



King County

Water and Land Resources Division

Department of Natural Resources and Parks

King Street Center

201 South Jackson Street, Suite 600

Seattle, WA 98104-3855

206.296.6519 Fax 206.296.0192

TTY Relay: 711

March 28, 2012

Rachel McCrea
Municipal Stormwater Specialist
Washington State Department of Ecology
Water Quality Program, Municipal Stormwater Permits
PO Box 47696
Olympia, WA 98504-7696

RE: Annual Report for NPDES Permit WAR04-4501

Dear Ms. McCrea:

Please find attached King County's 2011 annual report, which outlines the County's efforts to comply with the Phase I NPDES Municipal Stormwater Permit. Since this permit was enacted in 2007, working across multiple departments, King County has instituted a comprehensive stormwater management program. This effort has created tangible progress toward protecting the region's natural environment and water quality, including the following:

- Cleaned nearly 11,000 catch basins, resulting in thousands of tons of sediment being removed from the stormwater system before reaching our local waterways. In 2011 alone, nearly 13,000 tons of sediment were removed.
- Conducted emergency response and cleaned up more than 325 pollutant spills, thus preventing concentrated pollution sources from impacting local waterways.
- Inspected and provided technical assistance to more than 2,000 local businesses to help them understand their important role in protecting water quality.
- Provided public education about simple actions that can be taken to protect water quality through efforts like Puget Sound Starts Here and Natural Yard Care. Surveys show in 2011, 84 percent of citizens are avoiding chemical lawn fertilizers, up from 63 percent in 2008.
- Inspected nearly 1800 stormwater outfalls to locate and eliminate illicit connections to the stormwater system, such as sewage/septic pipes or laundry drains.
- Mapped nearly 1,200 miles of King County managed stormwater pipes and ditches to help improve the efficiency of stormwater systems management activities like responding to spills and performing maintenance.

While the list above shows progress made to date and demonstrates the County's ongoing commitment to protecting water quality, significant further effort is needed to restore the health of the waters of the Puget Sound basin.

King County recently completed an extensive effort to provide constructive comments to the Department of Ecology on its draft 5-year and 1-year Phase I Municipal Stormwater General Permits. King County is a strong regional advocate of comprehensive stormwater management and believes that the updates to these permits are an essential element for improving the region's environmental health. King County is supportive of the new regional monitoring approach and believes that with proper implementation, it can be the most efficient way to determine the effectiveness of the region's stormwater management programs and provide all of us important data to allow us to improve service delivery. King County is also supportive of the draft permit's intent to advance the appropriate use of Low Impact Development (LID) techniques as a stormwater management tool, and the advancement of basin planning for the purposes of establishing the best mix of all available tools at a basin scale for protecting and restoring water quality and aquatic resources.

King County would also like to take this opportunity to thank the Department of Ecology for providing the recent grant-funding opportunities, including the newest round of Grants of Regional or Statewide Significance (GROSS). The following grant project proposals submitted by King County were awarded funding under the GROSS program:

- **Standardized Framework for Puget Sound Stormwater System Mapping**
This project will seek to simplify the mapping of our region's stormwater systems by establishing the definitions for mapping terminology of the essential elements of the region's stormwater systems.
- **Vehicle Leaks Education and Behavior change Campaign**
This project is the next stage of the *Puget Sound Starts Here* campaign, and will target fluid leaks from vehicles as a problem that can be addressed through workshops and a radio campaign designed by high school students.
- **Regional Decant Facility Plan**
This project will work to reduce the costs of stormwater system maintenance, by identifying regional decant facilities (where the material cleaned out of stormwater conveyance systems is separated and stored), negotiating terms under which these facilities might be shared, and developing a strategic plan for the development of additional facilities in the region.
- **Illicit Discharge Detection and Elimination Field Screening Manual and Training for Local Governments**
This project will help to reduce the number of illegal pollution sources entering our region's stormwater systems by developing a manual that identifies the most effective field screening methodologies and describes their application and limitations encountered across the state.

I would like to commend the hard work of numerous county staff cooperating across department boundaries, as well as the Department of Ecology for its strong support of King

Rachel McCrea
March 28, 2012
Page 3

County's stormwater programs. Resources made available by Ecology, and your ongoing support and assistance, have helped several programs achieve the improvements we see today. Puget Sound and its rivers, lakes and streams are valued by all who live in the region.

If you have any questions regarding the enclosures, please do not hesitate to contact me at 206-296-6587 or Doug Navetski, Supervising Engineer in the Stormwater Services Section of the Water and Land Resources Division at 206-296-7723. King County staff are working every day to help preserve and restore this valuable natural resource for current and future generations.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Isaacson", with a long horizontal line extending to the right.

Mark Isaacson
Division Director

Enclosures

cc: The Honorable Dow Constantine, King County Executive
John Starbard, Director, Department of Development and Environmental Services
Caroline Whalen, Director, Department of Executive Services
Harold Taniguchi, Director, Department of Transportation
Christie True, Director, Department of Natural Resources and Parks (DNRP)
Doug Navetski, Supervising Engineer, Stormwater Services Section, Water and Land Resources Division, DNRP

I. Permittee Information	
Permittee Name King County	Permittee Coverage Number WAR04-051
Contact Name Curt Crawford	Phone Number 206-296-8329
Mailing Address WLRD, DNRP, KSC-NR-0600 201 S. Jackson St, Suite 600	
City Seattle	State Zip + 4 WA 98104-3855
Email Address curt.crawford@kingcounty.gov	

II. Regulated Medium or Large MS4 Location		
Jurisdiction King County	Entity Type: Check the box that applies	
	County	City/Town
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Major Receiving Water(s) Puget Sound, Green/Duwamish, Cedar, White Rivers, Lakes Washington, Sammamish	Other	
	<input type="checkbox"/>	

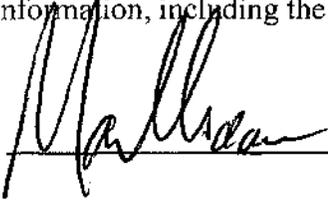
III. Relying on another Governmental Entity	
<p>If you are relying on another governmental entity to satisfy one or more of the permit obligations, list the entity and briefly describe the permit obligation(s) they are implementing on your behalf below. <i>Attach a copy of your agreement with the other entity to provide additional detail.</i></p>	
Name of Entity:	Permit Obligation(s):

REMINDER: Save this Excel worksheet under a new name. Did you

IV. Certification

All annual reports must be signed and certified by the responsible official(s) of permittee or co-permittees. Please print and sign this page of the reporting form and mail it (with an original signature) to Ecology at the address noted below. An electronic signature will not suffice.

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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering 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 willful violations.

Name		Title	<u>Director, WQPD</u>	Date	<u>3/28/12</u>
Name	_____	Title	_____	Date	_____
Name	_____	Title	_____	Date	_____
Name	_____	Title	_____	Date	_____
Name	_____	Title	_____	Date	_____

V. Submittal-- Submit by March 31

If using this Excel version of the annual report form, email one electronic copy, including all identified attachments, to PH1_AnnRpt@ecy.wa.gov AND submit two printed, signed copies of the entire annual report PLUS attachments to:

Department of Ecology
Water Quality Program
Municipal Stormwater Permits
P.O. Box 47696
Olympia, WA 98504-7696

REMINDER: Proceed to the **ANNUAL REPORT (Section VI)** tab next.

PLEASE label any information in attachments with corresponding question numbers.
 NOTE: Items that have future compliance dates must still be answered to indicate status.
 PLEASE indicate reporting year and your jurisdiction in Line 1, above.
 PLEASE refer to the INSTRUCTIONS tab for assistance filling out this table.
 PLEASE review your work for completeness and accuracy. Save this worksheet as you go!

