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| **Municipality/Organization:** | **Shrewsbury, Massachusetts** |
| **EPA NPDES Permit Number:** | **MAR041158** |
| **MaDEP Transmittal Number:** | **W-036325** |
| **Annual Report Number & Reporting Period:** | **April 2007 – March 2008** |

P 4/30/08

# NPDES PII Small MS4 General Permit Annual Report

**Part I. General Information**

Contact Person: Jack Perreault Title: Town Engineer

Telephone #: (508) 841-8502 Email: jperreau@th.ci.shrewsbury.ma.us

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: Michael Hale

Title: Assistant Town Manager

Date: April 28, 2008

**Part II. Self-Assessment**

*The Town has completed the required self-assessment and has determined that our municipality is in compliance with all permit conditions.*

**Current State of the Phase II Program in Shrewsbury:**

*The Town currently budgets $5,000 per year for the Phase II Program. This cost does not include money used for catch basin cleaning and street sweeping, which is currently budgeted separately with the Town Highway Department. Occasionally funds have been made available for the Phase II Program from other sources within town budget areas as well.*

*Last year the Town adopted a Stormwater Management Bylaw. The Town also rented and purchased GIS equipment and continued surveying drainage outfalls. We have had marginally successful results with the GIS surveying, as there have been some accuracy issues with the equipment as well as having a limited window of opportunity during a few months of the year when tree canopy and snowfall is not too heavy to prohibit surveying. The Town is currently visually inspecting outfalls for illicit connections while performing the GIS surveying. The Town has a stormwater map with outfall and catch basin locations that the Town has been using for years prior to the Phase II regulations as well. As-built drawings for stormwater utilities are also available in the Town Engineering Department. The Town will continue to expand the stormwater mapping with GIS as funding becomes available.*

*For residential subdivision projects submitted to the town Planning Board and Conservation Commission, we continue to require groundwater recharge for each lot reviewed where soil conditions are suitable. A typical example would be a drywell to recharge roof runoff from a single family home. This helps control post-construction storm water runoff, provides a broader recharge area, and often provides recharge volumes above and beyond what is required by the Massachusetts Stormwater Management Policy.*

*In years past, the Town had not allowed the use of hydrodynamic storm water separator units for public drainage projects due to maintenance concerns. After meeting with manufacturers and reviewing maintenance guidelines, the Town during permit year three started approving the usage of those storm water BMP's for public projects and private projects that will become public, such as subdivision roadways. The Town continues its policy to encourage the use of innovative storm water BMP's for private projects as well.*

*For permit years beyond year five, the Town will focus on three major components of the Phase II program – enforcement of the Stormwater By-Law, illicit connections detection and elimination, and the GIS mapping of storm water outfalls.*

## Part III. Summary of Minimum Control Measures

### 1. Public Education and Outreach

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Permit Year |
|---|---|---|---|---|---|
| Revised | | | | | |
| Revised | | | | | |
| Revised | | | | | |
| Revised | | | | | |
| Revised | | | | | |
| Revised | | | | | |

### 1a. Additions

| | | | | | |
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| 01 | Pamphlet Mailings | Water & Sewer | # Pamphlets Mailed | Four pamphlets mailed to approximately 11,000 subscribers of municipal water/sewer utilities | |
| | | | | | |

## 2. Public Involvement and Participation

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Permit Year |
|---|---|---|---|---|---|
| 03 | Catch Basin Stenciling | Engineering Dept. | # Catch Basins Stenciled | 70 Crystal Cap markers were installed in the Lake Quinsigamond watershed. | |
| Revised | | | | | |
| 04 | Water Monitoring & Sampling | Health Dept. | Sample Data | Samples for E Coli and Total Coliform bacteria were taken on a weekly basis during the bathing season in Lake Quinsigamond. | |
| Revised | | | | | |
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| Revised | | | | | |
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| Revised | | | | | |
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| Revised | | | | | |
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| Revised | | | | | |

## 2a. Additions

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## 3. Illicit Discharge Detection and Elimination

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Permit Year |
|---|---|---|---|---|---|
| 05 | Local Ordinance | Engineering Dept. | Bylaw Adopted | Local Bylaw adopted at Annual Town Meeting in May 2007 | |
| Revised | | | | | |
| 06 | Storm Sewer Map | Engineering Dept. | GIS Map | GIS Map currently under production for entire town. In the meantime, the Town has a map showing drainage catch basins and outfall locations from data obtained by visual observation and as-built plans. | |
| Revised | | | | | |
| 07 | | | | Highway Department continued to monitor drainage utilities during annual maintenance. | |
| Revised | Public Employee Education | Engineering Dept. | Training implemented prior to Phase II program | | |
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| Revised | | | | | |
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| Revised | | | | | |
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| Revised | | | | | |

## 3a. Additions

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## 4. Construction Site Stormwater Runoff Control

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Permit Year |
|---|---|---|---|---|---|
| 05 | Local Ordinance | Engineering Dept. | Bylaw Adopted | Local Bylaw adopted at Annual Town Meeting in May 2007. | |
| Revised | | | | | |
| 08 | Mass. Stormwater Policy | Engineering Dept. | # Projects Reviewed | 4 Projects submitted to the Conservation Commission and/or Planning Board. | |
| Revised | | | | | |
| 09 | Site Plan Reviews | Engineering Dept. | Bylaw Adopted | Local Bylaw adopted at Annual Town Meeting in May 2007. | |
| Revised | | | | | |
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| Revised | | | | | |
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| Revised | | | | | |
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| Revised | | | | | |

## 4a. Additions

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## 5. Post-Construction Stormwater Management in New Development and Redevelopment

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Permit Year |
|---|---|---|---|---|---|
| 05 | Local Ordinance | Engineering Dept. | Bylaw Adopted | Local Bylaw adopted at Annual Town Meeting in May 2007. | |
| Revised | | | | | |
| 08 | Mass. Stormwater Policy | Engineering Dept. | # Projects reviewed | 4 projects submitted to the Conservation Commission and/or Planning Board. | |
| Revised | | | | | |
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| Revised | | | | | |
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| Revised | | | | | |
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| Revised | | | | | |
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| Revised | | | | | |

## 5a. Additions

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## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Permit Year |
|---|---|---|---|---|---|
| 10 | Catch Basin Cleaning | Highway Dept. | Catch Basins Cleaned | Catch Basins were cleaned. | |
| Revised | | | | | |
| 11 | Highway and Light Dept. Garage | Engineering Dept. | # Inspections | Two inspections were done at the Light Dept., Highway Dept., and Water/Sewer Dept. garage facilities. | |
| Revised | | | | | |
| 12 | Street Sweeping | Highway Dept. | Streets Swept | All municipal streets were swept. | |
| Revised | | | | | |
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| Revised | | | | | |
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| Revised | | | | | |
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| Revised | | | | | |

## 6a. Additions

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## 7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) *<<if applicable>>*

| BMP ID # | BMP Description | Responsible Dept./Person Name | Measurable Goal(s) | Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any) | Planned Activities – Permit Year |
|---|---|---|---|---|---|
| 05 | Local Ordinance | Engineering Dept. | Bylaw Adopted | Local Bylaw adopted at Annual Town Meeting in May 2007. | |
| Revised | | | | | |
| 08 | Mass. Stormwater Policy | Engineering Dept. | # Projects reviewed | 4 Projects submitted to the Conservation Commission and/or Planning Board. | |
| Revised | | | | | |
| 13 | | | | | |
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| Revised | | | | | |
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### 7a. Additions

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### 7b. WLA Assessment

*During Year 6 – The Town is waiting for the new Phase II permit to be issued and will make plans at that time.*

## Part IV. Summary of Information Collected and Analyzed

*Water samples were tested weekly during the bathing season at Sunset Beach for E. Coli and Total Coliform Levels.*

## ARTICLE 21
## Stormwater Management By-Law

**Section 1. Purpose.**

A. The purposes of this Stormwater Management By-Law are, among other purposes, to safeguard the public health, safety and welfare; to improve stream health and environmental conditions; to protect the Town of Shrewsbury's water bodies and groundwater from further negative impacts of stormwater runoff; to reduce contamination of stormwater runoff; to protect aquatic and wildlife habitat; to comply with Federal and State regulatory mandates of the National Pollutant Discharge Elimination System Program; and to reduce flooding. The following conditions have been identified as contributors to the challenges of stormwater management.

