**Municipality/Organization: TOWN OF MILTON, MA**

**EPA NPDES Permit Number: MAR041079**

**MassDEP Transmittal Number: W-039893**

**Annual Report Number**
**& Reporting Period: Year 7** **April 1, 2009 - March 31,2010**

# NPDES PII Small MS4 General Permit
# Annual Report
## (Due: May 1, 2010)

## Part I: General Information

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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: JOSEPH W. LYNCH

Title: DIRECTOR OF PUBLIC WORKS

Date:

# Part II: Self-Assessment Narrative

The Town of Milton, Massachusetts has completed the required self-assessment and has determined that our municipality has been working towards full compliance as submitted to EPA and approved as Milton's NOI to the General Permit issued to Massachusetts under Phase II of the Regulations. All best management practices(BMPs) met the Town's measurable goals set forth in the NOI except for:

- BMP 5-4: Develop a draft zoning bylaw that allows and/or encourages use of low-impact development (LID) A bylaw is currently being considered that encourages use of low-impact development but at this time has not been incorporated.

Since the NPDES permit inception, the Town has made great efforts by establishing and implementing a stormwater bylaw that continues to permit and incorporate stormwater controls into all construction within the Town. The creation of detailed GIS databases and maps of the Towns' utilities and waterways has provided a valuable tool for the Town to keep track of maintenance and a more efficient tool to update the Towns infrastructure and resources. The Town continues to develop new databases for Town assets such as town trees and stormwater outfalls.

The Town continued a successful partnership with the Neponset River Watershed Association (NepRWA) which together have undertaken a stormwater education program, a stormwater sampling program, illicit discharge detection and elimination program, and have completed construction of bio-retention cells along Pine Tree Brook as part of the 319 TMDL Implementation Grant. In 2009, NepRWA and the Town constructed a 319 TMDL Implementation Grant project consisting of the installation of 14 tree filter boxes within Brook Road and Lincoln Street which drain into Pinetree Brook. The tree filter boxes provide a natural media for the stormwater to filter street contaminants before being discharge into the brook.

The following table is a complete list of the Town's BMPs, the actions the Town has committed to perform, the progress on the goals, and projected activities for the upcoming year.

# PART III: BEST MANAGEMENT PRACTICES

## 1. Public Education and Outreach

| BMP ID# | BMP Description | Responsible Dept. | Measurable Goal(s) | Progress on Goal(s)- Permit Year 7 | Planned Activities- Permit Year 8 |
|---|---|---|---|---|---|
| 1.1 | Educate dog owners about picking up dog waste | Public Works | Develop and print collateral piece on pet waste | Posted Palm card on website | Continue to post Palm card on website annually |
| 1.2 | Prioritize areas in Town that have pet waste problems; install up to three mutt mitt stations | Public Works | Prioritize list of mutt mitt installation sites | Keep mutt mitt stations functioning and free from graffiti | Inspect stations regularly to ensure functioning |
| 1.3 | Develop a draft by-law that requires dog owners to clean up after their dogs. Present to Town Meeting. | Town Counsel | Draft bylaw; present to Town Meeting | Accomplished | None |
| 1.4 | Update stormwater section of Town website 3x a year | Public Works | Update stormwater section of the Town website 3x per year | Updated stormwater section continues to be posted on website | Continue to update stormwater section as required |
| 1.5 | Inspect signs that identify water bodies within town & contact DCR/MHD for repairs | Public Works | Inspect signs | Locate and inspected DCR/MHD signs | Inspect all signs |
| 1.6 | Provide update of SWMP at Selectmen's meeting | Public Works | Present annual update of SWMP at Selectmen's meeting | No update requested by Selectmen | Present update to Selectmen (if requested) |
| 1.7 | Develop two press releases per yr describing importance of stormwater management | Public Works | Publish two newspaper articles/press releases describing importance of SWMP | Two newspaper articles featured details the tree filter boxes installed on Brook Road and Lincoln Street. | Continue to educate public on stormwater issue through two articles or press releases |
| 1.8 | Show two cable programs or PSAs on stormwater importance of stormwater management | Public Works | Two programs or PSA's on local cable TV | Programs were aired during this permit year on public access television explaining the tree filter box project. | Will air two stormwater-related PSAs on cable |

