DRAFT
2013 Stormwater Management Program

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INTRODUCTION

This document, King County's 2013 Stormwater Management Program (SWMP) describes the actions and programs implemented by King County agencies that protect stormwater in unincorporated King County and on King County facilities located in other jurisdictions. It covers King County's municipal operations and facilities that have the potential to impact the quantity and quality of stormwater runoff that is eventually discharged to the lakes, rivers and streams of the Puget Sound basin. King County's National Pollutant Discharge Elimination System (NPDES) municipal stormwater permit defines a SWMP as "a set of actions comprising" the ten components outlined in Section S5.C. In the SWMP, King County is required to describe its programs and efforts which address the permit requirements of the ten sections of S5.C. This documentation is required to be updated and submitted to the Washington State Department of Ecology (Ecology) annually. While the SWMP is considered a "living document" that can be changed at any point during the year, this version, submitted to Ecology describes King County's current 2013 program as of March 31, 2013.

The federally mandated NPDES program was established by Congress as part of the Federal Pollution Control Act, Amendments of 1972 as amended in 1977 and 1987 (the Clean Water Act) with the intent to preserve and restore the beneficial uses of the waters of the United States. The NDPES program regulates numerous sources of water pollution through a series of permits focused on different activities, industries and other waste water and stormwater discharge sources. The Environmental Protection Agency (EPA) delegates NPDES permitting authority directly to the State of Washington which manages the NPDES permit program through its Department of Ecology.

This document describes the efforts of King County to comply with its NPDES municipal stormwater permit. This permit covers discharges from the municipal separate storm sewer system (MS4) that King County owns and operates. In most urbanized areas and much of unincorporated King County, separate sets of underground pipes are used to carry sewage wastewater and non-sewage stormwater to discharge locations or outfalls. The sewage wastewater is routed to a treatment plant and the stormwater typically goes directly to an outfall. Certain stormwater discharges from King County facilities at specific sites, are covered by other types of NPDES permits. These include individual permits for King County's wastewater outfalls and for discharges at the Cedar Hills Regional Landfill; the Industrial Sand and Gravel permits for gravel pits operated by the Road Services Division; General Industrial Permits held by the Transit Division for regional bus facilities and the Wastewater Division's South Treatment Plant; and the construction stormwater permit for construction sites of one acre and larger in size.

The NPDES municipal stormwater program was implemented nationally in two phases. Under Phase I, only municipalities whose 1990 census populations exceeded 100,000 were covered under the municipal stormwater permit. In Washington, this included Clark, King, Pierce, and Snohomish counties, the cities of Seattle and Tacoma, and the Washington State Department of Transportation. Phase II was implemented in 2007 and extended municipal stormwater permit coverage to most municipalities in the Puget Sound Basin, 33 jurisdictions in King County and 113 jurisdictions state wide. The NPDES municipal stormwater program requires permittees to use stormwater best management practices (BMPs), which range in scope from constructing new drainage structures to educating the public, for the purpose of reducing the discharge of pollutants to the maximum extent practicable.

Municipal stormwater discharges from unincorporated King County have been covered by a Phase I Municipal Stormwater Permit since 1995. However, on February 16, 2007 a new, significantly more comprehensive Phase I permit (2007 Permit) took effect. The 2007 Permit required the County to significantly increase its level of effort and funding for stormwater management programs and actions, and includes a compliance timetable that began in 2007. The 2007 Permit was modified slightly as a result of legal challenges and this modified permit (2009 Permit) became official on June 17, 2009.

In 2012 the 2009 permit expired, and Ecology issued two new permits. The first one was issued to become effective on September 1, 2012, and expires on July 31, 2013, and is referred to as the "one-year permit". This is the permit we are currently regulated by and which this SWMP plan is written to. The second permit becomes effective on August 1, 2013 and expires on July 31, 2018, and is referred to as the "5-year permit". The content of the one-year permit is largely identical to the 2009 permit with some minor changes related to the illicit connections and illicit discharges detection and elimination (IC/IDDE) and monitoring sections. However, the 5-year permit contains significant revisions and new requirements. Included in the 5-year permit are significant new requirements in the following sections of the permit:

- Mapping,
- New development, redevelopment, and construction,
- Structural stormwater controls
- IC/IDDE
- Operations and maintenance
- Public education and outreach
- Basin Planning
- TMDL
- Monitoring

When the 5-year permit becomes effective, King County will adjust its existing programs to comply with the new requirements. This planning and budgeting process was started by King County nearly two years ago when the first drafts of this new permit were distributed. The County has undertaken a significant internal process to ensure that we are able to fully implement the requirements of the 5-year permit as it will require some significant new bodies of work. As these requirements take effect the program descriptions will be included in the corresponding year's SWMP plan. There is no annual reporting requirement under the 5-year permit for calendar year 2014. However, King County will be developing a new SWMP plan for 2014 and posting it to our SWMP websites as we have done since 2008.

This SWMP is focused on the County's proposed 2013 compliance actions for the one-year permit.

The one-year permit impacts the County in a number of its roles.

1. As the local land use authority for the unincorporated area, the County must have appropriate codes, regulations, enforcement, and education capacity to reduce water-polluting practices and to increase or promote practices that protect water quality.

2. As a landowner and property manager, the County must ensure that its own practices meet regulatory standards.

3. As a local government, the County must implement a monitoring program that measures stormwater pollutants and the effectiveness of commonly used BMPs. The County must also assess the appropriateness of the BMPs for the SWMP components to determine their effectiveness, and identify necessary changes.

4. As a regional government and a local provider of stormwater management services, and in recognition of the fact that stormwater drainage goes beyond municipal boundaries, the County works in coordination with other municipalities, and ensures the coordination and cooperation between the various departments within the County to achieve compliance with permit requirements.

Section S5.C of the one-year permit contains the ten required SWMP components. The County is already in compliance with program component 1, and continues its ongoing compliance efforts in components 2 through 10. For convenience, and to comply with S5.A.1, the County's SWMP is organized by these ten permit components. Each is described below with reference to the one-year permit conditions:

1. Legal Authority. Codes and regulations must be in place giving the County the power to control discharges to its storm drain system.

2. Mapping. Under the one-year permit, the County must continue completing various components of its municipal separate storm sewer system (MS4) mapping effort.

3. Intra-governmental Coordination. The County must have a written intra-governmental coordination agreement in addition to intergovernmental coordination mechanisms with other permitted agencies and jurisdictions.

4. Public Involvement. The County's SWMP is updated annually and the public must be provided with an opportunity to be involved in this process each year.

5. Control of runoff from new development, redevelopment and construction sites. The County must use drainage design and source control rules equivalent to those in Ecology's 2005 Stormwater Management Manual for Western Washington (2005 Manual) and must meet newly established standards for staff training and inspections. Under the one-year permit, all County development projects (including those located in other jurisdictions) must comply with the County's equivalent manual if it is more stringent than that of the jurisdiction in which the development is occurring.

6. Structural Stormwater Controls. The County must provide details about the goals of capital projects aimed at reducing the quantity and quality impacts of stormwater from

past, present and future land development, and the estimated benefits of those projects must be quantified.

7. Source Control Program for Existing Development. County source control BMPs must be equivalent to those in Ecology's 2005 Manual, and standards for staff training must be set. The one-year permit also requires a source control inspection program for identifying and inspecting pollution-generating sites that discharge to the MS4.

8. Illicit Connections and Illicit Discharges Detection and Elimination (IC/IDDE). The County must implement stringent King County water quality codes, and set staff training standards. This section also requires the implementation of an illicit discharge program which includes a spill response program; inspection of County outfalls for illicit discharges; and, a program to identify and rectify illicit discharges and connections, including a progressive enforcement program.

9. Operation and Maintenance Program. County maintenance standards must be equal to those in the 2005 Ecology Manual, and standards must be developed for practices that are not covered. Rigorous maintenance schedules and cleaning performance measures are required, and stormwater pollution prevention plans (SWPPPs) are now required for certain categories of municipal sites.

10. Education and Outreach Program. Target audiences and topics are specified, along with a requirement to measure program effectiveness and work regionally. These requirements are identical to the previous permit.

The one-year permit also requires a continuation and completion of the stormwater monitoring studies began under the 2009 permit to identify pollutants in stormwater, assess the effectiveness of commonly used control facilities, and provide information for improving stormwater management. The one-year permit's annual reporting document has a standardized format and the reporting requirements are largely identical to the 2009 permit's requirements.

Various agencies within the County government have been identified as having significant roles in implementing different sections of the 2013 SWMP. Further detail about their specific roles and responsibilities are listed in the compliance tracking forms (CTFs) which are included in the SWMP as Appendix 6.

- The Department of Natural Resources and Parks (DNRP), through the Water and Land Resources Division (WLRD), is charged with coordinating the SWMP and annual reporting. WLRD also manages the coordination, public involvement, manual equivalency, structural stormwater control, and public education portions of the SWMP. WLRD also has a significant role in the County's mapping, source control, IDDE, and operations and maintenance programs. WLRD is coordinating and conducting much of the training that is required, including training for both DNRP and other County Department's staff.

- Many King County Divisions manage and develop properties and facilities that are covered under this permit. These divisions include:

    - Department of Natural Resources and Parks (DNRP)

        - Solid Waste Division (Solid Waste)
        - Parks and Recreation Division (Parks)
        - Wastewater Treatment Division (Wastewater)
        - Water and Land Resources Division (WLRD)
            - Stormwater Services Section (SWS)
            - Rivers and Floodplain Management Unit (Rivers)
    - Department of Transportation (DOT)
        - Road Services Division (Roads)
        - Metro Transit Division (Transit)
        - Airport Division (Airport)
    - Department of Executive Services (DES)
        - Facilities Management Division (FMD)

- Drainage facilities on any lands owned by these King County Divisions must be designed, mapped, and maintained in a manner consistent with permit requirements and the King County Surface Water Design Manual (SWDM), and King County's source control BMPs for pollutant-generating activities must be used. Some staff training requirements also apply. SWPPPs must be prepared for applicable facilities. Roads and SWS co-lead the coordination of the County mapping program and Roads partners with WLRD on developing and administering some required training.

- The Department of Permitting and Environmental Review (DPER) is responsible for ensuring the requirements of the 2009 permit and the SWDM are applied to new development and re-development sites through permitting, inspections and enforcement. For the County, this action includes not just the SWDM and Stormwater Pollution Prevention Manual (SPPM) but also related codes, which are applied to new development and re-development sites within the confines of state vesting law.

- The Department of Public Health – Seattle & King County's (PHSKC) wastewater program has oversight of onsite sewage systems throughout King County. Corrective actions are taken where there is evidence indicating failing onsite systems are introducing contaminants into stormwater systems. In addition, PHSKC regulates and inspects a variety of businesses located throughout the County and can identify potential illicit discharges or connections to the stormwater system.

Many of the necessary permit compliance activities are conducted by WLRD and financed through the County's Surface Water Management (SWM) Fee http://www.kingcounty.gov/environment/wlr/surface-water-mgt-fee.aspx. The mandated

programs and program modifications needed in 2013 for permit compliance have been budgeted and are proceeding as described herein.

Recently, King County Council approved a 13.5% increase in the SWM fee rate, which translates for the typical property owner to approximately $1.50 monthly increase in this fee. SWM rate increases are taken very seriously by King County which strives to use every dollar of public funds as effectively as possible. However, with the new requirements of the 5-year permit, it was clear that further revenue would be need to comply with the permit. This rate increase is effective for 2013 and 2014, and will result in improved water quality, a stronger facility maintenance program, expanded drainage assistance, and accelerated habitat protection. For further information about the SWM fee please see:

http://www.kingcounty.gov/environment/wlr/surface-water-mgt-fee.aspx

Future budget increases to meet future permit requirements have not yet been budgeted and will be particularly challenging as the County's SWM fee revenues decline as a result of planned annexations of urban areas. Although the need for the County to provide permit-required services in these areas will be eliminated as they are assumed by the annexing city, the loss in service costs is typically less than the loss in revenue collected. This is because only a portion of the service costs is for direct services to specific areas. Many costs (such as those for SWMP tracking, updating, and reporting; coordination; public involvement; updating regulations; monitoring, etc.) apply to the municipality as a whole, regardless of size.

