2009 STORMWATER ANNUAL REPORT

TOWN OF REDDING, CONNECTICUT
REGISTRATION NO. GSM000085

December 21, 2009

MMI #3052-04-2

Prepared for:

Town of Redding
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Prepared by:

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1.0 INTRODUCTION

This report has been prepared by Milone & MacBroom, Inc. (MMI) for the Town of Redding as the required Annual Report described in Section 6(i)(2) of the General Permit for the Discharge of Stormwater from Municipal Separate Storm Sewer Systems (the Permit). The town developed a Stormwater Management Plan in association with its registration under this permit. This report is intended to address stormwater-related activities performed within the town during the 2009 calendar year.

2.0 STORMWATER SAMPLING

Stormwater samples were collected at six locations in the town on October 7, 2009 and November 20, 2009. Results of these analyses are presented in Appendix A.

3.0 MINIMUM CONTROL MEASURES

For this 2009 Annual Report, the current status of each minimum control measure has been reviewed. The town conducts daily activities that include several existing Best Management Practices (BMPs) and the development of proposed and future BMPs for implementation. The minimum control measures and the current schedule for each are listed below. In addition, the current status of the specific BMP is also included.

The tables on the following pages represent the minimum control measures developed by the Town of Redding in previously developed documents entitled:

1. "Town of Redding, Connecticut 2008 Annual Report Stormwater Management Plan" (undated)
2. "Stormwater Management Plan Town of Redding CT" prepared February 5, 2007 and revised July 1, 2007
3. "2006 Stormwater Annual Report" (undated)

The current status of each minimum control measure is also provided. Please note that activities in previous reports were numbered differently (e.g., Development of stormwater-related webpage is BMP 1-1 in the town's 2006 Stormwater Annual Report and 1.2 in the Stormwater Management Plan). This document is intended to be a compilation and reconciliation of those previous reports.

Public Education and Outreach Plan
Town of Redding Stormwater Management Plan
2009 Annual Report

Best Management Practice	Measurable Goals	Responsible Party	Year Completed/Implemented	
			2009	2010
1.1 Educate residents about stormwater management	1.1-1 Develop and maintain stormwater informational webpage. Work completed and updated periodically. Site includes links to local watershed groups.	Zoning Office	√	√
	1.1-2 Mail stormwater information with tax bills.	Zoning Office/Assessor's Office	√	√
	1.1-3 Notify residents of available recycling programs via Redding Pilot and brochures.	Transfer Station Staff	√	√
	1.1-4 Develop and distribute illicit/illegal connection fact sheet by placing at Town Hall.	Highway Department	√	√
	1.1-5 Display stormwater fact sheets at Town Hall.	First Selectman	√	√
1.2 Educate municipal officials and land use commissions on proper stormwater management	1.2-1 Coordinate one NEMO or Southwest Conservation District presentation for town staff and land use commissions.	Zoning Office	√	√

= Complete as of December 1 of reporting year

Public Involvement and Participation
Town of Redding Stormwater Management Plan
2009 Annual Report

Best Management Practice	Measurable Goals	Responsible Party	Year Completed/Implemented	
			2009	2010
2.1 Develop public involvement and participation program	2.1-2 Continue involvement in Landscape Stewardship Advisory Committee.	First Selectman	√	√
	2.1-2 Continue participation in Saugatuck River Watershed Partnership.	First Selectman	√	√
	2.1-3 Participate in Household Hazardous Waste collection program sponsored by Housatonic Resources Recovery Authority.	Health Department	√	√
	2.1-4 Collect waste oil and oil filters at transfer station.	Transfer Station	√	√
	2.1-5 Participate in Norwalk River Watershed Make a Difference day and spring river cleanups.	First Selectman	√	√
2.2 Comply with FOI requirements	2.2-1 Land use commissions hold public hearings on land use applications for new development and redevelopment.	Land Use Office, ZEO	√	√
	2.2-2 Place draft copy of plan in Town Hall on or before December 7, 2009. Post notice in Redding Pilot inviting public review and comment.	Zoning Department	√	√