1. Increased and contaminated stormwater runoff is a major cause of impairment of water quality and flow in lakes, ponds, streams, rivers, wetlands and groundwater; contamination of drinking water supplies; alteration or destruction of aquatic and wildlife habitat; and flooding.

2. Regulation of illicit connections and discharges to the municipal storm drain system is necessary for the protection of the Town's water bodies and groundwater, and to safeguard the public health, safety, welfare and the environment.

3. Regulation of discharges to the municipal separate storm sewer system (MS4) is necessary for the protection of the Town's water bodies and groundwater, and to safeguard the public health, safety, welfare and the environment. Increased and contaminated stormwater runoff associated with developed land uses and the accompanying increase in impervious surface are major causes of impairment of water quality and flow in lakes, ponds, streams, rivers, wetlands and groundwater.

   In particular, land disturbances can cause harmful impacts due to:

   (a) Soil erosion and sedimentation.

   (b) Impairment of water quality and flow in lakes, ponds, streams, rivers, wetlands and groundwater.

   (c) Contamination of drinking water supplies.

   (d) Erosion of stream channels.

   (e) Alteration or destruction of aquatic and wildlife habitat.

   (f) Flooding.

   (g) Overloading or clogging of municipal catch basins and municipal storm drain systems.

B. Therefore, this Article 21 establishes stormwater management standards for the final conditions that result from development and redevelopment projects to minimize adverse impacts offsite and downstream which would be born by abutters, townspeople, and the general public. The objectives of Article 21 are as follows:

1. To prevent pollutants from entering the Town's municipal separate storm sewer system (MS4) and to minimize discharge of pollutants from the MS4.
2. To prohibit illicit connections and unauthorized discharges to the MS4.
3. To require the removal of all such illicit connections.
4. To comply with state and federal statutes and regulations relating to stormwater discharges.
5. To establish the legal authority to ensure compliance with the provisions of Article 21 through inspection, monitoring, and enforcement.
6. To require practices to control the flow of stormwater from new and redeveloped sites into the Town's municipal storm drain system in order to prevent flooding and erosion.
7. To protect groundwater and surface water from degradation and promote groundwater recharge and infiltration.
8. To ensure adequate long-term operation and maintenance of structural stormwater best management practices (BMPs) so that they work as designed.
9. To require practices that eliminate soil erosion and sedimentation and control the volume and rate of stormwater runoff resulting from land disturbances.
10. To ensure that soil erosion and sediment control measures and stormwater runoff control practices are incorporated into the site planning and design process and are implemented and maintained.
11. To require practices to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.
12. (12) To establish the Town's legal authority to ensure compliance with the provisions of Article 21 through inspection, monitoring, and enforcement.

**Section 2. Definitions.**

For the purposes of this By-Law, the following shall mean:

ABUTTER – The owner(s) of land abutting the activity.

ALTERATION OF DRAINAGE CHARACTERISTICS – Any activity on an area of land that changes the water quality, force, direction, timing or location of runoff flowing from the area. Such changes include: change from distributed runoff to confined, discrete discharge; change in the volume of runoff from the area; change in the peak rate of runoff from the area; and change in the recharge to groundwater on the area.

APPLICANT – Any person, individual, partnership, association, firm, company, corporation, trust, authority, agency, department, or political subdivision, of the Commonwealth of Massachusetts or the Federal government to the extent permitted by law requesting a Stormwater Management Permit for proposed land disturbances.

APPLICANT'S TECHNICAL REPRESENTATIVE – A Registered Professional Engineer (P.E.) hired by the applicant to certify that design and construction are completed in accordance with the applicable local, state, and federal stormwater requirements.

AUTHORIZED ENFORCEMENT AGENCY – The Board of Sewer Commissioners (hereinafter the Board), its employees, officers, or agents designated to enforce Article 21.

BEST MANAGEMENT PRACTICE (BMP) – An activity, procedure, restraint, or structural improvement that helps to reduce the quantity or improve the quality of stormwater runoff.

BY-LAW – Refers to Article 21, Stormwater Management Bylaw of the "General By-Laws of the Town of Shrewsbury".

CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) – An individual who holds a current certification from the Soil and Water Conservation Society in cooperation with the American Society of Agronomy.

CLEAN WATER ACT – The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) as hereafter amended.

CLEARING – Any activity that removes the vegetative surface cover.

DEVELOPMENT – The modification of land to accommodate a new use or expansion of use, usually involving construction.

DISCHARGE OF POLLUTANTS – The addition from any source of any pollutant or combination of pollutants into the municipal storm drain system or into the waters of the United States or Commonwealth of Massachusetts from any source.

EROSION – The wearing away of the land surface by natural or artificial forces such as wind, water, ice, gravity, or vehicle traffic and the subsequent detachment and transportation of soil particles.

EROSION AND SEDIMENT CONTROL PLAN – A document containing narrative, drawings, and details developed by a Registered Professional Engineer (P.E.) or a Certified Professional in Erosion and Sediment Control (CPESC), which includes BMPs, or equivalent measures designed to control surface runoff, erosion and sedimentation during pre-construction and construction related land disturbances. The plan is required as part of the application for a Stormwater Management Permit.

GRADING – Changing the level or shape of the ground surface.

GROUNDWATER – Water beneath the surface of the ground.

ILLICIT CONNECTION – A surface or subsurface drain or conveyance, which allows an illicit discharge into the municipal storm drain system, including without limitation sewage, process wastewater, or wash water and any connections from indoor drains, sinks, or toilets, regardless of whether said connection was previously allowed, permitted, or approved before the effective date of this bylaw.

ILLICIT DISCHARGE – Direct or indirect discharge to the municipal storm drain system that is not composed entirely of stormwater, except as exempted in Section 9. The term does not include a discharge in compliance with a NPDES Stormwater Discharge Permit or a Surface Water Discharge Permit, or resulting from fire fighting activities exempted pursuant to Section 9.

IMPERVIOUS SURFACE – Any material or structure on or above the ground that prevents water infiltrating the underlying soil. Impervious surface includes without limitation roads, paved parking lots, sidewalks, and rooftops.

LAND DISTURBANCE – Any action that causes a change in the position, location, or arrangement of soil, sand, rock, gravel, or similar earth material.

MASSACHUSETTS STORMWATER MANAGEMENT POLICY – The Policy issued by the Department of Environmental Protection, and as amended, that coordinates the requirements prescribed by state regulations promulgated under the authority of the Massachusetts Wetlands Protection Act G.L. c. 131 § 40

and Massachusetts Clean Waters Act G.L. c. 21, § 23-56. The Policy addresses stormwater impacts through implementation of performance standards to reduce or prevent pollutants from reaching water bodies and control the quantity of runoff from a site.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) or MUNICIPAL STORM DRAIN SYSTEM – The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drain system owned or operated by the Town.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER DISCHARGE PERMIT – A permit issued by United States Environmental Protection Agency or jointly with the Commonwealth that authorizes the discharge of pollutants to waters of the United States.

NON-STORMWATER DISCHARGE – Discharge to the municipal storm drain system not composed entirely of stormwater.

OWNER – A person with a legal or equitable interest in property.

PERSON – An individual, partnership, association, firm, company, trust, corporation, agency, authority, department or political subdivision of the Commonwealth of Massachusetts or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.

POINT SOURCE – Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged.

POLLUTANT – Any element or property of sewage, agricultural, industrial or commercial waste, runoff, leachate, heated effluent, or other matter whether originating at a point or nonpoint source, that is or may be introduced into any sewage treatment works or waters of the Commonwealth of Massachusetts. Pollutants shall include without limitation:

A. Paints, varnishes, and solvents;

B. Oil and other automotive fluids;

C. Non-hazardous liquid and solid wastes and yard wastes;

D. Refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordnances, accumulations and floatables;

E. Pesticides, herbicides, and fertilizers;

F. Hazardous materials and wastes; sewage, fecal coliform and pathogens;

G. Dissolved and particulate metals;

H. Animal wastes;

I. Rock, sand, salt, soils;

J. Construction wastes and residues; and

K. Noxious or offensive matter of any kind.

PRE-CONSTRUCTION – All activity in preparation for construction.

PROCESS WASTEWATER – Water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any material, intermediate product, finished product, or waste product.