Even after annexations occur, the County's remaining unincorporated area will continue to have some higher-density areas (more than one dwelling unit/acre) that require suburban levels of service and significant management of stormwater facilities. Consequently, the County will continue to need to fund the more traditional stormwater management services required by the Permit.

As single-lot and lower-density subdivision development continues in the rural area, there will be an increase in nontraditional stormwater controls. These include forest retention, reduced impervious surface footprints and other low-impact development techniques such as flow dispersion and infiltration, rain gardens and use of pervious surface technologies. These new features will require additional construction and maintenance inspections by the County to ensure new types of controls are properly installed and maintained. This will add to the challenges for Permit compliance and public funding.

King County faces real challenges as it transitions to a suburban and rural service provider. Increasingly, the stormwater management program will be addressing a landscape made up of agricultural and forest lands interspersed with rural residential and rural town centers with concentrations of suburban service areas. At the same time, the ratepayer base will shrink. The stormwater and water quality service needs of these diverse landscapes will be quite different than those defined in more urban areas.

WLRD will continue to revise its business plan and financial strategies to address these future challenges in Permit compliance and other stormwater management needs.

S5. STORMWATER MANAGEMENT PROGRAM

Preface

The County has provided effective programs to manage stormwater runoff caused by land development for more than 20 years. The goal of these programs is to protect people and natural resources from damage caused by uncontrolled runoff and pollutants in stormwater. Where such damage has already occurred, the County's goal is to repair that damage.

When land is cleared, compacted, or covered with hard (impervious) surfaces as it is developed, rainfall and melting snow flow across the land surface instead of being taken up by plants or seeping into the surface soils and ultimately entering the groundwater. As this surface water runoff, or stormwater, flows across the landscape, it typically picks up various pollutants, including herbicides, pesticides, fertilizers, pet wastes, oils and metals from vehicles, and many other chemicals. While not obvious, sediment is the most common pollutant carried by stormwater, and it poses a threat to water quality by smothering fish eggs, clouding clear waters, and transporting other pollutants through ground and surface waters. All of these pollutants can enter surface waters, disrupt ecosystem processes, and, in some cases, also threaten public health. As less water is being retained by soils and plants; more water, than under natural conditions, flows into our streams, rivers and stormwater drainage structures. These extra volumes of runoff can cause erosion by scouring out river and stream banks and beds in winter. Since much of the water that would have been retained in the soil during the winter instead flowed away, these waterways are often warmer and slower flowing or even dry in the summer. These altered streams channels then may need reinforcing with man-made structures or restoring back to more natural conditions.

As stormwater does not recognize jurisdictional boundaries, the problems created by stormwater are larger than any one jurisdiction or agency within a jurisdiction. To this end, the County has had, and continues to have, a strong commitment to inter- and intra-governmental coordination. Stormwater has been identified as one of the leading contributors to the decline of Puget Sound. To address this issue, the County and the other jurisdictions that share the Puget Sound basin must coordinate their stormwater management activities.

This SWMP describes the actions the County is taking in 2013 to avoid, reduce, and repair damages caused by the quantity and quality of stormwater runoff. In addition to the primary actions the County takes to achieve the goals of its SWMP, the program includes descriptions of other management actions that the County implements for other purposes but that also help solve or prevent stormwater problems. These actions relate to land use and include: forestry programs, protection of critical areas, enforcement of clearing and grading regulations, purchase of open space, and restoration of Chinook habitat to prevent, reduce or repair stormwater damage. Many of the stormwater programs also provide other public benefits.

The SWMP has been prepared according to sections S5.A., B., and C. of the one-year permit (NPDES and State Waste Discharge General Permit for Discharges from Large and Medium Municipal Separate Storm Sewer Systems, Permit Number WAR04-4501)

Section S5.C. contains the ten required program components. Each component has several required goals that are indicated with a lower-case "a" (e.g., S5.C.1.a.). Each goal's compliance performance measures are indicated with a lower-case "b", (e.g., S5.C.1.b.). For the most part,

the passages describing the County's compliance program are found only in the "b," or performance measure portions. For reference and convenience, the NPDES permit language is shown in italic text, followed by the County's proposed compliance shown in regular text.

S5.A.

Each permittee listed in S1.B. shall implement a Stormwater Management Program (SWMP) during the term of this permit. For the purpose of this permit a stormwater management program is a set of actions comprising the components listed in S5.C. and additional actions and activities, where necessary, to meet the requirements of S7 Compliance with Total Maximum Daily Load Requirements.

S5.A.1.

In accordance with the requirements in S9 Reporting Requirements, each Permittee shall prepare written documentation of their SWMP and submit it to Ecology in written and electronic formats with the first year annual report. The documentation of the SWMP shall be organized according to the program components in S5.C., and shall be updated annually. The SWMP documentation shall include a description of each of the program components included in S5.C., and any additional actions necessary to meet the requirements of applicable TMDLs.

S5.B.

The SWMP shall be designed to reduce the discharge of pollutants from MS4s to the maximum extent practicable, meet state AKART requirements, and protect water quality.

Permittees are to continue implementation of existing stormwater management programs until they begin implementation of the updated stormwater management program in accordance with the terms of this permit, including implementation schedules.

S5.C.

The SWMP shall include the components listed below. The requirements of the stormwater management program shall apply to municipal separate storm sewers, and areas served by municipal separate storm sewers owned or operated by the Permittee. To the extent allowable under state and federal law, all SWMP components are mandatory.

S5.C.1. Legal Authority

S5.C.1.a.

No later than the effective date of this permit, each Permittee shall be able to demonstrate that they can operate pursuant to legal authority which authorizes or enables the Permittee to control discharges to and from municipal separate storm sewers owned or operated by the Permittee.

S5.C.1.b.

This legal authority, which may be a combination of statute, ordinance, permit, contracts, orders, interagency agreements, or similar means, shall authorize or enable the Permittee, at a minimum, to:

S5.C.1.b.i.

Control through ordinance, order, or similar means, the contribution of pollutants to municipal separate storm sewers owned or operated by the Permittee from stormwater discharges associated with industrial activity, and control the quality of stormwater discharged from sites of industrial activity;

See the response to S5.C.1.b.iii.

S5.C.1.b.ii.

Prohibit through ordinance, order, or similar means, illicit discharges to the municipal separate storm sewer owned or operated by the Permittee;

See the response to S5.C.1.b.iii.

S5.C.1.b.iii.

Control through ordinance, order, or similar means, the discharge of spills and disposal of materials other than stormwater into the municipal separate storm sewers owned or operated by the Permittee;

King County Code (KCC) 9.12 is the code used for the County's water quality compliance program since 1992 and addresses S5.C.1.b.i through iii by prohibiting the discharge of any contaminants into surface and stormwater. The purpose of this code is to protect the County's surface and ground water quality by providing minimum requirements for reducing and controlling the discharge of contaminants. This code prohibits the discharge of contaminants into surface and stormwater and groundwater, and outlines preventive measures to restrict contaminants from entering such waters. These measures include the implementation of BMPs by the residents of King County. The intent of this code is the minimization or elimination of water quality degradation; preservation and enhancement of waters for recreation, fishing, and other beneficial uses; and preservation and enhancement of the aesthetic quality and biotic integrity of the water. The current code is found at the following URL: http://www.kingcounty.gov/council/legislation/kc_code/12_Title_9.aspx

S5.C.1.b.iv.

Control through interagency agreements among co-applicants, the contribution of pollutants from one portion of the municipal separate storm sewer system to another portion of the municipal separate storm sewer system;

The County is a co-permittee with the City of Seattle (Seattle) for the Densmore and Landor Basins. The County's general obligations to the City in that basin are summarized in a Memorandum of Agreement (MOA) dated September 25, 1995. The County and Seattle are in ongoing discussions to track the issues currently covered by the MOA and to ensure concurrence on King County's scope of work in these basins

S5.C.1.b.v.

Require compliance with conditions in ordinances, permits, contracts, or orders; and,

King County Code 9.12.045 - 9.12.080 authorizes implementation and enforcement of Chapter 9.12. King County Code Title 23 provides supplementary authority for the implementation and enforcement of code. Title 9 and Title 23 are found at the following URLs: http://www.kingcounty.gov/council/legislation/kc_code/12_Title_9.aspx

http://www.kingcounty.gov/council/legislation/kc_code/32_Title_23.aspx

S5.C.1.b.vi.

Within the limitations of state law, carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition on illicit discharges to the municipal separate storm sewer and compliance with local ordinances.

Custodial agencies of King County are agencies that are owners, operators or managers of King County properties. These agencies are Solid Waste, Wastewater, Roads, Transit, Airport, Parks, FMD, WLRD, SWS and Rivers. These agencies perform regularly scheduled inspections of their respective properties and facilities to inspect requisite BMPs and to determine the presence of illicit discharges to the MS4. These discharges include spills, illegal dumping, illicit connections, and other illegal activities. These programs are detailed in sections S5.C.5, S5.C.7 and S5.C.8 and in the attached CTFs. DPER performs the inspections and enforcement related to County-issued Permit conditions. DNRP, through SWS of WLRD, performs the inspections and enforcement related to the prohibition of illicit discharges per King County Code 9.12. PHSKC conducts enforcement of illegal dumping and illicit dischargers using Board of Health Code. Title 9 and Board of Health Codes are found at the following URLs:

http://www.kingcounty.gov/council/legislation/kc_code/12_Title_9.aspx

http://www.kingcounty.gov/healthservices/health/BOH/code.aspx

S5.C.2. Municipal Separate Storm Sewer System Mapping and Documentation

S5.C.2.a.

The SWMP shall include an ongoing program for mapping and documenting the MS4.

S5.C.2.b.

Minimum performance measures information and its form of retention shall include:

S5.C.2.b.i.

Each Permittee shall map all known municipal separate storm sewer outfalls and receiving waters, and structural stormwater treatment and flow control BMPs owned, operated, or maintained by the Permittee. Mapping of outfalls and structural BMPs shall continue on an on-going basis as additional outfalls are found, and as new BMPs are constructed or installed. Each permittee shall continue a program to map connection points between municipal separate storm sewers owned or operated by the Permittee and other municipalities or other public entities.

To comply with our previous two NPDES Permits, the County initiated a program to map its MS4. This mapping included facilities, conveyance systems and outfalls; and connections between the County's system and those of other public entities and private properties. This mapping also included properties owned and operated by King County that are located in other jurisdictions.

King County has mapped and compiled all known MS4 outfalls, receiving waters, and structural treatment and flow control BMPs that it owns, operates or maintains. While the County's mapping programs have been conducted by its custodial agencies, the County has compiled this data and is launching a new central geo-database using the County's GIS system. The County will use this new geo-database to identify areas of the County that need further mapping and identify stormwater system features that require additional attribute refinement. The County has begun the migration of data to the central system and initiated the implementation of data collection and storage processes which will result in a standardized system. This standardized geo-database will meet permit requirements as well as enable the County to create interfaces that will streamline the update process and make the data more accessible for subsequent queries, mapping and analyses.

The County will continue its current field mapping program whose collection methods include Geographic Positioning System (GPS) surveys on foot, aggregation of data from as-built plans, and data collection from mobile mapping vans.

Additional outfalls, conveyance systems, and facilities that comprise part of the King County owned and operated MS4 will be surveyed and added to the database as these are identified. The County has enacted a program to capture additions to the system by private developers and public agencies after they receive final construction approval. As the new facilities and conveyance systems are approved and installed, these will be included in the master drainage map. Receiving waters have already been mapped and are available on separate GIS layers.

King County has been coordinating an effort to map connection points with other MS3s. The primary forum currently used is the mapping committee of NPDES Regional Operations and Maintenance Program (ROAD MAP). Some of the work products being developed include interlocal agreements to coordinate mapping connection efforts and protocols for mapping connected systems.

S5.C.2.b.ii.

