Permittee Name	Permittee Coverage Number	
City of Redmond	WAE04-5538	
Contact Name	Phone Number	-
Peter Holte	425-556-2822	_
Mailing Address		
MS: 2NPW		
PO Box 97010		
City	State Zip + 4	-
Redmond	98073 9710	)
Email Adddress		
pholte@redmond.gov		
II Regulated Small MS4 Location		
II. Regulated official most cocation	Entity Type, Check the box th	ot opplige
Jurisdiction	County City/Town	at applies Othe
City of Redmond	X	
Major Receiving Water(s)		

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. *Attach a copy of your agreement with the other entity to provide additional detail.* 

Name of Entity:

Permit Obligation(s):

### **IV. Certification**

All annual reports must be signed and certified by the responsible official(s) of permittee or copermittees. 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 Ullum Campbel	Title Public Works Director	Date 3/30/12
Name	Title	_Date
Name	Title	_Date
Name	Title	Date
Name	Title	_Date

PLEASE indicate reporting year and your jurisdiction in Line 1, above.

PLEASE refer to the INSTRUCTIONS tab for assistance filling out this table.

NOTE: For clarification on how to answer questions, place cursor over cells with red flags.

NOTE: Please answer all questions.

PLEASE review your work for completeness and accuracy. Save this worksheet as you go!

Que	stion	Y/N/	#	Comments (50 word limit)	Name of Attachment &
		NA			Page #, <u>if applicable</u>
1.	Attached annual written update of Permittee's Stormwater Management Program (SWMP), including applicable requirements under S5.A.2 and S9?	Y			See Attachment A: The City of Redmond Stormwater Management Program (SWMP)
2.	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.3?	Y			None this year.
3.	Implemented an ongoing program for gathering, tracking, maintaining, and using information to evaluate SWMP development, implementation and permit compliance and to set priorities? (S5.A.3)	Y			
4.	Began tracking costs or estimated costs of the development and implementation of the SWMP? ( <i>Required</i> no later than January 1, 2009, S5.A.3.a)	Y			

Que	stion	Y/N/ # NA		Comments (50 word limit)	Name of Attachment & Page #, if applicable	
5.	SWMP includes an education program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the Permittee? ( <i>Required</i> <i>to begin</i> by February 15, 2009, S5.C.1)	Y				
6.	Distributed appropriate information to target audiences identified in the area served by the MS4? ( <i>Required to begin</i> by February 15, 2009, S5.C.1.a)	Y				
7.	Tracked the types of public education and outreach activities implemented. ( <i>Required to</i> <i>begin</i> by February 15, 2009, S5.C.1.c)	Y				
7b.	Number of activities implemented:		14			
8.	Measured the understanding and adoption of the targeted behaviors among at least one targeted audience in at least one subject area. ( <i>Required to begin</i> by February 15, 2009, S5.C.1.b)	Y				
9.	Provided opportunities for the public to participate in the decision making processes involving the development, implementation and updates of the Permittee's SWMP? ( <i>Required</i> by February 15, 2008, S5.C.2.a)	Y				
10.	Developed and implemented a process for public involvement and consideration of public comments on the SWMP? ( <i>Required</i> by February 15, 2008, S5.C.2.a)	Y				

Que	stion	Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, <u>if applicable</u>
11.	Made the most current version of the SWMP available to the public. (S5.C.2.b)	Y			
12.	Posted the SWMP and latest annual report on your website. (S5.C.2.b)	Y			
12b.	NOTE website address in <i>Attachment</i> field:	У			http://www.redmond.gov/Environ ment/StormwaterUtility/NPDES/
13.	Initiated or implemented an ongoing program to detect and remove illicit connections and illegal discharges into the Permittee's MS4? ( <i>Required</i> August 19, 2011, S5.C.3)	Y			
14.	Developed and currently maintain a map of your MS4? ( <i>Required</i> by February 16, 2011, S5.C.3.a)	Y			
14b.	Initiated a program to develop and maintain a map of all connections to the MS4 authorized or allowed by the Permittee after the Permit effective date? (S5.C.3.a.ii)	Y			
15.	Map shows the location of all known municipal separate storm sewer outfalls, receiving waters and structural stormwater BMPs owned, operated, or maintained by the Permittee? ( <i>Required</i> by February 16, 2011, S5.C.3.a.i)	Y			
16.	Map shows all storm sewer outfalls with a 24 inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems and includes tributary conveyances, associated drainage areas and land use? ( <i>Required</i> by February 16, 2011, S5.C.3.a.i)	Y			

Que	stion	Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, if applicable
17.	Map shows geographic areas served by the	Y			
	stormwater to surface waters? ( <i>Required</i> by February 16, 2011, S5.C.3.a.iii)				
18.	Map has been made available upon request? (S5.C.3.a.iv)	Y			
19.	Developed and implemented regulatory actions necessary to effectively prohibit non- stormwater, illicit discharges into the Permittee's MS4? ( <i>Required</i> by August 15, 2009, S5.C.3.b)	Y			
20.	Developed and implemented an ongoing program to detect and address non-stormwater illicit discharges, including spills, and illicit connections into the Permittee's MS4? ( <i>Required</i> by August 19, 2011, S5.C.3.c)	Y			
21.	Developed procedures for locating priority areas likely to have illicit discharges, including at a minimum: evaluating land uses and associated business/industrial activities present; areas where complaints have been registered in the past; and areas with storage of large quantities of materials that could result in illicit discharges, including spills? ( <i>Required</i> by August 19, 2011, S5.C.3.c.i)	Y			

Que	estion	Y/N/	#	Comments (50 word limit)	Name of Attachment &
		NA			Page #, <u>if applicable</u>
22.	Implemented field assessment activities, including visual inspection of priority outfalls identified during dry weather, and for the purposes of verifying outfall locations, identifying previously unknown outfalls, and detecting illicit discharges. ( <i>Required</i> by August 19, 2011, S5.C.3.c.ii)	Y			
23.	Prioritized receiving waters for visual inspection? ( <i>Required</i> by February 16, 2010, S5.C.3.c.ii)	Y			
24.	Conducted field assessments for three high priority water bodies? ( <i>Required</i> by February 16, 2011, S5.C.3.c.ii)	Y			
25.	Conducted field assessments on at least one high priority water body? ( <i>Required</i> annually <b>after</b> February 16, 2011, S5.C.3.c.ii)	Y		Peters Creek	
26.	Developed and implemented procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges found by or reported to the Permittee? ( <i>Required</i> by August 19, 2011, S5.C.3.c.iii)	Y			
27.	Developed and implemented procedures for tracing the source of an illicit discharge; including visual inspections, and when necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures? ( <i>Required</i> by August 19, 2011, S5.C.3.c.iv)	Y			

