Municipality/Organization: Hanscom Air Force Base

EPA NPDES Permit Number: MAR042029

MaDEP Transmittal Number: W-041288

AUG 30 2005

Annual Report Number & Reporting Period: **No. 2: 1 May 04 – 30 April 05**

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: DONALD C. MORRIS, PE Title: Environmental Director

Telephone #: 781-377-2475 Email: Donald.morris@hanscom.af.mil

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: Donald C. Morris
FOR

Printed Name: CHRIS PERKINS, PE

Title: Base Civil Engineer, Government Organization

Date: 25 August 2005

Part II. Self-Assessment

Hanscom Air Force Base (AFB) has completed the required self-assessment and has determined that our base is in compliance with all permit conditions, except for the following provisions:

Part I.B.2 (l) A TMDL has been established but not approved by the EPA. The TMDL Report MA83-08-2003-01, dated 9 June 2003, DWM Control Number CN: 168.00 is for Segment MA83-08 of the Shawsheen River. The Storm Water Pollutant TMDL identifies storm water pollutants (sediment as reflected in suspended solids, metals, excessive storm water flow rates and insufficient stream flow rates) as impairing aquatic life uses and impacting river habitat. The discharges for flow rates are not consistent with the TMDL. Implementing BMPs addressing storm water detention and groundwater recharge over several years is required however measurable progress is being achieved.

Part IV.B.9 Hanscom AFB has not determined the applicability of the Stressed Basins in Massachusetts report. We plan to document its applicability and take appropriate action if Hanscom is in a high or medium area.

Part IV.F Hanscom AFB did not submit the annual report on or before 1 May 2005. The report was submitted on 25 August 2005.

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
3.1a Revised	Partnering w/Massport, Towns	66 MSG/CEV	1 partnering event per year	Meeting with Massport and DEP was held on 19 Jan 05. Storm water presentation provided to Lexington Rotary Club on 25 April 05.	Complete similar effort.
3.1b Revised	Partnering w/Base Organizations	66 MSG/CEV	1 partnering event per year	Multiple undocumented meetings with all levels of Roads & Grounds Department. Two weekly staff meetings include storm water issues.	Complete similar effort and document more formal meeting with managers, foremen
3.1c Revised	Educational Materials, Base	66 MSG/CEV	Pamphlets, flyers, electronic messages	Wetland resource pamphlet was created and distributed to select organizations on base.	Expand materials to include electronic messages.
3.1d Revised	Educational Displays, Notices	66 MSG/CEV	1 display event per year	Storm water, watershed educational info was displayed at the base Earth Day activities on 22 Apr 05.	Complete similar effort.
3.1e Revised	Pollution Prevention Events	66 MSG/CEV	1 P2 event per week	Hazardous Household Waste and Materials Drop-off Day are held each week, on Tuesday at 8-9 AM. Housing contractor has sponsored separate collection events on Sundays.	Complete similar effort
Revised					

1a. Additions

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
3.2a Revised	Public Stakeholder Meeting	MSG/CEV	1 stakeholder meeting per year	Hanscom AFB, DEP, EPA, Merrimack River Watershed Council, Shawsheen River Watershed Association and local citizens participated in a Flood Remediation Workshop on 30 Sep 04	Complete similar effort.
3.2b Revised	Annual MS4 Public Notice	MSG/CEV	1 notice per year and document responses	A specific MS4 advertisement was not performed; however notices were placed in the local newspapers informing the public about storm water improvements at Hanscom AFB.	Complete similar effort.
3.2c Revised	Oil, Vehicle Fluid Disposal Info	MSG/CEV	Document distributed info & waste turn-ins	Info posted on base environmental web site, in housing info packets and at auto hobby shop.	Complete similar effort.
Revised					
Revised					
Revised					

2a. Additions

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
3.3a Revised	Update Storm Water & Sewer Maps on CAD	66 MSG/CE	Update as changes occur.	Weekly meetings with implementing contractor document updating as changes occur.	Complete similar effort.
3.3b Revised	Inspect Sewer By-pass Valve, Train Personnel	66 MSG/CE	Sewer valves operate, zero sewer discharge.	Training of implementing contractor is performed continuously, however personnel turnover is excessive and this BMP requires improvement.	Provide additional effort to assure full compliance.
3.3c Revised	Inspect, Clean Oil/Water Separators	66MSG/CE	Document conditions, verify connections	All base oil/water separators were inspected and sampled on 17 Aug 04 and all but two were cleaned 25-28 Oct 04 and documented in a report.	Complete similar effort.
3.3d Revised	Inspect for Non-Storm Water Connections	66 MSG/CE	Document findings, eliminate connections	Project ($240.0 K) to inspect and revise piping was completed in Dec 04.	No activity planned.
3.3e Revised	Sample, Analyze Storm Water	66 MSG/CEV	Sample 2 events per year	Hanscom AFB partnered with DEP in storm water sampling program for May – Sep 05 covering the entire Shawsheen River main stem.	Complete similar but smaller effort.
Revised					