Each Permittee shall map the attributes listed below for all storm sewer outfalls with a 24 inches nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems. For Counties, the mapping shall be done within urban/higher density rural sub-basins. For Cities, the mapping shall be done throughout the City. Attributes mapped shall include: Land use, Tributary conveyances (indicate type, material, and size where known); and associated drainage areas.

King County has completed the appropriate GIS layers to meet this permit requirement. As described in section Section S5.C2.b.i., ongoing mapping continues to improve the spatial coverage, as concurrent geo-database upgrades will improve the overall data quality. The urban/higher density rural sub-basins have already been identified and King County's mapping efforts have focused on the higher-density rural drainage basins. A map of these basins has been included as Appendix 5. This general approach has been used because the higher-density rural drainage basins have significant infrastructure and related maintenance activities and are not likely candidates for annexation.

S5.C.2.b.iii.

Each Permittee shall continue a program to develop and maintain a map of all connections to the municipal separate storm sewer authorized or allowed by the Permittee after February 16, 2007.

King County has a program that identifies new connections to the MS4 through the building permit records process at DPER. The submittal of electronic copies of newly constructed drainage systems that will be owned by the County are required as part of permit review. Private connections allowed under new permits will be manually added by SWS to the GIS map of the County's MS4. Various custodial agencies within the County will be responsible for updating the geo-database with the relevant information about the new facilities.

S5.C.2.b.iv.

Each Permittee shall map existing, known connections over 8" to municipal separate storm sewers tributary to all storm sewer outfalls with a 24" inches nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems, according to the following schedule:

- *City of Seattle and City of Tacoma: by February 16, 2009.*
- *Clark, King Pierce and Snohomish Counties: one half the area of the County within urban/higher density rural sub-basins by February 16, 2011.*

All known connections over eight inches to municipal separate storm sewers tributary to all storm sewer outfalls with a 24 inches nominal diameter or larger, or an equivalent cross-sectional areas for non-pipe systems have been mapped under an existing program. The County has completed mapping half of the area of the County within the urban/higher density rural sub-basins using the mapping program described in Section S5.C2.b.i

S5.C.2.b.v.

Each Permittee shall map geographic areas served by the Permittee's MS4 that do not discharge stormwater to surface water.

The location of King County's known flow control and treatment facilities, conveyance systems, and outfalls have been mapped as described in Section S5.C2.b.i. The County has used this geo-database to identify those geographic areas that do not discharge to surface water. No catchments within unincorporated King County are allowed to discharge to sanitary sewer systems. As the stormwater systems that do not discharge to surface water continue to be identified, the tributary areas will be determined and mapped. This will not include systems that discharge to groundwater through Underground Injection Control (UIC) structures. Those systems are mapped and regulated under Chapter 173-218 WAC.

S5.C.2.b.vi.

To the extent consistent with national security laws and directives, each Permittee shall make available to Ecology, upon request, available maps depicting the information required in S5.C.2.b.i. through v., above. The preferred format of submission will be an electronic format with fully described mapping standards. An example description is available on Ecology's website. Notification of updated GIS data layers shall be included in annual reports.

See the response to S5.C.2.b.vii.

S5.C.2.b.vii.

Upon request, and to the extent appropriate, Permittees shall provide mapping information to Co-Permittees and Secondary Permittees. This permit does not preclude Permittees from recovering reasonable costs associated with fulfilling mapping information requests by Co-Permittees and Secondary Permittees.

The County is prepared to respond appropriately to the mapping requests of Ecology and any Co-Permittees and Secondary Permittees. Requests should be addressed to Curt Crawford, Storm Water Services Section Manager, Water and Land Resources Division, 201 S. Jackson Street, Suite 600, Seattle, WA 98104-3855, or by e-mail at Curt.Crawford@kingcounty.gov.

S5.C.3. Coordination

S5.C.3.a.

The SWMP shall include coordination mechanisms among departments within each jurisdiction to eliminate barriers to compliance with the terms of this permit. The SWMP shall also include coordination mechanisms among entities covered under a municipal stormwater NPDES permit to encourage coordinated stormwater-related policies, programs and projects within a watershed.

S5.C.3.b.

Minimum performance measures:

S5.C.3.b.i.

Implement written, intra-governmental (internal) coordination agreement(s) or Executive Directive(s) to facilitate compliance with the terms of this permit.

An order, signed by the previous County Executive, establishes the mechanism by which the various entities of County government will participate in permit compliance. The order was effective November 20, 2007, is currently still in effect, and may be read at the following Web site:
http://www.kingcounty.gov/operations/policies/executive/utilitiesaeo/put819aeo.aspx

S5.C.3.b.ii.

Within 2 years following the addition of a new Secondary Permittee, establish:

- *Coordination mechanisms clarifying roles and responsibilities for the control of pollutants between physically interconnected MS3s of the Permittee and any other Permittee covered by a municipal stormwater permit.*

- *Coordinating stormwater management activities for shared waterbodies, among Permittees and Secondary Permittees, to avoid conflicting plans, policies and regulations.*

Permittees shall document their efforts to establish the required coordination mechanisms. Failure to effectively coordinate is not a permit violation provided other entities, whose actions the Permittee has no or limited control over, refuse to cooperate.

King County is instrumental in convening, supporting, and participating in numerous regional forums with other municipalities to develop and implement collaborative stormwater management programs. As is evident in the breadth of the stormwater permit, there are many regional groups focused on different aspects of stormwater management in which King County plays an important role. These forums include the following:

- Stormwater Outreach for Regional Municipalities (STORM) is a regional coordination organization comprised of Phase I and Phase II Municipal NPDES permit holders whose purpose is to coordinate public education and outreach efforts related to stormwater pollution prevention. This group was awarded a grant by Ecology to assemble and launch a public education campaign on stormwater. This campaign, Puget Sound Starts Here (www.pugetsoundstartshere.org) was successfully launched in 2009. STORM has an ongoing relationship with the Puget

Sound Partnership (PSP) that focuses on coordinating shared outreach messages and complimentary outreach activities.

- ROAD MAP is a regional coordination organization comprised of Phase I and Phase II Municipal NPDES permit holders whose purpose is to develop coordinated programs and tools to address operations and maintenance requirements within the municipal stormwater permits. ROAD MAP has formed committees to address IC/IDDE, regional stormwater mapping, permit tracking tools, and coordination of training programs.

- The Regional Permit Coordinators' Forum is a regional coordination organization comprised of Phase I and Phase II Municipal NPDES permit holders whose purpose is to provide a forum to discuss permit and stormwater related issues concerning permit holders, share current information, and identify solutions and future issues.

- The Phase I Permit Coordinators Group is a regional coordination organization comprised of Phase I Municipal NPDES permit holders that has been meeting since the issuance of the 1995 permit. The purpose of this group is to provide a forum to discuss permit and stormwater related issues concerning Phase I permit holders, share current information, and identify solutions and future issues.

- The Stormwater Managers Committee of the Washington State Chapter of the American Public Works Association (APWA) is a regional committee of stormwater professionals from both the public and private sector. This group has been an important partner in the region in addressing stormwater issues, developing local consensus on issues, and reporting out to regional agencies and governments. The APWA also provides a forum for the presentation of studies and new products.

- The Water Quality Partnership is a standing policy advisory committee on the State's water quality management functions. This committee is sponsored by Ecology and provides water quality professionals from both the public and private sector an opportunity to review information on Ecology programs presented by senior staff of Ecology. Subject matter includes budget, permits, regulations, state studies, and reports from other programs within Ecology. This group is often drawn upon to provide staffing for stakeholder groups.

- The Stormwater Work Group (SWG) was formed in 2008 to develop a coordinated stormwater monitoring program for the Puget Sound region. This coordinated stormwater monitoring program is intended to provide the best scientific information needed to more effectively manage stormwater and reduce environmental harm. The SWG is part of the Puget Sound Ecosystem Monitoring Program (PSEMP) and is comprised of a coalition of representatives of local, state, and federal governments, environmental and business organizations, tribes, and agriculture. The monitoring requirements in the next 5-year permits (August 2013-July 2018) for both Phase I and Phase II Puget Sound municipalities are based on recommendations from the SWG and differ substantially from monitoring requirements under existing permits.

King County has and will continue to contribute significant staff time and resources to the PSP. King County staff are serving on multiple committees and groups within the PSP. The

County also is instrumental in the operations of the local Water Resource Inventory Areas (WRIA) Boards in WRIAs 7, 8, 9, and 10. In addition, King County is active in the collaborative planning and stormwater-related improvements for the Salmon, Miller, Walker, Des Moines, and Juanita Creek Basins. The participation in, and relationships established in these groups form the basis for the timely coordination mechanisms and coordinated activities required above.

S5.C.4. Public Involvement and Participation

S5.C.4.a.

The SWMP shall provide ongoing opportunities for public involvement in the Permittee's stormwater management program and implementation priorities.

S5.C.4.b.

Minimum performance measures:

S5.C.4.b.i.

Implement a process to create opportunities for the public to participate in processes involving the development, implementation and update of the Permittee's SWMP. Each Permittee shall develop and implement a process for consideration of public comments on their SWMP.

For the 2010 SWMP, King County began a new public involvement process. In an effort to expand the opportunities for the public to learn about the SWMP and comment on its contents, a series of explanatory videos were posted on the SWS Web site.

In 2011, a new series of videos were produced presenting the basics of stormwater management and providing an introduction to the contents of the SWMP. The 2011 videos were shorter in duration and have been divided by subject so that the public can more easily find the information they are looking for. To continue presenting the County's stormwater management efforts in an easy to understand and interactive method we have added new videos to the SWMP video web page for the 2013 program.

King County now has stormwater videos addressing the following subjects at www.kingcounty.gov/stormwatervideos

- What is stormwater and why is it important?
- Stormwater regulations – local and national
- King County Stormwater Management Plan
- How you can improve stormwater
- Pet waste and stormwater
- Septic systems and stormwater
- Soils and stormwater
- Roadside ditch stormwater study
- Illicit connection and illicit discharge detection and elimination

Along with these videos, the public review draft of the SWMP document and a public feedback survey has been posted on the SWS Web site. An emailing to almost 6,000 addresses announced the posting of the SWMP document and videos. Notices were also sent to local news outlets.

Additionally, public comments on the SWMP will continue to be accepted via an email account (stormwater@kingcounty.gov) that is available year-round for public comment on King County stormwater policy. Comments received will be compiled and posted on the SWS Web site, and issues raised by the comments will be addressed. In addition, County stormwater staff will be available to present information about the SWMP to public interest groups year round.

S5.C.4.b.ii.

Each Permittee shall make their SWMP, the SWMP documentation required under S5.A.1. and all submittals required by this permit, including annual reports, available to the public, starting with the annual report for calendar year 2007, on the Permittee's website or submitted in electronic format to Ecology for posting on Ecology's website.

The SWMP, the SWMP documentation required under S5.A.1 and all submittals required by this permit, including annual reports, shall be made available to the public, starting with the first annual report, via the King County Web site at the following address:

http://www.kingcounty.gov/environment/wlr/stormwaterprogram.aspx

S5.C.5. Controlling Runoff from New Development, Redevelopment and Construction Sites

S5.C.5.a.

The SWMP shall include a program to prevent and control the impacts of runoff from new development, redevelopment, and construction activities. The program shall apply to private and public development, including roads.

S5.C.5.b.

Minimum performance measures:

S5.C.5.b.i.

The Minimum Requirements, thresholds, and definitions in Appendix 1, or Minimum Requirements, thresholds, and definitions determined by Ecology to be equivalent to Appendix 1, for new development, redevelopment, and construction sites shall be included in ordinances or other enforceable documents adopted by the local government. Adjustment and variance criteria equivalent to those in Appendix 1 shall be included. More stringent requirements may be used, and/or certain requirements may be tailored to local circumstances through the use of basin plans or other similar water quality and quantity planning efforts. Such local requirements and thresholds shall provide equal or similar protection of receiving waters and equal or similar levels of pollutant control as compared to Appendix 1.