Question		Y/N/ #		Comments (50 word limit)	Name of Attachment &	
		NA			Page #, <u>if applicable</u>	
20		V				
28.	Developed and implemented procedures for	T				
	removing the source of the discharge,					
	including notification of appropriate					
	authorities; notification of the property owner;					
	technical assistance for eliminating the					
	discharge; follow-up inspections; and					
	escalating enforcement and legal actions if the					
	discharge is not eliminated? ( <i>Required</i> by					
•	August 19, 2011, S5.C.3.c.v.)	X				
29.	Informed public employees, businesses, and	Y				
	the general public of hazards associated with					
	illegal discharges and improper disposal of					
	waste? ( <i>Required</i> by August 19, 2011,					
	S5.C.3.d)					
30.	Distributed appropriate information to target	Y				
	audiences identified pursuant to S5.C.1?					
	( <i>Required</i> by August 19, 2011, S5.C.3.d.i)					
31.	Publicized a hotline or other local telephone	Y				
	number for public reporting of spills and other					
	illicit discharges? ( <i>Required</i> by February 15,					
	2009, S5.C.3.d.ii)		1.0			
31b.	Number of hotline calls received:		13			
31c.	Number of follow-up actions taken in response		69			
	to calls:					
32	Maintained a hotline or other reporting number	Y				
	for public reporting of illicit discharges,					
	including spills? ( <i>Required</i> by February 15,					
	2009, S5.C.3.d.ii)					
32b.	NOTE hotline number in <i>Comments</i> field	У		425-556-2868		
33	Tracked the number of illicit discharges,	Y				
	including spills, identified? (Required by					
	August 19, 2011, S5.C.3.e)					

Que	stion	Y/N/	#	Comments (50 word limit)	Name of Attachment &
		INA			rage #, <u>ii applicable</u>
33b.	Number of illicit discharges identified:		33		
34	Tracked the number of inspections made for	Y			
	illicit connections? (Required by August 19,				
	2011, S5.C.3.e)				
34b.	Number of inspections:		3		
35	Received feedback from IDDE public	Ν			
	education efforts? (Required by August 19,				
	2011, S5.C.3.e)				
36	Attached report on IDDE public education	NA			
	efforts? (Required by August 19, 2011,				
	S5.C.3.d, S5.C.3.e)				
37	Municipal field staff responsible for	Y			
	identification, investigation, termination,				
	cleanup, and reporting of illicit discharges,				
	improper disposal and illicit connections are				
	trained to conduct these activities? (Required				
	by August 15, 2009, S5.C.3.f.i)				
37b.	Number of trainings provided:		0		
37c.	Number of staff trained:		0		
38	Provided follow-up training as needed to	Y			
	address changes in procedures, techniques or				
	requirements? (Required by August 15, 2009,				
	S5.C.3.f.i)				
38b.	Number of trainings provided:		0		
38c.	Number of staff trained:		0		

Que	stion	Y/N/	#	Comments (50 word limit)	Name of Attachment &
		NA			Page #, <u>if applicable</u>
39	Developed and implemented an ongoing training program on the identification of an illicit discharge/connection, and on the proper procedures for reporting and responding to the illicit discharge/ connection for all municipal field staff, which, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system? ( <i>Required</i> by February 16, 2010, S5.C.3.f.ii.)	Y			
39b.	Number of trainings provided:		1		
39c.	Number of staff trained:		14		
40	Developed, implemented and enforced a program to reduce pollutants in stormwater runoff to a regulated small MS4 from new development, redevelopment and construction site activities? <i>(Required</i> by February 16, 2010, S5.C.4)	Y			
41	Applied stormwater runoff program to all sites that disturb a land area 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale? ( <i>Required</i> by February 16, 2010, S5.C.4)	Y			
42	Applied stormwater runoff program to private and public development, including roads? ( <i>Required</i> by February 16, 2010, S5.C.4)	Y			

Que	stion	Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, <u>if applicable</u>
43	Applied the Technical Thresholds in Appendix 1 to all sites 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale? ( <i>Required</i> by February 16, 2010, S5.C.4)	Y			
44	Adopted and implemented regulatory mechanism (such as an ordinance) necessary to address run-off from new development, redevelopment and construction site activities? ( <i>Required</i> by February 16, 2010, S5.C.4.a)	Y			
45	Retained existing local requirements to apply stormwater controls at smaller sites or at lower thresholds than required pursuant to S5.C.4? (S5.A.4)	Y			
46	The ordinance or other enforceable mechanism includes the minimum requirements, technical thresholds, and definitions in Appendix 1 (or an equivalent approved by Ecology under the NPDES Phase I Municipal Stormwater Permit) for new development, redevelopment, and construction sites? ( <i>Required</i> by February 16, 2010, S5.C.4.a.i)	Y			
47	The ordinance or other enforceable mechanism includes exceptions and variance criteria equivalent to those in Appendix 1? ( <i>Required</i> by February 16, 2010, S5.C.4.a.i., and Section 6 of Appendix 1)	Y			

Que	stion	Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, <u>if applicable</u>
48	Were exceptions or variances to the minimum requirements in Appendix 1 granted? ( <i>Required</i> by February 16, 2010, S5.C.4.a.i., and Section 6 of Appendix 1)	N			
48b.	If so, how many were granted?		NA		
49	The ordinance or other enforceable mechanism includes a site planning process and BMP selection and design criteria that, when used to implement the minimum requirements in Appendix 1 (or equivalent approved by Ecology under the Phase I Permit) will protect water quality, reduce the discharge of pollutants to the maximum extent practicable and satisfy the State requirement under Chapter 90.48 RCW to apply all known, available and reasonable methods of prevention, control and treatment (AKART) prior to discharge? <i>(Required</i> by February 16, 2010, S5.C.4.a.ii)	Y			
49b.	Cite documentation to meet this requirement in <i>Attachment</i> field:	У			Redmond Municipal Code 15.24 Redmond Municipal Code 13.06 City of Redmond Clearing, Grading and Stormwater Management Technical Notebook

Que	stion	Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, <u>if applicable</u>
50	The ordinance or other enforceable mechanism provides the legal authority, through the approval process for new development, to inspect private stormwater facilities that discharge to the Permittee's MS4? ( <i>Required</i> by February 16, 2010, S5.C.4.a.iii)	Y			
51	The ordinance or other enforceable mechanism allows non-structural preventive actions and source reduction approaches such as Low Impact Development (LID) Techniques to minimize the creation of impervious surfaces and minimize the disturbance of native soils and vegetation? ( <i>Required</i> by February 16, 2010, S5.C.4.a.iv)	Y			

Question		Y/N/	#	Comments (50 word limit)	Name of Attachment &
		NA			rage #, <u>ii applicable</u>
52	If the ordinance or regulatory mechanism allows construction sites to apply the <b>Erosivity</b> <b>Waiver</b> in Appendix 1, Minimum Requirement #2, does it include appropriate, escalating enforcement sanctions for construction sites that provide notice to the Permittee of their intention to apply the waiver but do not meet the requirements (including timeframe restrictions, limits on activities that result in non-stormwater discharges, and implementation of appropriate BMPs to prevent violations of water quality standards) to qualify for the waiver? (If waiver is allowed, the qualification is <i>required</i> by February 16, 2010, S5.C.4.a.v)	NA			
53	Developed and implemented a permitting process to address runoff from new development, redevelopment and construction site activities with plan review, inspection, and enforcement capability? ( <i>Required</i> by February 16, 2010, S5.C.4.b)	Y			
54	Applied permitting process to all sites that disturb a land area 1 acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale? ( <i>Required</i> by February 16, 2010, S5.C.4.b)	Y			