Question	Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
1 Attached a copy of any annexations, incorporations or boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period, and implications for the SWMP as per S9.E.8.	Y			Attachment Section VII
S4. Compliance with Standards				
2 Attached (as part of the Program Evaluation and Other Activities narrative in Section VII.B) a summary of the status of implementation of any actions taken pursuant to S4.F and the status of any monitoring, assessments or evaluation efforts conducted during the reporting period (S4.F.3.d)	Y			Attachment Section VII
S5 Stormwater Management Program				
S5.C.1 Legal Authority				
3 Operated pursuant to legal authority as required under S5.C.1.	Y			
S5.C.2 MS4 Mapping and Documentation				
4 The location of all known municipal separate storm sewer outfalls, receiving waters and structural stormwater BMPs you own, operate, or maintain are mapped. (Required by February 15, 2009, S5.C.2.b.i)	Y			

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
5	A program is in place to map the location of all known connection points between municipal separate storm sewers you own or operate and other municipalities or other public entities. (Required by February 15, 2009, S5.C.2.b.i)	Y			
6	<p><u>Cities:</u> All storm sewer outfalls with a 24 inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems, and including tributary conveyances (type, material and size where known), associated drainage areas and land use throughout the city, are mapped. (Required by February 15, 2011, S5.C.2.b.ii)</p> <p><u>Counties:</u> All storm sewer outfalls with a 24 inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems, and including tributary conveyances (type, material and size where known), associated drainage areas and land use in urban/higher density rural sub-basins, are mapped. (Required by February 15, 2011, S5.C.2.b.ii)</p>	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
7	A program is in place to maintain a map of all connections to the MS4 that have been authorized or allowed after the effective date of the permit. (S5.C.2.b.iii)	Y			

Question	Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
<p>8 <u>Cities:</u> All existing, known connections over 8 inches to municipal separate storm sewers tributary to all storm sewer outfalls with a 24 inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems, are mapped. (<i>Required</i> by February 15, 2009, S5.C.2.b.iv)</p> <p><u>Counties:</u> All existing, known connections over 8 inches to municipal separate storm sewers tributary to all storm sewer outfalls with a 24 inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems, located in one-half the area of the County within urban/higher density rural sub-basins are mapped. (<i>Required</i> by February 15, 2011, S5.C.2.b.iv)</p>	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
<p>9 Geographic areas served by the MS4 that do not discharge stormwater to surface waters are mapped. (<i>Required</i> by February 15, 2011, S5.C.2.b.v)</p>	Y			
<p>10 Municipal storm sewer system GIS data layers that you have updated are listed in <i>Comments</i> field. (S5.C.2.b.vi)</p>	Y		GIS effort has included work on a master drainage layer which includes features such as: pipes, outfalls, ditches and catch basins.	
<p>11 Mapping information has been made available to Ecology, Co-Permittees and Secondary Permittees upon request to the extent appropriate. (S5.C.2.b.vi and vii)</p>	Y		Available upon request	

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
S5.C.3 Coordination					
12	Established and are implementing written internal coordination agreement(s) or directives to facilitate compliance with the permit. <i>(Required by February 15, 2008, S5.C.3.b.i)</i>	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
13	Established coordination mechanisms clarifying roles and responsibilities for control of pollutants between any other municipal stormwater Permittee's physically interconnected municipal storm sewers. <i>(Required by February 15, 2009 or within 2 years following the addition of a new Secondary Permittee, S5.C.3.b.ii)</i>	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
14	Established coordination activities for shared waterbodies among Permittees including Secondary Permittees. <i>(Required by February 15, 2009, S5.C.3.b.ii)</i>	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
S5.C.4 Public Involvement and Participation Program					
15	Implemented a process to create opportunities for the public to participate in processes for development, implementation and updates of the SWMP, including consideration of public comments on the SWMP. <i>(Required by August 15, 2007, S5.C.4.b.i)</i>	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
16	Made the SWMP and all submittals required by the permit available to the public on the Permittee's website listed below, or provided all submittals to Ecology in electronic format for posting on Ecology's website. <i>(Required by March 31, 2008, S5.C.4.b.ii)</i> List Permittee's website address in <i>Comments</i> field.	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
	S5.C.5 Controlling Runoff from New Development, Redevelopment and Construction Sites				
17	Submitted draft enforceable requirements, technical standards and manual, that address requirements to prevent and control runoff from new development, redevelopment and construction site activities in S5.C.5.b.i through S5.C.5.b.iii, to Ecology for review and approval on the date provided in <i>Comments</i> field. (<i>Required</i> by February 15, 2008, S5.C.5.b.iv)	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
18	Adopted the final enforceable requirements, technical standards and manual to prevent and control runoff from new development, redevelopment and construction site activities on the date provided in <i>Comments</i> field. (<i>Required</i> by August 15, 2008, or 60 days following Ecology's written response)	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
19	Were exceptions or variances to the minimum requirements in Appendix 1 granted? (<i>Required</i> by August 15, 2008, S5.C.5.b.ii, and Section 6 of Appendix 1)	N			
19a	Number of variances granted:		0		
20	To the extent allowable under state and federal law, established legal authority to inspect private stormwater facilities and enforce maintenance standards for all new development and redevelopment approved under the provisions of S5.C.5.b. (<i>Required</i> by August 15, 2008, S5.C.5.b.v)	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
21	Developed and implemented a process of permits, plan review, inspections, and enforcement capability to meet the requirements of S5.C.5.b.vi, including maintenance plans for permanent stormwater facilities/BMPs, recordkeeping and an enforcement strategy. <i>(Required to begin by August 15, 2008, S5.C.5.b.vi)</i>	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
22	Reviewed stormwater site plans submitted for proposed development involving land disturbing activities that meet the thresholds in S5.C.5.b.i. <i>(Required beginning August 15, 2008, S5.C.5.b.vi)</i>	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx). Reviewd number below may exceed submitted as permit process is continuous and not broken up by calendar year.	
22a	Number of site plans submitted:		334		
22b	Number of site plans reviewed:		374		
23	Inspected, prior to clearing and construction, permitted development sites that meet the thresholds in S5.C.5.b.i and that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 <i>Identifying Construction Site Sediment Transport Potential</i> . <i>(Required to begin by August 15, 2008, S5.C.5.b.vi)</i>	Y		All permits routed to drainage review are field checked. Assume all permits routed to drainage review had a high potential for sediment transport and were sensitive sites as defined by the 2009 SWDM appendix D.4.1. Permits that completed a field check in the reporting year were counted as the number of sites inspected.	
23a	Number of sites determined to have high sediment transport potential:		0		
23b	Number of sites inspected:		5		
24	Inspected construction-phase stormwater controls at permitted development sites that meet the thresholds in S5.C.5.b.i during construction to verify proper installation and maintenance of required erosion and sediment controls. <i>(Required to begin by August 15, 2008, S5.C.5.b.vi)</i>	Y		Any time a DDES inspector visits a site it is assumed that erosion control will be inspected. The Time Reporting System (TRS) tracks both "office" tasks and "field" tasks. All "field" tasks charged to a permit will be interpreted as meeting the requirements of this question.	

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
24a	Number of qualifying permitted development sites:		409		
24b	Number of sites inspected:		324		
25	Enforced as necessary based on the construction-phase inspection at new development and redevelopment projects. <i>(Required to begin by August 15, 2008, S5.C.5.b.vi)</i> List nature of enforcement actions in <i>Comments</i> field.	Y		KC DDES has a progressive enforcement program including technical assistance, notification letters and stop work orders, these do not qualify as enforcement under KCC Title 23 (Code Compliance).	
25a	Number of enforcement actions taken:		0		
26	Inspected permitted development sites that meet the thresholds in S5.C.5.b.i upon completion of construction and prior to final approval or occupancy to verify proper installation of permanent erosion controls and stormwater facilities / BMPs. <i>(Required to begin by August 15, 2008, S5.C.5.b.vi)</i>	Y		All permits routed to drainage review are inspected for permanent erosion control as part of the normal final inspection process. Final approval or occupancy indicates that installation of permanent erosion controls and stormwater facilities / BMPs is satisfactory.	
26a	Number of qualifying permitted development sites that completed construction:		285		
26b	Number of sites inspected:		259		
27	Verified that a maintenance plan for sites that meet the thresholds in S5.C.5.b.i is completed and responsibility for maintenance is assigned. <i>(Required to begin by August 15, 2008, S5.C.5.b.vi)</i>	Y		The maintenance plan is reviewed by DDES and maintenance responsibility is assigned.	
28	Enforced as necessary based on the post-construction inspection. <i>(Required to begin by August 15, 2008, S5.C.5.b.vi)</i> List the nature of enforcement actions in the <i>Comments</i> field.	Y		A performance bond is required for drainage system construction. DDES inspects the constructed drainage system. If the system is not constructed per plan, KC can use the bond to complete or correct the defects.	
28a	Number of enforcement actions taken:				