The County has met this performance requirement. Minor amendments, requested by Ecology, were made in 2008 to our regulations for new development, redevelopment, and construction sites. The relevant codes and rules are set forth in the following list:

KCC 9.04 Surface Water Runoff Policy;
http://www.kingcounty.gov/council/legislation/kc_code/12_Title_9.aspx

KCC 9.08 Water Quality;
http://www.kingcounty.gov/council/legislation/kc_code/12_Title_9.aspx

KCC 16.82 Clearing and grading;
http://www.kingcounty.gov/council/legislation/kc_code/19_Title_16.aspx

KCC 21A.24 Critical Areas;
http://www.kingcounty.gov/council/legislation/kc_code/24_30_Title_21A.aspx

the Surface Water Design Manual (SWDM)

http://www.kingcounty.gov/environment/waterandland/stormwater/documents/surface-water-design-manual.aspx

and, the Stormwater Pollution Prevention Manual (SPPM).
(http://www.kingcounty.gov/environment/waterandland/stormwater/documents/pollution-prevention-manual.aspx).

S5.C.5.b.ii.

The local requirements shall include a site planning process and BMP selection and design criteria that, when used to implement the minimum requirements in Appendix 1, 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. Permittees shall document how the criteria and requirements will protect water quality, reduce the discharge of pollutants to the maximum extent practicable, and satisfy the state AKART requirements.

Permittees who choose to use the site planning process, and BMP selection and design criteria in the 2005 Stormwater Management Manual for Western Washington [SMMWW], or an equivalent manual approved by Ecology, may cite this choice as their sole documentation to meet this requirement.

The County chose to adopt an equivalent manual approved by Ecology and hereby cites this choice as the sole documentation of compliance with this requirement. After approval and adoption of enabling code by the King County Council in 2008, the current SWDM was adopted by public rule and became effective on January 9, 2009. It is posted at the following URL:

http://www.kingcounty.gov/environment/waterandland/stormwater/documents/surface-water-design-manual.aspx

Due to the appeal of the 2007 Permit to the Pollution Control Hearing Board (PCHB), the approval process for equivalency was ruled to require a public review process. Formal equivalency approval of the County's manual took place through a modification of the 2007 Permit by Ecology. The modified permit officially replaced the 2007 Permit with some minor changes on June 17, 2009.

S5.C.5.b.iii.

Low Impact Development

(1) The program must allow non-structural preventive actions and source reduction approaches such as Low Impact Development Techniques (LID), to minimize the creation of impervious surfaces, and measures to minimize the disturbance of soils and vegetation.

(2) The program must require[1] non-structural preventive actions and source reduction approaches including Low Impact Development Techniques (LID), to minimize the creation of impervious surfaces, and measures to minimize the disturbance of soils and vegetation where feasible.

[1] In order to implement the Pollution Control Hearings Board's language in S5.C.5.b.iii, Ecology will initiate a process to define the scope of LID techniques to be considered, criteria for determining the feasibility of LID techniques, and a LID performance standard. When the process is complete, Ecology will incorporate the results and a deadline for implementation of S5.C.5.b.iii(2) into the permit through a permit modification.

County codes allow, encourage, and require the use of Low Impact Development (LID) BMPs where feasible, including specific measures used to minimize the disturbance of soils and vegetation. The SWDM requires the use of a minimum amount of LID BMPs (referred to as flow control BMPs) on nearly all projects and allows LID BMPs to be used as the sole means of managing stormwater for many projects. The LID BMPs allowed include preserving native vegetation and limiting impervious surface as well as a whole host of more structural BMPs such as permeable pavement, vegetated roofs, rain gardens, rainwater harvesting, infiltration systems, and dispersion devices. Examples of the LID BMPs used in rural areas include, but are not limited to, forest retention, fencing livestock out of streams, stream buffers, manure lagoons, and native plantings in stream buffers. In rural areas where LID flow and water quality control BMPs are used, forest, farm, and rural stewardship plans are developed by individual property owners, with support from WLRD or the King Conservation District (KCD), to establish, among other things, the customized maintenance standards for those BMPs.

The County meets this performance requirement as follows:

- KCC 9.04 and the SWDM require the application of LID flow control BMP techniques where feasible on all new development and redevelopment projects that are subject to drainage review. These required flow control BMPs include both non-structural BMPs (e.g., native vegetation retention and reduced footprint, etc.) and structural BMPs (e.g., infiltration trenches, dispersion trenches, rain gardens, etc.).

- KCC 16.82.100 requires that clearing and grading activities minimize removal of the duff layer and native top soil and that disturbed soils be amended with compost or other organic matter to mitigate loss of soil moisture-holding capacity.

King County has an inspection program for privately owned flow control BMPs to determine the execution of the activities necessary to ensure the performance measures described in Appendix C of the SWDM.

Additionally, King County's Critical Areas Ordinance allows modification of standard aquatic, wetland and wildlife habitat conservation area buffers on properties zoned Rural Area residential (RA) when landowners submit an approved Rural Stewardship Plan that includes LID strategies. Rural Stewardship Plans promote minimal disturbance of native soils and vegetation. They decrease hydrologic changes by reducing development footprints and carefully siting developed areas, and by using on-site infiltration and dispersion techniques. The grading code requires that where soil is disturbed, a minimum of 8 inches of soil having an organic content of 8-13% must be provided. The zoning code prohibits clearing in stream and wetland buffers and limits clearing on steep slopes.

King County was involved with the LID committee enacted to address the LID issues raised as part of the Pollution Control Hearing Board's ruling on the appeal of the 2007 Permit.

S5.C.5.b.iv.

Each Permittee shall implement a local program that meets the requirements in S5.C.5.b.i through iii., above. Ecology review and approval of the local manual and ordinances is required. Permittees shall provide detailed, written justification of any of the requirements that differ from those contained in Appendix 1 of this permit.

The County completed the latest updates of its requirements, technical standards, and manual to achieve equivalency of these regulations with the Ecology manual in 2009. During this process the County made minor amendments to the following regulations:

Surface Water Design Manual
http://www.kingcounty.gov/environment/waterandland/stormwater/documents/surface-water-design-manual.aspx

Stormwater Pollution Prevention Manual
http://www.kingcounty.gov/environment/waterandland/stormwater/documents/pollution-prevention-manual.aspx,

KCC 9.04 Surface Water Runoff Policy, KCC 9.12 Water Quality, and

KCC 16.82 Clearing and Grading.

The updates were submitted to King County Council in 2008 and approved for adoption. They were posted to King County's Web site in January of 2009.

Formal equivalency approval of the County's manual took place through a modification of the 2007 Permit by Ecology. The modified permit (2009 Permit) officially replaced the 2007 Permit with some minor changes on June 17, 2009.

S5.C.5.b.v.

The program shall establish legal authority to inspect private stormwater facilities and enforce maintenance standards for all new development and redevelopment approved under the provisions of this section.

The County currently meets this performance requirement through its adopted surface water code, as listed below:

- KCC 9.04.120 Drainage facilities not accepted by King County for maintenance: A declaration of covenant granting King County authority to inspect private drainage facilities must be recorded at the time of development.

- KCC 9.04.140 Administration: Authorizes the County to make inspections and take actions required to enforce the provisions of KCC 9.04 and the Surface Water Design Manual. It also provides for right of entry and ingress/egress as needed to monitor and enforce the requirements of KCC 9.04 and the Surface Water Design Manual.

- KCC 9.04.180 Enforcement: Authorizes the County to enforce the provisions of KCC 9.04 and the Surface Water Design Manual.

- KCC Title 23 Code Compliance: Sets forth procedures for enforcing code compliance.

S5.C.5.b.vi.

The program shall include a process of permits, plan review, inspections, and enforcement capability to meet the following standards for both private and public projects, using qualified personnel:

- *Review all stormwater site plans submitted to the Permittee for proposed development involving land disturbing activity that meet the thresholds in S5.C.5.b.i., above.*

- *Inspect prior to clearing and construction, all 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.*

- *Inspect all permitted development sites involving land disturbing activity that meet the thresholds in S5.C.5.b.i. above, during construction to verify proper installation and maintenance of required erosion and sediment controls. Enforce as necessary based on the inspection.*

- *Inspect all development sites that meet the thresholds in S5.C.5.b.i., upon completion of construction and prior to final approval/occupancy to verify proper installation of permanent erosion controls and stormwater facilities/BMPs. Enforce as necessary based on the inspection. A maintenance plan shall be developed for permanent stormwater facilities/BMPs and responsibility for maintenance shall be assigned.*

- *Compliance with the above inspection requirements shall be determined by the presence of an established inspection program designed to inspect all sites involving land disturbing activity that meet the thresholds in S5.C.5.b.i. Compliance during this permit term shall be determined by achieving at least 80% of scheduled inspections. The inspections may be combined with other inspections provided they are performed using qualified personnel.*

- *The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.*

- *The program shall include an enforcement strategy to respond to issues of non-compliance.*

King County has in place a process of permits, plan reviews, inspections, and enforcement capabilities to meet the above standards for both private and public projects. Except for Right of Way (ROW) Construction Permits, which are administered by the Real Estate Services Section of the Department of Executive Services, DPER is the permitting agency for unincorporated King County. DPER receives applications for development permits and reviews all stormwater site plans submitted. This review process includes assessing the sensitivity of a site for elements such as erosion hazard critical areas, proximity to steep slopes, creeks or wetlands, as well as the proposed temporary erosion and sediment control (TESC) elements of the project.

Following issuance of a permit, DPER inspects all development sites. Pre-clearing and construction inspections are performed for all designated highly sensitive sites, which capture those sites with a high potential for sediment transport. These sites are also

inspected during construction for the required erosion and sediment controls outlined and reviewed in the permit application. All sites with stormwater facilities and flow control BMPs are inspected to ensure they are properly installed. Because DPER frequently combines erosion and sediment control inspections with other inspections, all the inspectors and plan reviewers are required to have Certified Erosion and Sediment Control Lead (CESCL) certification.

Larger projects are required to post financial guarantees to ensure that sites with improperly constructed facilities can have corrections made. Violations of erosion and sediment control requirements are enforced. Larger projects are required to put up financial guarantees, the first $7,500 of which is cash. If a violation or stop work order is issued due to TESC problems, DPER can order out its own contractors to fix the TESC problem using the cash portion of the restoration bond. Flow charts of some typical DPER permit processes are available in Appendix 1 to demonstrate how inspections are integrated into the process.

Inspections are tracked with different methods by various DPER sections using a time tracking/billing system to record site visits and inspections; completion of paper log sheets in the field; and electronic records in a software program called Accela Automation. Records of all inspections and enforcements are maintained in a central database and most are available through the DPER website. Each DPER inspection file has records of inspections and enforcement. In addition, beginning in July, 2012, detailed records for all inspections and enforcement actions are maintained in Automation. Older inspection and enforcement records that were stored in the previous DPER permit processing software (Permits Plus) have been converted into Automation as well. The County is assessing if the DPER website could also be expanded to consolidate all Ecology-required permit records under one Municipal Permit screen.

S5.C.5.b.vii.

The Permittee shall make available the "Notice of Intent for Construction Activity" and/or copies of the "Notice of Intent for Industrial Activity" to representatives of proposed new development and redevelopment. Permittees will continue to enforce local ordinances controlling runoff from sites that are covered by other stormwater permits issued by Ecology.

Copies of "Notice of Intent for Construction Activity" and the "Notice of Intent for Industrial Activity" are available at the DPER's Permit Counter.

S5.C.5.b.viii.

Each permittee shall ensure that 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. As determined necessary by the Permittee, follow-up training shall be provided to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.

King County has a training program series on the SWDM and coordinates with all departments to ensure that the requisite staff receive this training. Training for DPER staff was conducted in February 2009 for all review and inspection staff on additions and revisions in the 2009 SWDM adopted in January 2009. In addition, relevant DPER staff are required to maintain Certified Erosion Control Lead certification. The County continues to review King County agencies' programs and updates the list of staff requiring SWDM and

CESCL training as needed under this section. Training records of DPER staff are tracked on a web based application call the Training Management System. The County will address the training requirements as new staff and positions are identified, whether they are current employees or new hires. Ecology tracks CESCL certifications on its Web site at the following URL: (http://apps.ecy.wa.gov/wqcescl/). King County conducts its own Ecology approved CESCL training and certification course. This has enabled the County to train staff identified as needing CESCL training in a timely and efficient manner.

