ Fieldston Drainage Construction	\$ 508,806	Construction is 75 % complete

Portion to match Potential Hazard Mitigation Grant was funded by Town \$230,000 (Total \$920,000) Grant Decision – May 2007

NO Grant Awarded and Town proceeded to construct most critical portion of the project.

The Army Corp. Coastal Grant program ruled not applicable to both Bass Creek and Rexhame / Fieldston Drainage Construction.

Bass Creek dredging/channel restoration \$ 650,000

Permitting under way. No Funding for Construction

Received funding for semi amphibious excavator to dredge channel and clean detention basins \$220,000 (April 2008) Delivery Date July- August 2009.

Down- town Improvement Project including Drainage BMP

Project complete. Seeking Grant for Phase II.

EPA Phase II- SW Compliance Testing and Mapping

\$15,000 available

for Illicit Discharge Detection and Elimination

End of Report.