## 2. Public Participation and Involvement

| BMP ID# | BMP Description | Responsible Dept. | Measurable Goal(s) | Progress on Goal(s)- Permit Year 7 | Planned Activities- Permit Year 8 |
|---|---|---|---|---|---|
| 2.1 | Comply with state public notification guidelines | Town Clerk | Post notice as required | No public hearings held | Will post notice as required if public hearing is held |
| 2.2 | Provide trash pickup on Milton's Green Day | Public Works | Trash pickup required each year | Planning Town-wide cleanup in spring, 2010 | Will schedule Town-wide clean-up in spring 2011 |
| 2.3 | Provide support for the nepRWA 319 TMDL Implementation Grant | Public Works | Assist with wetlands project as requested by nepRWA | Supplied construction oversight and managed construction of the installation of 14 tree filter boxes on Brook Road and Lincoln Street | Continue to maintain bio-retention cells. |
| 2.4 | Outreach to Milton school teachers on stormwater issues | Public Works | Increased awareness among Milton families about stormwater issue | The Town had representatives from the NepRWA work with the school staff to provide an educational program for the local schools | Contact schools to offer teachers stormwater information for environmental curriculums |
| 2.5 | Work with nepRWA on Uniquity Brook outreach | Public Works | Secure funding to examine flow patterns and possible septic tank leakage into Unquity Brook | Continued to work with nepRWA and Milton Conservation Commission on Unquity Brook outreach | Continue to work with nepRWA and Milton Conservation Commission on Unquity Brook outreach |

## 3. Illicit Discharge Detection and Elimination

| BMP ID# | BMP Description | Responsible Dept. | Measurable Goal(s) | Progress on Goal(s)- | Planned Activities-Permit |
|---|---|---|---|---|---|
| | | | | Permit Year 7 | Permit Year 8 |
| 3.1 | Remove sewer underdrains if found during routine maintenance | Public Works | Document number of underdrains found and removed | None found | Remove as needed |
| 3.2 | Map stormwater outfalls and receiving waters; identify outfalls and other structures owned by other entities; evaluate structures on state-owned Town roads | Public Works | Create Map | GIS map completed in fall, 2005 | Continue to use map in day-to-day stormwater-related activities |
| 3.3 | Digitize stormwater collection system in a GIS-compatible format | Public Works | None | GIS map completed in fall 2005 | Continue to use map in day-to-day stormwater-related activities |
| 3.4 | Develop and implement a plan to identify and remove non-stormwater discharges to the MS4 | Public Works | Create Map | None found.Continued ongoing illicit discharge detection & elimination and supported nepRWA | Continue ongoing illicit discharge detection & elimination |
| 3.5 | Develop bylaw requiring inspection of new construction for correct connection to the sanitary sewer | Town Counsel | Develop bylaw requiring inspection of new construction for correct connection to the sanitary sewer | Sewer regulations and permit requirements revised and implemented in 4/03 | Implemented |
| 3.6 | Conduct a Town-wide sewer rehabilitation program | Public Works | Implement program | Funding secured; sewer rehabilitation completed in Area 6 | To secure funding to complete sewer rehabilitation in Area 6 |

## 4. Construction Site Runoff Control

| BMP ID# | BMP Description | Responsible Dept. | Measurable Goal(s) | Progress on Goal(s)- Permit Year 7 | Planned Activities- Permit Year 8 |
|---|---|---|---|---|---|
| 4.1 | Develop a Construction Site Erosion & Sediment Control bylaw for all construction sites requiring a building permit (7500 sq. ft or over) | Public Works | Pass the By-law | By-law passed | Implement By-law |
| 4.2 | Require a waste management plan at construction sites 1-5 acres | Conservation Commission; Building Dept., Public Works | Implement regulation or by-law requiring a waste management plan at construction sites 1-5 acres | Regulatory mechanism in place for requiring a waste management plan for all construction sites | Continue to implement |
| 4.3 | Review Site Plans not already subject to Conservation Commission or Planning Board review | Conservation Commission, Public Works (Engineering) | Implement protocol for site plan review | Site plans reviewed as part of DPW Permitting Process | All site plans are reviewed by the Engineering Department |
| 4.4 | Consider public input for new construction sites not subject to the jurisdiction of Conservation Commission or Planning Board | Planning Board, Conservation Commission | Discuss plan for public input | By-law adopted at Town Meeting in May 2006 | Accomplished |
| 4.5 | Inspection erosion and sediment controls at construction sites involving wetlands | Conservation Commission | Number of Inspections conducted | 76 inspections(this includes duplicate visits to one site) | Continue inspections as needed |

