

# Town of Glastonbury

2155 MAIN STREET · P.O. BOX 6523 · GLASTONBURY, CONNECTICUT 06033-6523

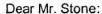
February 7, 2008

Mr. Christopher Stone, P.E. Stormwater Permit Coordinator Bureau of Water Management Department of Environmental Protection 79 Elm Street Hartford, Connecticut 06106-5127

Re.

MS4 General Permit - 2007 Annual Report

Application #200401149



Enclosed please find our 2007 annual report that describes work over the past year toward compliance with the Town's MS4 General Permit. Also included is a check in the amount of \$187.50 for plan review fees for the 2007 reporting year, as well as storm water sampling results for six locations sampled during 2007.

Based on the enclosed report, a summary of work to be completed in 2008 is as follows:

- Complete remaining outfall inspections.
- · Conduct annual training, annual street sweeping, and catch basin cleaning.
- Gather additional details regarding current 7<sup>th</sup> grade curriculum on stormwater pollution prevention and investigate opportunities for partnering with the Board of Education.
- Develop recommendations for a revised illicit discharge ordinance based on the model ordinance and pursue an ordinance revision.
- Complete update of 200-scale storm drain maps to reflect recent subdivision activity and results
  of field check of maps, and gather remaining outfall characterization data using GIS analysis.
- Continue work on Town regulations and policy documents to formally implement post construction water quality best management practices.
- Prepare checklists for review of E&S plans and E&S inspections.
- · Conduct yearly stormwater sampling.

If you have any questions or require any additional information, please contact me at (860) 652-7736.

Sincerely,

Daniel A. Pennington, P.E. Town Engineer/Manager

of Physical Services

DAP/ce

cc: Stephen M. Braun, Assistant Town Engineer

# #1 - Public Education and Outreach

BMP ID	BMP Description	Scheduled / Revised Date	Status / Progress
1-1	Use print media to educate public	Spring 2006 (recurring) Final event Fall 2007	Complete - Worked with local newspapers for coverage of final volunteer event for installing catch basin markers held in September of 2007. Several articles covering the stormwater event were again published to raise awareness for stormwater quality.
1-2	Research and provide educational links from Town web site	Fall 2006 Fall 2007	Complete - Storm Water Pollution prevention information and annual reports added to Town web site.
1-3	Lawn maintenance brochure	Spring 2007	Ongoing - Distributing general information brochure regarding preventing stormwater pollution with lawn irrigation system permits
1-4	Partner w/ Board of Ed. to educate children	Spring 2007 Spring 2008	Ongoing - Per recent discussions with the Board of Education, the Town's current science curriculum includes a unit for 7 <sup>th</sup> graders on stormwater pollution prevention, specifically with regards to the effect of human activities in Connecticut on the quality of water in Long Island Sound. More specifics are being gathered with regard to this curriculum and opportunities for partnering with the Board of Ed. will be explored this year.

# #2 - Public Involvement

BMP ID	Description	Scheduled / Revised Date	Status / Progress
2-1	Develop public involvement program	Spring 2005 (recurring)	See Item 2-3
2-2	Comply with state and local public notice and FOI	Ongoing	A copy of this annual report will be posted again this year on the Town web site for public information.
2-3	Public Hearing	Spring 2006 (once)	Complete during last reporting period.
2-4	Adjust plan from public comments	Summer 2006 (once)	Complete during last reporting period.
2-5	Clean stream belts by volunteers	Fall 2006 Fall 2007 Fall 2008	Ongoing – Several groups of volunteers participated in river bank clean up activities that were held at Point Road, the Riverfront Community Center, and Earle Park on September 28, 2006 as part of the "Source to Sea Clean Up" coordinated by the CT River watershed Council. This event was held again on September 29, 2007 in Glastonbury, and included 38 volunteers who worked again at the Point Road and Riverfront Community Center sites.
2-6	Install storm drain markers	Spring & Fall 2006 Fall 2007	Complete - Held successful final event on September 29 <sup>th</sup> , 2007 that included work by 28 volunteers who installed approximately 1,000 storm drain markers for a total of 5,800 markers installed.