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
29	Developed and implemented an enforcement strategy to respond to issues of non-compliance. (<i>Required</i> to begin by August 15, 2008, S5.C.5.b.vi)	Y		Compliance is handled through the performance bond requirement. For projects that are not in compliance, King County can pursue bond forfeiture.	
30	Developed and implemented a recordkeeping process for inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, other enforcement records, maintenance inspections and maintenance activities. (<i>Required</i> by August 15, 2008, S5.C.5.b.vi)	Y		Program in place currently. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
31	Made Ecology's <i>Notice of Intent for Construction Activity</i> and <i>Notice of Intent for Industrial Activity</i> available to representatives of proposed new development and redevelopment. (S5.C.5.b.vii)	Y		Both available. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
32	All staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. (<i>Required</i> by August 15, 2008, S5.C.5.b.viii)	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
S5.C.6 Structural Stormwater Controls					
33	The SWMP includes a Structural Stormwater Control Program to construct stormwater controls to prevent or reduce impacts (hydrology and pollutants) to waters of the state caused by discharges from the MS4 where impacts are not adequately controlled by other SWMP components. <i>(Required by February 15, 2008, S5.C.6.b)</i>	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
34	Attached (as part of each annual update to the SWMP in Section VII.A or as part of the Program Evaluation and Other Activities narrative in Section VII.B) updated information required under S5.C.6.b about the Structural Stormwater Control Program. This information must include a prioritized list/description of planned structural stormwater control projects scheduled for implementation during the term of this permit, a description of how the selected projects comply with AKART and MEP requirements, responses to Ecology concerns (if applicable), and all other required information as described in S5.C.6.b.ii and iii. <i>(Required by February 15, 2008, S5.C.6.b)</i>	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	Section VII - SWMP
35	Currently implementing Structural Stormwater Control Program. <i>(Required by August 15, 2008, S5.C.6.b.i)</i>	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
S5.C.7 Source Control Program for Existing Development					
36	Submitted draft enforceable document(s), such as an ordinance, and proposed Source Control Program, which address requirements in S5.C.7.a and S5.C.7.b, to Ecology for review and approval on the date listed in the <i>Comments</i> field. (Required February 15, 2008, S5.C.7.b.i)	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
37	Adopted the enforceable document(s), such as an ordinance, on the date listed in the <i>Comments</i> field. (Required August 15, 2008, S5.C.7.b.i)	Y			
37a	Began enforcing Source Control Program on the date listed in the <i>Comments</i> field. (Required August 15, 2008, S5.C.7.b.i)	Y		King County has had a Source Control Program since 1995.	
38	Established an inventory or listing of land uses/businesses using the categories in Appendix 8 to identify sites that are potentially pollution generating. (Required August 15, 2008, S5.C.7.b.ii)	Y		Inventory developed. See Appendix 7 of SWMP for inventory development process explanation.	
39	Periodically updated the inventory or listing of land uses/businesses using the categories in Appendix 8, as required in S5.C.7.b.ii.	Y			
40	Implemented a program to respond to complaints and to identify other pollutant generating sources, such as mobile or home-based businesses. (Required August 15, 2008, S5.C.7.b.ii)	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
41	Began implementing an audit/inspection program for sites identified pursuant to S5.C.7.b.ii. (Required February 15, 2009, S5.C.7.b.iii)	Y			

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
41a	Number of sites that were provided with information about activities that may generate pollutants and associated source control requirements:		478		
42	During the reporting period, inspected 20% of identified sites in the audit/inspection program established in S5.C.7.b.ii. (<i>Required</i> to begin by February 15, 2009, report beginning with the third year Annual Report for 2009, S5.C.7.b.iii)	Y		20% target was 475, and 478 were undertaken	
43	During the reporting period, inspected 100% of sites identified through legitimate complaints. (<i>Required</i> to begin by February 15, 2009, report beginning with the third year Annual Report for 2009, S5.C.7.b.iii)	Y			
43a	Number of sites identified through legitimate complaints:		49		
43b	Number of sites inspected:		49		
44	Began implementing a progressive enforcement policy to require sites to come into compliance with stormwater requirements. (Required beginning February 15, 2009, S5.C.7.b.iv) List nature of enforcement actions in <i>Comments</i> field. (S9.E.2.d)	Y		See Appendix 8 of the SWMP for draft Progressive Enforcement Table. For 44a types of follow-up actions include: corrective action letter, re-inspection, Notice of Violation, Notice and Order.	
44a	Number of follow-up actions taken:		111		
44b	Number of further enforcement actions taken:		0		
45	Contacted Ecology immediately upon discovering a source control violation that presented a severe threat to human health or the environment. (S5.C.7.b.iv and/or G3.)	Y		As part of normal procedure King County Staff contact Ecology in such an event. The 45a violations are spills identified by various King County Agencies that had entered King County's MS4 and been reported to Ecology. These spills were contained and remediated by the county's spill response program.	
45a	Number of violations reported to Ecology:		24		

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
46	Referred to Ecology non-emergency violation(s) of local ordinances after making a documented effort of progressive enforcement to bring them into compliance. (S5.C.7.b.iv)	Y			
46a	Number of referrals to Ecology:		0		
47	All staff whose primary duties are implementing the Source Control Program are trained to conduct these activities in accordance with S5.C.7.b.v. (Required February 15, 2009, S5.C.7.b.v)	Y			
S5.C.8 Illicit Connections and Illicit Discharge Detection and Elimination (IDDE) Program					
48	The SWMP includes an ongoing program to detect and remove illicit connections and illicit discharges into the MS4 owned or operated by the Permittee, including the provisions in S5.C.8.a and S5.C.8.b.i through S5.C.8.b.ii. (S5.C.8.b.i)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
49	Procedures have been developed for addressing pollutants entering the MS4 from an interconnected, adjoining MS4. (Required by February 15, 2009, S5.C.8.b.i)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
50	Evaluated and, if necessary updated, existing ordinances or other regulatory mechanisms to effectively prohibit non-stormwater, illicit discharges, and/or dumping into the MS4. (Required by August 15, 2008, S5.C.8.b.ii)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
51	All municipal field staff responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, improper disposal and illicit connections are trained to conduct these activities. (<i>Required by August 15, 2008, S5.C.8.b.iii</i>)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
52	All municipal field staff which, as part of their normal job responsibilities might come in contact with or otherwise observe illicit connections or discharges are trained to identify illicit connections and discharges and the proper procedures for reporting and response. (<i>Required by February 15, 2009, S5.C.8.b.iv</i>)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
53	Provided a publicly-listed hotline or other local telephone number for water quality citizen complaints/reports. (For all except Clark County, <i>required</i> by February 15, 2007; for Clark County <i>required</i> by August 15, 2007, S5.C.8.b.v)	Y		The numbers include the Roads 24-hour hotline (206-296-8100 or 800-KCROADS); the SWS Water Quality hotline (206-296-1900); and the Illegal Dumping Task Force (IDTF) hotline (206-296-SITE or 866-431-7483).	
54	<u>Cities:</u> Conveyances and outfalls within the incorporated area are prioritized for field screening and source tracing as part of the ongoing program to detect and remove illicit connections and illicit discharges. <u>Counties:</u> Conveyances and outfalls in the urban/higher density rural sub-basins are prioritized, and one rural sub-basin has been selected, for field screening and source tracing as part of the ongoing program to detect and remove illicit connections and illicit discharges. (In preparation for the 2012 deadline, S5.C.8.b.vi)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
55	<p><u>Cities</u>: Completed field screening of 60% of the conveyance systems within the incorporated area.</p> <p><u>Counties</u>: Completed field screening of 50% of the conveyance systems in urban/higher density rural sub-basins and at least 1 rural sub-basin. (Required by February 15, 2012, S5.C.8.b.vi)</p>	Y		In 2011, King County continued its Outfall Reconnaissance Inventory (ORI) program. 975 outfalls were investigated. Of those, 52 outfalls screened with follow-up visits, 6 were sampled and 1 was a suspected IC, of these 0 were found to exceed our programmatic action levels that would prompt further investigation.	
56	Upon discovery or upon receiving a report of a suspected illicit connection, initiated an investigation within 21 days. (S5.C.8.b.vii(1))	Y			
56a	Number of investigations:		3		
57	<p>Upon confirmation of the illicit connection, used enforcement authority to eliminate the illicit connection within 6 months. (S5.C.8.b.vii(2))</p> <p>List nature of enforcement actions in <i>Comments</i> field.</p>	NA		Further investigations determined that the none were illicit connections.	
57a	Number of enforcement actions:		0		
57b	Number of illicit connections eliminated:		0		
58	Contacted Ecology immediately upon discovering an illicit connection presented a severe threat to human health or the environment. (S5.C.8.b.vii(3). See also question 7 of this report.)	Y		As part of normal procedure King County staff would contact Ecology in such an event, however none were encountered in 2011.	
58a	Number of illicit connections identified as presenting severe threat to human health or the environment:		0		