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

| BMP ID# | BMP Description | Responsible Dept. | Measurable Goal(s) | Progress on Goal(s)- Permit Year 7 | Planned Activities- Permit Year 8 |
|---|---|---|---|---|---|
| 5.1 | Develop a draft bylaw to apply Standards 2,3,4 and 7 of MSP to entire Town; present bylaw to Town Meeting | DPW | Develop by-law and present to Town Meeting until passed | By-law adopted at Town Meeting in May 2006 | Implement Bylaw |
| 5.2 | Specify a stormwater BMP manual to be used for consistent design and performance standards | DPW | Select BMP manual | MA DEP and CZM "Stormwater Management,Vol 2: Stormwater Technical Handbook" selected in 2004 | Accomplished |
| 5.3 | Develop a draft by-law that ensures long-term maintenance of private structural BMPs | DPW | Include in stormwater by-law and present to Town Meeting | By-law adopted at Town Meeting in May 2006 | Implement Bylaw |
| 5.4 | Develop a draft zoning by-law that allows and/or encourages use of low-impact development (LID) | Planning Board | Draft by-law developed and presented to Town Meeting | Considered but developed into a bylaw for this year | Remains under consideration |

## 6. Municipal Good Housekeeping

| BMP ID# | BMP Description | Responsible Dept. | Measurable Goal(s) | Progress on Goal(s)- Permit Year 7 | Planned Activities- Permit Year 8 |
|---|---|---|---|---|---|
| 6.1 | Identify sensitive receptors within Town | Public Works | Develop list of sensitive receptors; notify staff | Accomplished | Accomplished |
| 6.2 | Funding to develop employee training program | Public Works | Keep DPW staff informed on importance of stormwater management | Posted MSDS sheets at DPW | Will continue to post MSDS sheets at DPW |
| 6.3 | Sweep all streets once every spring & fall | Public Works | Percent of streets swept twice per year | Swept all streets twice during permit year | Swept all streets twice during permit year |
| 6.4 | Continue existing road salting procedures | Public Works | Maintain documentation of de-icer amount used | 2606 tons of salt used | Maintain documentation of de-icer amount used |
| 6.5 | Minimize impacts from vehicle maintenance | Public Works | Build containment area for vehicle washing; switch to phosphate-free biodegradable soap | Accomplished | Accomplished |
| 6.6 | Minimize impacts from vehicle maintenance | Public Works | Hold employee training | Vehicle maintenance area workers aware of good maintenance protocol | Re-train if needed |
| 6.7 | Maintain storm drain system | Public Works | Clean all catch basins once every 3 years; inspect & clean drain pipes as needed; keep daily record of catch basin residuals volumes; prioritize large volume catch basins for more frequent cleaning | 1300 catch basins cleaned in Permit Year 7 | Ongoing |

## 6. Municipal Good Housekeeping(continued)

| BMP ID# | BMP Description | Responsible Dept. | Measurable Goal(s) | Progress on Goal(s)- | Planned Activities- |
|---|---|---|---|---|---|
| | | | | Permit Year 7 | Permit Year 8 |
| 6.8 | Train staff to minimize chemical applications in recreational areas | Public Works | Hold training; minimize use of chemical pesticides, fertilizer & herbicides; keep maintenance records | Kept records of all DPW chemical applications | Keep records of all DPW chemical applications |
| 6.9 | Hold biennial HHW Day | Public Works | Hold at least one HHW Day every other year; hold one tire and battery collection per year | No HHW Day held in 2009 as the biennial event is scheduled to be in 2010. | HHW Day will be held in fall 2010 if |
| 6.10 | Plant a new tree to replace every tree removed each year | Public Works, Tree Warden | Plant more trees than are cut down every year | 39 trees planted from March 09-March 10; Town awarded Tree City, USA status; t | Apply for MA ReLeaf grant in fall 2010; re-apply for Tree City USA status. |
| 6.11 | Pursue cooperative agreements with Milton garden clubs to implement litter management program | Public Works | Work with Milton Garden Club and Amateur Gardeners of Milton to raise funds for litter vacuum purchase; develop litter management program | Accomplished | Accomplished |
| 6.12 | Identify stormwater outfalls within Milton owned by other entities and inform them of their management responsibility | Public Works | Outfalls assessed; state agencies notified | Identified which roads and stormwater outfalls are State-owned; notified appropriate agency of their responsibility | Accomplished |

# Part IV. Summary of Information Collected and Analyzed

NepRWA and DPW staff took samples at the following Milton locations in April, May, July, and August 2009:

- **PTB028**: Pine Tree Brook at Blue Hills Parkway
- **PTB035**: Pine Tree Brook at Brook Road
- **PTB047**: Pine Tree Brook at Central Avenue.
- **UNB002**: Unquity Brook at Randolph Avenue
- **UNBOI4**: Unquity Brook at Adams Street.
- **UNBOI6**: Unquity Brook at Squantum Street.
- **NER200 :** Neponset River @ Adams St. Bridge
- **NER150:** Neponset River @ Paul's Bridge

In 2009, sampling was performed by NepRWA at each of the eight aforementioned sampling locations, four different times between the beginning of April and the end of August. The samples were tested for E.Coli, Total Phosphorus, Ortho-phosphate, Total Nitrogen, Chlorophyll, Dissolved Oxygen, pH, and Temperature.

