Municipality/Organization:	Town of Greenland, NH
EPA NPDES Permit Number:	No. NHR041009
Annual Report Number **& Reporting Period:**	Report 2 March 2004- March 2005

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person:	Beatrice Marconi	Title:	Town Administrator
Telephone #:	(603) 431-7111	Email:	bmarconi@greenland-nh.com

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: Beatrice A Marconi

Printed Name: Beatrice Marconi

Title: Greenland Town Administrator

Date: April 29, 2005

4. Construction Site Stormwater 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
GN4-001	Review existing land use ordinances for BMPs for management of stormwater control during construction projects.	Town Offices, with CMA Engineers' assistance	Review of local ordinances for possible modifications to strengthen control during construction projects.	Review completed. See attached 1/18/05 letter and attachments. The ordinances provide for effective management during construction.	BMP complete
Revised					

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
GN5-001	Review existing land use ordinances for BMPs for management of stormwater control during for development projects.	Town Offices, with CMA Engineers' assistance	Review of local ordinances for possible modifications to strengthen control at development projects.	Review completed. See attached 1/18/05 letter and attachments. The ordinances generally provide for effective management during construction. However, O&M of completed/approved projects can be strengthened.	Investigate specific additional measures for inclusion in ordinances, regarding operation and maintenance requirements at completed/approved development projects.
Revised					

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
GN6-001	Clean stormdrains/catch basins annually by contracted services.	Town Offices	Annual cleaning of catch basins contracted out.	Review of appropriate scheduling and sequencing of cleaning.	Contract for cleaning.
Revised					
GN6-002	Employee training program	Town Offices	Prepare training materials for Town employees	Employee training materials prepared and distributed.	Assure that any new employees receive material.
Revised			NOTE: Greenland has few employees, and no public works employees. Administrative and police. BMP was included at EPA's request.		

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

NA. NHDES has not yet established TMDL's for streams and receiving waters in Greenland.

Part IV. Summary of Information Collected and Analyzed

NA

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	No	
Annual program budget/expenditures	($) 4,000	

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	Nearly 100%	
Stormwater management committee established	No, being discussed	
Stream teams established or supported	No	
Shoreline clean-up participation or quantity of shoreline miles cleaned	No	
Household Hazardous Waste Collection Days		
▪ days sponsored	1	
▪ community participation	Unkown, but significant	
▪ material collected	Unknown	
School curricula implemented	No	

Legal/Regulatory

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

Mapping and Illicit Discharges

Outfall mapping complete	100%	
Estimated or actual number of outfalls	112	
System-Wide mapping complete	100%	
Mapping method(s)		
▪ Paper/Mylar	100%	
▪ CADD		
▪ GIS		
Outfalls inspected/screened	None	
Illicit discharges identified	None	
Illicit connections removed	None	
% of population on sewer	0 %	
% of population on septic systems	100 %	

Construction

Number of construction starts (>1-acre)	<10	
Estimated percentage of construction starts adequately regulated for erosion and sediment control	100 %	
Site inspections completed	100 %	
Tickets/Stop work orders issued	N/A	
Fines collected	N/A	
Complaints/concerns received from public	N/A	

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	100 %	
Site inspections completed	Several	
Estimated volume of stormwater recharged	Unknown	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	1/ year	
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	1/year	
Total number of structures cleaned	100%	
Storm drain cleaned	None	
Qty. of screenings/debris removed from storm sewer infrastructure	Not determined	
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)	Landfill	
Cost of screenings disposal	In cleaning budget	

Average frequency of street sweeping (non-commercial/non-arterial streets)	None	
Average frequency of street sweeping (commercial/arterial or other critical streets)	None	
Qty. of sand/debris collected by sweeping	N/A	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	N/A	
Cost of sweepings disposal	N/A	
Vacuum street sweepers purchased/leased	N/A	
Vacuum street sweepers specified in contracts	N/A	

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	Not determined	
▪ Herbicides	Not determined	
▪ Pesticides	Not determined	

Anti-/De-Icing products and ratios	Combination	
Pre-wetting techniques utilized	No	
Manual control spreaders used	Yes	
Automatic or Zero-velocity spreaders used	No	
Estimated net reduction in typical year salt application	Not determined	
Salt pile(s) covered in storage shed(s)	Yes	
Storage shed(s) in design or under construction	N/A	

On Saturday, April 30 the Town of Greenland will be hosting an Electronics Recycle Day which will be held at our Transfer Station/Recycle Center on Cemetery Lane 8:00am-5:00pm.