= Complete as of December 1 of reporting year

Illicit Discharge Detection and Elimination
Town of Redding Stormwater Management Plan
2009 Annual Report

Best Management Practice	Measurable Goals	Responsible Party	Year Completed/Implemented	
			2009	2010
3.1 Develop and implement ongoing illicit discharge detection program	3.1-1 Map outfalls greater than 15" in urbanized area.	Zoning Office	√	
	3.1-2 Map outfalls greater than 15" in entire town.	Zoning Office	√	
	3.1-3 Map outfalls greater than 12" in urbanized areas.	Zoning Office	√	
	3.1-4 Develop townwide GIS mapping with outfalls.	Assessor's Office		√
	3.1-5 Work with Aquarion to ensure continued execution of watershed inspections to identify illicit discharges.	Health Department	√	
	3.1-6 Perform annual inspections of restaurants with external grease traps.	Health Department	√	√
3.2 Prohibit nonstormwater discharges to storm sewers	3.2-1 Develop ordinance prohibiting illicit discharges.	Health Department		√
3.3 Manage waste collection to prevent/minimize illegal dumping	3.3-1 Continue to collect nickel cadmium batteries, car batteries, appliances, demolition debris, scrap tires, fluorescent bulbs, waste oil, and antifreeze at transfer station.	Transfer Station Manager	√	√
	3.3-2 Continue to collect recyclable glass, cans, newspapers, and cardboard at transfer station	Transfer Station Manager	√	√
	3.3-3 Implement/continue program to recycle/collect household electronics items.	Transfer Station Manager	√	√

= Complete as of December 1 of reporting year

Construction Site Stormwater Management
Town of Redding Stormwater Management Plan
2009 Annual Report

Best Management Practice	Measurable Goals	Responsible Party	Year Completed/Implemented	
			2009	2010
4.1 Review land use regulations	4.1-1 Review zoning regulations for erosion and sediment control for construction phase stormwater management elements. **Complete 2006.**	Zoning Office		
	4.1-2 Review subdivision regulations for construction phase stormwater management elements. **Complete 2006.**	Land Use Office		
	4.1-3 Review wetland regulations for construction phase stormwater management elements. **Complete 2006.**	Land Use Office		
4.2 Review development project for proper erosion and sediment control management	4.2-1 Review all land use and site plan applications for consistency with 2002 Connecticut Guidelines for Erosion and Sedimentation Control BMPs.	Land Use Office, ZEO	√	
	4.2-2 Periodically observe construction sites to evaluate effectiveness of erosion and sediment controls.	Zoning Office	√	√
	4.2-3 Refer all applications in the Saugatuck River watershed to Aquarion for review.	Land Use Office, ZEO	√	√
4.3 Develop program to notify contractors of DEP stormwater permits	4.3-1 Revise land use application forms to advise contractors of need to obtain state stormwater permits.	Land Use Office, ZEO	√	

= Complete as of December 1 of reporting year

Postconstruction Runoff Control
Town of Redding Stormwater Management Plan
2009 Annual Report

Best Management Practice	Measurable Goals	Responsible Party	Year Completed/Implemented	
			2009	2010
5.1 Review land use regulations	5.1-1 Assess BMPs and evaluate applicability for Redding based on geology and topography of the town.	Land Use Office, ZEO		√
	5.1-2 Review zoning regulations for postconstruction stormwater management practices including low impact development.	Land Use Office, ZEO		√
	5.1-3 Review subdivision regulations for postconstruction stormwater management practices including low impact development.	Land Use Office, ZEO		√
	5.1-4 Develop town standards for stormwater management that incorporate water quality BMPs.	Land Use Office, ZEO		√
	5.1-5 Revise zoning and subdivision regulations to reference design standards developed in goal 5.1-4	Land Use Office, ZEO		√
5.2 Develop plan for long-term maintenance of BMPs	5.2-1 Develop guidelines for maintenance of stormwater structures and systems that are not owned by the town.	Highway Department	√	√
	5.2-2 Develop list of town-owned detention and retention basins in town.	Highway Department	√	√
	5.2-3 Develop inspection program for town-owned detention/retention structures (i.e., inspect 25% each year).	Highway Department	√	√