RECHARGE – The process by which groundwater is replenished by precipitation through the percolation of runoff and surface water through the soil.

REDEVELOPMENT – Development, rehabilitation, expansion, demolition, or phased projects that disturb the ground surface or increase the impervious area on previously developed sites.

RESIDENTIAL PROPERTY OWNER – An owner that has established primary residency in a single family residential property.

RUNOFF – Rainfall, snowmelt, or irrigation water flowing over the ground surface.

SEDIMENT – Mineral or organic soil material that is transported by wind or water, from its origin to another location; the product of erosion processes.

SEDIMENTATION – The process or act of deposition of sediment.

SITE – Any lot or parcel of land or area of property where land disturbances are, were, or will be performed.

SOIL – Any earth, sand, rock, gravel, or similar material.

STORMWATER – Stormwater runoff, snowmelt runoff, and surface water runoff and drainage.

STORMWATER MANAGEMENT PLAN – A plan required as part of the application for a Stormwater Management Permit.

STORMWATER UTILITY – A special assessment district set up to generate funding specifically for stormwater management. Users within the district pay a stormwater fee and the revenue generated directly supports operation, maintenance, upgrade, or expansion of existing storm drain systems; development of drainage studies, plans, flood control measures, and water-quality programs; administrative costs; and construction of stormwater infrastructure improvement projects, and purchase of all equipment necessary for the operation and maintenance of the system.

STREAM – A body of running water, including brooks, creeks, and other water courses, which moves in a definite channel in the ground due to a hydraulic gradient. A portion of a stream may flow through a culvert, is naturally obscured, or beneath a bridge. A stream's flow may be intermittent (i.e., does not flow throughout the year), or perennial.

SURFACE WATER DISCHARGE PERMIT – A permit issued by the Department of Environmental Protection (DEP) pursuant to 314 CMR 3.00 that authorizes the discharge of pollutants to waters of the Commonwealth of Massachusetts.

TOXIC OR HAZARDOUS MATERIAL OR WASTE – Any material, which because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment. Toxic or hazardous materials include any synthetic organic chemical, petroleum product, heavy metal, radioactive or infectious waste, acid and alkali, and any substance defined as Toxic or Hazardous under G.L. Ch.21C and Ch.21E, and the regulations at 310 CMR 30.000 and 310 CMR 40.0000.

WASTEWATER – Any sanitary waste, sludge, or septic tank or cesspool overflow, and water that during manufacturing, cleaning or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct or waste product.

WATERCOURSE – A natural or man-made channel through which water or a stream of water flows, including a river, brook or underground stream.

WATERS OF THE COMMONWEALTH OF MASSACHUSETTS – All waters within the jurisdiction of the Commonwealth of Massachusetts, including, without limitation, rivers, streams, lakes, ponds, springs, impoundments, estuaries, wetlands, costal waters, and groundwater.

WETLANDS – Coastal and freshwater wetlands, including wet meadows, marshes, swamps, and bogs, as defined and determined pursuant to G.L. c. 131, § 40 and 310 CMR 10.00 et seq.

**Section 3. Applicability.**

Article 21 shall apply to flows entering the municipal storm drain system and construction activities that result in a land disturbance equal to or greater than one acre of land or will disturb less than one acre of land but is part of a larger common plan of development. The activities prohibited from the municipal storm drain system are illicit discharge, illicit connection, and obstruction. Section 8 further identifies the prohibited activities.

No person may undertake a construction activity, including clearing, grading, and excavation that results in a land disturbance that will disturb equal to or greater than one acre of land or will disturb less than one acre of land but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one acre of land draining to the Town MS4 without a Stormwater Management Permit from Board. The method for obtaining a Stormwater Management Permit shall be published in the rules and regulations.

After the initial common plan construction activity is completed for a particular parcel, any subsequent development or redevelopment of that parcel would be regarded as a new plan of development. For example, after a house is built and occupied, any future construction on that lot (e.g., reconstructing after fire, adding a pool or parking area, etc.), would stand alone as a new common plan for purposes of calculating acreage disturbed to determine if a Stormwater Management Permit is required. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or the original purpose of the site; unless it exceeds one acre of soil disturbance.

**Section 4. Authority.**

Article 21 is adopted under the authority granted by the Home Rule Amendment of the Massachusetts Constitution and the Home Rule Procedures Act, and pursuant to the regulations of the federal Clean Water Act found at 40 CFR 122.34.

Nothing in this By-law is intended to replace the requirements of any other by-law that has been made or may be adopted by the Town of Shrewsbury.

**Section 5. Responsibility for administration.**

The Board of Sewer Commissioners (The Board) shall administer, implement and enforce Article 21, and any rules and regulations adopted thereunder. Any powers granted to or duties imposed upon the Board may be delegated in writing by the Board to employees or agents of the Authorized Enforcement Agency.

**Section 6. Administration.**

A. The Board shall administer, implement, and enforce Article 21. Any powers granted to or duties imposed upon the Board may be delegated to its employees and agents.

B. Rules and Regulations. The Board may adopt, and periodically amend, rules and regulations relating to the procedures and administration of Article 21, by majority vote of the Board, after public notice and public hearing. Failure by the Board to promulgate such rules and regulations or a legal declaration of their invalidity by a court of law shall not act to suspend or invalidate the effect of Article 21.

C. Stormwater Utility. The Board may adopt, through rules and regulations authorized by this Stormwater Management Bylaw, a Stormwater Utility pursuant to G.L. c.83, § 16 G.L. and c.40, § 1A. The Board shall administer, implement and enforce this Utility. Failure by the Board to promulgate such a Stormwater Utility through rules and regulations or a legal declaration of its invalidity by a court shall not act to suspend or invalidate the effect of this By-Law.

**Section 7. Rules, Regulations, Permits, and Procedures.**

The Board may promulgate rules and regulations to effectuate the purposes of Article 21. Failure by the Board to promulgate such rules and regulations shall not have the effect of suspending or invalidating Article 21.

**Section 8. Prohibited activities.**

A. Illicit Discharges. No person shall dump, discharge, cause or allow to be discharged any pollutant or non-stormwater discharge into the municipal separate storm sewer system (MS4), into a watercourse, or into the waters of the Commonwealth of Massachusetts.

B. Illicit Connectións. No person shall construct, use, allow, maintain or continue any illicit connection to the municipal storm drain system, regardless of whether the connection was permissible under applicable law, regulation or custom at the time of connection.

C. Obstruction of Municipal Storm Drain System. No person shall obstruct or interfere with the normal flow of stormwater into or out of the municipal system without prior written approval from the Board.

**Section 9. Exemptions**

The non-stormwater discharge activities exempted from Article 21 are as follows:

A. Discharge or flow resulting from fire fighting activities.

B. The following non-stormwater discharges or flows are exempt from the prohibition of non-stormwaters provided that the source is not a significant contributor of a pollutant to the municipal storm drain system:

(1) Waterline flushing;

(2) Flow from potable water sources;

(3) Springs;

(4) Natural flow from riparian habitats and wetlands;

(5) Diverted stream flow;

(6) Rising groundwater;

(7) Uncontaminated groundwater infiltration as defined in 40 CFR 35.2005(20), or uncontaminated pumped groundwater;

(8) Water from exterior foundation drains, footing drains (not including active groundwater dewatering systems), crawl space pumps, or air conditioning condensation;

(9) Discharge from landscape irrigation or lawn watering;

(10) Water from individual residential car washing;

(11) Discharge from dechlorinated swimming pool water (less than one ppm chlorine) provided the water is allowed to stand for one week prior to draining and the pool is drained in such a way as not to cause a nuisance;

(12) Discharge from street sweeping;

(13) Dye testing, provided verbal notification is given to the Board prior to the time of the test;

(14) Non-stormwater discharge permitted under a NPDES permit or a Surface Water Discharge Permit, waiver, or waste discharge order administered under the authority of the United States Environmental Protection Agency or the Department of Environmental Protection, provided that the discharge is in full compliance with the requirements of the permit, waiver, or order and applicable laws and regulations; and

(15) Discharge for which advanced written approval is received from the Board as necessary to protect public health, safety, welfare or the environment.

The construction and land disturbance activities exempted from Article 21 are as follows:

(1) Construction activities waived from permit coverage under the NPDES General Permit for Stormwater Discharges from Construction Activities.

