

**Certification**  
**Annual Report**  
**NPDES Phase II**  
**Municipal Separate Storm Sewer System (MS4)**

Prepared: 21 March 2004

Prepared by:



FRANCIS J. CROWN, JR.  
Water Team Lead  
Branch  
Anteon Corp

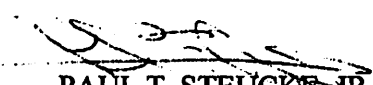
Reviewed by:



PHILIP CRAWFORD  
Chief, Environmental Compliance

Approved:

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PAUL T. STEUCKE, JR.  
Chief, Environmental and  
Natural Resources Division

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**Municipal Separate Storm Sewer System (MS4)**

**1. Background.**

a. On 5 February 2003 Fort Lewis published its Municipal Separate Storm Water System Management Plan. On 5 March 2003 a Notice of Intent (NOI) for a NPDES general municipal separate storm sewer system (MS4) permit was submitted to Region 10, United States Environmental Protection Agency. As of this date the MS4 Permit has not been issued.

b. Fort Lewis holds a NPDES Multi-Sector General Permit for storm water originating in the industrial areas of the installation. All other areas of the installation fall under MS4.

**2. Accomplishments.**

a. During 2004 there were no known violations of the anticipated permit conditions.

b. General

(1) Elimination of storm water outfalls in the family housing areas. Fort Lewis Communities, LLC (FLC), the operator of family housing, treated all storm water on site in newly constructed neighborhoods. This is a major step in eliminating storm water discharges to American Lake.

(2) The Master Planning Division of Public Works continued to stress leadership in energy and environmental design (LEED) standards in all new construction. These standards include provisions to reduce or eliminate the volume of storm water leaving a site.

(3) Public Works stressed storm water treatment on site for all new construction.

c. A detailed assessment of the progress made toward achieving the goals for 2004 are contained in Table 1. Specific positive and negative achievements are detailed below:

(1) Public Education and Outreach.

(a) Two of the goals, household hazardous waste management and low impact development were accomplished under on going programs.

(c) Three goals, pet waste management, general public awareness and pet waste management were partially accomplished. This was due in part to limited resources available to devote to the task and the extra coordination required with FLC.

**(2) Public Participation and Involvement.**

(a) Two of the goals, water council and community hotline were accomplished. The Fort Lewis Water Council was formalized. This council brings together interested parties once a month to review and discuss water, storm water and waste water issues. Efforts continued to get family housing residents to participate. These included solicitations in the family housing newsletter and an advertised open house. This project may not be worth the investment in time.

(b) One goal, storm drain stenciling was not accomplished due to a lack of personnel resources.

(c) One goal, poster contest, was not accomplished and was deleted. This goal had only a minimal return for the amount of resources required for execution.

(3) Illicit Discharge Detection and Elimination. The goals for this BMP were only partially achieved because funds were not available to contract for a new storm water atlas and educational materials were not prepared for distribution.

(4) Construction Site Runoff Control. This goal was achieved under the requirements of the Construction General Permit. All inspection sites were inspected with no serious violations.

(5) Post Construction Storm Water Management in New and Redevelopment. This goal was achieved under the requirements of the Construction General Permit. All goals were achieved. The Water Program Office continued to review construction storm water plans for post construction provisions and also inspected the construction sites for compliance.

**(6) Pollution Prevention and Good Housekeeping.**

(a) Two goals, hazardous material storage and spill response and prevention were achieved. Hazardous material storage is inspected on a regular basis by a team with this responsibility. Spill response and prevention is conducted by a section with this duty as a primary responsibility.

(b) The goals for automobile washing and used oil recycling were not achieved. Both were in conflict with the intent of the installations environmental regulation. Both goals were rewritten for 2005.

(c) The goals for lawn care and pest control were not met because the available brochure was contrary to the policy of FLC.

d. In spite of not being able to achieve all the established goals there was no known degradation in the quality of storm water discharged from the non-industrial areas of Fort Lewis.