= Complete as of December 1 of reporting year

Good Housekeeping/Pollution Prevention for Municipal Operations
Town of Redding Stormwater Management Plan
2009 Annual Report

Best Management Practice	Measurable Goals	Responsible Party	Year Completed/Implemented	
			2009	2010
6.1 Develop training/education program for municipal employees	6.1-1 Review and update stormwater pollution prevention plan for public works garage.	Highway Department	√	√
	6.1-2 Develop stormwater management plan for transfer station.	Transfer Station Manager	√	√
	6.1-3 Review and update stormwater pollution prevention plan for wastewater treatment plant.	WPCA	√	√
	6.1-4 Perform annual training of Public Works and Highway Department employees and document.	Highway Department	√	√
	6.1-5 Identify public resources such as from the DEP that would provide public education on stormwater management for municipal employees.	First Selectman	√	
6.2 Optimize maintenance of town-owned drainage facilities	6.2-1 Review street sweeping program and identify streets to be swept more than once per year.	Highway Department	√	
	6.2-2 Document catch basin inspection and cleaning performed on an annual basis.	Highway Department	√	√
	6.2-3 Train employees in proper handling of catch basin sediments and wastes.	Highway Department	√	√

= Complete as of December 1 of reporting year

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APPENDIX A

Results of Stormwater Sampling

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Town of Redding

Mailing Address: PO Box 1028

Contact Person R Flanagan Title: Phone:

Permit Registration #GSM

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): Cricklewood

Please circle the appropriate area description: Industrial, Commercial, or Residential

Receiving Water (name, basin):

Time of Start of Discharge:

Date/Time Collected: 11/20/2009 5:00 am Water Temperature: 18

Person Collecting Sample: Thomas Braun

Storm Magnitude (inches): 0.54 Storm Duration (hours): 6

Date of Previous Storm Event: 11/15/2009

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500 HB	7.2	Aqua Environmental Lab
Rain pH	4500 HB	4.5	Aqua Environmental Lab
Hardness	200.7	16 mg/L	Aqua Environmental Lab
Conductivity	120.1	50.3 uS/cm	Aqua Environmental Lab
Oil & Grease	413.2	<1.4 mg/L	Aqua Environmental Lab
COD	410.4	10.5 mg/L	Aqua Environmental Lab
Turbidity	180.1	15.1 ntu	Aqua Environmental Lab
TSS	160.2	13.6 mg/L	Aqua Environmental Lab
TP	365.2t	0.02 mg/L	Aqua Environmental Lab
Ammonia	350.2	<0.2 mg/L	Aqua Environmental Lab
TKN	351.3	0.39 mg/L	Aqua Environmental Lab
NO_3+NO_2	300.0	<0.5 mg/L	Aqua Environmental Lab
E. coli	SM9222D	129 cfu	Aqua Environmental Lab

STATEMENT OF ACKNOWLEDGMENT

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: Natalie Ketcham First Selectman - Redding

Signature: Natalie Ketcham Date: 12/21/09

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Town of Redding

Mailing Address: PO Box 1028

Contact Person R Flanagan Title: Phone:

Permit Registration #GSM

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): Post Office

Please circle the appropriate area description: Industrial, Commercial, or Residential

Receiving Water (name, basin):

Time of Start of Discharge:

Date/Time Collected: 11/20/2009 5:20 am Water Temperature: 18

Person Collecting Sample: Thomas Braun

Storm Magnitude (inches): 0.54 Storm Duration (hours): 6

Date of Previous Storm Event: 11/15/2009

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500 HB	7.0	Aqua Environmental Lab
Rain pH	4500 HB	4.5	Aqua Environmental Lab
Hardness	200.7	5 mg/L	Aqua Environmental Lab
Conductivity	120.1	18.2 uS/cm	Aqua Environmental Lab
Oil & Grease	413.2	1.4 mg/L	Aqua Environmental Lab
COD	410.4	<5 mg/L	Aqua Environmental Lab
Turbidity	180.1	11.3 ntu	Aqua Environmental Lab
TSS	160.2	30 mg/L	Aqua Environmental Lab
TP	365.2t	<0.01 mg/L	Aqua Environmental Lab
Ammonia	350.2	<0.2 mg/L	Aqua Environmental Lab
TKN	351.3	0.21 mg/L	Aqua Environmental Lab
NO_3+NO_2	300.0	<0.5 mg/L	Aqua Environmental Lab
E. coli	SM9222D	83 cfu	Aqua Environmental Lab

STATEMENT OF ACKNOWLEDGMENT

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: Natalie Ketcham - First Selectman - Redding

Signature: Natalie Ketcham Date: 12/21/09

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Town of Redding

Mailing Address: PO Box 1028

Contact Person R Flanagan Title: Phone:

Permit Registration #GSM

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): John Todd

Please circle the appropriate area description: Industrial, Commercial, or Residential

Receiving Water (name, basin):

Time of Start of Discharge:

Date/Time Collected: 11/20/2009 5:15 am Water Temperature: 18

Person Collecting Sample: Thomas Braun

Storm Magnitude (inches): 0.54 Storm Duration (hours): 6

Date of Previous Storm Event: 11/15/2009

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500 HB	7.0	Aqua Environmental Lab
Rain pH	4500 HB	4.5	Aqua Environmental Lab
Hardness	200.7	4 mg/L	Aqua Environmental Lab
Conductivity	120.1	18.4 uS/cm	Aqua Environmental Lab
Oil & Grease	413.2	<1.4 mg/L	Aqua Environmental Lab
COD	410.4	45 mg/L	Aqua Environmental Lab
Turbidity	180.1	32.4 ntu	Aqua Environmental Lab
TSS	160.2	52.5 mg/L	Aqua Environmental Lab
TP	365.2t	0.15 mg/L	Aqua Environmental Lab
Ammonia	350.2	<0.2 mg/L	Aqua Environmental Lab
TKN	351.3	1.28 mg/L	Aqua Environmental Lab
NO_3+NO_2	300.0	<0.5 mg/L	Aqua Environmental Lab
E. coli	SM9222D	14 cfu	Aqua Environmental Lab

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Authorized Official: Natalie Ketcham - First Selectman - Redding

Signature: Natalie Ketcham Date: 12/21/09

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Town of Redding

Mailing Address: PO Box 1028

Contact Person R Flanagan Title: Phone:

Permit Registration #GSM

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): Georgetown

Please circle the appropriate area description: Industrial, Commercial, or Residential

Receiving Water (name, basin):

Time of Start of Discharge:

Date/Time Collected: 10/7/2009 8:30 am Water Temperature: 18

Person Collecting Sample: Thomas Braun

Storm Magnitude (inches): 0.31 Storm Duration (hours): 7

Date of Previous Storm Event: 10/3/2009

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500 HB	6.9	Aqua Environmental Lab
Rain pH	4500 HB	4.5	Aqua Environmental Lab
Hardness	200.7	5 mg/L	Aqua Environmental Lab
Conductivity	120.1	34.0 uS/cm	Aqua Environmental Lab
Oil & Grease	413.2	34 mg/L	Aqua Environmental Lab
COD	410.4	27 mg/L	Aqua Environmental Lab
Turbidity	180.1	22.1 ntu	Aqua Environmental Lab
TSS	160.2	11.6 mg/L	Aqua Environmental Lab
TP	365.2t	0.16 mg/L	Aqua Environmental Lab
Ammonia	350.2	<0.2 mg/L	Aqua Environmental Lab
TKN	351.3	0.85 mg/L	Aqua Environmental Lab
NO_3+NO_2	300.0	<0.5 mg/L	Aqua Environmental Lab
E. coli	SM9222D	>2419 cfu	Aqua Environmental Lab