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
59	Referred to Ecology illicit connection(s) after making a good faith and documented effort of progressive enforcement to terminate the violation(s). (S5.C.8.b.vii(3))	Y			
59a	Number of referrals to Ecology:		0		
60	Participated in a regional emergency response program or developed and implemented procedures to investigate and response to spills and improper disposal into the MS4. (Required by August 15, 2007, S5.C.8.b.vii)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
61	Developed a program to prioritize and investigate complaints/reports or monitoring information that indicate potential illicit discharges, including spills. (Required by August 15, 2007, S5.C.8.b.viii)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
S5.C.9 Operation and Maintenance Program					
62	Established maintenance standards as protective, or more protective, of facility function than those specified in Chapter 4 of Volume V of the 2005 <i>Stormwater Management Manual for Western Washington</i> , and in accordance with the provisions in S5.C.9.b.i. (Required by August 15, 2008, S5.C.9.b.i)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
63	Evaluated and, if necessary, updated existing ordinances or enforceable documents requiring maintenance of all permanent stormwater treatment and flow control facilities, including catch basins, regulated by the Permittee, in accordance with maintenance standards established under S5.C.9.b.i. (<i>Required</i> by August 15, 2008, S5.C.9.b.ii(1))	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
64	Developed and implemented an initial inspection schedule for all known, permanent stormwater treatment and flow control facilities (other than catch basins) regulated by the Permittee that involves an inspection of each facility at least once during this permit term. (<i>Required</i> by August 15, 2008, S5.C.9.b.ii(2))	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
65	Developed an ongoing inspection schedule to annually inspect all stormwater treatment and flow control facilities (other than catch basins) regulated by the Permittee. (<i>Required</i> to begin by February 15, 2011, S5.C.9.b.ii(3))	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
66	Reduced the frequency of inspections to less than annually for stormwater treatment and flow control facilities (other than catch basins) regulated by the Permittee. Indicate in comments below if reduction is based on maintenance records or certification pursuant to S5.C.9.b.ii(3)).	Y		King County reduced the frequency to every other year. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
67	Managing maintenance activities to inspect new permanent stormwater treatment and flow control facilities, including catch basins, in new residential developments every 6 months during period of heaviest construction to identify maintenance needs and enforce compliance. (Required to begin by February 15, 2009, S5.C.9.b.ii(4))	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
68	Required cleaning of catch basins found to be out of compliance with maintenance standards under the requirements of S5.C.7 (Source Control Program) and S5.C.8 (Illicit Discharges Detection and Elimination) or as part of facilities you regulate and inspected under S5.C.9 (Operation and Maintenance Program). (S5.C.9.b.ii(6))	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
69	Developed and implemented a program to annually inspect all permanent stormwater treatment and flow control facilities (other than catch basins) owned or operated by the Permittee and to implement appropriate maintenance action in accordance with established maintenance standards. (Implementation required to begin by February 15, 2009, S5.C.9.b.iii(1))	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
70	Changed the frequency of inspection schedule to less than annually for permanent stormwater treatment and flow control facilities (other than catch basins) owned or operated by the Permittee. Indicate in comments below if reduction is based on maintenance records or certification pursuant to S5.C.9.b.iii(1).	Y		King County reduced the frequency to every other year. For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
71	Implemented a program to conduct spot checks of stormwater facilities owned or operated by Permittee (other than catch basins) after major storm events, and to respond to findings, in accordance with S5.C.9.b.iii(2). (<i>Required</i> to begin by February 15, 2009, S5.C.9.b.iii(2))	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
72	Implemented program to annually inspect catch basins and inlets owned or operated by the Permittee in accordance with the provisions in S5.C.9.b.iv(1). (<i>Required</i> to begin by February 15, 2009, S5.C.9.b.iv(1))	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
73	Changed the frequency of inspection schedule to less than annually for catch basins owned or operated by the Permittee. Indicate in comments below if reduction is based on maintenance records or certification pursuant to S5.C.9.b.iv(2)).	N			

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
74	Decant water from catch basin cleaning activities is disposed of in accordance with the requirements in Appendix 6. <i>(Required by February 15, 2009, S5.C.9.b.iv(3))</i>	Y			
75	Attached (as part of the Program Evaluation and Other Activities narrative in Section VII.B) a summary of maintenance or repair activities conducted by the Permittee requiring capital construction of \$25,000 or more. <i>(Required annually beginning with third annual report/for calendar year 2009, S5.C.9.b.v)</i>	Y		None conducted in 2011.	
76	Established practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads or highways owned or operated by the Permittee, and road maintenance activities listed in S5.C.9.b.vi conducted by the Permittee. <i>(Required by February 15, 2008, S5.C.9.b.vi)</i>	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
77	Implemented the established practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads or highways owned or operated by the Permittee, and road maintenance activities listed in S5.C.9.b.vi conducted by the Permittee. <i>(Required by August 15, 2008, S5.C.9.b.vi)</i>	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
78	Established and implemented policies and procedures, which address activities and lands listed in S5.C.9.b.vii, to reduce pollutants in discharges from lands owned or maintained by the Permittee. (Required by August 15, 2008, S5.C.9.b.vii)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
79	Developed and implemented an ongoing training program for Permittee employees with primary construction, operations or maintenance job functions that could impact stormwater quality (Required by February 15, 2009, S5.C.9.b.viii.)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
80	Developed and implemented Stormwater Pollution Prevention Plan(s) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the Permittee in areas subject to this Permit that are not covered under another Ecology-issued stormwater discharge permit. (Required by February 15, 2009, S5.C.9.b.xi)	Y		For further information see the King County SWMP.(http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
S5.C.10 Education and Outreach Program					
81	Implemented or participated in an education and outreach program designed to achieve measurable improvements in understanding of the problem and associated solutions for the target audiences listed in S5.C.10.b. (<i>Required</i> by February 15, 2008, S5.C.10.b.i)	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	
82	Implemented or participated in an effort to measure understanding and adoption of the targeted behaviors by at least one target audience in at least one subject area (<i>Required</i> to begin February 15, 2008, S5.C.10.b.ii)	Y		For further information see the King County SWMP. (http://www.kingcounty.gov/environment/wlr/stormwater-services/stormwater-program.aspx)	

Question		Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
S7. Compliance with Total Maximum Daily Load Requirements					
83	Is there a Total Maximum Daily Load (TMDL) listed in Appendix 2 applicable to you? (S7)	N			
84	<p>Attached (as part of the Program Evaluation and Other Activities narrative in Section VII.B) a summary of the status of TMDL implementation activities conducted by the Permittee, and/or on behalf of the Permittee, including as applicable:</p> <ul style="list-style-type: none"> • How TMDL-related activities are incorporated into the SWMP or other permit requirements, such as monitoring • Any lists or inventories required • Description of inspections, including total number of sites targeted and number of inspections conducted • Any specific deadlines or milestones reached in the reporting term and associated dates • Selected monitoring and implementation approaches, where options are described in Appendix 2 • Other information necessary to provide a summary of the TMDL implementation status and any associated monitoring(S7.A and 	NA			

Question		Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
85	If applicable, complied with the specific requirements identified in Appendix 2. (S7.A)	NA			
S8.B Monitoring					
86	During the reporting period, stormwater monitoring studies involving the Permittee's MS4 were conducted by the Permittee, on behalf of the Permittee, or were reported to the Permittee and attached (as part of the Program Evaluation and Other Activities narrative in Section VII.B) is a brief description of the type of information gathered or received. (S8.B.1)	Y		See attached monitoring reports.	Section VIII
General Conditions					
87	Notified Ecology of the failure to comply with the permit terms and conditions within 30 days of becoming aware of the non-compliance. (G20)	Y			
88	Notified Ecology in cases where the Permittee becomes aware of a discharge into or from the Permittee's MS4 which could constitute a threat to human health, welfare, or the environment? (G3)	Y			
88a	Took appropriate action to correct or minimize discharges into or from the Permittee's MS4 which could constitute a threat to human health, welfare, or the environment? (G3)	Y			
S9. Low Impact Development (LID) Reporting					
89	Attached (as part of the Program Evaluation and Other Activities narrative in Section VII.B) a summary of barriers to implementation of Low Impact Development, and any actions taken to remove the barriers (S9.E.10).	Y			Section VII

Question	Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
90 Attached (As part of the Program Evaluation and Other Activities narrative in Section VII.B) a summary of the extent to which basin or watershed planning is being conducted in the Permittee's jurisdiction, either voluntarily, or pursuant to the Growth Management Act or any other requirement (S9.E.11).	Y			Section VII
91 Attached (As part of the Program Evaluation and Other Activities narrative in Section VII.B) identified areas for potential basin or watershed planning that can incorporate development strategies as a water quality management tool to protect aquatic resources. This reporting requirement is due only in the Annual Report for calendar year 2010 (S9.E.12).	Y			Section VII
S8.H Monitoring				
92 Attached (per Section VIII) the Annual Stormwater Monitoring Report(s) for S8.D, S8.E and S8.F (S8.H and S9.E.5).	Y			Section VIII

REMINDER: Save your work as you go. Did you answer each question, provide necessary background information in the # and/or *Comments* field, and attach and/or note the filename and page number of all required documentation in the *Attachment* field? Proceed to the Attachments (**Section VII**) tab next.