Que	stion	Y/N/	#	Comments (50 word limit)	Name of Attachment &
		INA			Fage #, <u>il applicable</u>
55	Reviewed <b>Stormwater Site Plans</b> for new development and redevelopment projects? ( <i>Required</i> by February 16, 2010, S5.C.4.b.i)	Y			
55b.	Number of site plans reviewed during the reporting period:		21		
56	Inspected, prior to clearing and construction, all known development sites that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 <b>Determining</b> <b>Construction Site Sediment Potential</b> ? ( <i>Required</i> by February 16, 2010, S5.C.4.b.ii)	Y			
56b.	Number of qualifying sites inspected prior to clearing and construction during the reporting period:		21		
57	Inspected construction-phase stormwater controls at all known permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls? ( <i>Required</i> by February 16, 2010, S5.C.4.b.iii)	Y			
57b.	Number of sites inspected during the construction phase for the reporting period:		118		
58	Enforced as necessary based on the inspection at new development and redevelopment projects? ( <i>Required</i> by February 16, 2010, S5.C.4.b.iii)	Y			

Que	stion	Y/N/	#	Comments (50 word limit)	Name of Attachment &
		NA			Page #, <u>if applicable</u>
58b.	Number of enforcement actions taken during the reporting period:		26		
59	Inspected qualifying permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater controls such as stormwater facilities and structural BMPs? ( <i>Required</i> by February 16, 2010, S5.C.4.b.iv and v)	Y			
59b.	Number of qualifying sites known during the reporting period:		118		
59c.	Number of qualifying sites inspected during the reporting period:		118		
60	Verified a maintenance plan is completed and responsibility for maintenance is assigned for qualifying projects? ( <i>Required</i> by February 16, 2010, S5.C.4.b.iv)	Y			
61	Enforced regulations as necessary based on the inspection? ( <i>Required</i> by February 16, 2010, S5.C.4.b.iv)	Y			
61b.	Number of enforcement actions taken during the reporting period:		26		
62	Developed and implemented an enforcement strategy to respond to issues of non- compliance with the regulations for qualifying projects? ( <i>Required</i> by February 16, 2010, S5.C.4.b.vi)	Y			
63	Did the Permittee choose to allow construction sites to apply the <b>Erosivity Waiver</b> in Appendix 1, Minimum Requirement #2? (S5.C.4.b.vii)	N			

Que	stion	Y/N/	#	Comments (50 word limit)	Name of Attachment &
		NA			Page #, <u>if applicable</u>
63b.	If yes, how many waivers were allowed ?		NA		
64	Developed and implemented a long-term	Y			
	operation and maintenance (O&M) program				
	for post-construction stormwater facilities and				
	BMPs? ( <i>Required</i> by February 16, 2010,				
	S5.C.4.c)				
65	Adopted an ordinance or other regulatory	Y			
	mechanism that clearly identifies the party				
	responsible for maintenance, requires				
	inspection of facilities and establishes				
	enforcement procedures? (Required by				
	February 16, 2010, S5.C.4.c.i)				
66	Inspected post-construction stormwater	Y			
	controls, including structural BMPs, at new				
	development and redevelopment projects?				
	( <i>Required</i> by February 16, 2010, S5.C.4.c)				
66b.	Number of sites inspected during the reporting		165		
	period:				
66c.	Number of structural BMPs inspected during		594		
	the reporting period:				
66d.	Number of enforcement actions taken during		0		
	the reporting period:				
67	Established maintenance standards that are as	Y			
	protective, or more protective, of facility				
	function as those specified in Chapter 4 of				
	Volume V of the <b>2005 Stormwater</b>				
	Management Manual for Western				
	Washington? ( <i>Required</i> by February 16,				
	2010, S5.C.4.c.ii)				

Question		Y/N/	#	Comments (50 word limit)	Name of Attachment &
		NA			Page #, <u>il applicable</u>
68	Performed timely maintenance as per S5.C.4.c.ii? ( <i>Required</i> by February 16, 2010, S5.C.4.c.ii)	Y			
68b.	Attached documentation of any maintenance delays. ( <i>Required</i> by February 16, 2010, S5.C.4.c.ii)	NA			
69	Established program to annually inspect all stormwater treatment and flow control facilities (other than catch basins) permitted by the Permittee according to S5.C.4.b. unless there are maintenance records to justify a different frequency? ( <i>Required</i> by February 16, 2010, S5.C.4.c.iii)	Y			
70	If using reduced inspection frequency, Attached documentation as per S5.C.4.c.iii? ( <i>Required</i> by February 16, 2010, S5.C.4.c.iii)	Y			See Attachment B:Justification for the Use of Reduced Inspections Frequency for Private Stormwater Flow Control and Treatment
71	Inspected all new stormwater treatment and flow control facilities owned or operated, including catch basins, for new residential developments that are a part of a larger common plan of development or sale, every 6 months during the period of heaviest house construction (i.e., 1 to 2 years following subdivision approval) to identify maintenance needs and enforce compliance with maintenance standards as needed? ( <i>Required</i> by February 16, 2010, S5.C.4.c.iv)	Y			
71b.	Number of facilities inspected during the reporting period:		0		No actions met the City's criteria fo heavy house construction.

Que	stion	Y/N/	#	Comments (50 word limit)	Name of Attachment &
		NA			Page #, <u>if applicable</u>
72	Implemented a procedure for keeping records of 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 February 16, 2010, S5.C.4.d)	Y			
73	Provided copies of the Notice of Intent for Construction Activity and Notice of Intent for Industrial Activity to representatives of proposed new development and redevelopment? (S5.C.4.e)	Y			
74	All staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement were trained to conduct these activities? ( <i>Required</i> by February 16, 2010, S5.C.4.f)	Y			
74b.	Number of trainings provided:		7		
74c.	Number of staff trained:		13		
75	Developed and implemented an operations and maintenance (O&M) program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations? ( <i>Required</i> by February 16, 2010, S5.C.5)	Y			

Que	stion	Y/N/	#	Comments (50 word limit)	Name of Attachment &
		NA			Page #, <u>if applicable</u>
76	Adopted maintenance standards as protective, or more protective, of facility function as those specified in Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington ? (Required by February 16, 2010, S5.C.5.a)	Y			
77	Performed timely maintenance as per S5.C.5.a.ii? ( <i>Required</i> by February 16, 2010, S5.C.5.a.ii)	Y			
77b.	Attached documentation of any maintenance delays. ( <i>Required</i> by February 16, 2010, S5.C.5.a.ii)	NA			
78	Established a program to annually inspect and maintained all stormwater treatment and flow control facilities (other than catch basins)? ( <i>Required</i> by February 16, 2010, S5.C.5.c.iii)	Y			
78b.	Number of known facilities:		218		
78c.	Number of facilities inspected during the reporting period:		204		
79	If using reduced inspection frequency, Attached documentation as per S5.C.5.a.ii? ( <i>Required</i> by February 16, 2010, S5.C.5.b)	NA			
80	Conducted spot checks of stormwater facilities after major storms? <i>(Required by February</i> 16, 2010, S5.C.5.c)	Y			
80b.	Number of known facilities:		3	Culvert at 5050 West Lake Sammamish Drive; Idywood bypass structure; Shadowbrook Apartments	
80c.	Number of facilities inspected during the reporting period:		3		