STATEMENT OF ACKNOWLEDGMENT

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: Natalie Ketcham - First Selectman - Redding

Signature: Natalie Ketcham Date: 12/21/09

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Town of Redding

Mailing Address: PO Box 1028

Contact Person R Flanagan Title: Phone:

Permit Registration #GSM

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): Beeholm

Please circle the appropriate area description: Industrial, Commercial, or Residential

Receiving Water (name, basin):

Time of Start of Discharge:

Date/Time Collected: 10/7/2009 8:10 am Water Temperature: 18

Person Collecting Sample: Thomas Braun

Storm Magnitude (inches): 0.31 Storm Duration (hours): 7

Date of Previous Storm Event: 10/3/2009

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500 HB	6.9	Aqua Environmental Lab
Rain pH	4500 HB	4.5	Aqua Environmental Lab
Hardness	200.7	29 mg/L	Aqua Environmental Lab
Conductivity	120.1	141.8 uS/cm	Aqua Environmental Lab
Oil & Grease	413.2	4 mg/L	Aqua Environmental Lab
COD	410.4	114 mg/L	Aqua Environmental Lab
Turbidity	180.1	7.7 ntu	Aqua Environmental Lab
TSS	160.2	12.0 mg/L	Aqua Environmental Lab
TP	365.2t	0.04 mg/L	Aqua Environmental Lab
Ammonia	350.2	<0.2 mg/L	Aqua Environmental Lab
TKN	351.3	0.67 mg/L	Aqua Environmental Lab
NO_3+NO_2	300.0	<0.5 mg/L	Aqua Environmental Lab
E. coli	SM9222D	488 cfu	Aqua Environmental Lab

STATEMENT OF ACKNOWLEDGMENT

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Authorized Official: Natalie Ketcham - First Selectman - Redding

Signature: Natalie Ketcham Date: 12/21/09

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

PERMITTEE INFORMATION

Town: Town of Redding

Mailing Address: PO Box 1028

Contact Person R Flanagan Title: _____ Phone: _____

Permit Registration #GSM

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): Deer Hill

Please circle the appropriate area description: Industrial, Commercial, or Residential

Receiving Water (name, basin): _____

Time of Start of Discharge: _____

Date/Time Collected: 10/7/2009 8:30 am Water Temperature: 18

Person Collecting Sample: Thomas Braun

Storm Magnitude (inches): 0.31 Storm Duration (hours): 7

Date of Previous Storm Event: 10/3/2009

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	4500 HB	6.9	Aqua Environmental Lab
Rain pH	4500 HB	4.5	Aqua Environmental Lab
Hardness	200.7	2 mg/L	Aqua Environmental Lab
Conductivity	120.1	50.0 uS/cm	Aqua Environmental Lab
Oil & Grease	413.2	15 mg/L	Aqua Environmental Lab
COD	410.4	21 mg/L	Aqua Environmental Lab
Turbidity	180.1	13.7 ntu	Aqua Environmental Lab
TSS	160.2	4.0 mg/L	Aqua Environmental Lab
TP	365.2t	0.16 mg/L	Aqua Environmental Lab
Ammonia	350.2	<0.2 mg/L	Aqua Environmental Lab
TKN	351.3	0.47 mg/L	Aqua Environmental Lab
NO_3+NO_2	300.0	<0.5 mg/L	Aqua Environmental Lab
E. coli	SM9222D	579 cfu	Aqua Environmental Lab

STATEMENT OF ACKNOWLEDGMENT

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: Natalie Ketcham - First Selectman - Redding

Signature: Natalie Ketcham Date: Dec 21, 2009