Items to bring are:

Monitors	Fax Machines	Printers	Speakers
Key Boards/Mice	Stereos	8 Track Players	Scanners
Main Frames	VCR/DVD Players	Tape Recorders	Telephones
Answering Machines	Televisions	Computers	

Electronics will be received only until we reach our container capacity
Greenland Dump Permit Required and Strictly Enforced

We 'hope' to host 2 Electronics Recycling opportunities this year (Spring/Fall)

Normal Transfer Station/Recycle Center hours of operation are Saturdays & Wednesdays
8:00 am - 5:00 pm

The Spring Hazardous Waste Day will be held Saturday May 7th in Portsmouth at the
Dept. of Public Works Facility
Peverly Hill Road 8:00am – 12:00noon

Greenland's Web Site is www.greenland-nh.com

Drop off of any of the above items will be COST-FREE on April 30th

A fee may be applicable in the future

Town of Greenland, N.H.
P.O. Box 100
Greenland, N.H. 03840-0100

Bulk Rate
Postage Paid
Permit No. 2
Greenland, NH
03840

Resident
Greenland, NH 03840

Town of Greenland, New Hampshire

Municipal Stormwater Management Program

Guidelines for Residents

What is stormwater?

- **Stormwater is runoff flow from precipitation.**
- **It is generated differently from all areas, developed and undeveloped.**
- **It is produced every time it rains or snow melts.**
- **Stormwater flows through pipes, in ditches, and in steams.**

Why is Stormwater Management important?

- **Stormwater should be clean without contaminants, but**
- **It can be a significant source of pollution.**
- **Many activities can introduce pollution to stormwater flow.**
- **Stormwater is affected by all activities in a community.**
- **Good practices can improve the quality of stormwater flow.**
- **In Greenland, all stormwater flows ultimately to the Great Bay Estuary.**

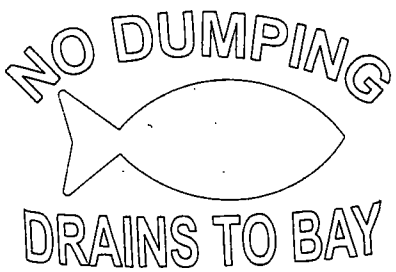
What is Greenland's EPA - approved program for stormwater?

- **The EPA required Greenland (and about 50 other NH communities) to develop management plans for the Town's stormwater.**
- **Greenland has a limited municipal separate storm sewer system ("MS4").**
- **The Town prepared a series of actions to improve stormwater management.**
- **Plan was approved by EPA in January 2004.**
- **It's a five–year plan, with provisions for ongoing assessment and improvement.**

What measures can residents take to improve stormwater quality?

- **Be aware of and comply with Greenland's land use ordinances, which are protective of stormwater quality,**
- **Understand where stormwater runoff flows from your property,**
- **Clean litter and other waste materials from drainage areas,**
- **Manage pet waste material; use grassy, not paved areas,**
- **Participate in Household Hazardous Waste collection days,**
- **Avoid activities in active drainage areas on your property,**
- **Be sure that your activities can not introduce pollutants to stormwater. Avoid:**
  - **washing vehicles and other equipment, with discharge to storm drains,**
  - **automobile maintenance discharges, including waste oil and antifreeze,**
  - **excess fertilizing and watering of lawns.**

This flyer comes to you as part of our overall Stormwater Management Plan
To view the plan to its entirety, please visit Town Hall



For the 2005 Town Report –

Town of Greenland
Report of Stormwater Management Program

The Town of Greenland was included, along with 45 other New Hampshire communities, in a federal program to improve stormwater management practices and stormwater quality. The US Environmental Protection Agency (US EPA) instituted a program in late 2003/ early 2004 whereby certain communities with municipal separate storm sewer systems (so-called "MS4s") are required to receive authorization under a federal permit for the discharge of stormwater from those systems.

Stormwater discharges, if not effectively managed, can be a significant source of pollutants in surface waters that receive the stormwater. In Greenland, all stormwater flows ultimately to the Great Bay Estuary.

On January 26, 2004, the US EPA approved Greenland's notice of intent to be regulated under the general nationwide small MS4 discharge permit. Under that permit and Greenland's notice of intent (NOI), a series of actions are being undertaken by Greenland to address stormwater management.