(2) Normal maintenance and improvement of land in agricultural or aquacultural use as defined by the Wetlands Protection Act regulation 310 CMR 10.04;

(3) Maintenance of existing landscaping, gardens or lawn areas associated with a single family dwelling;

(4) The construction of fencing that will not substantially alter existing terrain or drainage patterns;

(5) Construction of utilities other than drainage (gas, water, electric, telephone, etc.) which will not alter terrain or drainage patterns;

(6) As authorized in the Phase II Small MS4 General Permit for Massachusetts, stormwater discharges resulting from the activities identified in Section 9A that are wholly subject to jurisdiction under the Wetlands Protection Act and demonstrate compliance with the Massachusetts Stormwater Management Policy as reflected in an Order of Conditions issued by the Conservation Commission are exempt from compliance with Article 21.

(7) Emergency work to protect life, limb, or property.

**Section 10. Emergency suspension of municipal storm drain system access.**

The Board may suspend municipal storm drain system access to any person or property without prior written notice when such suspension is necessary to stop an actual or threatened discharge of pollutants that presents imminent risk of harm to the public health, safety, welfare or the environment. In the event any person fails to comply with an emergency suspension order, the Authorized Enforcement Agency may take all reasonable steps to prevent or minimize harm to the public health, safety, welfare or the environment.

**Section 11. Notification of spills.**

Notwithstanding other requirements of local, state or federal law, as soon as a person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of or suspects a release of materials at that facility or operation resulting in or which may result in discharge of pollutants to the municipal drainage system or waters of the Commonwealth of Massachusetts, the person shall take all necessary steps to ensure containment, and cleanup of the release. In the event of a release of oil or hazardous materials, the person shall immediately notify the Fire and Police Departments, Board of Health, and the Board of Sewer Commissioners. In the event of a release of non-hazardous material, the reporting person shall notify the Board no later than the next business day. The reporting person shall provide to the Board written confirmation of all telephone, facsimile or in-person notifications within three business days thereafter. If the discharge of prohibited materials is from a commercial or industrial facility, the facility owner or operator of the facility shall retain on-site a written record of the discharge and the actions taken to preyent its recurrence. Such records shall be retained for at least three years.

**Section 12. Fee structure.**

Fee Structure. The Board shall obtain with each submission an Application and Review Fee fixed by the Board or its designated agent to cover expenses connected with the application review of the Stormwater Management Permit. Authority for the Board is granted pursuant to G.L. c.40, § 22F and adopted by the Town as part of a general bylaw, Article 17. The Applicant must hire a Registered Professional Engineer (P.E.) to certify that the plans are in accordance with the Town's standards. The Board is authorized to retain professional consultation from applicable Town Departments to advise the Board on any or all aspects of these plans. The Board may waive the requirement that plans must be prepared by a P.E.

**Section 13. Waivers.**

A. The Board may waive strict compliance with any requirement of Article 21 or the rules and regulations promulgated hereunder, where:

(1) Such action is allowed by federal, state and local statutes and/or regulations,

(2) Is in the public interest, and

(3) Is not inconsistent with the purpose and intent of Article 21.

B. Any applicant may submit a written request to be granted such a waiver. Such a request shall be accompanied by an explanation or documentation supporting the waiver request and demonstrating that strict application of Article 21 does not further the purposes or objectives of Article 21.

C. All waiver requests shall be reviewed by the Board and if necessary, discussed with other Town departments. The waiver requests shall be discussed and voted on at the public hearing for the project.

D. If in the Enforcement Officer's opinion, additional time or information is required for review of a waiver request, the Board may continue a hearing to a date certain announced at the meeting. In the event the applicant objects to a continuance, or fails to provide requested information, the waiver request shall be denied.

**Section 14. Surety.**

The Board may require the permittee to post before the start of land disturbance activity or construction activity, a surety bond, cash, or other acceptable security. The form of the bond shall be approved by town counsel, and be in an amount deemed sufficient by the Board to ensure that the work will be completed in accordance with the permit. If the project is phased, the Board may release part of the bond as each phase is completed in compliance with the permit but the bond may not be fully released until the Board has received the final report as required by Section 15 and issued a certificate of completion.

**Section 15. Final Reports.**

Upon completion of the work, the permittee shall submit a report, as outlined in the rules and regulations, from a Professional Engineer (P.E.) or Certified Professional in Erosion and Sediment Control (CPESC), as appropriate. The report shall certify that all erosion and sediment control devices and approved changes and modifications have been completed in accordance with the conditions of the approved permit. Any discrepancies should be noted in the cover letter.

**Section 16. Certificate of Completion.**

The Board will issue a letter certifying completion upon receipt and approval of the final reports and/or upon otherwise determining that all work of the permit has been satisfactorily completed in conformance with the Stormwater Management Permit.

**Section 17. Enforcement.**

The Board of Sewer Commissioners or an authorized agent of the Board shall enforce Article 21, regulations, orders, violation notices, and enforcement orders and may pursue all civil and criminal remedies for such violations.

A. Civil Relief. If a person violates the provisions of Article 21, regulations, permit, notice, or order issued thereunder, the Board may seek injunctive relief in a court of competent jurisdiction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

B. Orders.

(1) The Board or an authorized agent of the Board may issue a written order to enforce the provisions of Article 21 or the regulations thereunder, which may include:

(a) Elimination of illicit connections or discharges to the MS4.

(b) Performance of monitoring, analyses, and reporting.

(c) That unlawful discharges, practices, or operations shall cease and desist.

(d) Remediation of contamination in connection therewith.

(e) Cease and desist from construction or land disturbance until there is compliance with Article 21, and an approved Stormwater Management Permit and provisions thereof.

(f) Repair, maintain; or replace the stormwater management system or portions thereof in accordance with the Stormwater Management Permit and provisions thereof.

(g) Remediate adverse impact resulting directly or indirectly from malfunction of the stormwater management system, including erosion and sedimentation resulting directly or indirectly from the land-disturbing activity.

(2) If the Board determines that abatement or remediation of adverse impacts and/or contamination is required, the order shall set forth a deadline by which such abatement or remediation must be completed. Said order shall further advise that, should the violator or property owner fail to abate or perform remediation within the specified deadline, the Town may, at its option, undertake such work, and the owner shall reimburse the Town's expenses..

(3) Within thirty (30) days after completion by the Town of all measures necessary to abate the violation or to perform remediation, the violator and the property owner will be notified of the costs incurred by the Town, including administrative costs. The violator or property owner may file a written protest objecting to the amount or basis of costs with the Board within thirty (30) days of receipt of the notification of the costs incurred. If the amount due is not received by the expiration of the time in which to file a protest or within thirty (30) days following a decision of the Board affirming or reducing the costs, or from a final decision of a court of competent jurisdiction, the costs shall become a special assessment against the property owner and shall

constitute a lien on the owner's property for the amount of said costs. Interest shall begin to accrue on any unpaid costs at the statutory rate provided in G.L. Ch. 59, § 57 after the thirty-first day at which the costs first become due [We need to discuss this paragraph with you].

C. Criminal Penalty. Any person who violates any provision of Article 21, regulation, order or permit issued thereunder, shall be punished by a fine of not more than $200. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

D. Non-Criminal Disposition. As an alternative to criminal prosecution or civil action, the Town may elect to utilize the Non-criminal disposition procedure set forth in G.L. Ch. 40, § 21D and adopted by the Town as Article 17 of the General By-Laws in which case the Board shall be the enforcing person. The penalty for the 1st violation shall be a written warning. The penalty for the 2nd violation shall be $50. The penalty for the 3rd violation shall be shall be $100. The penalty for the 4th and subsequent offenses shall be $200. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

E. Entry to Perform Duties Under Article 21. To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Authorized Enforcement Agency, its agents, officers, and employees may enter upon privately owned property for the purpose of performing their duties under this bylaw and regulations and may make or cause to be made such examinations, surveys or sampling as the Board deems reasonably necessary.

F. Appeals. The decisions or orders of the Board shall be final. Further relief shall be to a court of competent jurisdiction.

G. Remedies Not Exclusive. The remedies listed in Article 21 are not exclusive of any other remedies available under any applicable federal, state or local law.

**Section 18. Severability.**

The provisions of this bylaw are hereby declared to be severable. If any provision, paragraph, sentence, or clause, of this bylaw or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this By-Law.