### 3. Issues.

a. A large part of the MS4 area is now under the ownership of Fort Lewis Communities, LLC (FLC). Due provisions in the contract between FLC and the Department of the Army there are certain constraints on Fort Lewis just as there are between a municipality and private owners. For example Fort Lewis desires to eliminate all car washing on paved or impervious areas. FLC objects to this because it will result in cars being washed in grassy areas which will turn into mud holes and bare patches of ground. We anticipate many of the issues will be resolved as we seek common ground for resolution.

b. Only limited personnel resources were available to work on the MS4 goals. In the first year there was a second person available to assist. In the second year there was only one person who also had duties in the industrial storm water and construction storm water areas. Further much of their time was spend in the preparation of related education outreach and conservation plans. While these plans do not specifically address the goals in the MS4 Management Plan they will help achieve the overall goals.

### 4. Strengthening of MS4 Program.

a. For 2005 some goals were deleted and replaced by more realistic goals. Others were modified to better address specific goals

b. Many of the goals will be incorporated into the annual work plan in an effort to maintain their visibility throughout the year.

### 5. Results of Planned Activities for 2004.

a. The planned additional sampling at the two sites where lead was detected at levels potentially in excess of the Washington surface water standards did not take place. This activity will be included in planned activities for 2005.

b. The planned investigation of the natural background level of manganese was not accomplished. This activity will be included in the planned activities for 2005.

c. The Fort Lewis Construction Storm Water Pollution Plan was rewritten in accordance with the new permit issued by EPA. Implementation of the new procedures was coordinated with both Public Work and the Seattle District Engineer Office. New construction projects are carefully reviewed. Management of those projects requiring coverage are given information to help in the preparation of plans. Plans must be approved by the Water Program Office and site are inspected.

### 6. Planned Activities for 2005.

a. Conduct additional sampling at the two sites where lead was detected at levels potentially in excess of the Washington surface water standards in 2003. If the lead level

found in the follow up sampling exceeds Washington surface water standards locate and remove or control the source of the lead pollution.

b. Determine if the natural background level of manganese could be the cause of the elevated levels detected in some storm water samples taken in 2003.

**Table 1 - BMPs, Goals and Accomplishments**

*Italic* – new goal; ~~strike out~~ – deleted; **bold** – did not accomplish; ***bold italic*** – did not accomplish, rescheduled

**Public Education and Outreach**

<b>BMPs</b>	<b>When</b>	<b>Goals</b>	<b>Accomplishments/Notes</b>
<b>Household Hazardous Waste Management</b>	Year 1	Publicize the installation household hazardous waste disposal and recycling program	A water brochure was published in Sep 03 addressing this issue in part. Also publicized in Daily Bulletin. A mature program addressing this BMP is operated by the Hazardous Waste Operations Section.
	Year 2-5	<i>Monitor program managed by Hazardous Waste Operations Section (added Feb 04)</i>	Yr 2. Sound program continues
	<del>Year 2</del>	<del>Develop educational material detailing ways to reduce household hazardous waste (deleted Feb 04)</del>	
	<del>Year 3</del>	<del>Distribute household hazardous waste brochures to new families in-processing at the housing office (deleted Feb 04)</del>	
	<del>Year 4-5</del>	<del>TBD (deleted Feb 04)</del>	
<b>Pet Waste Management</b>	Year 1	Submit an article for publication focusing on pet waste problems	Article published and distributed to residents in Dec/Jan 03
		Create or purchase signs for posting in high traffic pet areas	Completed
		Initiate a “pooper scooper” regulation	Rules contained in Fort Lewis Family Housing Resident Handbook (Pet Policy) and posted on residential website.
		Purchase pet waste plastic bag dispensers for the American Lake area	Completed (three purchased)
	Year 2-5	Prepare “pet waste” educational material	Yr 2. Material on hand
		Install plastic bag dispensers at Russell Landing, American Lake, or other high traffic areas	Yr 2. <b><i>Not accomplished</i></b>
		<i>Insure a supply of “baggies” for the bag dispensers (added Feb 04)</i>	Yr 2. Material on hand
	Distribute the “pet waste” educational material to new families in-processing at the housing office. Insure a supply of materials.	Yr 2. <b><i>Not accomplished</i></b>	