VII. Annual Report Attachments

A. Annual Update of Stormwater Management Program Document (S5.A.1 and S9.E)

Attach your annual update of your Stormwater Management Program (SWMP) document to the email in which you transmit this Annual Report form to Ecology. Label each file clearly. If only parts of the SWMP document have changed, you may attach only those updated sections or pages provided you clearly describe that the provided attachments represent replacement pages.

B. Program Evaluation and Other Activities Narrative

Attach a document that includes your narrative program assessment and other additional required reporting as listed in the Table of Contents below.

Table of Contents

1. If applicable, notification of any changes to authorization pursuant to G19.C (S9.E.9).
2. If applicable, a summary of any actions taken pursuant to S4.F (S9.E.3).
3. Assessment of the appropriateness of your program design and/or specific BMPs identified for each component of the SWMP, including any changes made or anticipated to be made, and why (S9.E.6 and S8.B.2).
 - 3.1 Public Involvement and Participation
 - 3.2 Controlling Runoff from New Development, Redevelopment and Construction Sites
 - 3.3 Structural Stormwater Controls
 - 3.4 Source Control Program for Existing Development
 - 3.5 Illicit Connections and Illicit Discharges Detection and Elimination
 - 3.6 Operation and Maintenance Program
 - 3.7 Education and Outreach Program

4. Updated information required under S5.C.6.b about the Structural Stormwater Control Program (if not provided in the annual SWMP update in Section VII.A)
5. Summary of actions taken to comply with applicable TMDL requirements (S9.E.4).
6. Brief description of any stormwater monitoring studies not part of your Annual Stormwater Monitoring Report involving your MS4 in accordance with S8.B.1 (S9.E.6).
7. Operations and Maintenance Records, if applicable
 - 7.1 Justification of reduced inspection frequency, including records if applicable, pursuant to S5.C.9.b.ii(3), S5.C.9.b.iii(1) and S5.C.9.b.iv(2).
 - 7.2 Information pertaining to stormwater facility maintenance or repair requiring capital construction of \$25,000 or more (S5.C.9.b.v). This information may be presented in a summary table and, when the maintenance or repair has not yet been completed, should include an estimated cost and an estimated completion date
8. Notification of any annexations, incorporations or jurisdictional boundary changes in the geographic area of coverage during the reporting period, and implications for the SWMP (S9.E.8), if applicable.
9. Summaries of Low Impact Development (LID) reporting requirements pursuant to S9.E.10, S9.E.11 and S9.E.12.

REMINDER: Send electronic and hard copies of these attachments to Ecology according to directions in the Certification tab under Section V. Proceed to the **Monitoring (Section VII)** tab next.

VIII. Annual Stormwater Monitoring Report (S8.H and S9.E.5)

Refer to the Annual Stormwater Monitoring Report contents guidance for additional information regarding Ecology's expectations for this report.

**King County Phase I NPDES Municipal Stormwater Permit
Calendar Year 2011 Annual Report
Section VII Annual Report Attachments**

A) Annual update of Stormwater Management Program

See attached SWMP. Entire document has been revised.

B) Program evaluation and other activities narrative

1. Changes of authorization

None

2. Summary of actions pursuant to S4F

See the S4F related correspondence included herein as Appendix 1 of the 2012 Annual Report.

3. Assessment of appropriateness of program design and BMP selection

King County currently has no comments on the appropriateness of the program design and BMP selection of the Municipal NPDES Permit.

4. Updated information about the Structural Control Program

Please see Appendix 2 of the SWMP which outlines the Structural Control Program in detail.

5. Summary of actions taken to comply with applicable TMDL requirements (in response to specific information requirements posed in line 84 of annual report form)

None.

6. Description of any stormwater monitoring studies not included with Annual Stormwater Monitoring Report

The Georgetown Yard trucking facility

King County's Wastewater Treatment Division completed quarterly stormwater sampling of the Georgetown Yard trucking facility in 2011. Sampling and analyses include turbidity, oil and grease, zinc and pH. Visual monitoring observations are also recorded. Results of each monitoring event and visual observations are summarized in an inspection report which is submitted as required.

Military Road stormwater monitoring

King County Road Services Division operates a bioretention facility located on the south west corner of the Military Road South at South 272nd Street intersection in Kent. The facility treats road surface runoff from approximately 0.1 acre of S 272nd St and 0.21

**King County Phase I NPDES Municipal Stormwater Permit
Calendar Year 2011 Annual Report
Section VII Annual Report Attachments**

acre from Military Rd S. Pressure sensors and volumetric weirs were installed at each inlet and recorded continuous stormwater flow data from January through May of 2011.

Lake Hicks Stormwater Monitoring

Grab samples were taken by King County's WLRD staff at designated sites around White Center in the area draining to Lake Hicks for microbial source tracking in storm water runoff on two dates in 2011: April 27th and June 1st. One station was located on the northwest shoreline of Lake Hicks, five were stations that had been sampled during previous efforts for water quality, and six were new stations that were added for exploring potential sources of pollution further up in the watershed. Parameters measured included total fecal coliform, *E. coli*, human *Bifidobacter* sp., and human *Bacteroides thetaiotamicron*.

DDES Required Monitoring

King County's Department of Development and Environmental Services (DDES) requires developers to monitor some projects. These include some large urban developments and experimental design adjustments per King County's Surface Water Design Manual. King County does not do the monitoring, but sets requirements and receives reports, generally from developers' consultants. A project may involve monitoring flow control or water quality facilities or both. Flow control monitoring may involve detention or infiltration performance. Water quality monitoring typically involves levels and or removal rates for pollutants targeted for control, e.g. total suspended solids, total phosphorus, and/or pH. Monitoring may also be required for maintenance, e.g. frequency required for cleaning out built-up sediment, or vegetation maintenance requirements for a bioswale or rain garden.

7. Operation and maintenance records, if applicable

All King County custodial agencies were surveyed and no maintenance or repair activities, as described in S5.C.9.b.v, that exceeded the \$25,000 threshold took place in 2011.

8. Annexation notification

See attached 2011 annexation map.

9. Low Impact Development (LID) Summary

Property rights opposition was a substantial barrier to King County adoption of LID requirements mandating preservation of forest land on development sites. Citizens opposed both the new buffer requirements of the Critical Areas Ordinance and the clearing limits in the Clearing and Grading Ordinance adopted in 2004. In 2008, as a result of a lawsuit by a property rights group, the adopted clearing limits were overturned because they were imposed too broadly independent of site-specific need.

**King County Phase I NPDES Municipal Stormwater Permit
Calendar Year 2011 Annual Report
Section VII Annual Report Attachments**

The loss of these limits is offset to some extent by other County requirements and incentives to install LID BMPs. Examples include:

- (1) flow control BMPs required on all lot developments to mitigate runoff impacts from added impervious surface;
- (2) flow control facility sizing credits given for application of LID BMPs on all new developments and redevelopments;
- (3) the Public Benefit Rating System for giving tax relief to lot owners that preserve forest land; and
- (4) surface water management fee discounts for application of flow control BMPs, including retention of forest and minimizing added impervious surface.

Property rights concerns also pose a challenge to acquiring access to inspect LID facilities on residential parcels, as many think it is an invasion of privacy to allow county personnel on their property. To address this barrier, King County created a covenant that gave homeowners the alternative of hiring professional engineers in the private sector to do the inspections.