Que	stion	Y/N/	#	Comments (50 word limit)	Name of Attachment &
		NA			Page #, <u>if applicable</u>
81	Inspected municipally owned or operated catch basins at least once before the end of the Permit term? ( <i>Required to begin</i> by February 16, 2010, S5.C.5.d)	Y			
81b.	Number of known catch basins:		~10450		
81c.	Number of inspections:		~10130		
81d.	Number of catch basins cleaned:		~4500		
82	Established and implemented practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads or highways owned or maintained by the Permittee, and road maintenance activities conducted by the Permittee? ( <i>Required</i> by February 16, 2010, S5.C.5.f)	Y			
83	Established and implemented policies and procedures to reduce pollutants in discharges from all lands owned or maintained by the Permittee and subject to this Permit, including but not limited to: parks, open space, road right- of-way, maintenance yards, and stormwater treatment and flow control facilities? ( <i>Required</i> by February 16, 2010, S5.C.5.g)	Y			
84	Implemented an operations and maintenance (O&M) program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations? (Required by February 16, 2010, S5.C.5.h.)	Y			

Que	stion	Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, <u>if applicable</u>
84b.	Number of trainings provided:		1		
84c.	Number of staff trained:		14		
85	Implemented a Stormwater Pollution Prevention Plan (SWPPP) 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 required to have coverage under the Industrial Stormwater General Permit? ( <i>Required</i> by February 16, 2010, S5.C.5.i)	Y			
86	Is there an approved Total Maximum Daily Load (TMDL) applicable to stormwater discharges from a MS4s owned or operated by the Permittee?	N			
87	Complied with the specific requirements identified in Appendix 2? (S7.A)	NA			
88	Attached status report of TMDL implementation? (S7.A)	NA			
89	Where monitoring was required in Appendix 2, did you conduct the monitoring according to an approved Quality Assurance Project Plan? (S7.A)	NA			
90	Took appropriate action to correct or minimize discharges into or from the MS4 which may constitute a threat to human health, welfare, or the environment? (G3)	Y			

Que	stion	Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, <u>if applicable</u>
90b.	Attached a summary of the status of implementation of any actions taken pursuant to S4.F and the status of any montioring, assessment, or evaluation efforts conducted during the reporting period? (S4.F.3.d)	Y			See Attachment C: 2011 NPDES Annual Report S4F Status Summary for Idylwood Creek
91	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			
92	Notified Ecology immediately in cases where the Permittee becomes aware of a discharge from the Permittees MS4 which may cause or contribute to an imminent threat to human health or the environment? (G3)	Y			
93	<b>Attached</b> a summary of identified barriers to the use of low impact development (LID) and measures to address the barriers (Required to be submitted by March 31, 2011, S9.E.4.a)	Y			

Que	estion	Y/N/ NA	#	Comments (50 word limit)	Name of Attachment & Page #, <u>if applicable</u>
94	Attached a report describing LID practices currently available and that can be reasonably implemented, potential or planned non- structural actions and LID techniques to prevent stormwater impacts, goals and metrics to identify, promote, measure LID; and schedules to require and implement non- structureal and LID techniques on a broader scale (Required to be submitted by March 31, 2011, S9.E.4.b)	Y			

Complete Part A for <u>all</u> annual reports.

NOTE: Please note in Row 1 of the table if you have no information to report.

NOTE: Please limit your entries to 255 characters per cell. You may include additional information in your

Supplemental Documentation attachment and reference it below with the page number.

A. Information Collection

	Briefly describe any stormwater monitoring, studies, or type of information collected and analyzed during the reporting period. (S8.B.1)	Who/how to contact for additional information?
1.	City of Redmond Surface Water Quality Monitoring Program	Tanya MacFarland, 425-556-2764
2.	City of Redmond Watershed Management Planning	Andy Rheaume, 425-556-2741
3.	Nintendo Green Roof Installation Case Study	Peter Holte, 425-556-2822
4.	Grassland Park Low Impact Installation Monitoring Report	Tim Cox, 425-556-2755
5.	185th Avenue NE Bioretention Insitu TAPE monitoring	Andy Rheaume, 425-556-2741
6.	Redmond Way Water Quality Facility Stormwater Characterization Study	Steve Hitch, 425-556-2813

Complete Part B for <u>all</u> annual reports.

### B. SWMP Evaluation (S8.B & S9)

You are required to assess the appropriateness of the BMPs you have selected to implement your SWMP. This evaluation is necessary to evaluate whether the MEP standard set by the permit is protective of water quality in your receiving water bodies. This assessment may be entirely qualitative. Answer **NA** if you are not yet implementing BMPs for a component of the SWMP. (S8.B.2 and S9)

Question		Y/N/NA	Comments (50 word limit)
1.	Are the BMPs selected and implemented for Public Outreach appropriate to minimize pollutants in the MS4 to the MEP?	Y	
2.	Are the BMPs selected and implemented for Public Involvement appropriate to minimize pollutants in the MS4 to the MEP?	Y	
3.	Are the BMPs selected and implemented for Illicit Discharge Detection and Elimination appropriate to minimize pollutants in the MS4 to the MEP?	Y	
4.	Are the BMPs selected and implemented for Construction Stormwater Pollution Prevention appropriate to minimize pollutants in the MS4 to the MEP?	Y	
5.	Are the BMPs selected and implemented for Post- Construction Runoff Management appropriate to minimize pollutants in the MS4 to the MEP?	Y	
6.	Are the BMPs selected and implemented for Good Housekeeping for Municipal Operations appropriate to minimize pollutants in the MS4 to the MEP?	Y	

Complete Part C for <u>all</u> annual reports.

### C. Changes in BMPs or objectives (S8.B)

If any of the BMPs or objectives is being changed, list the old BMP and objective, the new BMP and objective, and a justification for the change below. (S8.B.2., and S9)

NOTE: You may choose to attach additional documentation justifying Changes in BMPs or objectives. Note such attachments in the *Justification for change* field.

(	Old BMP	Old Objective	New BMP	New Objective	Justification for Change
1					
2					
3					
4					
5					
6					
7					

### D. Preparation for future, long-term monitoring

Complete section D for the fourth annual report only.

Question		Y/N/NA	Comments (50 word limit)	Name of Attachment? Page Number?
	Identified outfalls or conveyances for			
	long-term stormwater monitoring?			
1.	(S8.C.2.a)			
	Attach site maps and descriptions.	N		
1b.	(S8.C.2.a)	У		
	Identified at least two questions for			
	SWMP effectiveness monitoring and			
2.	developed monitoring plans? (S8.C.2.b)			
	Attach the proposed questions and			
	monitoring plans for SWMP	У		
2b.	effectiveness monitoring. (S8.C.2.a.ii)			
	Monitoring plan developed for each			
3.	question? (S8.C.1.b.iii)			
3b.	Attach a copy of the monitoring plan.	У		
	Identified sites in preparation for future,			
	long-term monitoring? (S8.C.1.a., and			
4.	S8.C.2.b)			
	Attach a summary of the status of site			
	identification for long-term stormwater			
	monitoring; proposed questions for	V		
	SWMP effectiveness monitoring; and	У		
	status of developing the SWMP			
4b.	effectiveness monitoring plans.			