**Public Education and Outreach (continued)**

<b>BMPs</b>	<b>When</b>	<b>Goals</b>	<b>Accomplishments/Notes</b>
<b>Commercial Activities Education</b>	Year 1	Prepare a regulation requiring a spill prevention plan, spill kits and proper storage of materials at commercial activities	Contained in FL Reg 200-1 (App K).
	Year 2-5	Develop educational materials for food and automotive commercial activities that outline BMPs to reduce polluted runoff from their activities	Yr 2. Material on hand
		<i>Inspect activities for compliance (added Feb 04)</i>	Yr 2. Accomplished by Operations Branch inspection team
<b>General Public Awareness</b>	Year 1	Develop and distribute educational material outlining the storm drain stenciling program and volunteer opportunities	Included in water brochure distributed in Sep 03.
		Develop educational materials detailing storm water and non-point source pollution	Included in water brochure distributed in Sep 03.
		Develop educational materials detailing conservation methods	Article in NW Guardian, Feb 03. Water brochure distributed in Sep 03
		Purchase and demonstrate non-point source model at civic events	Model purchased. Demonstrated at Kids Fest 03 and Earth Day 03.
	Year 2	Distribute educational materials detailing conservation methods	Yr 2. Educational materials distributed at special events.
	Year 2-5	Submit an article detailing the storm drain stenciling program and volunteer opportunities	Yr 2. Not accomplished
		Distribute educational materials detailing storm water and non-point source pollution	Yr 2. Material distributed at special events



**Public Education and Outreach (continued)**

<b>BMPs</b>	<b>When</b>	<b>Goals</b>	<b>Accomplishments/Notes</b>
<b>Tailoring Outreach Programs to Minority and Disadvantaged Communities and Children</b>	Year 1	Coordinate with the Family Resource Center and Equal Opportunity Office to determine ethnic groups in need of outreach on the installation	Not accomplished due to shortage of personnel resources. Goal deleted for future years.
	Year 2	Partner with Chaplain's Office, Family Resource Center, and spouse clubs to create a volunteer outreach for the purpose of educating non-English speaking spouses about environmental requirements and services on post. (deleted Feb 04)	
		Develop a series of culturally appropriate public service announcement and educational materials detailing waste procedures, pollution prevention, waster conservation, etc. (deleted Feb 04)	
Year 3	Distribute educational materials and post public service message on the Fort Lewis cable channel (deleted Feb 04)		
<b>BMPs</b>	<b>When</b>	<b>Goals</b>	<b>Accomplishments/Notes</b>
<b>Classroom Education</b>	Year 3-5	Make available storm water video and model to schools (added Mar 05)	
	Year 1-5	Demonstrate an interactive Watershed Model (deleted Feb 04)	Yr 1. Not accomplished in year 1 due to lack of personnel resources. Goal deleted for future years.
		Develop a watershed guide designed for use by teachers of primary grades to complement volunteer programs (deleted Feb 04)	Yr 1. Not accomplished in year 1 due to lack of personnel resources. Goal deleted for future years.
	Year 2	Distribute the watershed guide designed for use by teachers (deleted Feb 04)	
Year 3	Create an interactive watershed academy website (deleted Feb 04)		
<b>BMPs</b>	<b>When</b>	<b>Goals</b>	<b>Accomplishments/Notes</b>
<b>Low Impact Development</b>	Year 1	Work with Public Works Master Planning Division to ensure the incorporation of LID features in new design and development	LEED workshop conducted. LID workshop conducted. Goal of all new construction to LEED silver standard by 06.
	Year 2-5	Monitor LEED and LID programs initiated by Public Works Master Planning (modified Mar 05)	Yr 2. Master Planning continued to emphasize LEED and LID principals