A set of so-called Best Management Practices (or BMPs) were developed and proposed by Greenland to the EPA. Under the permit, the BMPs are to be developed over a five-year period, with annual assessment and evaluation. Among the BMPs approved by EPA for Greenland are the following:

- Continued participation in Household Hazardous Waste Collection Days,
- Preparation and distribution of a Town-wide mailing on stormwater management,
- Preparing report sections in Greenlands' annual Town Report on the program,
- Participating with the Rockingham Regional Planning Commission in stormwater programs,
- Stenciling stormwater catch basins and drains in the system,
- Holding public meetings on stormwater awareness,
- Maintaining Greenland's map of stormwater drains,
- Reviewing local ordinances for illicit discharges, and good stormwater practices.
- Cleaning storm drains and catch basins regularly,
- Training of Greenland's employees.

During the first full year of the program, the Town has made significant progress on each these BMPs, and will report to EPA again by May, 2005 on progress under the program.

The Town has effective land use ordinances in place regulating activities directly affecting stormwater management and control in the Town. Residents can assist in furthering the goals of Greenland's stormwater management program in a number of ways. These include:

- Being aware of and complying with Greenland's land use ordinances, which are protective of stormwater quality,
- Understanding where stormwater runoff goes from your property,
- Cleaning litter and other waste materials from drainage areas,
- Managing pet waste material; use grassy, not paved areas,
- Participating in Household Hazardous Waste collection days
- Avoiding activities in active drainage areas on your property,
- Being sure that your activities can not introduce pollutants to stormwater.

  Avoid:

  - Washing vehicles and other equipment, with discharge to storm drains,
  - Automobile maintenance discharges , including waste oil and antifreeze,
  - Excess fertilizing and watering of lawns.

Interest and participation in the Greenland's stormwater management program by Town residents is an important part of the program. Questions about the program, and its different elements are encouraged, and can be directed to the Selectmen's office.

MEMORANDUM

TO: Beatrice Marconi, Town Administrator
Town of Greenland

FROM: Bill Straub, P.E.
CMA Engineers, Inc.

RE: Review of Town of Greenland Ordinances for NPDES MS4 Issues
CMA #386-B

DATE: January 18, 2005

In accordance with the Town of Greenland's approved Notice of Intent (NOI) submitted to the US Environmental Protection Agency (USEPA; approved January 26, 2004 for inclusion under the NPDES General Permit for Small Municipal Separate Storm Systems, or MS4), we have prepared a review of the Town of Greenland's local ordinances for issues associated with stormwater management and control.

The USEPA-approved NOI for Greenland included a series of so-called Best Management Practices, or BMPs, in several areas. The BMPs addressed in this ordinance review included the following:

A. GN3-002 ***Regulation to prohibit non-storm water discharges into the storm sewer system***
Review of Greenland's ordinances to assess if controls exist for non-stormwater discharges to the Town's drainage system. Propose changes to ordinances, if warranted, to prohibit such discharges.

B. GN4- 001 ***Regulation of Construction site runoff control***
Review of Greenland's ordinances to assess regulation for control of construction period stormwater runoff and control. Propose changes to ordinances, if warranted, to strengthen control.

C. GN5- 001 ***Regulation of Post Construction site runoff control***
Review of Greenland's ordinances to assess regulation for control of post construction stormwater runoff and control. Propose changes to ordinances, if warranted, to strengthen control.

We have reviewed the Town of Greenland ordinances and regulations, including:

- Building Regulations (updated to March 9, 2004)
- Zoning Ordinance (updated to March 9, 2004)
- Subdivision Regulations (updated to March 12, 2002)
- Site Plan Review Regulations (updated to March 12, 2002)

Our review comments are as follows:

A. GN3-002 Regulation to prohibit non-storm water discharges into the storm sewer system
The Town of Greenland Building Regulations generally address the issue, in referencing the Greenland Building Code, its references, requirements for building components, septic systems, and other provisions. However, specific prohibition of non-stormwater discharges to the storm water system in the regulations could be strengthened.

The locations of the existing stormwater sewer system in Greenland is included on the town-wide Greenland Property Maps. Regular updates to these maps are made.

The objectives of stormwater management include separate storm water sewer systems receiving only clean, stormwater flow. In Greenland the separate stormwater system includes primarily street drainage, with cross culverts, and limited systems of catch basins and storm drains.