Attachment A: The 2012 City of Redmond Stormwater Management Program (SWMP)

# The City of Redmond

## **Stormwater Management Program (SWMP)**



Prepared by Peter Holte Habitat Stewardship Coordinator City of Redmond Department of Public Works Division of Natural Resources 15670 NE 85<sup>th</sup> St. Redmond, WA 98073

March 29th, 2012



## **INTRODUCTION**

This document is the City of Redmond's Stormwater Management Plan, in response to the Western Washington Phase II Municipal Stormwater Permit (NPDES Permit). The NPDES Permit was issued to the City of Redmond by the State of Washington Department of Ecology on January 17<sup>th</sup>, 2007 (effective February 16<sup>th</sup>, 2007). The NPDES Permit requires that the City of Redmond produce a Stormwater Management Plan (SWMP), and update it regularly, to reflect Redmond's actions and planned actions in meeting permit requirements.

The City's SWMP aims to reduce the discharge of pollutants into receiving waters within Redmond to the maximum extent practicable (MEP), to apply all known and reasonable technologies (AKART) to address stormwater pollutants, and protect receiving waters from degradation. These goals will be accomplished by the implementation of all aspects of this SWMP. The City intentionally exceeds some NPDES Permit requirements to better protect water resources and to keep those resources safe for human contact and able to sustain aquatic ecosystems/species.

This document is organized according to the five NPDES Permit SWMP elements. Excluding this introduction section, the five elements are the sections of this SWMP: Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Controlling Runoff from Development/Redevelopment and Construction Sites, and Municipal Operations and Maintenance. Within each section, requirements of the permit are individually detailed (i.e. S5.C.3.b). To review the permit language in comparison to what Redmond has designed in response, one can access the permit at the following Washington Department of Ecology website:

http://www.ecy.wa.gov/programs/wq/stormwater/municipal/phaseIIww/wwphiiperm it.html

This document will be updated as program components change, this will occur annually at a minimum. In August 2009, The Washington State Pollution Control Hearing Board ruled on a hearing involving permittees, interest groups, and the State of Washington Department of Ecology. The ruling changed some permit requirements which in turn has changed some aspects of Redmond's SWMP. Those changes are documented in this draft of Redmond's SWMP.

## **PUBLIC EDUCATION AND OUTREACH**

The City of Redmond's Natural Resources Division of Public Works has provided and participated in a variety of education and outreach efforts focused on environmental stewardship, including stormwater management. For decades, Redmond's outreach efforts have targeted residents, students, businesses, policy makers, elected officials, and city staff. Outreach efforts include natural yard care training, water conservation, targeted pollution reduction outreach materials, Redmond Focus articles, Redmond's RCTV commercials, and environmental awareness booths at various public functions. Redmond currently has one full time employee dedicated to developing and implementing NPDES permit public education and outreach efforts.

The City formalized a targeted Public Education and Outreach Program by February 16, 2009, as required by the permit. The Program is designed to achieve measurable improvements in the general public's understanding of stormwater problems and what the general public can do to reduce or resolve those problems.

### S5.C.1.a Targeted Stormwater Outreach

The City provides targeted stormwater-related outreach programs to the public on numerous subjects including: Natural Yard Care, charity car washing, and general stormwater awareness.

Since 2002, the City has offered free Natural Yard Care Programs to Redmond residents. These workshops provide home owners with information, tools, advice, and other resources that they can use to help reduce the amount pollution in stormwater runoff by incorporating integrated pest management, improving soils, and making better plant selections.

The City loans "Salmon Safe" car wash stormwater catch basin insert kits to charities and to businesses interested in holding or sponsoring car wash fundraising events within the City. For the last three years, the City has hired a consultant (Full Circle Environmental) to improve the effectiveness of this program. The consultant meets with the managers of businesses to make sure that the managers understand their responsibilities with regards to use of the kits and compliance with the City Stormwater Code (Redmond Municipal Code 13.06), and to make sure that the kits functioned properly. In 2010, the consultant also began meeting with, and distributing educational material to, the faculty advisors for sport teams and school clubs at Redmond Junior High and Redmond High School.

The City of Redmond coordinated with other permitted jurisdictions in Western Washington to create an outreach group called Stormwater Outreach for Regional Municipalities (STORM). This group works in conjunction with Washington State's Puget Sound Partnership and the Department of Ecology to run a regional stormwater awareness campaign, using the brand "Puget Sound Starts Here." The campaign has received multiple state and federal competitive grants. It consists of television ads, a website, earned media, and other outreach techniques. The campaign has also engage non-profit groups throughout Western Washington to increase the campaigns scope. Redmond will continue to use this campaign in Redmond to increase the public's general awareness of stormwater issues.

### S5.C.1.b Measuring Outreach Effectiveness

The Charity Carwash Program consultant conducts drive-through (windshield) monitoring in Redmond six weekends a year. They monitor sites that have sponsored charity car washes in the past and search for new locations where this activity may be taking place. In 2010, this monitoring occurred in May, June, September, and October. If the consultant discovers a charity event that does not have a kit, they supply a kit and offer education as to why and how car wash events can harm local waterways. If the consultant finds an event that is using a kit, they inspect the kit's set up to ensure that it is installed correctly and diverting water to the proper location. The consultant provides two reports to the City each year. These reports provide the City with information on program effectiveness and make recommendations as to how the program might be improved.

In 2006, the cities of Redmond, Bellevue, Kirkland, and Shoreline completed a marketing survey titled *Residential Surface Water Quality Survey for City's of Bellevue, Redmond, and Shoreline.* This survey provides a baseline for measuring Redmond's residential homeowners understanding of stormwater pollution and surface water impairments.

By 2012, Redmond will participate in a regional survey or initiate a Redmond specific survey to re-access the general understanding of residential homeowners concerning stormwater issues. The survey will be designed to ensure that valid comparisons can be made with the 2005 survey. The STORM campaign will be fully implemented prior to the survey being administered.

### S5.C.1.c Tracking Outreach Efforts

Redmond will continue to track outreach efforts applied in Redmond. Tracking will include the number items created to convey stormwater outreach messages and the number of these items distributed.

## PUBLIC INVOLVEMENT AND PARTICIPATION

The City of Redmond is committed to ongoing opportunities for public involvement and participation in the development of this plan. This will be achieved through advisory councils, watershed committees, participation in developing rate-structures, stewardship programs, environmental activities or other similar activities.

### S5.C.2.a and S5.C.2.b Involving the Public in the SWMP

The City of Redmond has requested public review of the City's Stormwater Management Plan (SWMP) through the City's internet landing page:

### http://www.redmond.gov

When updates have been made, residents are invited to review and comment on the plan's content and the City's response to permit requirements. The City also provides a contact number for residents to call with questions throughout the year from the City's SWMP webpage:

### http://www.redmond.gov/Environment/StormwaterUtility/NPDES/

In addition, Redmond has also held public discussions during council meetings, council study sessions, and Planning and Public Works Committee meetings to adopt local code and to discuss NPDES Phase II Permit requirements. Additional community interactions on receiving waters and environmental stewardship have occurred during neighborhood planning efforts. Although these were not specific to this plan, they have been excellent opportunities for staff to discuss surface water issues with the public.

## ILLICIT DISCHARGE DETECTION AND ELIMINATION

The Illicit Discharge Detection and Elimination (IDDE) program is designed to prevent contamination of groundwater and surface water by monitoring, tracking, and removing non-stormwater discharges into the stormwater drainage system.