Even with a right of access to inspect LID facilities on residential parcels, issues related to maintenance of BMPs are a significant barrier to their widespread use. First, it is uncertain what kind of and at what interval maintenance is necessary; which is compounded by homeowners having little incentive to maintain them. Second, if they are widely used for flow control, their loss of functionality over time could result in flow impacts to natural water bodies. Third, if their use is widespread, it may be impracticable to enforce maintenance on thousands of properties.

When King County began writing the requirements for using LID BMPs at individual home sites, it was a major effort to keep the requirements simple and doable at a reasonable cost, especially with the prospect of lowering the threshold for drainage review to capture all single family residential building permits. Once King County had moved beyond this barrier, a new barrier appeared--effective construction inspection. Many LID BMPs were not installed properly or were not installed at all because the Department of Development and Environmental Services (DDES) was not doing final inspections on them. DDES addressed this problem by re-organizing its inspection program. As thus, KC's post construction inspection program to make sure LID BMPs are maintained is still in its early stages. The program will grow over time as more and more LID BMPs are added to the inventory. However, the initial indications from the inspections of approximately 120 private flow control BMPs have shown troubling results. Of those BMPs inspected, approximately 47% were found to be either missing completely, installed incorrectly, in need of maintenance, or lacked access.

**King County Phase I NPDES Municipal Stormwater Permit
Calendar Year 2011 Annual Report
Section VII Annual Report Attachments**

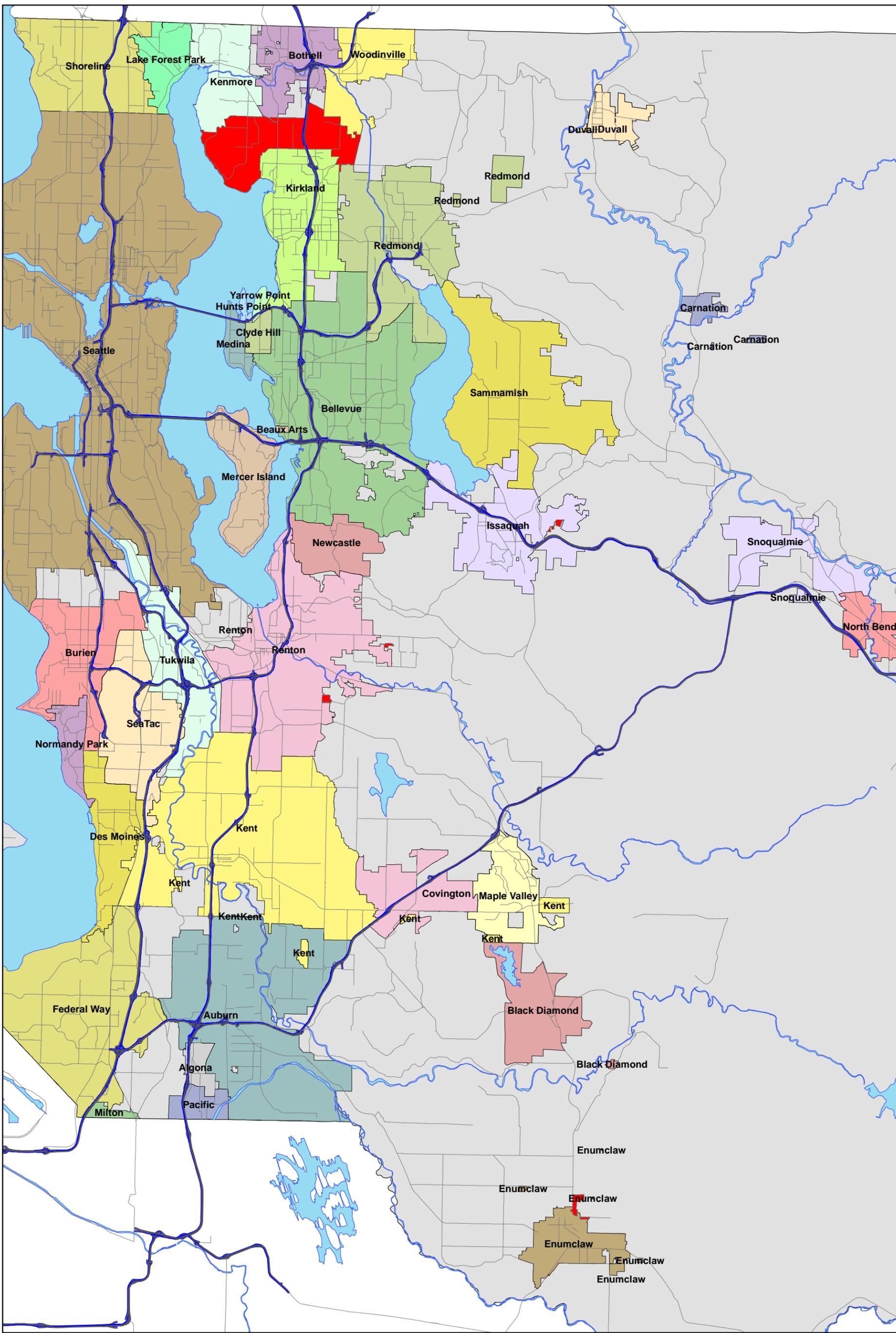
S9.E.11 & 12.

King County has undertaken basin planning in several basins including Juanita Creek, Miller and Walker Creek, Des Moines Creek, and Salmon Creek. The basins listed in the table below have been identified as falling within the Urban Growth Area of unincorporated King County. These basins would be most at risk for development and could therefore be locations for potential basin or watershed planning.

BASIN_NAME
Bear Creek
Black River
Cherry Creek
Coal Creek (Cedar)
Coal Creek (Snoqualmie)
Covington Creek
Duwamish River
East Lake Sammamish
East Lake Washington - Bellevue North
East Lake Washington - Bellevue South
Evans Creek
Hylebos Creek
Issaquah Creek
Jenkins Creek
Juanita Creek
Kelsey Creek
Little Bear Creek
Longfellow Creek
Lower Cedar River
Lower Green River - East
Lower Green River - West
Lower Puget Sound - Burien North
Lower White River

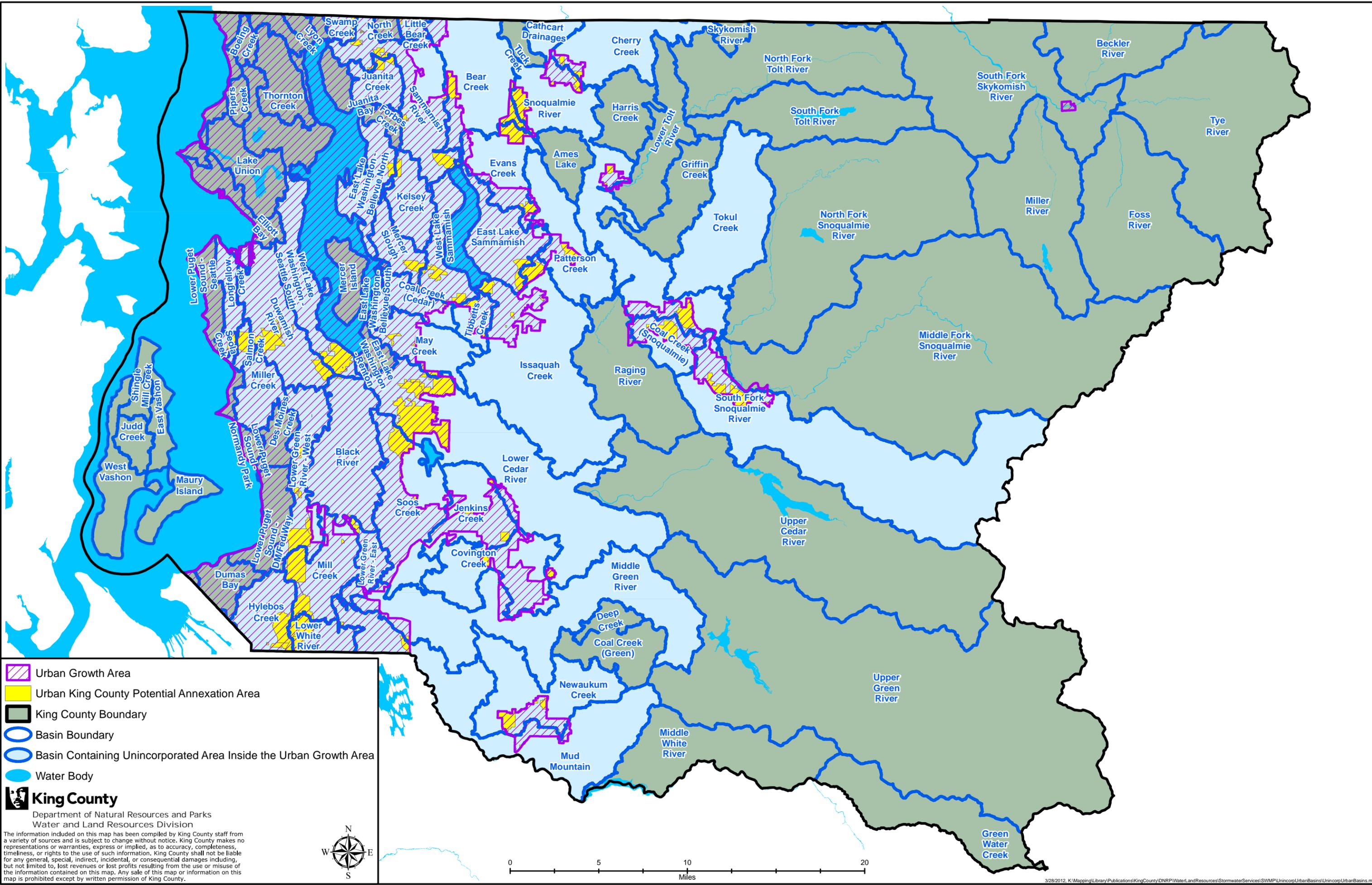
**King County Phase I NPDES Municipal Stormwater Permit
Calendar Year 2011 Annual Report
Section VII Annual Report Attachments**