**Public Participation and Involvement**

<b>BMPs</b>	<b>When</b>	<b>Goals</b>	<b>Accomplishments/Notes</b>
<b>Storm Drain Stenciling</b>	<b>Year 1</b>	<b>Establish a storm drain stenciling volunteer program</b>	<b>Program established</b>
		<b>Purchase storm drain stenciling kits</b>	<b>Kit material on hand</b>
		<b>Distribute educational materials detailing the storm drain stenciling program and the availability of kits</b>	<b>Contained in water brochure completed in Sep 03.</b>
	<b>Year 2-5</b>	<b>Increase the number of storm drain stenciling projects</b>	<b>Yr 2. Not accomplished</b>
	<b>Year 1</b>	<b>Add the Storm Drain Stenciling program to the installation list of volunteer opportunities (deleted Feb 04)</b>	<b>Not accomplished. Goal deleted for future years due to limited personnel resources</b>
<b>Water Council</b>	<b>Year 1</b>	<b>Organize an installation Water Council</b>	<b>An installation water meeting is held monthly. Not formally organized.</b>
	<b>Year 2-5</b>	<b>Formally organize the Water Council and encourage resident participation on the council (added Feb 04)</b>	<b>Yr 2. Council formerly organized. Meetings held monthly.</b>
	<b>Year 2</b>	<b>Consider establishing a Citizen Keeper Volunteer program (deleted Feb 04)</b>	
	<b>Year 3</b>	<b>Begin tracking resident complaints and resolution of calls (deleted Feb 04)</b>	
<b>Poster Contest</b>	<b>Year 1</b>	<b>Sponsor a water conservation motto for children on-post</b>	<b>Contest completed and awards made.</b>
	<b>Year 2-5</b>	<b>As resources are available sponsor a water conservation poster contest for children on-post (added Feb 04) (deleted Mar 05)</b>	<b>Yr 2. Not accomplished. Deleted due to minimal return on investment.</b>
	<b>Year 2</b>	<b>Sponsor a water conservation poster contest for children on-post (deleted Feb 04)</b>	
	<b>Year 3</b>	<b>Distribute winning posters at location around the installation (deleted Feb 04)</b>	
<b>Community Hotline</b>	<b>Year 1</b>	<b>Establish a community hotline</b>	<b>A community hotline and email address established and distributed.</b>
	<b>Year 2-5</b>	<b>Explore the possibility of adding a link on the PW website to report pollution concerns. Maintain the website</b>	<b>Yr 2. Not accomplished. Rescheduled for year 4.</b>
		<b>Continue the community hotline and website</b>	<b>Yr 2. Hot line and email continued.</b>
	<b>Year 2</b>	<b>Establish a link on the PW website for citizens to report pollution concerns (deleted Feb 04)</b>	

### Illicit Discharge Detection and Elimination

BMP	When	Goals	Accomplishments/Notes
Illegal Dumping	Year 1	Initiate an installation illegal dumping regulation	Contained in FL Reg 200-1 (App E and G)
		Determine problem areas that require "No Dumping" signs	Not accomplished
		Prepare educational material on illegal dumping of wastes in the storm water system	Contained in water brochure distributed in Sep 03
		Check outfalls for illicit discharges	All outfalls inspected at least once, no illicit discharges noted. Four outfalls sampled for metals and oil and grease. No exceedences of water quality standards.
		Request funds to complete a storm water system atlas	Not accomplished. No funds available
	Year 2	Determine problem areas that require "No Dumping" signs	Hazardous Waste Operations Branch performed this function.
		Purchase and post "No Dumping" signs	Signs posted throughout installation
		Investigate sources of any pollutants found at storm water outfalls	No detected pollutants during year
		Take action to eliminate any pollutant sources	No polluted sources
		Contract for a storm water system atlas	Not accomplished – no funds for new atlas. Storm water section continually updates existing information
		Distribute educational material on illegal dumping	Not accomplished
	Year 3	Request funds to complete a storm water system atlas	
	Year 3-5	<del>Observe area for signs of dumping</del> Monitor success of Operations Branch anti-dumping program (changed Mar 05)	

### Construction Site Runoff

BMP	When	Goals	Accomplishments/Notes
Construction Storm Water Runoff Compliance	Year 2-5	Inspect Construction sites for compliance with the Construction General Permit implemented by the Water Program Office (added Feb 04)	Yr 2. Inspected construction sites were in compliance
	Year 1-5	Prepare and maintain a construction storm water management plan (deleted Mar 05)	Yr 1. Fort Lewis adopted the Western Washington Storm Water Manual which includes some low impact development principals. Implemented Construction General Permit (CGP). This BMP is now covered by the CGP. Yr 2. See above
	Year 2-5	Include construction storm water in public outreach materials and encourage concerned individuals to report construction storm water pollution (deleted Feb 04)	Yr 2. Covered by permit (see above)