Although sample results naturally vary with the time of year and weather conditions during the time sampled, these results can depict trends at that location overtime. Sampling at these locations has been performed since January, 2002.

According to NepRWA, per state water quality regulations, a single sample reading for E.Coli at a site should not exceed 235 colonies per 100 milligrams. A five-sample average should not exceed 126 colonies per 100 milligrams. Testing results indicated that UNB002, UNB014 and UNB016 exceeded the regulation maximum during 3 out of the four monitoring events, except during the April monitoring event when water temperatures are highest and bacteria levels are at the lowest. It is also worth noting that UNB002 showed elevated concentrations for total phosphorus and low levels of dissolved oxygen at nearly every event during the year (except April 2009).

Pinetree Brook sampling locations also had exceedences for fecal coliform counts. PTB 035 had elevated coliform counts during the warmest three events, PT 028 and PTB 047 each exceeded the threshold limit during 2 out of the 4 events. The highest coliform count (1190) for the 3 Pinetree Brook sampling locations was taking at PTB047 in August. Sampling results for total nitrogen was above regulatory limits at PTB047 during the August sampling event.

The Neponset River also had exceedences for fecal coliform at the sampling locations NER150 and NER200 during 2009. These exceedences occurred during the March, July, and August events for NER 200 and only during the June event for NER150. NER150 which had an all time maximum coliform count during last year's October wet weather sampling event had a maximum count (275) in June. Samples of total nitrogen and phosphorus were taken to identify the concentration of nutrients during the sampling event. Often times, fertilizers and animal waste runoff into the Towns' waterways causing the waters to be nutrient rich. An increase in nutrients in a waterway causes an increase in algae growth. An increased in algae growth will demand excess levels of oxygen in the water which reduces the quality of the water source for the surrounding ecosystem. For the first time since the inception of the sampling program NER150 and NER200 did not exceed the concentrations for total nitrogen.

NepRWA publishes and archives complete sampling results on their website for the entire watershed including the Milton 2008 sampling locations described above at: http://www.neponset.org/CWMNResultsArchive.htm

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# Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2007 through March 31, 2008)

### Programmatic

| (Preferred Units) Response | | |
|---|---|---|
| Stormwater management position created/staffed | Y/N | NO |
| Annual program budget | ($) | $500,000 |
| Total program expenditures since beginning of permit coverage | ($) | $1,547,000 |
| Funding mechanism(s)(General Fund, Enterprise, Utility, etc) | | GEN FUND |

### Education, Involvement, and Training

| | | |
|---|---|---|
| Estimated number of property owners reached by education programs(s) | (# or %) | 9800 |
| Stormwater management committee established | (y/n) | NO |
| Stream teams established or supported | (# or y/n) | Y |
| Shoreline clean-up participation or quantity of shoreline miles cleaned | (y/n or mi.) | Y |
| Shoreline cleaned since beginning of permit coverage | (mi.) | 4.5 |
| Household Hazardous Waste Collection Days | | |
| ▪ days sponsored** | (#) | 0 |
| ▪ community participated** | (# or %) | 0 |
| ▪ material collected** | (tons or gal) | 0 gal |
| School curricula implemented | (y/n) | NO |

### Legal/Regulatory

| | In place prior to Phase II | In Review by Existing Authority | Drafted | Draft in Review | Adopted |
|---|---|---|---|---|---|
| ▪ Illicit Discharge Detection & Elimination** | | | | | **X** |
| ▪ Erosion & Sediment Control** | | | | | **X** |
| ▪ Post Development Stormwater Management** | | | | | **X** |
| Accompanying Regulation Status (indicate with **X**) | | | | | |
| ▪ Illicit Discharge Detection & Elimination** | | | **X** | | |
| ▪ Erosion & Sediment Control** | | | **X** | | |
| ▪ Post Development Stormwater Management** | | | **X** | | |

## Construction

| | | |
|---|---|---|
| Number of construction starts (>1-acre)** | (#) | 1 |
| Estimated percentages of construction starts adequately regulated for erosion and sediment control** | (%) | 100 |
| Site inspections completed** | (# or %) | 100 |
| Tickets/Stop work orders issued** | (# or %) | 0 |
| Fines collected** | (# and $) | 0 |
| Complaints/concerns received from public** | (#) | 0 |
| | | |