May Creek
Mercer Slough
Middle Green River
Mill Creek
Miller Creek
Mud Mountain
Newaukum Creek
Patterson Creek
Salmon Creek
Sammamish River
Seola Creek
Snoqualmie River
Soos Creek
South Fork Snoqualmie River
Swamp Creek
Tibbetts Creek
Tokol Creek
West Lake Sammamish
West Lake Washington - Seattle South



2011 Annexations in King County

2011 Annexations



- Urban Growth Area
 - Urban King County Potential Annexation Area
 - King County Boundary
 - Basin Boundary
 - Basin Containing Unincorporated Area Inside the Urban Growth Area
 - Water Body
- King County**
 Department of Natural Resources and Parks
 Water and Land Resources Division

The information included on this map has been compiled by King County staff from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of King County.



**King County Phase I NPDES Municipal Stormwater Permit
Calendar Year 2011 Annual Report
Section VIII Annual Stormwater Monitoring Report**

As required in the 2011 Annual Report, please find the attached monitoring report.

**King County Phase I NPDES Municipal Stormwater Permit
Calendar Year 2011 Annual Report**

Appendix 1 – S4F Related Documents



King County

Water and Land Resources Division

Department of Natural Resources and Parks

King Street Center

201 South Jackson Street, Suite 600

Seattle, WA 98104-3855

206.296.6519 Fax 206.296.0192

TTY Relay: 711

May 25, 2011

Rachel McCrea
Water Quality Program
Washington State Department of Ecology
3190 – 160th Avenue SE
Bellevue, WA 98008-5452

Dear Ms. McCrea:

In accordance with the requirements of section S4.F.1 of the Phase I Municipal Stormwater Permit, the purpose of this letter is to inform the Washington State Department of Ecology (Ecology) that King County has become aware of turbid discharges leaving the County's municipal separate storm sewer system (MS4), which includes roadside drainage systems. This water is entering an unnamed tributary of the Raging River, which is a water of the state. This discharge appears to be causing or contributing to a likely violation of the Washington State Water Quality Standards in the receiving waters, thus triggering the S4F reporting requirement. A summary of the most recent discharge is below.

On April 25, 2011, King County personnel observed turbid stormwater between houses numbered 18418 and 18430 along 364th Avenue SE (also known as Kerriston Road) discharging into an unnamed tributary of the Raging River (WRIA 7.0423). Two measurements were collected with a portable turbidimeter in the most affected stretch of the stream. The readings, collected 20 feet up and downstream of a culvert conveying the stream under the road, were 134 and 348 Nephelometric turbidity units (NTU)¹, respectively. A background turbidity measurement collected approximately 1,500 feet upstream and away from road drainage inputs was 9.5 NTU. The Aquatic Life Turbidity Criteria in Fresh Water for Salmonid Spawning, Rearing and Migration (Chapter 173-201A WAC) is five NTU over background when the background is 50 NTU or less, or a 10 percent increase in turbidity when the background is more than 50 NTU. The stream in question has documented use by steelhead trout, cutthroat trout, and coho salmon for spawning, rearing, and migration.

The elevated turbidity is related to heavy truck traffic use associated with logging operations under way at a forested parcel located adjacent to Kerriston Road. Heavy truck traffic is

¹ NTU is related to the amount of suspended solids in the water.

causing active deterioration of the gravel road in this area, which is resulting in delivery of sediment to the roadside drainage systems or MS4 and subsequently to the surface stream during periods of moderate to heavy precipitation. The logging operation is expected to continue through fall 2011. The roadside drainage system is already at maximum capacity and full of sediment. Therefore when it rains, the sediment washes downstream of the system.

Upon discovery of this discharge, King County contacted the Washington Department of Natural Resources (WDNR) to request immediate mitigation measures from the logging operation contractor. WDNR subsequently issued two Notices to Comply. When it was clear that the County's roads and associated drainage network were also likely contributing to the elevated turbidity observed in the receiving waters because of the lack of maintenance (shoulders failing and sediment accumulations in the ditches), King County submitted a G3 notification to Ecology on May 5, 2011. King County Road Services Division Maintenance staff conducted a series of follow-up visits to the site to determine the effectiveness of the erosion and sedimentation control best management practices (BMPs) being implemented by the logging operation. Gravel roads are well documented sources of fine sediment that contribute to turbid runoff during rain events and to dust generation in dry periods. The degree to which turbid water or dust are discharged from the road is dependent upon the amount of traffic using the road and the degree to which the road and its associated drainage facilities have been maintained.

A follow-up visit on May 12, 2011 included representatives from WDNR, Ecology, Tulalip Tribes, and representatives from the following King County agencies: Road Services Division; Water and Land Resources Division; and King County Department of Development and Environmental Services. As a participant in this site visit, you indicated that the turbid discharges are probably subject to reporting requirements under S4.F.1 of the Phase I Permit and that King County should review the permit requirements and determine the appropriate reporting process. King County subsequently reviewed the site's history and information collected and determined that the sampling results and impacts to receiving waters were sufficient triggers to require notification under section S4.F.1.

Based on visual observations during follow-up site visits, the erosion and sedimentation control BMPs implemented thus far have significantly reduced the turbidity in discharges from the MS4. Additional measures may improve water quality further, and King County will meet with the logging operation contractor and Ecology in June to identify additional specific operational and structural improvements to minimize turbidity in future discharges from the County's MS4 in this location.

Ecology staff identified several other areas of concern regarding general maintenance of Kerriston Road and potential impacts to water quality, which will be discussed further at the June meeting. Some preliminary improvements that have already been identified include: re-grading the road surface to direct flow into ditches, thus minimizing sheet flow across the

Rachel McCrea

May 25, 2011

Page 3 of 3

roadway; cleaning accumulated sediment from clogged ditches to increase capacity; stabilizing failing road shoulders; and repairing culvert headwalls to minimize bank erosion.

It is anticipated that Ecology will not require an adaptive management response for this situation, since programs outlined in King County's Stormwater Management Program (i.e., Illicit Discharge Detection and Elimination Program, and Operations and Maintenance Program) address the problem identification and remedy.

Please contact Jennifer Keune at 206-205-3703 or Jennifer.Keune@kingcounty.gov or Douglas Navetski at 206-296-8311 or Doug.Navetski@kingcounty.gov for more information about this discharge or the follow-up actions under way or planned by King County. Thank you.

Sincerely,



Mark Isaacson
Division Director

cc: Paulette Norman, Interim Division Director, County Road Engineer, Road Services Division (RSD), King County Department of Transportation (KCDOT)
Debbie Arima, Maintenance Manager, Road Maintenance Section (RMS), RSD, KCDOT
Tony Ledbetter, Maintenance Superintendent, RMS, RSD, KCDOT
Jennifer Keune, Environmental Scientist III, RMS, RSD, KCDOT
Doug Navetski, Supervising Engineer, Stormwater Services Section, Water and Land Resources Division, King County Department of Natural Resources and Parks



King County

Water and Land Resources Division

Department of Natural Resources and Parks

King Street Center

201 South Jackson Street, Suite 600

Seattle, WA 98104-3855

206-296-6519 Fax 206-296-0192

TTY Relay: 711

August 26, 2011

Rachel McCrea

Water Quality Program

Washington State Department of Ecology

3190 – 160th Avenue SE

Bellevue, WA 98008-5452

Dear Ms. McCrea:

King County is pleased to submit the enclosed plan for reducing stormwater impacts associated with runoff from unpaved portions of Kerriston Road/364th Avenue SE, located east of Hobart, Washington. This plan is a follow-up to our previous notification under S4.F.1 of the NPDES Phase I Municipal Stormwater Permit (Phase I Permit).