**Section 19. Transitional provisions.**

Residential property owners shall have 90 days from the effective date of Article 21 to comply with its provisions provided good cause is shown for the failure to comply with Article 21 during that period.

Volume III
Issue 1

# Shrewsbury Water Works

First Quarter
2008

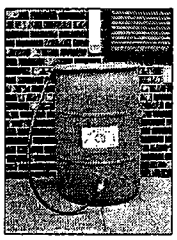
The Shrewsbury Water & Sewer Department Newsletter

This newsletter is funded in part by a Water Conservation Grant received through MassDEP

## It's Rain Barrel Time Again!

The Town of Shrewsbury has teamed up with The New England Rain Barrel Company to offer discounted rain barrels to residents. Rain barrels help conserve water and save money, and can be used for outdoor watering or car washing.

Rain barrels are available to Shrewsbury residents at the discounted price of **$66.50** (regular retail price $89). The Town has also applied for a grant from the MassDEP that would discount the barrels even further, however grant recipients will not be announced until after this newsletter goes to print.



The rain barrels are made from recycled 55 gallon plastic drums and come equipped with a 5 ft. hose and shutoff valve.

Orders may be placed through April 25th. **Rain barrel pick-up day is Saturday May 3rd**, 2008 from 9 a.m. to 12 noon at Shrewsbury Town Hall.

**Call 1-877-977-3135 to place your order with The New England Rain Barrel Company or visit www.nerainbarrel.com.**

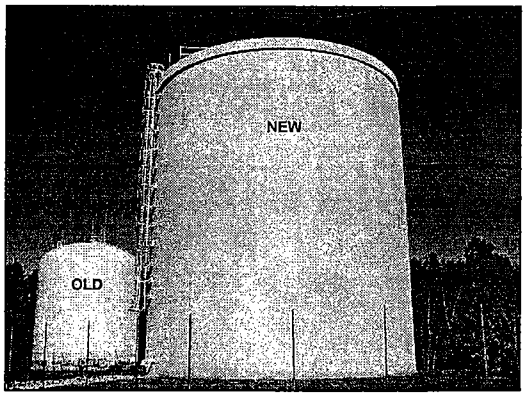
***The Water Dept. will not take rain barrel orders!***

## Goals Set to Reduce Stress on Drinking Water System

### Improvements Should Curb Water Loss

**Water Tanks at Prospect Park**

The Shrewsbury Water Department is working on the construction of a new one million gallon pre-stressed concrete storage tank at Prospect Park. The tank will replace two older tanks that were constructed in 1917 and 1955 respectively.




New and Old Water Tanks at Prospect Park

The new tank structure has been completed and electric, fiber optic and phone lines have been pulled into the new control building. Early this year, the 1917 and 1955 tanks will be demolished along with the existing building structures, The new one million gallon tank will provide additional storage for fire protection and to meet peak demands.

**Lakeway Project Construction**

The construction currently taking place along route 9 is primarily a highway improvement project conducted by the Commonwealth of Massachusetts as part of the Lakeway Business District project. The Town will take advantage of the roadway being dug up to replace the original sewer force main from the early 1960's as well as the water main from Dewey Road east to Maple Ave.

The sewer work was completed by the end of 2007 and the water main work is likely to begin in early Spring. We will be removing a 6" water line and replacing it with a 12" ductile iron pipe.

This work is part of an ongoing maintenance and capital improvement plan of the Water Department, and will likely assist in reducing the "unaccounted for water" that the Town must report annually to the Massachusetts Department of Environmental Protection (MassDEP). Approximately 4,800 linear feet of new pipe will be installed at a cost of $1,250,000.

**Route 20 Construction**

This winter the town will be bidding a project to replace the water main on Hartford Turnpike between Lake St. and the Worcester line with a larger twelve-inch main. This should improve fire flows in this area of Town.

**Water Treatment Plant Upgrade**

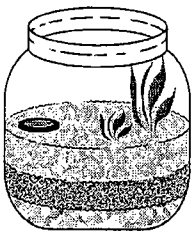
In November work began on the next phase of the water treatment plant control upgrade. New logic and computer systems will be installed for the finished water pumps and chemical feed controls. This work is being done to make the distribution more efficient and provide for a better service delivery.

Shrewsbury's Water Treatment Plant

**Mr. Raindrop's Water Cycle Terrarium**

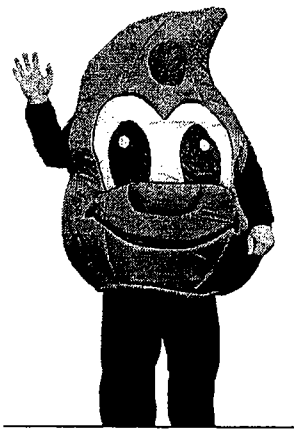
- **Where:** Shrewsbury Public Library
- **When:** Feb. 20, 2008
- **Time:** 10:30 am
- **Grades:** K-4
- **Cost:** *FREE*
  Pre-Registration is Required
  Call 508-842-0081 x-4

This fun, hands-on program will introduce elementary school students to the water cycle and the need for water conservation.



Children will learn about the water cycle, make a connection between existing water resources and a rising population, and enjoy a visit from Mr. Raindrop.

Each participant will create their own living terrarium to bring home as a daily reminder of the water cycle at work.



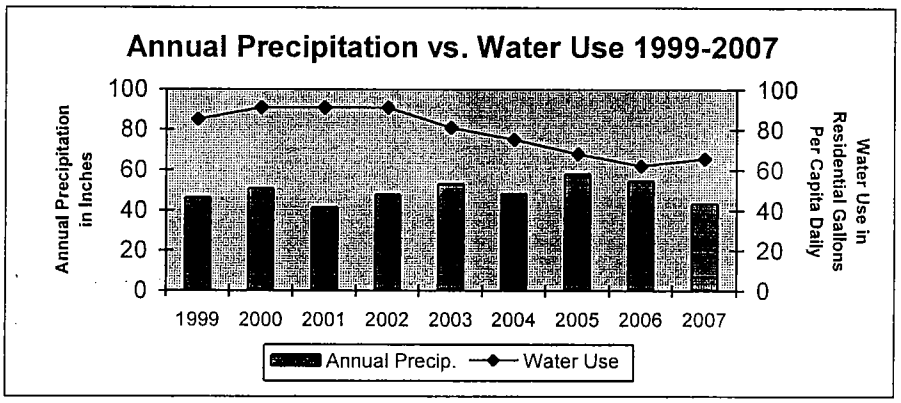
*This program is presented by the Shrewsbury Water Conservation Project*

SHREWSBURY WATER CONSERVATION PROJECT UPDATE

# Shrewsbury Water Conservation Project

## How's it going so far, and what's in the future?

The chart below shows residential water use and annual precipitation from 1999 through 2007. Water use reached a peak from 2000 to 2002 when Shrewsbury residents used 91 gallons of water per person per day.




### Conservation Efforts

In 2003 the Town banned installation of new in-ground sprinkler systems, and for the first time implemented an odd-even watering schedule for the summer months.

In January 2006 the Town launched the Shrewsbury Water Conservation Project to help promote water conservation to Shrewsbury residents. This program was launched in response to MassDEP's water conservation requirements.

### How Are We Doing?

The data in the above chart shows that in 2007, despite receiving considerably less rainfall than in 2005 (58.21" Precipitation in 2005 vs. 43.36" Precipitation in 2007), residential water use of 65.5 gallons per person per day has remained below the 2005 use of 68 gallons per person per day. These results imply that our efforts are having a real impact and residents are taking steps to conserve water.

### What's Next?

As part of the Town's effort to comply with the water-use performance standards set by MassDEP, residents can expect increased enforcement of outdoor water use restrictions in 2008.

Remember, all water that flows from a spigot or faucet attached to your home is drinking water. This water is pumped from town wells and treated to make it safe to drink. Use of this water for lawn or garden watering, car washing, and recreation should be kept to a minimum to ensure that there is enough flow for every day use as well as fire protection in town.

If we all make an effort to conserve water and use low-flow fixtures, the Town will save considerable capital and operating costs, avoid environmental degradation, and preserve our precious natural resource – water.