The City of Redmond initiated and funded an Illicit Discharge Detection and Elimination (IDDE) Program in January 2005, well before the program was required under the NPDES Permit. The City has implemented all actions required by the NPDES permit and developed and implemented procedures to characterize the nature of and respond to any known illicit discharges. Redmond's IDDE program is a citywide program that addresses non-stormwater discharges, including direct discharges to receiving waters, and discharges to non-city owned/operated stormwater conveyance.

### S5.C.3.a Municipal Stormwater Drainage System Map

The City maintains an up-to date stormwater conveyance map in an enterprise geospatial database. Updating and managing geospatial data is done according to documented procedures and quality control standards. Global information system (GIS) data includes attributes that describe ownership, water quality facility design details, flow control facility design details, conveyance design information, and spatial data. GIS data is managed with ESRI software and database management system solutions. Both private and public stormwater system data is managed geospatially. The GIS stormwater data includes all nominal diameter pipes, not just 24 inch or larger. Land use and drainage area delineations for each outfall have been developed and are updated regularly.

### S5.C.3.b Water Pollution Prevention Ordinance/Municipal Code 13.06

The City of Redmond updated Municipal Code 13.06 by the August 2009 permit deadline. The ordinance needed to:

- Define allowable discharges, conditional discharges, and prohibited discharges to the City's owned/operated stormwater conveyance system.
- Establish inspection authority and escalating enforcement authority to correct non stormwater discharges to the City's stormwater system.
- The prohibition of illicit connections to the stormwater conveyance system
- Provide definitions to make sure consistency existed between state and local terminology.

The City updated RMC 13.06 to include the required elements listed above and the following additional modifications to protect receiving water bodies:

- The scope of the code was increased to the continuous city limits. Non stormwater discharges to privately owned stormwater conveyance, or direct discharge to receiving waters are regulated by Redmond.
- The City can require structural and non-structural source control best management practices (BMPs) of existing land uses, if deemed necessary to reduce or eliminate non stormwater discharges, citywide.
- The City preserved its existing escalating enforcement strategy to address non stormwater discharges. The code also detailed that the City can collect city expenses incurred due to abatement of non stormwater materials in the stormwater drainage system.

- The City retained the ability to regulate NPDES permitted discharge within the City of Redmond. This includes construction sites and industrial sites permitted by the State of Washington.
- The City adopted the definitions and terms in the permit, and added additional prohibited and conditional discharges based on historical issues of non stormwater discharges.

### S.5.C.3.c Ongoing IDDE Program

The City currently has an ongoing, fully funded, IDDE program. The City responds to and investigates, calls regarding environmental concerns such as illegal dumping, spills, illicit discharges, and illicit connections. The program has performed source tracing studies in the heaviest commercial and industrial portions of the City. The City will continue source tracing efforts as necessary in the future with the intent of shifting more focus to source control. Documentation of IDDE procedures are detailed in the City's *Illicit Discharge Detection and Elimination (IDDE) Program Manual: City Policies and Procedures (2011).* 

In 2011, Redmond prioritized Peters Creek as the priority waterbody for visual inspection as required in the permit. In 2012, the City selected Idylwood Creek as the priority waterbody for visual inspections.

### S.5.C.3.d IDDE Public Outreach

The City operates a telephone hotline that allows citizens to report illicit discharges or illicit dumping within city limits: (425)556-2868. The hotline is covered 24 hours a day, seven days a week. During regular business hours, calls are received and followed up on by the Natural Resources Division of Public Works. Off hour calls are managed by Redmond's police dispatch and standby maintenance crew. The call line has been publicized by the City's website, magnets distributed at community events, Redmond's television channel (RCTV), and most outreach materials created by the City typically include the hotline number. All calls are tracked and followed up on.

Additionally, targeted outreach materials have been developed and deployed to the public for restaurant related non stormwater discharges, car washing, and general awareness of stormwater and prohibited discharges.

### S.5.C.3.e Program Evaluation and Assessment

The City currently tracks how many of each type of IDDE incidence that occurs and how those incidences are resolved. The IDDE Program has been regularly evaluated since 2005. This typically occurred with new staff in the IDDE Administrator position (3 staff since 2005). Redmond has and will continue to keep information provided by recipients of IDDE outreach materials.

### S.5.C.3.f Municipal Field Staff IDDE Training

The City of Redmond has developed a field staff training plan to train all field staff in the identification and proper response to illicit discharges to the stormwater drainage system. The training program applies to all field staff, including but not limited to the following: Fire and Police Department staff that operate in the field, Public Works and Planning inspectors, and operations maintenance staff in Parks and Public Works.

The program is mandated/administered by the City of Redmond Human Resources Department as an employment requirement (similar to safe driver training). The training is required for new staff as well as existing staff. The training will be refreshed for existing staff on a regular basis. The operations and maintenance staff will be provided IDDE awareness training as a component of the operations and maintenance training discussed in section S.5.C.5 of this SWMP. The training will be similar to the IDDE training provided to all other groups, just administered in conjunction with the operations and maintenance training.

For all other field staff, the City of Redmond purchased *Municipal Stormwater Pollution Prevention-Storm Watch* from Excal Visual. Redmond has modified the video section pertaining to IDDE awareness and reporting. Modifications have been made to include the local spill hotline number and Redmond specific information. The video will be administered to the various groups through existing training schedules and made available online. Training participation will be tracked for each employee through the Human Resources Department.

Training of staff that are responsible for identification, investigation, termination, cleanup, and reporting illicit discharges, including spills and illicit connections occurred in August 2009. The training was provided by King County. As staff responsible for such activities change, additional training will occur.

## **CONTROLING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT AND CONSTRUCTION SITES**

How development and redevelopment occur plays a critical role in the ability of receiving waters to support beneficial uses. This section of the SWMP addresses: how impacts from development/redevelopment will be reduced, how impacts will be mitigated, and what is required of sites during construction. How Redmond is or plans to address specific NPDES permit requirements of development, redevelopment, and construction sites will be discussed.

# *S5.C.4.a Apply Stormwater Management Standards to Development, Redevelopment, and Construction Sites*

Redmond Municipal Code (RMC) 15.24 codifies stormwater management in Redmond, and includes code for construction, and stormwater infrastructure design. RMC 15.24 was updated June 15, 2010 to include all minimum requirements and language required by this section of the permit and appendix 1. Redmond has been using the 2005 Stormwater Management Manual for Western Washington (SWMMWW) since 2007 and the 2001 version of the SWMMWW since 2004. Redmond has and continues to require minimum requirements of development/redevelopment below the one acre threshold in appendix 1 of the permit.

RMC 15.24 codifies by reference the Clearing, Grading and Stormwater Management Technical Notebook ("Technical Notebook"), which is the technical guidance and local modification of the 2005 Washington State Department of Ecology Stormwater Manual for Western Washington. The Technical Notebook was amended with an addendum dated August 18, 2010, to align the Technical Notebook with this section and Appendix 1 of the permit.

The Clearing, Grading and Stormwater Management Technical Notebook, Issue 5, January 1, 2007, allows for Low Impact Development (LID). Additional updating of zoning requirements has also occurred to provide incentives for developers to apply LID techniques in Redmond. See Redmond Community Development Guide (RCDG) section 20C.30.57.