#3 - Illicit Discharge Detection and Elimination

BMP ID	Description	Scheduled / Revised	Status / Progress
		Date	
3-1	Map outfalls 15" and greater in urbanized area, inspect priority discharges.	2005-2008 (continuing effort)	Ongoing - Approximately 240 outfalls were inspected during the past year for signs of illicit discharge and to verify pipe size, material, and flow characteristics. Further inspection of outfalls is anticipated this year such that all of approximately 500 outfalls will be inspected within permit period. Use of GIS to develop remainder of outfall characterization data will be completed in the current year.
3-2	Map outfalls 15" and greater town wide.	2006	Ongoing - 200 scale storm drain maps will be updated this year to reflect recent subdivision activity and results of map field checks performed by inspection staff during outfall investigations.
3-3	Map outfalls 12" and greater in urbanized area.	2007	See Item 3-2
3-4	Develop program to detect and eliminate illicit discharges	Fall 2004 to Winter 2008	Completed during previous reporting period.
3-5	Develop illicit discharge ordinance	Summer 2005 to Winter 2007 2008	No activity yet. The model ordinance will be reviewed this year and recommendations made regarding adoption of a revised ordinance.

#4 - Construction Runoff

BMP ID	Description	Scheduled / Revised Date	Status / Progress
4-1	Review land use regulations for consistency with MS4 permit and E&S guide, issue report to identify deficiencies.	<del>2004 / 2005</del> 2006	Completed during previous reporting period
4-2	Enact regulation revisions and ordinances	2006 2007	Complete. Regulation and Ordinance revisions are not required for this item.
4-3	Prepare library of Town preferred BMP's for distribution to contractors	2007	Complete. Library of BMP's provided in the 2002 CT Guidelines for Erosion and Sediment Control has been adopted for use and will be referenced in upcoming revisions to the applicable Town regulations.
4-4	Prepare design review checklist.	2008	No activity yet. This will be developed during the current calendar year.

#5 - Post Construction Water Quality

BMP ID	Description	Scheduled / Revised Date	Status / Progress
5-1	Review land use regulations for consistency with MS4 permit and current water quality standards, issue report to identify deficiencies.	2004-2005 2006	Complete - A memorandum identifying deficiencies in current policies was completed during the previous reporting period. Town staff is currently requiring installation of appropriate post construction water quality BMP's on a site by site basis until formal revisions to Town policy documents are completed as noted below.
5-2	Enact regulation revisions and ordinances	2005-2008	Ongoing – Updated Standards for Public Improvement Projects will be issued by the Engineering Division this year that will require selected BMP's from the DEP Water Quality Manual for public improvement projects.  Draft revisions to the Town wetland regulations have been prepared to address BMP's for protection of water quality. Some of these include an increase in the wetland regulated area from 100 ft to 200ft for the most sensitive water sheds and a 10% maximum for impervious cover on a property.  The Town Plan of Conservation and Development issued in September, 2007 includes the promotion of BMP's to benefit surface and ground water quality. Revisions to the Building Zone Regulations and Subdivision and Resubdivision Regulations to formalize implementation of these BMP's are under review.
5-3	Study and issue a report detailing feasibility of incorporating BMPs into public and private projects.	2005-2008	See Section 5-2.
5-4	Provide recommendations for ensuring long term maintenance of BMPs.	2005-2008	Provisions for long term maintenance of BMP's will be included in revisions to regulations and policy manuals listed above.

#6 - Good Housekeeping

BMP ID	Description	Scheduled / Revised Date	Status / Progress
6-1	Develop training program for municipal employees, train annually.	2004 (recurring)	Recurring - New training program has been distributed recently for incorporation into the current year's annual training.
6-2	Sweep streets at least once per year as soon as possible after snowmelt.	Spring 2004 (recurring)	Recurring - All streets and parking lots of Town facilities were swept in the Spring of 2007.
6-3	Evaluate urbanized area for possible sweeping more than once per year	2008	Complete - The Town will approach the need for additional sweeping in the urbanized area on a site by site basis. Currently additional sweeping is performed as required for clean up of residue from motor vehicle accidents, preparation of parade routes, and at other times based on requests by citizens and Town staff. This approach, in addition to the yearly spring sweeping, appears to be sufficient to keep streets in a suitable condition.
6-4	Clean storm structures as required by program described under Item 6-5.	Spring 2004 (recurring)	Recurring - 2,541 catch basins were cleaned in 2007 by combination of Town staff private contractor. This represents cleaning of approximately 1/2 of all Town catch basins on a yearly basis.
6-5	Develop a program to evaluate and categorize catch basins and other structures for maintenance, including a field evaluation form and database for storm structures.	2006 - 2008	Complete – A formal program to categorize catch basins and track sump condition will not be implemented based on the current use of "Clear Lane" treated road salt which has nearly eliminated sand use. Outfall conditions have been documented on a field form and entered into a database as part of IDDE outfall inspections, and those requiring maintenance have been forwarded to the Highway Department.