*The annual precipitation data listed above is for the State of Massachusetts and was found at the National Climatic Data Center's website (NCDC is part of the National Environmental Satellite Data Information Service, under the National Oceanic and Atmospheric Administration as overseen by the Department of Commerce). For more annual precipitation information visit* ***www.ncdc.noaa.gov/oa/climate/research/cag3/cag3.html.***

*All RGPCD (residential gallons per capita daily) numbers were calculated by the Shrewsbury Water Department and are based on filings provided to the Commonwealth of Massachusetts. 2007 numbers are preliminary and are subject to change based on final calculations.*

Volume II
Issue 2

# Shrewsbury Water Works

The Shrewsbury Water & Sewer Department Newsletter

Second Quarter
2007

## Why Conserving Water Matters

You all know by now that the Town of Shrewsbury has been promoting water conservation due to state mandates that require town-wide water use no greater than 65 gallons per person per day. But what are some other reasons to conserve?

**Save Money**
According to the EPA, the average U.S. household spends as much as $500 per year on its water and sewer bill. By making just a few simple changes to use water more efficiently, you could save about $132 per year.

If all U.S. households installed water-efficient appliances, the country would save more than 3 trillion gallons of water and more than $17 billion dollars per year!

**Human Health and the Environment**
Lower water levels due to increased water use can lead to higher concentrations of natural contaminants, such as radon and arsenic, or human pollutants, such as agricultural and chemical wastes.

Using water more efficiently helps maintain supplies at safe levels, protecting human health and the environment.

## Shrewsbury Water Conservation Project Partners with EPA "WaterSense"

### Among the First Local Government Agencies to Join

Many people have become quite familiar with the EnergyStar program that promotes and endorses energy saving appliances and devices. Because of Energy Star's success, the U.S Environmental Protection Agency has recently launched the WaterSense label.

WaterSense is a voluntary public-private partnership program sponsored by the U.S. Environmental Protection Agency. Its mission is to protect the future of our nation's water supply by promoting and enhancing the market for water-efficient products and services. Saving water is easy—many products are already available for use, and it doesn't require changing the way most of us live or do business. By choosing products labeled through the WaterSense program, you know you'll be saving water for future generations.

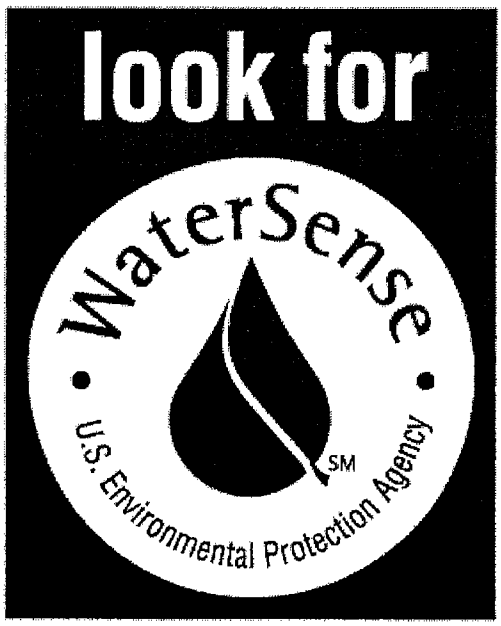
EPA WaterSense PARTNER

The Shrewsbury Water Conservation Project has elected to become an official WaterSense partner. This partnership will allow us to promote water conservation through the use of the WaterSense label and WaterSense approved materials.

### WaterSense For the Home

Would you believe that in the average American home, more water is used for flushing the toilet than running the shower? It's true. A family of four could save more than 16,000 gallons of water every year just by replacing a traditional toilet with a WaterSense labeled high-efficiency model!

Though currently not on the shelves, later this year you will be able to look for WaterSense labeled toilets to ensure you are purchasing a high-performing, water-efficient model. WaterSense is also in the process of developing a specification for high-efficiency bathroom sink faucets and faucet accessories.




Once WaterSense approved bathroom faucets hit the market, the Shrewsbury Water Conservation Project will announce a rebate program to encourage residents to switch to these high-efficiency models. Look for more information on this future program in upcoming editions of the *Water Works* newsletter.

### WaterSense for Your Yard

According to the Environmental Protection Agency, outdoor water use accounts for about 10 percent of annual usage in the Northeast.

Up to 50 percent of water used for landscape irrigation is lost due to over-watering, evaporation, or bad irrigation system design or maintenance. With WaterSense, it's easy to find an irrigation professional that will reduce your water needs while keeping your landscape beautiful.

Visit **www.epa.gov/watersense** for more information on WaterSense products and programs.

## Shrewsbury Is An Idle-Free Zone

**Did you know that it's against the law to idle your car for more than five minutes in Massachusetts?**

The goal of the Massachusetts Anti-Idling law is to improve air quality by reducing unnecessary air pollution from idling vehicles.

The law limits unnecessary engine idling to five minutes.

**FAQ: Am I causing more pollution by stopping and starting the engine?**

No. Once the engine has warmed up, an idling engine causes more pollution by running than by stopping and starting up again.

**FAQ: Won't I wear out my starter if I keep stopping and starting the engine?**

Fleet managers of companies with strict anti-idling policies report that they do not replace starters in their vehicles more frequently than vehicles that are left running for extended periods. In fact, more damage occurs to engines that are left idling over long periods of time.

# SHREWSBURY WATER CONSERVATION PROJECT UPDATE

**2007 Rain Barrel Project a Success!**
The Shrewsbury Water Conservation Project's 2007 rain barrel program was another huge success. We sold more than 100 rain barrels to Shrewsbury residents.

**Rain Barrel Home Landscape Project**
Check out next quarter's newsletter for an easy-to-do home rain barrel project. We'll be providing step-by-step instructions on how to use a rain barrel to irrigate a home landscape through drip irrigation.

**Rain Barrel Home Landscape Contest**
We're looking for a few good projects! We'd love to see how you put your own rain barrels to good use through small home landscaping projects that use rain barrels as the lone source of irrigation.

Please email a description and photos of your project to **jpratt@ci.shrewsbury.ma.us** by June 30th. Prizes will be awarded to the top five projects. Winners will be featured online and in the 3rd quarter *Water Works* newsletter.

# Drought-Tolerant, Low-Maintenance Plants

The following perennials withstand drought, require little maintenance and are well suited to planting in Massachusetts. Check with your local nursery for detailed growing information.

**Black-Eyed Susan**
*(Rudbeckia fulgida* 'Goldsturm')
2-3' tall gold-petaled, black-centered, daisy-type flowers bloom continuously from August to October. Seed heads are attractive to birds.

**Purple Dome New England Aster**
*(Aster novae-angliae* 'Purple Dome')
Native to New England, this compact aster with dark green foliage and profuse bloom of dark purple flowers (up to 1.5" across) which can entirely cover the plant from mid-August until early October is attractive to butterflies.

**Sedum Autumn Joy**
*(Sedum x 'Autumn Joy')*
A well-known favorite that attracts butterflies. Flower heads form in mid-summer and look like broccoli until they turning pink as the summer progresses. Flowers are a deeper rusty-red in fall.

**Stella D'oro Daylilly**
*(Hemerocallis)*
One of the finest dwarf daylilies available. Outstanding masses of bright, golden-yellow flowers appear all summer. First flowers appear in May and repeat every few weeks into fall.

**Moonbeam Coreopsis**
*(Coreopsis verticillata)*
Clusters of light yellow, daisy-like blooms with green airy fern-like foliage. Blooms from June through October and is mildew resistant. Stands 24" tall and spreads 18-24" wide.

**Purple Coneflower**
*(Echincea purpurea)*
2-3' tall, stunning purple-pink flowers (also available in white) with orange centers that resemble large daisies, and are great for cutting. Attracts butterflies; seed heads are food source for birds.

**Liatris**
*(Liatris species)*
A robust and striking perennial also known as Blazing Star and Gayfeather. This attractive plant has an interesting vertical spike of purplish-pink or white flowers. Excellent flower for cutting and drying. Attracts butterflies and hummingbirds.

Volume II
Issue 3

# Shrewsbury Water Works

The Shrewsbury Water & Sewer Department Newsletter

Third Quarter
2007

## Water Wise Alert System

The Shrewsbury Water Department has created a "Water Wise Alert" to notify residents when water conservation is imperative.

This alert will be triggered when prolonged periods of dry weather cause our drinking water supplies to become exceedingly low.

**The Water Wise logo will appear on the Town of Shrewsbury website as shown below:**

WATER WISE
CONSERVE NOW!