S5.C.6. Structural Stormwater Controls

S5.C.6.a.

The SWMP shall include a program to construct structural stormwater controls to prevent or reduce impacts to waters of the state caused by discharges from the MS4. Impacts that shall be addressed include disturbances to watershed hydrology and stormwater pollutant discharges. The program shall consider impacts caused by stormwater discharges from areas of existing development, including runoff from highways, streets and roads owned or operated by the Permittee, and areas of new development, where impacts are anticipated as development proceeds. The program shall address impacts that are not adequately controlled by the other required actions of the SWMP, and shall provide proposed projects and an implementation schedule.

The program shall consider the construction of projects such as: regional flow control facilities; water quality treatment facilities; facilities to trap and collect contaminated particulates; retrofitting of existing stormwater facilities; and rights-of-way, or other property acquisition to provide additional water quality and flow control benefits. Permittees should also consider other means to address impacts, such as reduction or prevention of hydrologic changes through the use of on-site (infiltration and dispersion) stormwater management BMPs and site design techniques, riparian habitat acquisition, or restoration of forest cover and riparian buffers, for compliance with this requirement. Permittees may not use in-stream culvert replacement or channel restoration projects for compliance with this requirement.

S5.C.6.b.

Minimum Performance Measures:

S5.C.6.b.i.

Each Permittee shall implement a Structural Stormwater Control program designed to control stormwater impacts that are not adequately controlled by other required actions of the SWMP. Permittees shall provide a list of planned individual projects that are scheduled for implementation during the term of this permit and describe how the selected projects comply with AKART and MEP requirements. Updates and revisions to the list will be provided in the annual report and will address any concerns identified by Ecology during its review of the Structural Stormwater Control program.

The Structural Stormwater Control program may also include a program designed to implement small scale projects that are not planned in advance.

The County's structural stormwater control program is a two-tiered program of capital projects operated primarily out of King County WLRD that also includes projects implemented by other County agencies that meet the intent of the program. The first tier consists of projects whose primary purpose is controlling stormwater runoff from developed land to address its quantity and quality impacts to waters of the state that are not adequately addressed by other required actions in the SWMP. Included are projects specifically aimed at (1) reducing stormwater quantity and/or quality impacts caused by existing developed land, and/or (2) preventing such impacts anticipated to be caused by future land development that are not otherwise addressed by development regulations. The second tier consists of projects whose primary purpose is not controlling stormwater runoff to reduce or prevent stormwater impacts to waters of the state, but nonetheless result in a stormwater

impact reduction/prevention benefit to these waters. Details of King County's structural stormwater control program are located in Appendix 2.

S5.C.6.b.ii.

Each Permittee shall include a description of the Structural Stormwater Control Program in the written documentation of their SWMP. The description of the Structural Stormwater Control Program shall include the following:

- *The goals that the Structural Stormwater Control Program are intended to achieve.*
- *The planning process used to develop the Structural Stormwater Control Program, including: the geographic scale of the planning process, the issues and regulations addressed, the steps in the planning process, the types of characterization information considered, the amount budgeted for implementation, and the public involvement process.*
- *A description of the prioritization process, procedures and criteria used to select the Structural Stormwater Control projects*

Goals of the Structural Stormwater Control Program

The overall goal of the County's structural stormwater control program as directed by this permit requirement is to (1) reduce stormwater quantity and quality impacts to waters of the state caused by existing developed land, and (2) prevent such impacts anticipated to be caused by future land development that are not adequately addressed through regulations or other required programmatic actions of this SWMP. Such impacts include, but are not limited to: increased runoff peaks, durations, and volumes; loss of groundwater recharge; increased pollutants in discharges; increased erosion and sedimentation; physical, chemical, and biological damage to aquatic habitat and biota; increased flooding and property damage; and increased risks to human health and safety. The overall goal is intended to be achieved incrementally over time through implementation of the program's capital projects each year. See Appendix 2 for a description of the projects planned through the end of this permit term.

Planning Process for the Structural Stormwater Controls Program

Currently, several planning processes are used to identify structural stormwater control projects. These include, but are not limited to: basin plans; basin reconnaissance reports; stormwater compliance plans; salmon conservation plans; lake management plans; TMDL implementation plans; basin retrofit analyses; land use analyses; GIS analyses; engineering studies; feasibility studies; and six-year CIP plans. Over the years, these planning processes are one way that projects are identified and prioritized. The other way is through opportunities and emergency situations that arise following severe storms. Opportunities may include the availability of external funding for a specific project or project type (e.g., federal or state grant funding), or the availability of a specific piece of land for acquisition. Urgent situations, often posed by flooding or erosion, typically involve a significant risk of property damage or threat to public safety, or may involve a legal obligation.

As described in Appendix 2, other types of structural stormwater control projects are not planned but instead are identified and implemented on a year-by-year demand-driven basis.

The County has and will continue to participate in basin and sub-basin scale planning to identify stormwater control projects to mitigate the stormwater impacts of past, present, and future development. During this permit term, the County has been or will be involved in several basin planning efforts, including the Des Moines Creek Basin Plan (implementation phase), the Miller and Walker Creek Basin Plan, the Salmon Creek Basin Plan, the King County Stormwater Capital Needs Assessment, and the Juanita Creek Basin Retrofit Analysis Project.

In 2010, the County began a program to address Special Condition S4F for O.O. Denny Creek. Part of this program included proactively identifying, assessing the feasibility, and prioritizing projects that address erosive outfalls pursuant to Ecology's direction stated in their letter to King County dated July 22, 2008 (see Appendix 2 of SWMP). In 2010 through the beginning of 2012, the Outfall Reconnaissance Inventory program investigated approximately 1,900 outfalls. As part of that program, the outfalls were assessed for potential erosivity and 24 were found to have features that fit this category. An inventory of these potentially erosive outfalls has been developed and planning level costs for capital projects necessary to correct erosion at each outfall were estimated. Adding these costs together, the total planning level cost to stabilize all 24 outfalls was estimated to be about $1.3 million. This cost together with planning level costs to address other stormwater capital needs formed the basis for the County's 2013/14 budget request. In 2013, the County will begin performing more rigorous engineering assessments of these outfalls to determine definitive project costs and benefits for purposes of prioritizing these projects for future capital funding. These assessments will evaluate solution alternatives, costs, feasibility, and priority for inclusion on the list of planned structural stormwater control program projects. As appropriate, these assessments will consider different approaches to address erosive outfalls such as use of tightlines (pipes down steep slopes), upper basin flow control facilities, and/or low impact development retrofits that more closely mimic the predeveloped hydrologic condition.

S5.C.6.b.iii.

For planned individual projects, and programs of small projects, provide the following information:

- *The estimated pollutant load reduction that will result from each project designed to provide stormwater treatment.*
- *The expected outcome of each project designed to provide flow control.*
- *Any other expected environmental benefits.*
- *If planned, monitoring or evaluation of the project and monitoring/evaluation results.*

The current list of projects planned for this permit term and their expected outcomes is provided in Appendix 2.

S5.C.6.b.iv.

Information about the Structural Stormwater Control Program shall be updated with each annual report.

Information about King County's Structural Stormwater Control Program has been updated and is available in the County's Annual Report for 2012, submitted in 2013.

S5.C.7. Source Control Program for Existing Development

S5.C.7.a.

The SWMP shall include a program to reduce pollutants in runoff from areas that discharge to municipal separate storm sewers owned or operated by the Permittee. The program shall include the following:

S5.C.7.a.i.

Application of operational and structural source control BMPs, and, if necessary, treatment BMPs to pollution generating sources associated with existing land uses and activities.

S5.C.7.a.ii.

Inspections of pollutant generating sources at commercial, industrial and multifamily properties to enforce implementation of required BMPs to control pollution discharging into municipal separate storm sewers owned or operated by the Permittee.

S5.C.7.a.iii.

Application and enforcement of local ordinances at applicable sites, including sites that are covered by other stormwater permits issued by Ecology. Permittees that are in compliance with the terms of this permit will not be held liable by Ecology for water quality standard violations or receiving water impacts caused by industries and other Permittees covered, or which should be covered under an NPDES permit issued by Ecology.

S5.C.7.a.iv.

Reduction of pollutants associated with the application of pesticides, herbicides, and fertilizer discharging into municipal separate storm sewers owned or operated by the Permittee.

S5.C.7.b.

Minimum Performance Measures for Source Control Program:

S5.C.7.b.i.

Enforce an ordinance, or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities (See Appendix 8 to identify pollutant generating sources).

The requirements of this subsection are met by using the source control BMPs in Volume IV of the 2005 Stormwater Management Manual for Western Washington, or a functionally equivalent manual approved by Ecology.

Ecology review and approval of the ordinance, or other enforceable documents, and source control program is required.

Operational source control BMPs shall be required for all pollutant generating sources. Structural source control BMPs shall be required for pollutant generating sources if operational source control BMPs do not prevent illicit discharges or violations of surface water, ground water, or sediment management standards because of inadequate stormwater controls. Implementation of source control requirements may be done through education and technical

assistance programs, provided that formal enforcement authority is available to the Permittee and is used as determined necessary by the Permittee, in accordance with S5.C.7.b.iv., below.

The County adopted the SPPM in 1995 and updated it in 2005 and 2009. The SPPM identifies potentially polluting activities at commercial and industrial sites and the operational, structural, and/or treatment BMPs required to prevent pollutants from entering surface, storm, and groundwater. The 2009 SPPM is posted at the following URL: http://www.kingcounty.gov/environment/waterandland/stormwater/documents/pollution-prevention-manual.aspx.

KCC 9.12 and Title 23 provide enforcement capability, though the County's normal policy is to visit commercial and industrial sites, and provide technical assistance and follow-up correction letters identifying both any source control requirements not adequately met and any additional BMPs that are needed. Additionally, commercial sites are denied a discount on the annual Surface Water Management Fee if source control BMPs are not implemented and if the onsite stormwater system is not maintained.

S5.C.7.b.ii.

Implement a program to identify sites which are potentially pollution generating. The program shall include:

- *Inventory or listing of the land uses/businesses using the categories of land uses and businesses in Appendix 8. The Permittee shall periodically update the inventory as new businesses are identified and business ownership/management and responsibilities change.*

King County Stormwater Services developed an inventory of the land uses/businesses using the categories found in Appendix 8 of the 2009 Permit for use in 2013. In cooperation with other Phase I jurisdictions, King County has developed a long-term approach which will combine databases, screen business lists, and conduct verifications to improve the current inventory list to meet this permit requirement. This process is detailed in Appendix 7.

The inventory will be also updated as new sites are developed and approved through DPER and forwarded to SWS. Updates will also occur during the annual maintenance inspection process or bi-annual self-certification process. If a new business ownership or type of business is noted or reported, the inventory will be updated to reflect the change.

Properties owned by the County that have the potential to produce pollutants are included in this existing inventory. Custodial agencies have reviewed the current list of properties contained within the current business inventory and compared it to their property lists within unincorporated King County to ensure King County properties that have potential pollution generating activities are included in the inventory. This same process will be conducted for King County properties that are located outside of unincorporated King County. As additional properties are identified they will be added to the inventory.

The Airport occupies a unique position in that it is a property manager with businesses that are tenants. To aid the inventory process, the Airport provided a list of the tenant or business activities at the Airport and the potential pollution generation associated with each. The Airport also provided the applicable operational and structural BMPs planned or

implemented for both Airport and tenant activities. These items were provided to the SWS and kept on file.

- *Complaint-based response to identify other pollutant generating sources, such as mobile or home-based businesses.*

SWS inspection staff currently respond to all water quality complaints from citizens and all County agencies as well as those referred to SWS by outside agencies. If the complaint involves a mobile or home-based business that works in unincorporated King County, the business will be added to the business inventory. As part of the complaint resolution, a water quality audit discussing appropriate source control BMPs will take place and a follow up letter will be prepared to facilitate compliance. Additional inspections or enforcement actions will follow if necessary.

S5.C.7.b.iii

Implement an audit/inspection program for sites identified pursuant to S5.C.7.b.ii. above.