In Greenland, there are comprehensive state and local regulations for septic systems, which generally include provisions that prohibit sanitary wastewater connections to stormwater systems. Application of these standards should be sufficient for preventing sanitary wastewater discharges to the stormwater system.

Examples of other non-storm water discharges that should be specifically prohibited under local regulation include structural features such as floor drains, garage drains, basement sumps or drains, and any other potential physical connection to the municipal stormwater system. Review of the Greenland Building Code, and its references, will be completed to assess such prohibitions. It is suggested, however, that specific sections be added to the Building Regulations that address the intended prohibited practices.

Non-structural practices may also contribute to non-storm water discharges to the Town's separate stormwater system. These may included dumping of cleaning materials and fluids in or near storm drains, wash water from cleaning of vehicles, improper disposal of waste oils, run-off from other automotive and equipment repair activities, and other residential and commercial activities which may, under certain circumstances, introduce contaminants to the stormwater systems.

It is recommended that a review be completed with the Selectmen, Building Inspector, and perhaps Town attorney to determine the most appropriate regulatory mechanism to address this additional regulation (ie: which ordinance or regulation), and specific ordinances be developed for review, modification, and adoption by the Town to strengthen the further prohibition of non-stormwater discharges to the municipal stormwater system.

B. GN4-001 Regulation of Construction site runoff control

Greenland has, as do most communities in New Hampshire, effective regulations for control of site stormwater runoff at construction sites. As further described below, this is accomplished through:

- The existing local land use regulations, including the:
  - Zoning Ordinance,
  - Subdivision Regulations, and
  - Site Plan Review Regulations.
- Code enforcement at the municipal level,
- Municipal penalties for non-compliance.

All these measures are recommended in USEPA guidance for the MS4 program; and are in place in Greenland.

Further, there are additional State and Federal regulatory requirements for drainage and erosion control which apply in Greenland, and which provide for additional surface water protection actions.

Greenland Zoning Ordinance

The Greenland Zoning Ordinance includes many provisions which address stormwater control during construction. Permitted and approvable uses are generally protective of potential discharges to stormwater systems. These include restrictions to junk yards, provisions associated with the Aquifer Protection District, the Floodplain Management District, Quarries and Borrow Pits, Wetland Conservation Areas, and many other controls. Taken together, the provisions of the Zoning Ordinance are protective of stormwater quality.

Greenland Subdivision Regulations

The Greenland Subdivision Regulations include many provisions for the control of stormwater during construction, including erosion and stormwater quality. They are comprehensive, and protective of water quality.

The regulations require(among other provisions):

- Construction plans, complete, which include calculations for stormwater control,
- Conformity and preservation of the character and natural features of the land;
- High Intensity Soils Mapping;
- Detailed sanitary wastewater/septic system design documentation;
- Buffer strips and preservation of natural features.

In addition, the Subdivision Regulations specifically require a Stormwater Management and Erosion Control Plan (Section 4.4.13). The requirements of this section are comprehensive, and represent measures that are at or near the state of the practice for these issues. Best Management Practices (BMPs) are required to be applied for projects, and protection of critical areas and highly erodible soils is required. Specific stormwater management and erosion control plans are required for disturbed areas as low as 20,000 square feet (a stringent standard, compared to 100,000 square feet in State of NH requirements, and 43,560 square feet in certain federal requirements).

Addendum C to the Subdivision Regulations includes requirements for Storm Water and Erosion Control Plan Specifications. These provisions provide significant additional detailed requirements for control of sediment and contamination of stormwater during construction, and reference Best Management Practices, as are updated periodically by the Rockingham County Conservation District. These BMPs are complete and effective.

The Subdivision Regulations also require than construction monitoring and inspection be part of approved projects. The requirements for this monitoring are comprehensive and complete.

Greenland Site Plan Review Regulations
The Site Plan Review Regulations provide for the detailed review by the Planning Board of specific site plans for proposed development. The regulations refer to, and provide similar requirements for stormwater control as the Subdivision Regulations. They are therefore effective in regulating protective measures for stormwater control.

Based on this review, no significant recommendations are made to add to regulatory control in Greenland. The existing Greenland regulations are extensive, comprehensive, and protective of stormwater quality with respect to the objectives of the NPDES MS4 program.