#7 - Monitorina

BMP ID	Description	Scheduled / Revised Date	Status / Progress
7-1	Sample 6 priority outfalls once per year	Fall 2004 (recurring)	Sampling at 6 locations was completed on 5/16/2007 (data attached).

# ATTACHMENT 1 2007 STORMWATER SAMPLING RESULTS



# Stormwater Monitoring Report Form

#### PERMITTEE INFORMATION

Town:Town of Glastonbury						
Mailing Address: 2155 Main Street, Glastonbury, CT 06033						
Contact Person: Robert Shirshac Title: Senior Engineering Technician Phone: 860-652-7742						
Permit Registration # GSM000057						

#### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): #1 (42" ACCMP Outlet)	North of Crossroads Lane-East of Main Street			
Please circle the appropriate area description: Industria	al, Commercial, or Residential			
Receiving Water (name, basin): Salmon Brook				
Time of Start of Discharge: Approximately 5pm				
Date/Time Collected: 5/16/07 6:45pm-6:52pm	Water Temperature: 21.2 degC			
Person Collecting Sample: Mark Morgano - TurnKey Compliance Solutions, LLC				
Storm Magnitude (inches): 0.99 inch	Storm Duration (hours): > 8 hours			
Date of Previous Storm Event: 5/11/07				

# MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	pH Probe	5.78 s.u.	Field Measurement
Rain pH	pH Probe	6.01 s.u.	Field Measurement
Hardness	S 2340 B	15.2 mg/l	Phoenix Environmental Laboratories
Conductivity	SM 2510 B	66 umhos/cm	Phoenix Environmental Laboratories
Oil & Grease	EPA 1664	1.6 mg/l	Phoenix Environmental Laboratories
COD	SM 5220 D	33 mg/l	Phoenix Environmental Laboratories
Turbidity	E 180.1	28.3 NTU	Phoenix Environmental Laboratories
TSS	SM 2540 D	41 mg/l	Phoenix Environmental Laboratories
TP	E 365.2	0.32 mg/l	Phoenix Environmental Laboratories
Ammonia	S 4500 NH3	0.41 mg/l	Phoenix Environmental Laboratories
TKN	E 351.1	1.3 mg/l	Phoenix Environmental Laboratories
NO <sub>3</sub> +NO <sub>2</sub>	E 353.2	0.41 mg/l	Phoenix Environmental Laboratories
E. coli	SM 9222 G	>200 /100 mls	Phoenix Environmental Laboratories

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.
Authorized Official: Dapiel Pennington, Town Engineer/Manager of Physical Services
Signature: ( Cancil A tanning Date: 2/1/08



# Stormwater Monitoring Report Form

#### PERMITTEE INFORMATION

Town:Town of Glastonbury		
Mailing Address: 2155 Main Street, Glastonbury, CT 06033		
Contact Person: Robert Shirshac Title: Senior Engineering Technician	Phone: 860-652-7742	
Permit Registration #GSM000057		

#### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): #2 (48" RCP Outlet)	North Side of Salmon Brook-West of Main Street
Please circle the appropriate area description: Industria	I, Commercial, or Residential
Receiving Water (name, basin): Salmon Brook	X.1.2.2.2.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4
Time of Start of Discharge: Approximately 5pm	
Date/Time Collected: 5/16/07 6:40pm-6:44pm	Water Temperature: 20.6 degC
Person Collecting Sample: Mark Morgano - Turnk	Key Compliance Solutions, LLC
Storm Magnitude (inches): 0.99 inch	Storm Duration (hours): > 8 hours
Date of Previous Storm Event: 5/11/07	

# MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory	
Sample pH	pH Probe	6.46 s.u.	Field Measurement	
Rain pH	pH Probe	6.01 s.u.	Field Measurement	
Hardness	S 2340 B	17.4 mg/l	Phoenix Environmental Laboratories	
Conductivity	SM 2510 B	110 umhos/cm	Phoenix Environmental Laboratories	
Oil & Grease	EPA 1664	1.7 mg/l	Phoenix Environmental Laboratories	
COD	SM 5220 D	50 mg/l	Phoenix Environmental Laboratories	
Turbidity	E 180.1	19.5 NTU	Phoenix Environmental Laboratories	
TSS	SM 2540 D	43 mg/l	43 mg/l Phoenix Environmental Laboratories	
TP	E 365.2	0.34 mg/l	Phoenix Environmental Laboratories	
Ammonia	S 4500 NH3	0.65 mg/l	Phoenix Environmental Laboratories	
TKN	E 351.1	1.6 mg/l	Phoenix Environmental Laboratories	
NO <sub>3</sub> +NO <sub>2</sub>	E 353.2	0.62 mg/l	Phoenix Environmental Laboratories	
E. coli	SM 9222 G	>200 /100 mls	Phoenix Environmental Laboratories	

	ata reported on this document were prepared under my direction or supervision in the MS4 General Permit. The information submitted is, to the best of my knowledge urate and complete.
Authorized Official:	Daniel Pennington, Town Engineer/Manager of Physical Services
Signature:	Canif A. terning - Date: 2-1-08