- *All identified sites with a business address shall be provided, by mail, telephone, or in person, information about activities that may generate pollutants and the source control requirements applicable to those activities. This information may be provided all at one time or spread out over the last three years of the permit term to allow for some tailoring and distribution of the information during site inspections. Businesses may self-certify compliance with the source control requirements at the discretion of the Permittee. The Permittee shall inspect 20% of these sites annually to assure BMP effectiveness and compliance with source control requirements. The Permittee may select which sites to inspect each year and is not required to inspect 100% of sites over a 5-year period. Sites may be prioritized for inspection based on their land use category, potential for pollution generation, proximity to receiving waters, or to address an identified pollution problem within a specific geographic area or sub-basin. The Permittee may count follow up compliance inspections at the same site toward the 20% inspection rate.*

The County has had a source control program since 1995 and its current source control program is based on the activities and BMPs cited in the 2009 SPPM. The program generally has been a complaint-based program. A well-defined inventory of potentially pollutant-generating businesses/sites has been developed (see S5.C.7.b.ii) and the County has defined what constitutes 20% of the inventory. Sites have been prioritized by business type and the potential for business activities to generate and discharge hazardous, dangerous, and toxic substances to surface and stormwater.

King County has budgeted for a mass mailing of a brochure directing businesses to County source control websites. This will not include businesses that have had site visits and been mailed BMP documentation as part of our normal inspection program.

Annexations are planned within King County, in the urban growth areas, over the next few years. This creates uncertainty about the number of businesses that will remain in unincorporated King County. The number of sites under this program will be in constant flux, requiring the 20% inspection goal be updated annually as cited in Appendix 7.

SWS is working with the Airport to conduct site inspections for each tenant that has been identified as meeting applicable source control requirements and will ensure the implementation status of source control BMPs.

- *Each Permittee shall inspect 100% of sites identified through legitimate complaints*

King County currently investigates all water quality complaints received in SWS. Once investigated, these complaints are either referred to another agency when appropriate; completed with a resolution or because no problem identified; receive an on-site source control audit visit; or, directed into the enforcement program.

S5.C.7.b.iv.

Each Permittee shall implement a progressive enforcement policy to require sites to come into compliance with stormwater requirements within a reasonable time period as specified below:

- *If the Permittee determines, through inspections or otherwise, that a site has failed to adequately implement required BMPs, the Permittee shall take appropriate follow-up action(s) which may include: phone calls, reminder letters or follow-up inspections.*

- *When a Permittee determines that a facility has failed to adequately implement BMPs after a follow-up inspection, the Permittee shall take further enforcement action as established through authority in its municipal code and ordinances, or through the judicial system.*

- *Each Permittee shall maintain records, including documentation of each site visit, inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating an effort to bring facilities into compliance. Each Permittee shall also maintain records of sites that are not inspected because the property owner denies entry.*

- *A Permittee shall contact Ecology immediately upon discovering a source control violation that presents a severe threat to human health or the environment. A Permittee may refer non-emergency violations of local ordinances to Ecology, provided, the Permittee also makes a documented effort of progressive enforcement. At a minimum, a Permittee's enforcement effort shall include documentation of inspections and warning letters or notices of violation.*

SWS has had a progressive enforcement program in place since 1995. The County uses both King County Code 9.12 - Water Quality Code and Title 23 - Enforcement:

Title 9 -
http://www.kingcounty.gov/council/legislation/kc_code/12_Title_9.aspx

Title 23 –
http://www.kingcounty.gov/council/legislation/kc_code/32_Title_23.aspx

Both have legally defined processes and procedures as adopted by the King County Council. All actions are documented in the Water Quality Compliance database. The enforcement program has been updated to incorporate changes made in King County Code Title 23 to simplify the code enforcement process. King County makes every effort to bring

facilities into compliance using site audits and technical assistance but does bring non-compliant businesses into the progressive enforcement program where needed.

S5.C.7.b.v.

Each Permittee shall ensure that all staff whose primary job duties are implementing the source control program are trained to conduct these activities. The training shall cover the legal authority for source control (adopted codes, ordinances, rules, etc.), source control BMPs and their proper application, inspection protocols, and enforcement procedures. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.

King County has an ongoing training program for employees conducting source control work. SWS is the primary agency implementing the source control program and has a training program that trains staff and regularly updates staff training as needed. SWS works with custodial agencies within King County and identifies agencies that want to conduct self audits. WLRD coordinates with these agencies to ensure that the required staff receives this training. King County continues to update its list of staff requiring training under this section and addresses their training as they are identified whether current employees or new hires.

SWS continuously reviews County programs to refine the tracking and identification of activities and staff whose source control job functions could impact stormwater quality. These efforts are intended to coordinate and centralize the training program tracking and ensure that the requirements of this section of the one-year permit are met.

S5.C.8. Illicit Connections and Illicit Discharges Detection and Elimination

S5.C.8.a.

The SWMP shall include an ongoing program to detect, remove and prevent illicit connections and illicit discharges, including spills, into the municipal separate storm sewers owned or operated by the Permittee.

S5.C.8.b.

Minimum Performance Measures:

S5.C.8.b.i.

Each Permittee shall continue implementing an on-going program to prevent, identify and respond to illicit connections and illicit discharges. The program shall include procedures for reporting and correcting or removing illicit connections, spills and other illicit discharges when they are suspected or identified. Each permittee shall implement procedures for addressing pollutants entering the MS4 from an interconnected, adjoining MS4.

Illicit connections and illicit discharges shall be identified through field screening, inspections, complaints/reports, construction inspections, maintenance inspections, source control inspections, and/or monitoring information, as appropriate.

The County has a number of programs in place to address illicit connections and discharges. These programs were created to address issues that occur on King County properties and to address regional issues.

Reports are received in a number of ways, including citizen requests obtained through the Roads 24-hour hotline (206-296-8100 or 800-KCROADS); citizen calls to the SWS Drainage and Water Quality hotline (206-296-1900) or to the Illegal Dumping Task Force (IDTF) hotline (206-296-SITE or 866-431-7483) or Web site (http://your.kingcounty.gov/solidwaste/cleanup/report-dumping.asp); from other regional jurisdictions, state agencies; or discoveries by County staff. When the County receives reports of dumped or spilled materials outside of its jurisdiction, the appropriate agency or municipality is notified of the situation.

Custodial agencies respond in several ways to illegally dumped materials or spilled materials on their properties such as the road ROW, parks, pumps stations, or park and rides. Illegally dumped solid waste is usually remedied by the custodial agency responding and removing the material, thus preventing potential illicit discharges. Dumped material suspected of being hazardous waste (e.g., methamphetamine laboratory waste), large-scale spills, unidentifiable dumped materials, or other potentially dangerous conditions require responses either from a spill response contractor, Ecology's Northwest Regional Office (NWRO) Spill Response Unit, or from other appropriate parties.

Any illicit connections, discharges, or spills discovered during maintenance or as a result of investigations or inspections of the stormwater system are reported to SWS, and an investigation request is completed with the relevant information entered into the SWS Complaint Tracker database. The investigation request is assigned to a Water Quality Engineer, who traces the source to ensure that the connection is removed or plugged or BMPs implemented to eliminate the discharge.

Spills or illicit discharges to receiving waters or to the MS4 are reported to SWS or other custodial agencies for investigation and are either reported to the State or other appropriate agencies or resolved by the County. Spills or discharges of a material or size requiring a response beyond the County's capacity to respond are addressed by a spill response contractor, Ecology's NWRO Spill Response Unit, or by other appropriate parties.

PHSKC inspects a variety of business and commercial properties and residential properties served by onsite sewage systems. PHSKC staff also investigate onsite stormwater systems for illegal discharges. A program is being developed which will ensure these reports are forwarded to the appropriate agencies and the PHSKC staff are trained to recognize existing or potential illicit connections or illicit discharges. When the discharge is under the direct regulatory oversight of PHSKC, staff will take appropriate measures to assure the correction of the connection or discharge. When the connection or discharge is not under the direct regulatory oversight of PHSKC, the connection or discharge will be reported to the appropriate authority.

In 2013, King County will continue to work with its neighboring jurisdictions on coordinating management of illicit connections and spills entering or leaving the County's MS4. As an example of this type of work, in previous years King County provided IC/IDDE training for Phase II Municipal Permitee staff from neighboring jurisdictions. An IC/IDDE committee of the ROAD MAP group meets as needed to update or review shared jurisdictional illicit connection and spill response policies and procedures.

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S5.C.8.b.ii.

Each Permittee shall enforce existing ordinances or other regulatory mechanisms to effectively prohibit non-stormwater, illicit discharges, including spills, into the Permittee's municipal separate storm sewer system.

1. *The ordinance or other regulatory mechanism, does not need to prohibit the following categories of non-stormwater discharges:*

    - *Diverted stream flows;*
    - *Rising ground waters;*
    - *Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));*
    - *Uncontaminated pumped ground water;*
    - *Foundation drains;*
    - *Air conditioning condensation;*
    - *Irrigation water from agricultural sources that is commingled with urban stormwater;*
    - *Springs;*
    - *Water from crawl space pumps;*

- *Footing drains; and*

- *Flows from riparian habitats and wetlands.*

2. *The ordinance or other regulatory mechanism, shall prohibit the following categories of non-stormwater discharges unless the stated conditions are met:*

    - *Discharges from potable water sources, including water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4.*

    - *Discharges from lawn watering and other irrigation runoff. These discharges shall be minimized through, at a minimum, public education activities (see S5.C.10) and water conservation efforts.*

    - *Dechlorinated swimming pool discharges. The discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.*

    - *Street and sidewalk wash water, water used to control dust, and routine external building washdown that does not use detergents. The Permittee shall reduce these discharges through, at a minimum, public education activities (see S5.C.10.) and/or water conservation efforts. To avoid washing pollutants into the MS4, Permittees shall minimize the amount of street wash and dust control water used. At active construction sites, street sweeping shall be performed prior to washing the street.*

    - *Other non-stormwater discharges. Other non-stormwater discharges shall be in compliance with the requirements of a stormwater pollution prevention plan reviewed by the Permittee which addresses such discharges.*

3. *The Permittee's SWMP shall, at a minimum, address each category in (2) above in accordance with the conditions stated therein.*

4. *The SWMP shall further address any category of discharges in (1) or (2) above if the discharges are identified as significant sources of pollutants to waters of the State.*

5. *Non-stormwater discharges covered by another NPDES permit and discharges from emergency fire fighting activities are allowed in the MS4 in accordance with S2 Authorized Discharges.*

Existing King County Code 9.12 (Water Quality) prohibits non-stormwater discharges including hyperchlorinated line flushing unless dechlorinated, swimming pool discharges, and street and sidewalk wash water. PHSKC regulates public swimming pools and complies with adopted storm water standards outlined in the SPPM for dechlorination, pH adjusting, and velocity controls. Discharges from irrigation or lawn watering are addressed as part of

the Natural Yard Care educational program. Other non-stormwater discharges are also prohibited by KCC 9.12.

S5.C.8.b.iii.

Each Permittee shall ensure that all municipal field staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, improper disposal and illicit connections, are trained to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.

All King County field personnel responsible for responding to illicit discharges and illicit connections are trained when hired. As the primary responders, Roads and Transit have developed formalized hazardous waste and spill response training for personnel responding to illegally dumped or spilled materials. This training is adapted for use by other County agencies and other local jurisdictions. The training includes identifying, reporting, containing, handling, transporting, and disposing of such materials that may be commonly dumped or spilled within the road right-of-way. The County continues to review its programs and identify additional personnel that need this training and to assess the need for follow-up training as regulations, procedures, or personnel change. Additionally, the County is working to identify or create additional trainings to ensure that field staff understand the regulatory and scientific environment in which the illicit discharge and connection identification program exists. For ease in tracking permit-related training, the County is exploring ways it could use its central employee database.

S5.C.8.b.iv.

Implement an ongoing training program 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, shall be trained on the identification of an illicit discharge or connection and on the proper procedures for reporting and responding to the illicit discharge or connection. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.