3a. Additions

4. Construction Site Storm water Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
3.4a Revised	Stabilize Drainage, Exposed Soil	66 MSG/CEV	Approve construction P2 plans, inspect sites	P2 plans for most small and all large construction sites (Housing Privatization) were reviewed and compliance assured.	Complete similar effort.
3.4b Revised	Sediment Control	66 MSG/CEV	Inspect before, during and after	Government and implementing contractor continuously inspected construction sites on base.	Complete similar effort.
3.4c Revised	Protect Wetlands, Buffer Zones	66 MSG/CEV	Approve staging, storage, access	Kept and used backup supply of hay bales for quick fixes, security fence project was the only one near wetlands.	More construction in base housing area planned next year. Complete greater effort.
3.4d Revised	Sequence Construction Activity	66 MSG/CEV	Approve job sequence, minimize impact	Hanscom AFB participation in housing privatization contract planning resulted in project phasing and design of flow control device and low impact development BMPs. Design includes greater than 10% reduction in flow rate into the receiving water (Shawsheen River) and in groundwater recharge.	Complete similar effort.
3.4e Revised	Implement Good Housekeeping	66 MSG/CEV	No-notice site inspections	Inspection of Fitness Center dewatering activity in April 05 resulted in shut down of operation to assure proper collection of suspended solids.	Complete similar effort.
Revised					

4a. Additions

5. Post-Construction Storm Water Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
3.5a Revised	Structural Controls	66 MSG/CE	Design to 5 year watershed action plan	Running track design was modified in the early stages to incorporate storm water detention and groundwater recharge in a 5-acre site. (12% runoff reduction, recharge gain)	Achieve greater groundwater recharge in Housing Reconstruction.
3.5b Revised	Non-Structural Controls	66 MSG/CEV	Link Watershed goals to planning	Planning process now includes storm water element maximizing progress toward TMDL flow & recharge targets	Complete similar effort.
3.5c Revised	Natural Controls	66 MSG/CEV	Maintain vegetation buffers	Existing buffers were improved by expanding no-cut zones base wide and reducing grass cutting in many areas.	Complete similar effort.
Revised					
Revised					
Revised					

5a. Additions

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
3.6a Revised	Catch Basin Cleaning	66 MSG/CE	Sweep streets, clean catch basins	Regular street sweeping after winter sanding and in Spring. Catch basin cleaning less successful.	Sustain sweeping effort; improve catch basin cleaning to keep ahead of sumps filling with sediment.
3.6b Revised	Vehicle Wash Controls	66 MSG/CEV	Inspect wash facilities, discharges to sewer	Inspections performed, closed loop wash rack at base Motor Pool improvements completed in Sep 04.	Complete similar effort.
3.6c Revised	Organic Runoff Controls	66 MSG/CE	Inspect hydro-seeding, composting areas	Hydro-seed mixing area revised to keep organics from entering storm drain. Improved overspray control and reduced hydro-seeding activities by 25%.	Complete similar effort.
3.6d Revised	Spill Response Procedure, Plan	66 MSG/CEV	Inspect, train, assure on-call spill response	Spill Response Plan updated, 2nd update final draft completed in April 05.	Complete similar effort.
3.6e Revised	Conduct Environmental Audits	66 MSG/CEV	Annual audit & report	Environmental compliance audit was conducted by 12 person team for 5-days (7-11 June 04)	Complete similar effort. An external audit team from headquarters scheduled in June 05.
Revised					

6a. Additions

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
				NO APPROVED TMDL	
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

N/A

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Storm water management position created/staffed	(y/n)	Y
Annual program budget/expenditures	($)	~$72.0 K

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	2,500
Storm water management committee established	(y/n)	N
Stream teams established or supported	(# or y/n)	Y, Shawsheen
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	Y, 0.5 mi.
Household Hazardous Waste Collection Days		

▪ days sponsored	(#)	56
▪ community participation	(%)	30%
▪ material collected	(tons or gal)	2.4 tons
School curricula implemented	(y/n)	N

Legal/Regulatory

	In Place Prior to Phase II	Under Review	Drafted	Adopted
Regulatory Mechanism Status (indicate with "**X**")				
▪ Illicit Discharge Detection & Elimination	X			
▪ Erosion & Sediment Control				X
▪ Post-Development Storm water Management				X
Accompanying Regulation Status (indicate with "**X**")				
▪ Illicit Discharge Detection & Elimination				X
▪ Erosion & Sediment Control				X
▪ Post-Development Storm water Management				X

Mapping and Illicit Discharges

Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	12
System-Wide mapping complete	(%)	100
Mapping method(s)		
▪ Paper/Mylar	(%)	100
▪ CADD	(%)	100
▪ GIS	(%)	0
Outfalls inspected/screened	(# or %)	100
Illicit discharges identified	(#)	0

Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	100
% of population on septic systems	(%)	0

Construction

Number of construction starts (>1-acre)	(#)	3
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	88%
Site inspections completed	(# or %)	100%
Tickets/Stop work orders issued	(# or %)	1
Fines collected	(# and $)	0
Complaints/concerns received from public	(#)	0

Post-Development Storm Water Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction storm water control	(%)	100
Site inspections completed	(# or %)	100
Estimated volume of storm water recharged	(gpy)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	0.5
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	0.5
Total number of structures cleaned	(#)	318
Storm drain cleaned	(LF or mi.)	0

Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	85 tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		recycle
Cost of screenings disposal	($)	

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	15
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	15
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Compost
Cost of sweepings disposal	($)	
Vacuum street sweepers purchased/leased	(#)	0
Vacuum street sweepers specified in contracts	(y/n)	Y

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	decreased
▪ Herbicides	(lbs. or %)	decreased
▪ Pesticides	(lbs. or %)	decreased

Anti-/De-Icing products and ratios	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	25% 0 0 0 0 0 75%
Pre-wetting techniques utilized	(y/n)	N
Manual control spreaders used	(y/n)	Y
Automatic or Zero-velocity spreaders used	(y/n)	N

Estimated net reduction in typical year salt application	(lbs. or %)	Decreased
Salt pile(s) covered in storage shed(s)	(y/n)	Y
Storage shed(s) in design or under construction	(y/n)	N