## Post-Development Stormwater Management

| | | |
|---|---|---|
| Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control | (%) | 100 |
| Site inspections (for proper BMP installation & operation) completed** | (# or %) | 100 |
| BMP maintenance required through covenants, escrow, deed restrictions, etc. | (y/n) | N |
| Low-impact development (LID) practices permitted and encouraged | (y/n) | N |

## Operations and Maintenance

| | | |
|---|---|---|
| Average frequency of catch basin cleaning (non-commercial /nom-arterial streets) ** | (times/yr) | 1/3 PER YR |
| Average frequency of catch basin cleaning (commercial/arterial or other critical streets)** | (times/yr) | 1/3 PER YR |
| Qty of storm drains structures | (#) | 3900 |
| Qty. of storm drains cleaned** | (%,LF or mi.) | 1300 |
| Qty. of screenings/debris removed from storm sewer infrastructure** | (lbs. or tons) | 275T(est) |
| Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.)** | (location) | COMPOST |

| | | |
|---|---|---|
| Basin Cleaning Costs | | |
| • Annual budget/expenditure(labor & equipment)** | ($) | 50,000 |
| • Hourly or per basin contract rate** | ($/hr or $ per basin) | 40 per basin |
| • Disposal cost** | ($) | 26 per basin |
| Cleaning Equipment | | |
| • Clam shell truck(s) owned | (#) | 1 |
| • Vacuum truck(s) owned/leased | (#) | 0 |
| • Vacuum trucks specified contracts | (y/n) | 1 |
| • % Structures cleaned with clam shells ** | (%) | 100 |
| • % Structures cleaned with vactor** | (%) | 0 |

(Preferred Units) Response

| | | |
|---|---|---|
| Average Frequency of street sweeping (non-commercial/non-arterial streets)** | (times/yr) | 2X |
| Average frequency of sweeping (commercial/arterial or other critical streets)** | (times/yr) | 10X |
| Qty. of sand/debris collected by sweeping** | (lbs. or tons) | 500T |
| Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)** | (location) | COMPOST |
| **Annual Sweeping Costs** | | |
| • Annual budget/expenditure(labor & equipment)** | ($) | 80,000 |
| • Hourly or lane mile contract rate** | ($/hr or $ ln mi.+) | $36 PER HOUR |
| • Disposal cost** | ($) | NA |
| Sweeping Equipment | | |
| • Rotary brush street sweepers owned | (#) | 1 |
| • Vacuum street sweepers owned/leased | (#) | 0 |
| • Vacuum street sweepers specified in contracts | (y/n) | 0 |
| • % Roads swept with rotary brush sweepers** | % | 100 |
| • % Roads swept with vacuum sweepers** | % | 0 |

| | | |
|---|---|---|
| Reduction (since beginning of permit coverage) in application on public land of: ("N/A" =never used;"100%" = elimination) | | |
| ▪ Fertilizers | (lbs. or %) | NA |
| ▪ Herbicides | (lbs. or %) | NA |
| ▪ Pesticides | (lbs. or %) | NA |
| Integrated Pest Management (IPM)Practices Implemented | (y/n) | Y |

| | | |
|---|---|---|
| Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas) | %NaCl | 95 |
| | % CaCl2 | 5 |
| | % MgCl2 | |
| | % CMA | |
| | % Kac | |
| | % KCl | |
| | % Sand | Trace |
| Pre-wetting techniques utilized** | (y/n or %) | Y |
| Manual control spreaders used** | (y/n or %) | Y |
| Zero-velocity spreaders used** | (y/n or %) | N |
| Estimated net reduction or increase in typical year salt/chemical application rate | (± lbs/ln mi. or %) | NA |
| Estimated net reduction or increase in typical year sand application rate** | (± lbs/ln mi. or %) | 0 |
| % of salt/chemical pile(s) covered in storage shed(s) | (%) | 100 |
| Storage shed(s) in design or under construction | (y/n or #) | NA |
| 100% of salt/chemical pile(s) covered in storage shed(s) by May 2008 | (y/n) | Y |

| | | |
|---|---|---|
| Storm water outfalls to public water supplies eliminated or relocated | # or y/n | NA |
| Installed or planned treatment BMPs for public drinking water supplies and their protection areas | # or y/n | NA |
| •Treatment units induce infiltration within 500-feet of a wellhead protection area | # or y/n | NA |