The plan summarizes necessary improvements identified through a series of field visits by King County, with input from the Washington State Department of Ecology (Ecology). King County proposes to implement the enclosed plan according to the schedule indicated. The schedule incorporates prioritization of the necessary improvements while realistically reflecting funding availability. The work will be completed by King County, Road Services Division, Road Maintenance Section (KCRMS) staff. KCRMS will utilize industry standard best management practices to minimize stormwater impacts associated with the improvement activities. Work will be conducted in accordance with all necessary state and local government permits, as applicable. Updates on plan implementation will be provided in King County's Phase I Permit annual report.

Rachel McCrea
August 26, 2011
Page 2

King County appreciates the technical assistance provided by Ecology for plan development. If you have further feedback or have questions about the information presented in the enclosed plan, please contact Jennifer Keune at 206-205-3703 or Jennifer.Keune@kingcounty.gov or Doug Navetski at 206-296-8311 or Doug.Navetski@kingcounty.gov. Thank you.

Sincerely,



Mark Isaacson
Division Director

MI:DN:bgD69

Enclosures: Summary of Proposed Tasks with Potential Benefits to Water Quality
Example Photographs of Select Proposed Tasks

cc: Debbie Arima, Manager, Road Maintenance Section (RMS), Road Services Division
(RSD), Department of Transportation
Jennifer Keune, Environmental Scientist III, RMS, RSD, DOT
Tony Ledbetter, Maintenance Superintendent, RMS, RSD, DOT
Steve Wilson, Special Operations Superintendent, RMS, RSD, DOT
Curt Crawford, Manager, Stormwater Services Section, Water and Land Resources
Division (WLRD, Department of Natural Resources and Parks (DNRP)
Doug Navetski, Supervising Engineer, Water Quality Compliance Unit, WLRD, DNRP

**SUMMARY OF PROPOSED TASKS WITH
POTENTIAL BENEFITS TO WATER QUALITY**

KERRISTON ROAD / 364TH AVENUE SE

Distance from end of asphalt (miles)	Left Side of Road (proceeding from end of asphalt)	Right Side of Road (proceeding from end of asphalt)	Permits Required	Estimated Completion Date
0	Ditch and grade road, install CB, install cross culvert	Install spreader pipe	None	12/31/13
0.05	Clean sump/ditch		None	12/31/12
0.3	Pave crest to crest	Pave crest to crest, design drainage features	Yes, Type F buffer	12/31/2016 ^a
1.3	Clean ditch, pull shoulder, install BMP check dam		Yes, Type F buffer	12/31/12
1.3		Grade 100 feet of shoulder	Yes, Type F buffer	12/31/12
1.3		Install 30 feet of new ditch out, pull shoulder	Yes, Type F buffer	12/31/12
1.4		Grade 50 feet of shoulder, install new ditch out	Yes, Type F buffer	12/31/12
1.4	Clean and maintain ditch out		Yes, Type F buffer	12/31/12
1.4	Clean and maintain ditch out		Yes, Type F buffer	12/31/12
1.4		Grade shoulder, install new ditch out	Yes, Type F buffer	12/31/12
1.5		Grade shoulder, install new ditch out	None	12/31/12
1.5	Grade shoulder, clean and maintain ditch out. Evaluate for BMP installation		None	12/31/12
1.5		Grade shoulder, clean and maintain ditch out	None	12/31/12
1.6		Grade shoulder, clean and maintain ditch out	None	12/31/12
1.6	Grade shoulder, clean and maintain ditch out		None	12/31/12
1.6		Grade shoulder, clean and maintain ditch out	None	12/31/12
1.8	Grade shoulder		None	12/31/12
2.8	Remove sediment from roadside pullout		Yes, Type F buffer	12/31/12
2.8		Clean culvert inlet and ditch, install sediment control BMP	Yes, Type F buffer	12/31/12
3.5	Evaluate installation of cross tie to relocate stream out of roadside ditch		Yes, Type N water	Indefinite ^b
3.6-3.7	Evaluate relocation of stream away from road		Yes, Type F water	Indefinite ^b
3.7	Clean catch basin and cross tie, install rock in road bed		Yes, Type F buffer	12/31/12
3.7		Maintain ditch out	None	12/31/12
3.7	Clean culvert inlet and ditch, install sediment control BMP		None	12/31/12
3.8	Clean ditches and sumps, repair culvert headwalls		Yes, Type F water and buffer	12/31/11
3.8	Replace culvert with fish passable structure	Replace culvert with fish passable structure	Yes, Type F water	12/31/2016 ^c
3.9		Evaluate removal of rocky ditch, check dam and sump in wetland	Yes, wetland	No maintenance proposed at this time. ^d
3.9	Grade 50 feet of shoulder to remove berm		Yes, Type F stream buffer	12/31/12

Notes:

- ^a Proposed task has been identified as potentially beneficial to water quality. However, completion of proposed task subject to permitting approval and acquisition of right-of-way.
- ^b Proposed task has been identified as potentially beneficial to water quality. However, completion of proposed task would require grant funding and landowner authorization.
- ^c Proposed task has been identified as potentially beneficial to water quality. However, completion of proposed task subject to permitting approval.
- ^d Evaluation will be conducted following cessation of logging operations and after a wet season inspection has occurred. Action items will be determined based on evaluation outcome.

EXAMPLE PHOTOGRAPHS OF SELECT PROPOSED TASKS

Kerriston Road/364th Avenue SE



Figure 1 - Example of berm to be removed from road shoulder



Figure 2 - Example of accumulated sediment to be removed from roadside ditch out

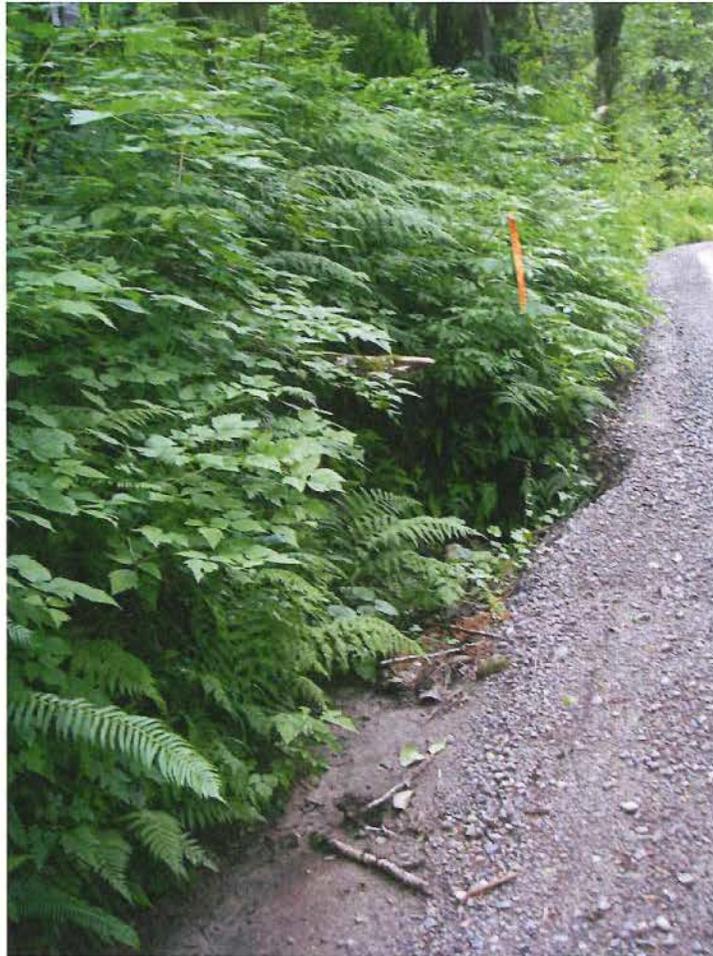


Figure 3 - Example of accumulated sediment to be removed from ditch