### S5.C.4.b Review and Inspect Development/Redevelopment Projects

The City has a permitting process with civil/site plan review and approval process, inspection, and enforcement to meet standards established by S5.C.4b. Civil/site plans shall be submitted for review prior to issuance of a permit for all private projects that meet any of the following thresholds:

- Move over 50 CY of soil; or
- Change the topography by more than four feet; or
- Perform work within a City of Redmond easement or right-of-way; or
- Work with a stormwater pipe 12-inches in diameter or greater; or
- Clear 7,000 SF of land; or
- Remove more than 10 trees; or
- Add 2,000 SF or more of impervious surface; or

- Work within a Critical Area or buffer as defined in the Community Development Guide; or
- Modify a private water quality or flow control stormwater facility.

These thresholds meet and in some cases exceed the required thresholds of the permit. All private projects triggering review provide plans in accordance with City's standards that clearly detail how the site meets all stormwater management requirements (including a post construction maintenance manual for projects that involve permanent quality and/or quantity control facilities). Plans are reviewed by licensed engineers or qualified engineering firms for compliance with Redmond's standards. Public projects do not typically trigger local permits; however, public projects are subject to and abide by Redmond's development/redevelopment stormwater management standards.

Redmond's construction site inspection program is a well known regional program that adheres to protocols that provide proper protection of stormwater drainage systems and local waterways from impacts that can occur during construction. This oversight occurs in three phases: prior to construction during a plan acceptance process and an on-site Best Management Practices (BMP) implementation inspection, during construction inspections, and during a post construction project acceptance inspection.

The City of Redmond has chosen to inspect all sites instead of using the Construction Site Sediment Damage Potential Worksheet (Appendix 7 of the permit) to determine if a plan acceptance inspection is needed. The City's stormwater engineers review projects that trigger Temporary Erosion and Sediment Control (TESC) Plans, wet weather plans, or stormwater pollution prevention plans (SWPPP). Once the City has accepted a plan to control erosion, runoff and other potential construction impacts, but prior to extensive clearing and construction, City staff inspects the TESC site to ensure that the proper control measure have been selected, properly placed, and installed correctly.

During construction, the City conducts frequent inspections at the worksite--typically more than once a week and after major rain events--to ensure proper implementation and maintenance of TESC Best Management Practices. Redmond inspectors have the authority to enforce Redmond Municipal Code (RMC) 13.06 and RMC 15.24, using corrective action notices and stop work orders, to insure the protection of receiving waters from construction impacts.

After construction, the City again inspects stormwater structures at a project site. If the maintenance thresholds have been triggered, the City requires that needed maintenance take place. If the maintenance thresholds have not been reached, or once maintenance has been completed, the City then accepts the project.

### **S5.C.4.c Post Construction Operation and Maintenance**

The City has provisions to verify adequate long-term operation and maintenance (O&M) of post-construction stormwater facilities and BMPs. RMC 13.06 requires inspection and maintenance of private stormwater facilities, and all stormwater structures (including pipes and catch basins), in accordance or excess of requirements established by the NPDES Permit. RMC 13.06 also establishes enforcement authority and procedures.

Redmond has adopted and enforces maintenance standards equivalent to or more protective than those established in the 2005 Stormwater Management Manual for Western Washington (Volume V, Chapter 4).

The Natural Resources Division of Public Works has initiated, funded, and staffed a private stormwater maintenance inspection program since 1996. The program historically focused on commercial, multi-family, condo, and industrial properties, citywide. Currently, all sites having private stormwater drainage are inspected on a biannual basis. In excess of permit requirements, the city inspects all stormwater structures, excluding clean outs, roof drains, and small area/landscape drains. All maintenance work required by the City must be performed by qualified City-approved contractors. As part of the inspection program, contractors are required to submit vactor waste tracking forms/disposal receipts to the City to insure proper disposal of collected material.

Disposal records allow the City to track approximate tonnage of material removed from private stormwater drainage systems. Records over the past twelve years have shown a significant decrease in materials removed from the private drainage systems as a result of the inspection program. This reduction in tonnage is evidence that the program is working to reduce the amount of materials in private stormwater drainage systems. As such, the City will continue its more extensive inspection program, looking at facilities built to earlier standards (not required by the permit), and will include all parts of private drainage systems. Including all parts of the drainage system, such as catch basins, is thought to add better protection of the functionality of stormwater drainage flow control and runoff treatment facilities. This is also thought to lessen the maintenance expense for private stormwater drainage system owners.

As mentioned previously, all stormwater infrastructure, including runoff treatment and flow control facilities, are inspected post construction one year after acceptance, to release warranty bonds. Once this occurs, sites are added to the long term private system inspection program and typically get inspected within one year from the warranty bond release.

During heavy house construction, single-family home inspectors inspect the stormwater drainage system that can potentially be impacted by the home construction activity. This occurs every six months during heavy home construction. If facilities and stormwater conveyance require cleaning during home construction, responsible parties are required to perform maintenance/cleaning.

### S5.C.4.d Records Management

The City keeps records of inspections and enforcement actions by staff, including inspection reports, correction notices, stop work orders, warning letters, notices of violations, and other enforcement records for new and existing developments. Records are currently tracked on a project/parcel basis and are available upon request.

### S5.C.4.e Notice of Intent (NOI)

The City makes available to the public NOIs for coverage under the NPDES Construction Stormwater General Permit and the NPDES General Industrial Stormwater Permit. Copies are available at Redmond City Hall, in the Development Services Center.

### S5.C.4.f Staff Training

All staff responsible for plan review of stormwater runoff controls are licensed professional engineers or qualified consultants. Follow-up training will be provided as needed to address changes in standards, procedures, techniques, and staffing. City staff responsible for inspection of stormwater infrastructure are adequately trained to do so. Lastly, all staff responsible for managing construction TESC measures are CESCL trained. The City will document and maintain records of the training provided and the staff trained.

## POLLUTION PREVENTION AND OPERATION AND MAINTENANCE FOR MUNICIPAL OPERATIONS

The City of Redmond has taken many steps to insure operation and maintenance activities are done in a manner that protects or reduce potential impacts to stormwater drainage and receiving waters.

### S5.C.5.a Maintenance Standards

The City adheres to and has adopted maintenance standards in Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington. In some instances, as with the trigger to clean catch basins, the City exceeds maintenance requirements.

### S5.C.5.b Annual Inspection of Flow Control and Runoff Treatment Facilities

The City currently inspects and maintains flow control and runoff treatment facilities owned and operated by the City. The City has developed a public stormwater system inspection program and completed the year 2010 inspection for all flow control and runoff treatment facilities by October of 2010. The program utilizes GIS data/database to document repair needs, when the facility was inspected, and when the facility was cleaned. This program will be updated as new facilities are constructed. Once inspected, needed cleaning and maintenance will occur within the time frame prescribed by the NPDES Permit.

The vegetative maintenance for City ponds and bioswales is accomplished on an annual basis using both permanent staff and seasonal employees. Employee hours are tracked using the Mainsaver software program. Control structures related to ponds and bioswales are inspected annually and are tracked via the program used for the underground vault and detention pipe inspection/maintenance program.

### S5.C.5.c Major Storm Event Inspections

The City currently inspects structures after "major storm events" to determine system function. The City is not currently aware of public stormwater facilities being impacted by major storm events. The City will prepare a map detailing the locations in which flow and runoff treatment facilities are significantly impacted by 24-hour 10-year storm event. According to Figure 3.2.1.B of the 1998 King County Surface Design Manual, which is an isopluvial map, the 10-year 24-hour storm event is 2.8 inches of rainfall in 24 hours.