C. GN5-001 Regulation of Post Construction site runoff control
The provisions of the Greenland Zoning Ordinance, Greenland Subdivision Regulations, and the Greenland Site Plan Review Regulations which apply to Construction period impacts also apply to post construction performance.

Stormwater management requirements include, for example, stormwater retention and detention facilities to limit post development flow to pre-existing peak flow conditions. The BMPs included also include measures to control stormwater quality, including flow through grass lined swales, use of ponds, enhanced infiltration, maintenance of vegetative buffers, and other related measures.

Based on this review, no significant recommendations are made to add to regulatory control in Greenland. The existing Greenland regulations are extensive, comprehensive, and protective of stormwater quality with respect to the objectives of the NPDES MS4 program.

Summary

Based on our review of Greenland's regulations:

- It is recommended that specific actions be considered to further regulate the prohibition of non-stormwater discharges to the municipal stormwater system.
- The existing ordinances provide for the comprehensive and effective control of stormwater runoff and quality from construction projects, and in the post construction period; in accordance with generally accepted practices, and the objectives of the NPDES MS4 program.

Should you have any questions, please do not hesitate to contact us.

WAS:amh

Town of Greenland, New Hampshire

Municipal Stormwater Management Program

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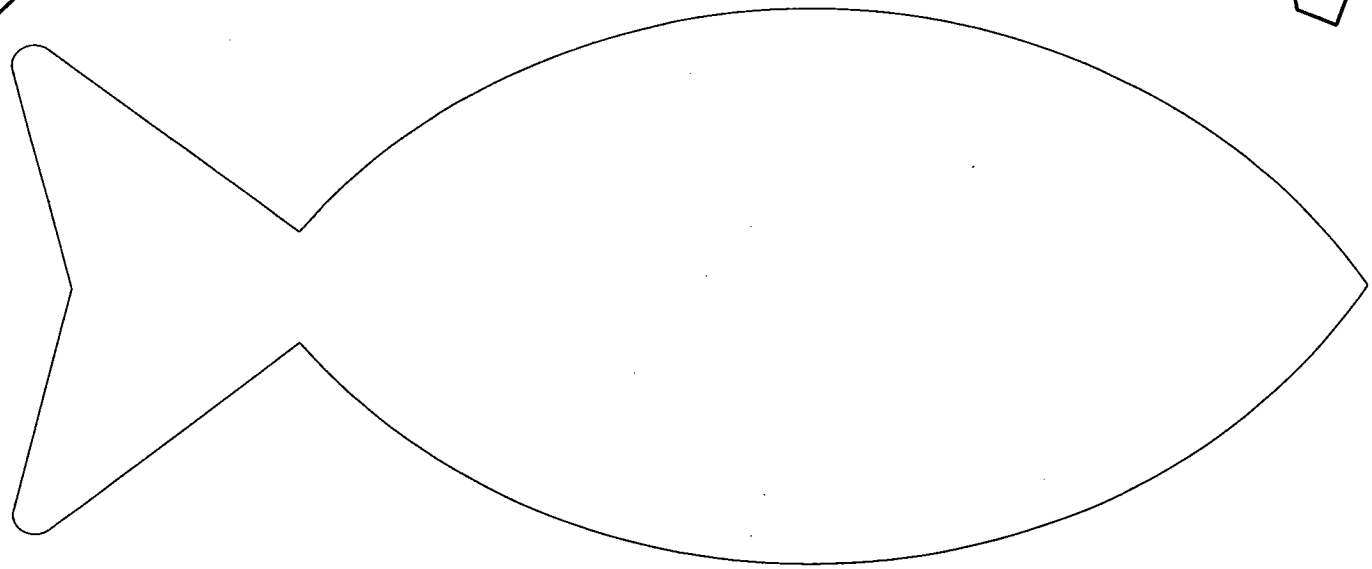
- **Plan was approved by EPA in January 2004.**
- **It's a five–year plan, with provisions for ongoing assessment and improvement.**

What measures can Town employees take to improve stormwater quality?

- **Understand where stormwater runoff flows from municipal property you use,**
- **Clean litter and other waste materials from these drainage areas,**
- **Be sure vehicle wash water does not flow to storm drains,**
- **Be sure vehicle maintenance (Waste oil, Fueling, Anti-freeze) is properly done,**
- **Communicate observations of potential stormwater issues to Building Inspector,**
- **Communicate potential land use ordinance violations to Building Inspector.**

NO DUMPING



DRAINS TO BAY