### Post Construction Storm Water Management in New and Redevelopment

BMP	When	Goals	Accomplishments
Post Construction Storm Water Management in New and Redevelopment	Year 1-5	Insure new construction plans include provisions to properly manage post construction storm water	Yr 1. Implemented Construction General Permit (CGP). This BMP is now covered by the CGP. Yr 2. Water Program Office continued to enforce permitting requirements
	Year 1-5	Work with Public Works Master Planning to incorporate low impact development principals in new construction at Fort Lewis (deleted Feb 05)	Fort Lewis adopted the Western Washington Storm Water Manual which includes some low impact development principals
	Year 2-5	Monitor Construction General Permit implemented by the Water Program Office (added Feb 04) (deleted Feb 05)	Yr 2. Accomplished.

### Pollution Prevention and Good Housekeeping

Area	When	Goals	Accomplishments/Notes
Automobiles	Year 1	Prepare regulation prohibiting automobile maintenance in housing or public areas, other than the automotive craft shop	Contained in FL Reg 200-1 (App I)
	Year 3-5	<i>Encourage vehicle owners to use a car wash facility (added Mar 05)</i>	
	<del>Year 1</del>	<del>Prepare a regulation prohibiting vehicle washing on the street, driveway or other impervious surface (deleted Mar 05)</del>	<b>Not accomplished because it is contrary to existing policy which does not permit vehicle maintenance in soldier or residential areas</b>
	<del>Year 2-5</del>	<del>Prepare a regulation prohibiting vehicle washing on the street, driveway or other impervious surface (deleted Feb 05)</del>	<b>Yr 2. Not feasible, see above</b>
		<del>Monitor Equity enforcement of vehicle washing on streets (added Feb 04) (deleted Feb 05)</del>	<b>Yr 2. Not feasible, see above</b>
Lawn Care	Year 1	Develop a brochure that stresses the relationship between certain lawn care practices and undesirable water quality	Addressed in water brochure completed in Sep 03
	Year 2-5	<i>Include brochure in packet for new residents (added Feb 04)</i>	<b>Yr 2. Not accomplished.</b>
Pest Control	Year 1	Develop a brochure that includes facts and tips on identifying pest problems and selecting environmentally friendly solutions	Addressed in water brochure completed in Sep 03. Further work needed
	Year 2-5	<i>Improve brochure coverage and Include pest control information in packet for new residents (Added Feb 04)</i>	<b>Yr 2. Not accomplished.</b>
Hazardous Material Storage	Year 1	Prepare a regulation that requires all commercial activities to store hazardous materials in approved buildings with secondary containment	Contained in FL Reg 200-1 (App E)
	Year 2-5	<i>Monitor hazardous waste classes and inspections for effectiveness (added Feb 04)</i>	<b>Yr 2. Effective classes conducted by the Operations Branch</b>

**Pollution Prevention and Good Housekeeping (continued)**

Area	When	Goals	Accomplishments/Notes
Spill Response and Prevention	Year 1	Prepare a regulation that requires all activities to maintain an updated spill control plan and an individual responsible for the implementation of the plan	Contained in FL Reg 200-1 (App K). Program managed by Hazardous Waste Operations Section
	Year 2-5	<i>Monitor program managed by Hazardous Waste Operations Section for effectiveness (added Feb 04)</i>	Yr 2. Effective spill response and prevention program conducted by Operations Branch
<b>Used Oil Recycling</b>			
	Year 1	Develop a flyer listing the facilities on post that collect motor oil for recycling	Not accomplished
		Prepare a regulation requiring auto repair commercial activities to have an oil recycling plan/system.	Not accomplished
	Year 2-5	Prepare a regulation requiring auto repair commercial activities to have an oil recycling plan/system.	Yr 2. Not accomplished
		<i>Monitor oil recycling program (added Feb 04)</i>	Yr 2. Operations Branch conducted an oil collection and recycling program
	Year-2	<del>Distribute flyer listing facilities on post that will recycle motor oil (deleted Feb 04)</del>	Materials on oil recycling available through Operations Branch
	Year-2-5	<del>Develop a flyer listing the facilities on post that collect motor oil for recycling (deleted Mar 05)</del>	Yr 2. Not accomplished because it is contrary to policy on no vehicle maintenance in soldier and residential areas.