### S5.C.5.d Catch Basin Inspections

The City has historically inspected and maintained catch basin and inlets owned by the City. Redmond has been documenting cleaning of catch basins and inlets using paper forms. Similar to runoff treatment and flow control facility inspections, in 2010 the City has developed a GIS based public catch basin and inlet inspection program. The program utilizes indicator structures to determine catch basin maintenance needs. Some catch basins are inspected individually, such as those on primary arterials and on maintained snow routes. Such catch basins will likely be inspected more frequently than once during a permit cycle, depending on snow management.

### **S5.C.5.e Inspection and Maintenance Tracking**

Redmond has developed an innovative asset management system to track inspection and cleaning/maintenance of both catch basins/inlets and stormwater facilities (flow control and runoff treatment). The system uses geographical information system (GIS) software produced by ESRI. The program involves GIS/GPS enable field data capture equipment. Data will be updated on a daily basis and in a format/database making the data easy to illustrate with maps and easy to analyze for reporting. GIS data is also Redmond's most complete dataset of the public stormwater drainage system. Great effort has taken place to insure that GIS data is complete, mostly through field verification which is conducted on an on-going operation.

### S5.C.5.f and g Reduction of Municipal Operations Stormwater Impacts

Redmond has developed and adopted procedures for all items listed in the permit requiring documentation of practices/procedures. Locally developed standard operating procedures (SOPs) are equivalent or more protective of receiving waters than those in Volume V of the 2005 Ecology Stormwater Management Manual for Western Washington. Books of procedures and associated policies have been developed and provided to maintenance staff and maintenance staff supervisors/management in Public works and Parks and Recreation; training was also provided.

### S5.C.5.h O&M Employee Training

The City has trained all operations field staff on procedures necessary and required of their job function to protect stormwater drainage and receiving waters. The training also included Redmond specific information on water quality and IDDE awareness as discussed in the IDDE section of this plan. All maintenance staff have been trained and plans have been established as to how new maintenance employees, including limited duration employees, will be trained in the future.

# *S5.C.5.i Stormwater Pollution Prevention Plan (SWPPP) for Redmond's Maintenance and Operations Center*

The City developed a SWPPP for its Maintenance and Operations Center. The plan was developed using a consulting firm (Brown and Caldwell) with experience developing SWPPPs for industrial sites. The City's SWPPP details a stormwater and BMP monitoring program, spill response protocol, structural (with implementation dates) and operational BMPs, site maps, contaminant inventory, and a schedule to annually review the SWPPP.

### S5.C.5.j Record Keeping

The City maintains records of inspection, maintenance, and repair as detailed in each section of S5.C.5.



### Attachment B: Justification for the Use of Reduced Inspections Frequency for Private Stormwater Flow Control and Treatment Structures

This report provides a justification for the City of Redmond's use of a reduced inspection frequency for our Private Stormwater Facilities Maintenance Inspection Program as allowed in the *Western Washington Phase II Municipal Stormwater Permit* (The NPDES permit). This report:

- Briefly describes the method we used to examine the effectiveness of our 2-year inspection cycle.
- Summarizes the results of our investigation.
- Details why this investigation validates the use of the 2-year inspection cycle.

### **Evaluating the Effectiveness of our 2-Year Inspection Frequency**

The City of Redmond's Private Stormwater Facility Inspection Program divides the City into 11 drainage basins in order to schedule and track stormwater facility inspections. Each basin is inspected for maintenance requirements once every two years; 5 basins in one year and the remaining 6 basins the next year. Inspections include the entire stormwater system (catchbasins, pipes, detention facilities, biofiltration swales, coalescing plate, etc) regardless of the year they were installed. The City's program has been using a two-year inspection frequency since 1996.

According to the NPDES Permit (S5.C.4.iii), "Reducing the inspection frequency (of private stormwater treatment and flow control facilities) shall be based on maintenance records of double the length of time of the proposed inspection frequency (S5.C.4.iii)." To meet this requirement, the City examined records of inspections conducted between 2006 and 2010 in two drainage basins-- Willows Creek Basin and Peters Creek Basin. These watersheds are representative of other areas within the City and contain a mix of residential, multi-residential, and business land uses.

Using these inspection records, the City identified the number of maintenance orders issued by the Private Stormwater Facilities Inspection Program for stormwater treatment and flow control facilities (other than catchbasins). In order to judge the results of this examination, the City set an 80% compliance rate between inspections as the standard by which we would determine the effectiveness of our two-year inspection frequency. That is to say, we would deem our two-year inspection cycle as ineffective if more than 20% of the stormwater control and treatment facilities in either basins, in a

given inspection year, required maintenance actions. This benchmark is consistent with a similar examination conducted by Seattle Public Utilities (Cascadia Consulting Group, 2010).

### **Results of Our Examination**

Year	Peters Creek	Willows Creek	
	% of facilities in compliance after 2 year		
	inspection schedule		
Number of	159	158	
facilities			
2006	87%	95%	
2008	87%	87%	
2010	91%	87%	

The following table summarizes the result of our examination.

### **Conclusion**

This examination reveals that after three 2-year inspection cycles, in two different drainage basins, compliance rates between inspections exceeded 80 percent. This demonstrates that inspection on a 2-year frequency provides adequate protection of water quality. Additionally, this frequency allows time for inspectors and other field staff to conduct more thorough inspections than those required under the permit, including the inspection of catch basins.



### Attachment C: 2011 NPDES Annual Report S4F Status Summary for Idylwood Creek

### Summary of Events

- On March 9<sup>th,</sup> 2011, staff from the City of Redmond and King County met to discuss results from *The King County 2010 Bacteria Source Tracing Study* performed within the City's Idylwood Creek drainage basin. At one sampling site, located where the City's MS4 outfall discharges into lower Idylwood Creek, samples exceeded Washington State surface water quality standards for fecal coliforms.
- Because Idylwood Creek is listed on the State's 303'D list for exceeding fecal coliform standards, and as per requirements found in S4.F of the Western Washington Phase II Municipal Stormwater Permit, the City of Redmond sent an S4.F notification letter (WAR04-5538) to the Washington State Department of Ecology on April 7<sup>th</sup>, 2011.
- In order to track the potential source(s) of the bacteria, Redmond worked cooperatively with King County to provide mapping and general logistical support to the County as they collected additional samples from City stormwater structures on April 27<sup>th</sup>, May 25<sup>th</sup>, and August 10<sup>th</sup> of 2011.
- On May 26<sup>th</sup>, 2011, Ecology sent a response letter to the City stating that an adaptive management response--as detailed in S4.F of the permit--was *not* necessary at that time.
- In October of 2011, Redmond advised Ecology via e-mail that the additional screening samples taken by King County provided no evidence of bacterial sources within Redmond's MS4.

### Current Status

Redmond continues to monitor bacteria levels within Idylwood Creek on a monthly basis at a location downstream of the City's MS4 outfall. Redmond's 2012 IDDE screening calls for additional sampling within the stormwater system of the Idylwood Creek drainage basin, using the IDEXX method for measuring e-coli and using other conventional field parameters.