This message will be displayed at the top of every page within the Town of Shrewsbury website when activated.

Visitors can close the message by clicking the "X" in the top right-hand corner, or the "close window" link following the main message. For Internet Explorer users, the notice window will close automatically after 15 seconds.

When a Water Wise alert is triggered, notices will also likely appear on SELCO's local advertising channels 15 and 26. A notice will also run on the Weather Channel scroll during "Local on the 8's" weather reports.

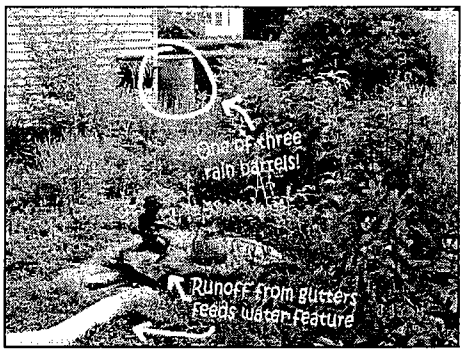
***The Town of Shrewsbury thanks you for your cooperation.***

## 2007 Rain Barrel Home Landscape Contest Winners

In the last *Water Works* newsletter we invited all rain barrel owners to enter our home landscape contest to show how they have successfully put their rain barrel to use. We received some wonderful photos from residents. Although space is limited on this page, you can view more photos online at **www.shrewsbury-ma.gov/sewerwater/conservation.asp**

### 1st Place – Libby and James Herland – Main Street

*"My husband Jim and I have three rain barrels we have purchased from the Town of Shrewsbury. We love them and feel so good about using them. We also get a good workout hauling the water around! " – Libby Herland*

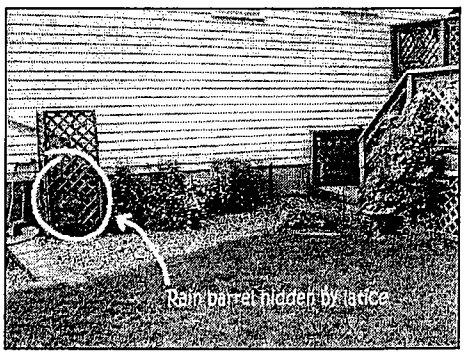



The Herlands, who have expanded their gardens significantly this year, emphasize native perennial plants which are beneficial to birds and butterflies. As a result, they have a hummingbird that often feeds from flowers in their garden.

In addition to using three rain barrels to water their plants, the Herlands also use redirected rain water to keep a fountain bird bath feature replenished. "They like moving water, and they drink and bathe in the fountain all year round," said Libby.

### 2nd Place – The Brushway Family – Lexington Road

*"Since the first rain storm, we have only used the Rain Barrel to water these plants. It has not gone empty as of yet. We are currently thinking about other applications for this surplus of available water." – Tom Brushway*




The Brushway family has camouflaged their rain barrel using lattice, which matches the look of an existing deck in their yard. They use the water supplied by the rain barrel to water all of their annual plants.

The barrel was installed on a raised mound of compacted soil with flat rocks for the barrel to rest on. By raising the barrel, they have enough water pressure to fill their watering can using a hose attached to the rain barrel spigot – allowing the rain barrel to be inconspicuously placed.

### 3rd Place – Rick and Melissa Connell – Eastwood Road

*"We use them [rain barrels] to keep our front perennial bed watered and fill watering cans. They also have been a great help in diverting water away from our house…" – Melissa Connell*

The Connells have installed their rain barrels on raised platforms in a unique "stepped" formation. Their wildflower garden is flourishing on a diet of free, untreated rain water!

**Honorable Mention - Radkowski Family – Wachusett Avenue**

*"We may need to get another barrel to collect from another downspout too." – Jim Radkowski*

## Visit our Booth at the SOS Oak Expo

- **Where:** Oak Middle
- **When:** Sept. 29, 2007
- **Time:** 10 am to 4 pm

The Shrewsbury Water Conservation Project will be hosting a booth at the Spirit of Shrewsbury Oak Street Expo on Sept. 29th.

We'll be giving away FREE indoor and outdoor water conservation devices courtesy of a Mass. DEP grant.

These devices are available to **Shrewsbury Residents ONLY.**

**Mr. Raindrop**, the Shrewsbury Water Conservation Project's mascot, will also be at the expo handing out fun water conservation materials to kids.

Mr. Raindrop has recently appeared at the Shrewsbury Water Conservation Project's rain barrel pickup day, Parks & Recreations' kids equipment day, and Floral Street School's biodiversity day.

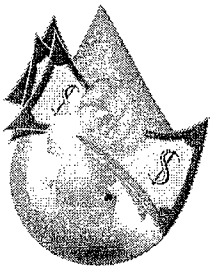
# Higher Water Consumption Costs You Money

## Water use impacts personal costs, economic growth

By Daniel J. Morgado, Town Manager

Residents need to conserve water for three reasons. First it saves you money; second it's good for the environment; and lastly because it's the law.

In order to stress conservation, last year the Board of Selectmen adopted a new fee schedule that makes higher consumption more expensive while rewarding lower consumption levels. By example, residents that use more than 25,000 gallons in a quarter are now paying rates that are 13% higher than a year ago.



There is no disagreement that the less water used the better off we will be as a community, as there will be more capacity available to develop the economic base of the community. Stressed water tables are bad for people and bad for plants and animals that depend on stream flows. Conservation reduces stress that is placed upon these habitats and makes more capacity available for economic growth.

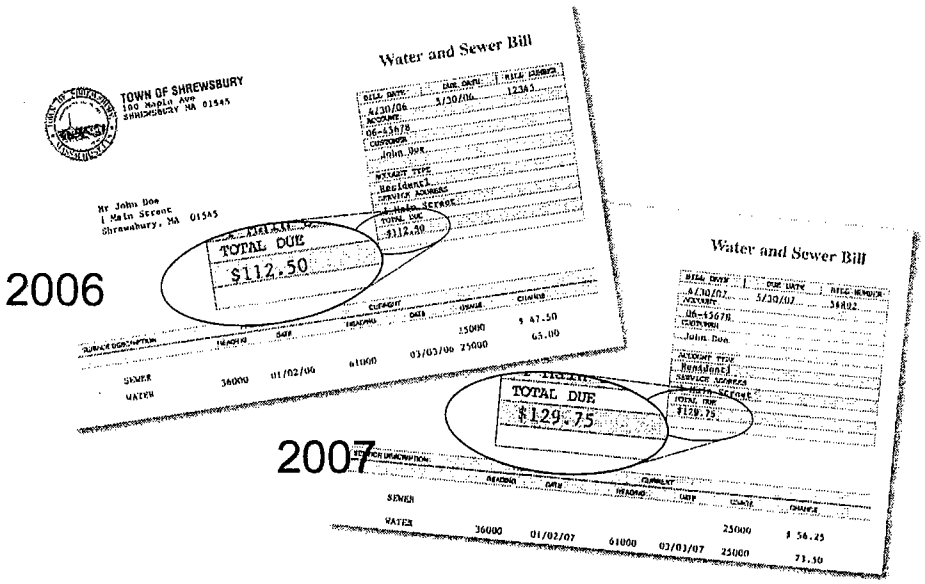
Conservation is required by law as the Town is facing ever stiffer opposition from the Commonwealth to expand water capacity. Recently, Town officials met with Robert Couglin, the Undersecretary for the Executive Office of Housing and Economic development. Officials continue to drive home the point that to grow economically, the Metro-West region needs more water capacity.

While Mr. Coughlin agrees, the entire regulatory environment that has been created views any increase in water consumption as bad, regardless of the resulting economic development value.

All attending the meeting agreed that the question of water policy as it relates to high growth communities, those that have been doing the "heavy lifting" in regard to housing development, needs to be revisited and that high growth, low barrier communities should not be penalized by the Commonwealth's water policy and associated regulations.

As reported previously, the Board of Selectmen has brought an appeal on the draft Water Management Act Permit of the Town to protect the Town's water users from very difficult standards and restrictions. The Board awaits the result of this appeal.

Visit **www.mass.gov/dep/water/laws/wmafingu.doc** for a view of the current status of water policy in the Commonwealth.