Each King County agency with field personnel subject to this requirement is responsible for training those employees to identify an illicit discharge or connection and to properly report and respond. The County continues to review its programs and identify additional personnel that need this training and to assess the need for follow-up training as regulations, procedures, or personnel change. Additionally, the County is working to identify or create additional trainings to ensure that field personnel understand the regulatory and scientific environment in which the illicit discharge and connection identification program exists. For ease in tracking permit-related training, the County is exploring ways it could use its central employee database.

S5.C.8.b.v.

Each Permittee shall provide a publicly-listed, water quality citizen complaints/reports telephone number. Complaints shall be responded to in accordance with S5.C.8.b.vii. and viii., below.

Citizen reports are received by the County in a number of ways. These 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) or Web site (http://your.kingcounty.gov/solidwaste/cleanup/report-dumping.asp).

S5.C.8.b.vi.

Each Permittee shall conduct on-going screening to detect illicit connections. The program shall include field screening and source tracing; and may also include source control inspections and complaint response. To comply with the requirement the Permittee may use the methods identified in Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004; or field screening methods approved by Ecology in a Stormwater Management Program under a prior Phase I municipal stormwater NPDES permit, provided the approved methods include field screening and source tracing.

King County has ongoing programs which screen for illicit connections to its MS4. These programs are implemented by the custodial agencies and by SWS in unincorporated King County. Any illicit connections found by the custodial agencies during maintenance programs or in response to specific complaints from citizens or County staff are forwarded to the SWS section. SWS staff also report to the complaint program any illicit connections found during investigations of citizen complaints; annual inspections of drainage systems and other field work. The complaint response program is comparable to sections of the Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004. This manual also contains guidance on programs similar to those found elsewhere in the SWMP, including the Outfall Reconnaissance Inventory (ORI) described below; citizen complaint response found in S5.C.8.b.v; and, the Source Control Program addressed in S5.C.7.

(2*) Each County covered under this permit shall prioritize outfalls and conveyances in urban/higher density rural sub-basins for screening and shall complete field screening for at least 12% of the conveyance systems in these areas.*

King County implemented an ORI program in 2010, developing screening and sampling protocols appropriate for the King County stormwater system. The ORI program uses a two-tiered approach to assess potential water pollution from suspected outfalls. The first tier is conducted by looking for signs of a potential illicit discharge or connection to the outfall such as foul odors, soap suds or discolored water. If a suspect discharge, or evidence of discharge, is identified, a follow-up, or tier two, inspection is conducted. This inspection involves taking water quality samples to determine if contaminants are present in the discharge like bacteria, fertilizers, and oil. Investigators can then conduct a source tracing process to locate and eliminate the illicit connection or discharge if tests are positive for contaminants. A map that identifies urban/higher density rural sub-basins is available for review as Appendix 5 of the SWMP.

S5.C.8.b.vii.

Response to Illicit Connections

- *Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, Permittees shall initiate an investigation within 21 days, to determine the source and nature of the connection, and the responsible party for the connection.*

- *Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall use their enforcement authority in a documented effort to eliminate the illicit connection within 6 months. All illicit connections to the MS4 shall be eliminated.*

- *Permittees shall contact Ecology immediately upon discovering an illicit connection that presents a severe threat to human health or the environment. Permittees may refer illicit connection violations to Ecology provided that the Permittee also makes a good faith effort of progressive enforcement. At a minimum, a Permittee's enforcement effort shall include documentation of inspections and warning letters and/or notices of violation.*

KCC 9.12 requires that once an illicit connection is discovered and confirmed, SWS staff notify the responsible party of the requirement to eliminate the connection. If the connection is not removed, a formal notice and order, with penalties, is issued. If there is still no resolution, the County can remove the illicit connection and charge the property owner.

SWS inspection staff conduct initial investigations of suspected illicit connections within seven days of receipt per SWS complaint investigation protocols. Once confirmed, the SWS Water Quality Compliance Program administers enforcement action for removal of the illicit connection. Illicit connections are prioritized within the Water Quality Compliance Manual as a first-tier priority. This should ensure that an illicit connection will be eliminated within six months of discovery. Please see the draft progressive enforcement table in Appendix 8.

PHSKC may be called upon to investigate reported or suspected illicit connections or discharges from facilities that it permits or inspects. Within the resources available, staff will investigate within 21 days and if confirmed, take appropriate enforcement actions to eliminate the connection or discharge.

S5.C.8.b.viii.

Each Permittee shall either participate in a regional emergency response program, or implement procedures to investigate and respond to spills and improper disposal into municipal separate storm sewers owned or operated by the Permittee. Permittees shall have a program to prioritize and investigate complaints/reports or monitoring information that indicates potential illicit discharges, including spills. Permittees shall immediately respond to problems/violations judged by the Permittee to be urgent, severe, or an emergency. Spills of oil or hazardous materials shall be reported to appropriate authorities.

King County's custodial agencies have had spill response programs in place for many years. These agencies have spill response programs for their properties and the associated MS3s. Currently, the County is coordinating these programs and developing a central standard procedure for all County agencies. These programs prioritize and investigate complaints, reports, or monitoring information that indicate potential illicit discharges, including spills or illegal dumping. These agencies immediately send investigators to respond to ongoing problems or violations and emergency complaints. These programs include training in identification, reporting, containment, cleanup and disposal of spills and response materials. An example program has been included in Appendix 3 (WLRD Stormwater Emergency Response Protocols). The County works closely with Ecology's NWRO Spill Response Unit and with other local jurisdictions in reporting and responding to spills and improper disposal into the MS4. The County conducts cleanup and disposal of most spills that occur on the County's properties and have on-call contractors for more complex situations.

S5.C.8.b.ix.

Each Permittee shall track and maintain records of the illicit discharge detection and elimination program, including documentation of inspections, complaint/spill response and other enforcement records.

King County has five programs that track and maintain records of the IDDE program, including documentation of inspections, complaint/spill response, and other enforcement records. These programs are outlined below:

1) SWS maintains tracking programs, including a complaint tracker and water quality compliance tracker which track response, findings, and enforcement actions.

2) Roads tracks and maintains electronic and paper copies of IDDE records through the Roads Citizen Action Request system and various internal tracking forms maintained by the Emergency Response Unit.

3) The IDTF hotline system operated by Solid Waste, in coordination with Roads, records and tracks the citizen complaints reported through the hotline.

4) Transit maintains a hardcopy and electronic logs of fleet and facility related IDDE incidents and inspections at its Environmental Compliance Office.

5) PHSKC maintains a proprietary database designed for public health agencies that maintains records of inspections, complaints, responses and enforcement actions.

Staff time and resources spent implementing these programs are tracked electronically through the County's Account Resource Management System. The County is implementing improvements in inter-department coordination related to this program to establish a centralized tracking program. As appropriate, spills and other select incidents are reported to Ecology's Environmental Response Tracking System (ERTS) database.

S5.C.9. Operation and Maintenance Program

S5.C.9.a.

The SWMP shall include a program to regulate maintenance activities and to conduct maintenance activities by the Permittee that prevent or reduce stormwater impacts. The program shall include:

S5.C.9.a.i.

Maintenance standards and programs for proper and timely maintenance of public and private stormwater facilities.

S5.C.9.a.ii.

Practices for operating and maintaining Permittee's streets, roads, and highways to reduce stormwater impacts.

S5.C.9.a.iii.

Policies and procedures to reduce pollutants associated with the application of pesticides, herbicides, and fertilizer by the Permittee's agencies or departments.

S5.C.9.a.iv.

Practices for reducing stormwater impacts from heavy equipment maintenance or storage yards, and from material storage facilities owned or operated by the Permittee.

S5.C.9.a.v.

A training component.

S5.C.9.b.

Minimum Performance Measures:

S5.C.9.b.i.

Maintenance Standards. Each Permittee shall implement maintenance standards that are as protective or more protective of facility function than those specified in Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington. For existing facilities which do not have maintenance standards, the Permittee shall develop a maintenance standard.

The SWDM establishes and codifies maintenance standards for stormwater facilities in King County per King County Code 9.04. These standards were developed in the 1980s, and have been revised and updated in the SWDM as new facility features are developed, or standards change. King County custodial agencies maintain their stormwater treatment and flow control facilities per the SWDM. The SWDM is posted at the following URL: http://www.kingcounty.gov/environment/waterandland/stormwater/documents/surface-water-design-manual.aspx

1. *The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facility's required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation.*

2. *Unless there are circumstances beyond the Permittee's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:*

    - *Within 1 year for typical maintenance of facilities, except catch basins.*
    - *Within 6 months for catch basins, and*
    - *Within 2 years for maintenance that requires capital construction of less than $25,000.*

    Circumstances beyond the Permittee's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each exceedance of the required timeframe, the Permittee shall document the circumstances and how they were beyond the Permittee's control.

King County SWS inspects all County-owned and maintained flow control and water quality treatment facilities within unincorporated King County. There are over 1,200 such facilities county-wide and 1,162 of these are operated and maintained by SWS. SWS works in conjunction with the Roads' Special Operations Unit to complete identified facility maintenance on facilities within established timeframes.

Work authorizations are initially classified as "emergency," "high priority," "complaint," or "normal" maintenance to help set priorities and meet completion deadlines. Crew coordination meetings are held to facilitate timely completion of outstanding work authorizations. Work programs and staffing adjustments are made to meet established permit requirements for completing work.

We had 31 retrofit projects targeted for completion by the end of 2012 to meet the maintenance actions in our G20 letter. We received funding for this project from a grant from Ecology. We have completed 27of the 31 projects. The status of the remaining projects is as follows:

- The 4 remaining projects were delayed due to a budget shortfall resulting from cost overruns on completed project. Funding has been obtained to complete the 4 projects in 2013.

Facilities that are owned and operated by other custodial agencies and located within unincorporated King County are inspected by SWS. SWS sends follow-up maintenance letters to the respective agencies to conduct required maintenance.

Programs to address inspection and maintenance schedules for County-owned facilities located outside of unincorporated King County currently reside within the custodial agencies. These facilities have been maintained by the custodial agencies; however, new efficiencies will be seen with a new central coordinated inspection, maintenance and tracking system for these facilities.

Catch basins owned or operated by the County are inspected and maintained by the applicable custodial agencies according to the timelines specified in S5.C.9.b.i(2).

S5.C.9.b.ii.

Maintenance of stormwater facilities regulated by the Permittee

1. *Each Permittee shall implement ordinances or other enforceable documents requiring maintenance of all permanent stormwater treatment and flow control facilities regulated by the Permittee (including catch basins), in accordance with maintenance standards established under S5.C.9.b.i., above.*

KCC 9.04 and 9.12 adequately address this requirement for maintenance and inspection access.

2. *Each Permittee shall implement an inspection schedule for all known, permanent stormwater treatment and flow control facilities (other than catch basins) regulated by the Permittee to enforce compliance with adopted maintenance standards as needed based on the inspection. The inspection program is limited to facilities to which the Permittee can legally gain access, provided the Permittee shall seek access to the types of stormwater treatment and flow control facilities listed in the 2005 Stormwater Management Manual for Western Washington.*

KCC 9.04 provides the County with the authority to inspect and require maintenance of privately owned and maintained flow control and water quality treatment facilities. The SWDM also establishes minimum maintenance standards, including the private facility inspection program implemented in the 1980s. Under this program, as a requirement for development, an applicant must record easements and covenants providing the County with right of entry and inspection of private drainage and stormwater control systems. Currently, the County alternates between County inspections and property owner self-certified inspections on a two-year cycle. The County performs random spot checks to verify self-certified maintenance.

In rural areas, the County increasingly relies on LID style flow control and treatment BMPs. King County has inventoried LID BMPs located on commercial and residential properties and began an inspection program for these BMPs in 2009. Other BMPs are implemented when triggered by inspections prompted by citizen complaints or water quality violations. King County has an inspection program for privately owned flow control BMPs to confirm the completion of the activities necessary to ensure the performance measures described in Appendix C of the SWDM.

3. *Each Permittee shall implement an on-going inspection schedule to annually inspect all stormwater treatment and flow control facilities (other than catch basins) regulated by the Permittee. The annual inspection requirement may be reduced based on maintenance records.*

   Reducing the inspection frequency to less frequently than annually shall be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 Certification and Signature.