# Stormwater Monitoring Report Form

#### PERMITTEE INFORMATION

Town: Town of Glastonbury		2004
Mailing Address: 2155 Main Street, Glastonbury, CT 06033	.,	
Contact Person: Robert Shirshac Title: Senior Engineering Technician	Phone:	860-652-7742
Permit Registration #GSM000057		

#### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): #3 150' North of Sequin Drive (42" RCP Outlet)
Please circle the appropriate area description: Industrial, Commercial, or Residential
Receiving Water (name, basin): Salmon Brook
Time of Start of Discharge: Approximately 5pm
Date/Time Collected: 5/16/07 7:10pm-7:14pm Water Temperature: 21.2 degC
Person Collecting Sample: Mark Morgano - TurnKey Compliance Solutions, LLC
Storm Magnitude (inches): 0.99 inch Storm Duration (hours): > 8 hours
Date of Previous Storm Event: _5/11/07

## MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	pH Probe	5.85 s.u.	Field Measurement
Rain pH	pH Probe	6.01 s.u.	Field Measurement
Hardness	S 2340 B	14.3 mg/l	Phoenix Environmental Laboratories
Conductivity	SM 2510 B	120 umhos/cm	Phoenix Environmental Laboratories
Oil & Grease	EPA 1664	2.3 mg/l	Phoenix Environmental Laboratories
COD	SM 5220 D	19 mg/l	Phoenix Environmental Laboratories
Turbidity	E 180.1	12.7 NTU	Phoenix Environmental Laboratories
TSS	SM 2540 D	13 mg/l	Phoenix Environmental Laboratories
TP	E 365.2	0.62 mg/l	Phoenix Environmental Laboratories
Ammonia	S 4500 NH3	0.08 mg/l	Phoenix Environmental Laboratories
TKN	E 351.1	2.2 mg/l	Phoenix Environmental Laboratories
NO <sub>3</sub> +NO <sub>2</sub>	E 353.2	0.37 mg/l	Phoenix Environmental Laboratories
E. coli	SM 9222 G	>200 /100 mls	Phoenix Environmental Laboratories

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Authorized Official:	Daniel Rennington, Town Engineer/Manager of Physical Services
Signature: (	Canal A- tenning Date: 2-1-08



# Stormwater Monitoring Report Form

## PERMITTEE INFORMATION

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Contact Person: Robert Shirshac Title: Senior Engineering Technician	Phone: 860-652-7742
Permit Registration #GSM000057	

#### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): #4 400' South of National Drive 800' West of it's intersection with Eastern Boulevard (30" RCP Outlet)			
Please circle the appropriate area description: Industrial, Commercial, or Residential			
Receiving Water (name, basin): Salmon Brook			
Time of Start of Discharge: Approximately 5pm			
Date/Time Collected: 5/16/07 7:01pm-7:05pm Water Temperature: 18.8 degC			
Person Collecting Sample: Mark Morgano - TurnKey Compliance Solutions, LLC			
Storm Magnitude (inches): 0.99 inch Storm Duration (hours): >8 hours			
Date of Previous Storm Event: 5/11/07			

## MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	pH Probe	6.15 s.u.	Field Measurement
Rain pH	pH Probe	6.01 s.u.	Field Measurement
Hardness	S 2340 B	14.8 mg/l	Phoenix Environmental Laboratories
Conductivity	SM 2510 B	44 umhos/cm	Phoenix Environmental Laboratories
Oil & Grease	EPA 1664	<1.4 mg/l	Phoenix Environmental Laboratories
COD	SM 5220 D	10 mg/l	Phoenix Environmental Laboratories
Turbidity	E 180.1	5.87 NTU	Phoenix Environmental Laboratories
TSS	SM 2540 D	13 mg/l	Phoenix Environmental Laboratories
TP	E 365.2	0.08 mg/l	Phoenix Environmental Laboratories
Ammonia	S 4500 NH3	0.2 mg/l	Phoenix Environmental Laboratories
TKN	E 351.1	0.53 mg/l	Phoenix Environmental Laboratories
NO <sub>3</sub> +NO <sub>2</sub>	E 353.2	0.24 mg/l	Phoenix Environmental Laboratories
E. coli	SM 9222 G	>200 /100 mls	Phoenix Environmental Laboratories