Volume II
Issue 4

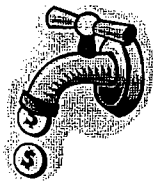
# Shrewsbury Water Works

The Shrewsbury Water & Sewer Department Newsletter

Fourth Quarter
2007

## Use Your Water Sense to Conserve

**Challenge:** Leaky faucets that drip at the rate of one drip per second can waste more than 3,000 gallons each year.



**Solution:** Most leaks can be fixed by replacing a worn out washer. Do an online search for easy to follow instructions or ask your local home improvement store for guidance.

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**Challenge:** A leaky toilet can waste about 200 gallons of water per day.

**Solution:** Place a drop of food coloring in the toilet tank; if the color shows in the bowl without flushing, you have a leak.

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**Challenge:** A full bath tub requires about 70 gallons of water, while taking a five-minute shower uses 10 to 25 gallons.

**Solution:** If you take a bath, stopper the drain immediately and adjust the temperature as you fill the tub with water.

**For more conservation tips visit www.epa.gov/watersense**

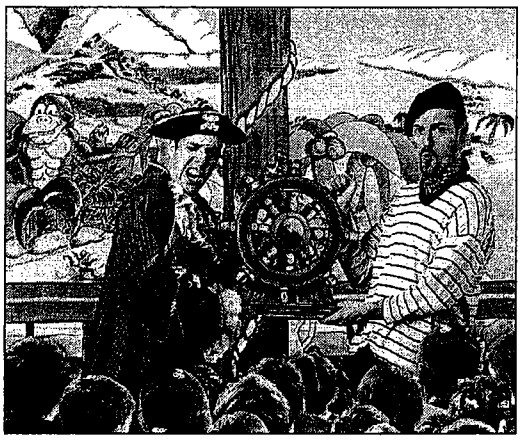
## Town of Shrewsbury Awarded Federal Water Conservation Grant Through Mass. DEP

In July, 2007, the Town of Shrewsbury applied for a federal water conservation grant offered through the Massachusetts Department of Environmental Protection. The application submitted by the Town requested funding assistance for a number of water conservation initiatives from the Shrewsbury Water Conservation Project.

On October 16th the Town received notification that the grant application had been approved for the amount of $23,069. Details on how this money will be used to promote water conservation have yet to be negotiated with the DEP, but our plan as it now stands includes the following:

***Water Works* Newsletter**
This newsletter, enclosed with your quarterly water bill, is currently paid for with funds from the Town of Shrewsbury's water conservation account. The grant will help cover some of the 2008 *Water Works* newsletter printing and postage costs, leaving more money in the water conservation account for other water conservation programs and projects.

**K-4 Water Conservation Education**
Thanks to the water conservation grant, the Shrewsbury Water Conservation Project will be able to bring a presentation about water conservation to all kindergarten through fourth grade classes within the Town of Shrewsbury.

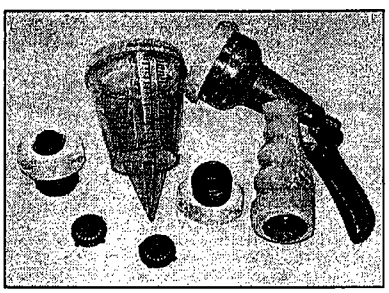


The presentation will be given by the National Theatre for Children and will include educational workbooks for all students as well as classroom materials for all teachers. We expect the presentation to take place at the Beal, Coolidge, Floral, Paton, Spring, St. Mary's and Montessori schools during the late April to early May 2008 timeframe.

**Water Sense Bathroom Faucet Giveaway**
The EPA has recently begun certifying bathroom faucets as "Water Sense" approved. The Water Sense designation is the water conservation equivalent to the EPA's energy conservation Energy Star mark.

As part of the grant, approximately $10,000 will be given to the Town to purchase low-flow Water Sense bathroom faucets to giveaway to Shrewsbury residents. The giveaway will likely take place as a random drawing sometime in July or August 2008.

**Water Conservation Devices and Materials**
$3,000 will be provided by the federal water conservation grant to the Town of Shrewsbury to purchase various water conservation devices and informational materials to be handed out at public events, such as the Spirit of Shrewsbury Oak Street Expo.



**Stay Tuned...**
Look for more information on these grant-funded programs in future editions of the *Water Works* newsletter. The Town of Shrewsbury is also currently waiting to hear if we will receive a state water conservation grant for rain barrels and conservation devices in 2008.

## Save Water With Mr. Raindrop

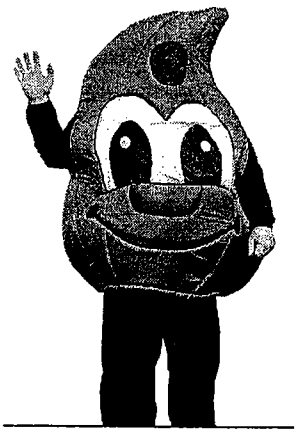
- **Where:** Shrewsbury Public Library
- **When:** Dec. 7, 2007
- **Time:** 10:30 am
- **Ages:** 3 & 4 year-olds
- **Cost:** *FREE*
  Pre-Registration is Required
  Call 508-842-0081 x-4

This fun, hands-on program will introduce preschoolers to the concept of water conservation.

Children will hear a story, make a craft, and enjoy a visit from Mr. Raindrop.

*All participants will receive a free Tshirt, water bottle and coloring book. Space is limited.*

This program is presented by the Shrewsbury Water Conservation Project.



*Shrewsbury Water Conservation Project's Mr. Raindrop*

SHREWSBURY WATER CONSERVATION PROJECT UPDATE

**Rain Barrels Coming in 2008**
The Shrewsbury Water Conservation Project has once again applied for the Massachusetts Department of Environmental Protection's Water Conservation Grant.

While we will not officially know whether we've been awarded the grant until sometime in December, we have decided to once again offer rain barrels to our residents at a discounted price.

More information about the 2008 rain barrel program will be available in your first quarter 2008 *Water Works* newsletter.

**SOS Festival Recap**
The Shrewsbury Water Conservation Project gave away more than 1,700 water conservation items at the Spirit of Shrewsbury Oak Expo. Special thanks to Mr. Raindrop, Rich Fox, Roger Hunter, and Butch Meunier for all their hard work and dedication.

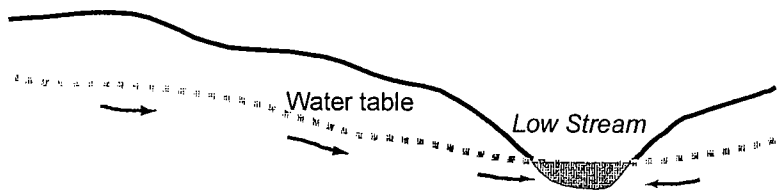
# Water Conservation is Needed to Protect Local Streams

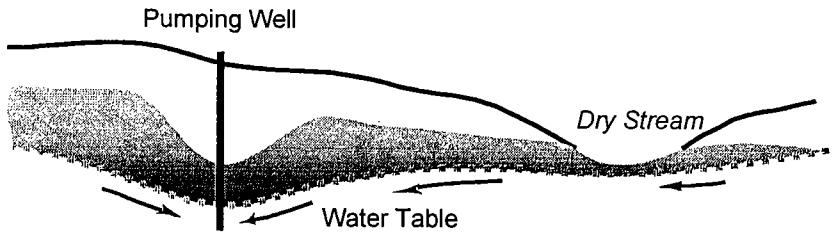
By Donna Williams, Massachusetts Audubon Society

It has been a very dry late summer in New England; next to no rain in August and September. Most of the smaller, intermittent streams have no flow, which is not unusual at times of drought. Unfortunately, at times like these our water consumption increases dramatically as homeowners try to keep their lawns green. The increase of demand during summer's low flows heightens the impacts from pumping wells on downstream water habitat. While there is sufficient capacity in the aquifer to continually provide drinking water from the bottom of the well, the cone of depression caused by extended pumping is drawing much needed water from perennial streams.

Without water there are no fish, no frogs, no aquatic habitat. When the water returns, so will the fish and frogs, but they won't be as numerous or as healthy due to the severe stress caused by low flows. As more demands are placed on a shrinking water supply, animals and plants that depend on water in streams and rivers will find it harder to survive unless we can learn to use our precious water wisely.

**Drought Water Table – No Well Withdrawal**




**Drought Water Table – With Pumping Well**