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Authorized Official:	Daniel Pennington, Town Engineer/Manager of Physical Services
Signature:	Claniel A tenning Date: 2-1-08



# Stormwater Monitoring Report Form

#### PERMITTEE INFORMATION

Town:Town of Glastonbury	
Mailing Address: 2155 Main Street, Glastonbury, CT 06033	
Contact Person: Robert Shirshac Title: Senior Engineering Technician	Phone: 860-652-7742
Permit Registration #GSM000057	

#### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): #5 Road (24" RCP Outlet)	5 400' West of Main Street across from Talcott
Please circle the appropriate area description: Industri	al, Commercial, or Residential
Receiving Water (name, basin): Meadow Drain	
Time of Start of Discharge: Approximately 5pm	
Date/Time Collected: 5/16/07 6:23pm-6:33pm	Water Temperature: 21.4 degC
Person Collecting Sample: Mark Morgano - Turn	Key Compliance Solutions, LLC
Storm Magnitude (inches): 0.99 inch	Storm Duration (hours): > 8 hours
Date of Previous Storm Event: 5/11/07	

# MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	pH Probe	5.30 s.u.	Field Measurement
Rain pH	pH Probe	6.01 s.u.	Field Measurement
Hardness	S 2340 B	11.6 mg/l	Phoenix Environmental Laboratories
Conductivity	SM 2510 B	54 umhos/cm	Phoenix Environmental Laboratories
Oil & Grease	EPA 1664	<1.4 mg/l	Phoenix Environmental Laboratories
COD	SM 5220 D	82 mg/l	Phoenix Environmental Laboratories
Turbidity	E 180.1	22.1 NTU	Phoenix Environmental Laboratories
TSS	SM 2540 D	29 mg/l	Phoenix Environmental Laboratories
TP	E 365.2	0.31 mg/l	Phoenix Environmental Laboratories
Ammonia	S 4500 NH3	0.49 mg/l	Phoenix Environmental Laboratories
TKN	E 351.1	1.4 mg/l	Phoenix Environmental Laboratories
NO <sub>3</sub> +NO <sub>2</sub>	E 353.2	0.59 mg/l	Phoenix Environmental Laboratories
E. coli	SM 9222 G	>200 /100 mls	Phoenix Environmental Laboratories

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.		
Authorized Official:	Daniel Pennington, Town Engineer/Manager of Physical Services	
Signature:	Cancel A Conney Date: 2-1-08	



# Stormwater Monitoring Report Form

#### PERMITTEE INFORMATION

Town: Town of Glastonbury	and the second s
Mailing Address: 2155 Main Street, Glastonbury, CT 06033	
Contact Person: Robert Shirshac Title: Senior Engineering Technician	Phone: 860-652-7742
Permit Registration #GSM000057	

#### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): #6 with Cutter Lane (30" RCP Outlet)	300' South of Carriage Drive at it's intersection	
Please circle the appropriate area description: Industria	al, Commercial, or Residential	
Receiving Water (name, basin): Smith Brook		
Time of Start of Discharge: Approximately 5pm		
Date/Time Collected: 5/16/07 6:06pm-6:18pm Water Temperature: 19.3 de		
Person Collecting Sample: Mark Morgano - Turn	Key Compliance Solutions, LLC	
Storm Magnitude (inches): 0.99 inch Storm Duration (hours): > 8 hours		
Date of Previous Storm Event: 5/11/07		

## MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	pH Probe	6.49 s.u.	Field Measurement
Rain pH	pH Probe	6.01 s.u.	Field Measurement
Hardness	S 2340 B	43.9 mg/l	Phoenix Environmental Laboratories
Conductivity	SM 2510 B	140 umhos/cm	Phoenix Environmental Laboratories
Oil & Grease	EPA 1664	<1.4 mg/l	Phoenix Environmental Laboratories
COD	SM 5220 D	120 mg/l	Phoenix Environmental Laboratories
Turbidity	E 180.1	118 NTU	Phoenix Environmental Laboratories
TSS	SM 2540 D	180 mg/l	Phoenix Environmental Laboratories
TP	E 365.2	0.62 mg/l	Phoenix Environmental Laboratories
Ammonia	S 4500 NH3	0.6 mg/l	Phoenix Environmental Laboratories
TKN	E 351.1	1 mg/l	Phoenix Environmental Laboratories
NO <sub>3</sub> +NO <sub>2</sub>	E 353.2	0.78 mg/l	Phoenix Environmental Laboratories
E. coli	SM 9222 G	>200 /100 mls	Phoenix Environmental Laboratories

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