SWS has already developed and implemented a combination of County inspections and property owner self-certified inspections to ensure facilities are monitored annually. The County inspects these facilities every other year and requires self-certified inspection by the owner during alternate years. Additionally, the County uses historical inspection data and maintenance records dating back to 1980 to adjust inspection scheduling when needed.

4. *Each Permittee shall manage maintenance activities to inspect all new permanent stormwater treatment and flow control facilities, including catch basins, in new residential developments every 6 months during the period of heaviest construction to identify maintenance needs and enforce compliance with maintenance standards as needed.*

In 1992, SWS implemented a maintenance/defect (M/D) inspection program to ensure that developers maintain public improvements during a two-year post public facility construction period historically found to require more frequent maintenance. It is presumed that this is the period where most development occurs, particularly within subdivision developments. The M/D inspection program is conducted so that the facilities are in good working order when their ownership transfers to the County. The King County Department of Transportation administers a similar program to not only ensure developer maintenance during the two-year period but to also ensure performance and workmanship of public improvements covered by the M/D bond. During the two-year M/D period the drainage improvements are inspected quarterly while road improvements are inspected annually. Both Departments perform a final inspection prior to bond release and maintenance acceptance.

5. *Compliance with the inspection requirements of S5.C.9.b.ii.(2), (3), and (4), above, shall be determined by the presence of an established inspection program designed to inspect all sites, and achieving inspection of 80% of all sites.*

The programs described S5.C.9.b.ii.(2), (3), and (4), above currently meet this requirement.

6. *The Permittee shall require cleaning of catch basins regulated by the Permittee if they are found to be out of compliance with established maintenance standards in the course of inspections conducted at facilities under the requirements of S5.C.7. (Source Control Program), and S5.C.8. (Illicit Connections and Illicit Discharges Detection and Elimination), or if the catch basins are part of the treatment or flow control systems inspected under the requirements of S5.C.9.*

King County requires the cleaning of catch basins regulated by the County when they are found to be out of compliance with the maintenance standards in Appendix A of the SWDM. This applies to all catch basins found in the course of inspections conducted at facilities under the requirements of S5.C.7 (Source Control Program), and S5.C.8 (IC/IDDE), or if the catch basins are part of the treatment or flow control systems inspected under the requirements of S5.C.9.

S5.C.9.b.iii.

Maintenance of stormwater facilities owned or operated by the Permittee

1. *Each Permittee shall implement a program to annually inspect all permanent stormwater treatment and flow control facilities (other than catch basins) owned or operated by the Permittee, and implement appropriate maintenance action in accordance with adopted*

maintenance standards. The annual inspection requirement may be reduced based on inspection records.

Changing the inspection frequency to less frequently than annually shall be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 Certification and Signature.

In the 1980s, the County implemented inspection and maintenance programs for publicly owned and maintained flow control and water quality treatment facilities. The SWS Section currently manages the inspection program for flow control and water quality facilities throughout unincorporated King County. SWS also inspects facilities owned and operated by other custodial agencies. Starting with the 2007 Permit, the requirements for maintenance became applicable to all King County-owned and operated facilities located outside of unincorporated King County. An inspection and maintenance program for these facilities is currently being implemented in cooperation with the custodial agencies and the relevant jurisdictions. These facilities have been maintained by the custodial agencies but there has been no central coordinated inspection, maintenance, and tracking system for these facilities.

The County currently uses a "phased" inspection program for its facilities with a maximum inspection frequency of three years. Phased inspections were developed in the mid 1990s to maximize the frequency between inspections using historical data to determine when facilities need inspections. Phasing was implemented in response to the need to reduce costs so that other services could be funded. Since developing the inspection program in the early 1980s, the County has kept records of the maintenance needs and history of over 1,000 flow control and water quality treatment facilities in the inventory. The data show that for a facility that was not maintenance prone, the time between inspections could be lengthened to a maximum of three years with no loss of function.

The County also looked at what types of maintenance the facilities required to see if less frequent inspections were appropriate. It determined that non-function-critical work (such as ladder repairs, sign replacement, grout work, etc.) did not warrant annual inspections because the likelihood of a reoccurrence was minimal and would not affect the performance of the facility. However, if a facility was found to have sediment deposition, erosion, blockages, or other function-critical failures, the facility would be inspected again the following year (after maintenance or repair had occurred) to see if the condition was reoccurring. Likewise, once the County responds to an emergency callout to a facility and corrects the problem, the facility is inspected the next year to see if the condition reappeared.

2. *Each Permittee shall implement a program to conduct spot checks of potentially damaged permanent treatment and flow control facilities (other than catch basins) after major storm events (24 hour storm event with a 10 year recurrence interval). If spot checks indicate widespread damage/maintenance needs, inspect all stormwater treatment and flow control facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established under S5.C.9.b.i., above, based on the results of the inspections.*

SWS inspects and maintains facilities serving residential subdivisions, certain regional facilities, and all other stormwater control and treatment facilities owned or operated by the County. SWS has a program that spot checks 40 - 60 facilities after major storm events. Local storms tend to vary in intensity around the County. The samples are typically weighted to areas that have been more heavily affected by storms based on rain gage data and consider historic data for areas or facilities that have experienced problems in the past. SWS reviews past storm events and identifies areas of consolidated complaints or facilities with emergency call-outs to better ensure that it is checking facilities that need closer attention. Other custodial agencies conduct spot checks of potentially damaged stormwater treatment and flow control facilities on their respective properties after major storm events.

3. *Compliance with the inspection requirements of S5.C.9.b.iii.(1), and (2) above, shall be determined by the presence of an established inspection program designed to inspect all sites. Compliance during this permit term shall be determined by achieving an annual rate of at least 95% of inspections.*

The SWS program currently meets the inspection requirements of S5.C.9.b.iii.(1), and (2).

S5.C.9.b.iv.

Maintenance of Catch Basins Owned or Operated by the Permittee

1. *Each Permittee shall implement a program to annually inspect catch basins and inlets owned or operated by the Permittee.*

    - *Inspections may be conducted on a "circuit basis" whereby a sampling of catch basins and inlets within each circuit is inspected to identify maintenance needs. Include in the sampling an inspection of the catch basin immediately upstream of any system outfall. Clean all catch basins within a given circuit for which the inspection indicates cleaning is needed to comply with maintenance standards established under S5.C.9.b.i., above.*

    - *As an alternative to inspecting catch basins on a "circuit basis," the Permittee may inspect all catch basins, and clean only catch basins where cleaning is needed to comply with maintenance standards.*

Each custodial agency within King County is responsible for the inspection and maintenance of their respective properties. The King County SWDM establishes the maintenance standard for catch basins. Most of the custodial agencies have a small number of catch basin (less than 500) in their facility inventory. These agencies inspect 100 percent of their catch basin inventory and provide maintenance for those that exceed the maintenance standard. These agencies include Solid Waste, Wastewater, Transit, Airport, Parks, FMD, and Rivers.

SWS and Roads carry the largest catch basin inventory of the custodial agencies and they each conduct a catch basin and inlet inspection program.

Roads has developed a circuit system for catch basins and inlets in the road right-of-way. The circuit system focuses on the inspection of a subset of catch basins in each grid or drainage circuit to determine where to focus maintenance activities. The program includes an inspection checklist and a field data collection system. Maintenance needs identified

through the inspections are communicated to Roads maintenance crews for completion according to the timelines established in S5.C.9.b.i.

2. *The annual catch basin inspection schedule may be changed as appropriate to meet the maintenance standards based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records for catch basins, the Permittee may substitute written statements to document a specific, less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 Certification and Signature.*

Since developing its inspection program in the early 1980s, SWS has kept records of the maintenance needs of the catch basins in its inventory. The data shows that for a catch basin that was not maintenance prone, the time between inspections could be lengthened with no loss of function. SWS will continue developing this program in 2013.

In 2010, Roads developed and implemented an on-going process for tracking the frequency with which catch basins located within the road right-of-way required maintenance. Once records spanning a sufficient length of time have been collected, Roads will analyze the data to determine if inspection frequency may be reduced as allowed in the permit.

3. *The disposal of decant water shall be in accordance with the requirements in Appendix 6 – Street Waste Disposal.*

Roads operates four stormwater decant stations located throughout the County for the collection of liquid and solid waste generated from cleaning catch basins and sweeping streets. One of the stations is open to both private companies and government agencies. This station has a discharge permit from the County's Wastewater Treatment Division authorizing the discharge of decant water to the sanitary sewer. The solids are transferred to a soil recycling program run by Roads, where the solid waste fraction is screened out and disposed and the remaining soil fraction undergoes intrinsic bioremediation, is tested and reused.

Two of the stations are for municipal use only, and one is a joint facility shared with the Washington State Department of Transportation (WSDOT) and collect decant water in lined ponds. The water is pumped into a tanker and transported to one of the station connected to the sanitary sewer for disposal. The solids are transferred to the soil remediation program described above.

Transit operates one decant facility for use by its in-house fleet of vactor trucks. Wastewater generated by this process is treated and disposed of to the sanitary sewer as required by industrial wastewater regulations. Collected solid material is disposed of as required by applicable requirements.

S5.C.9.b.v.

Records of inspections and maintenance or repair activities conducted by the Permittee shall be maintained. Records of maintenance or repair requiring capital construction of $25,000 or more shall be maintained and provided in the annual report.

The County implemented its inspection and maintenance programs in the 1980s, at which time an in-house custom inspection database was developed. The updated version of this program maintains records of inspections, work authorizations, and completion dates. Reports using this database can be developed for multiple applications. Additionally, inspection files for all facilities contain hard copy records of all pertinent work information.

Roads is responsible for the maintenance and repair of much of King County's stormwater collection, conveyance, and treatment system in addition to preservation of the County's right-of-way. Roads uses several systems to track these activities and maintains both electronic and hardcopy records regarding these maintenance and repair activities.

Electronic record keeping is done using the County's maintenance management systems. These are updated as maintenance and repair activities are conducted. Hard copy tracking systems include Roads Maintenance Reports and Citizen Action Request forms. Information tracked by these systems includes but is not limited to, the type of maintenance or repair activity, date and location of the work, labor hours, and equipment.

Maintenance and repair costs are tracked throughout the year using the record keeping systems described above. Repair or maintenance projects requiring $25,000 or more will be identified and records will be provided in the County's annual report to Ecology.

Other custodial agencies maintain separate records of inspections and maintenance or repair activities. Records of repair or maintenance requiring capital construction of $25,000 or more will be provided in the County's annual report to Ecology.

S5.C.9.b.vi.

Implement practices to reduce stormwater impacts associated with runoff from parking lots, streets, roads, and highways owned or operated by the Permittee; and road maintenance activities conducted by the Permittee.

Implementation of practices shall continue on an ongoing basis throughout the term of the permit. The following activities shall be addressed:

1. *Pipe cleaning*
2. *Cleaning of culverts that convey stormwater in ditch systems*
3. *Ditch maintenance*
4. *Street cleaning*
5. *Road repair and resurfacing, including pavement grinding*
6. *Snow and ice control*
7. *Utility installation*
8. *Maintaining roadside areas, including vegetation management.*
9. *Dust control*

10. Pavement striping maintenance

The County has several programs that establish practices to reduce stormwater impacts associated with runoff from parking lots, streets, roads, and highways owned or operated by the County and road maintenance activities conducted by the County.

In 2009, SWS produced a draft document which consolidated relevant sections of the numerous King County program documents. These sections establish practices to reduce stormwater impacts associated with operations and maintenance activities that relate to the permit conditions outlined in S5.C.9.b.vi and vii. This document is comprised of sections of the following: the Regional Road Maintenance ESA Program Guidelines, the draft King County Department of Transportation Performance Standards, the SWDM, the SPPM, and the King County Integrated Pest Management Program guidelines. This compilation document is referred to as the Site Management Plan (SiMPla) and has been issued to all King County custodial agencies to be used as the minimum standard for operations and maintenance of property owned or maintained by King County. In 2012 an updated, revised and reformatted version of the SiMPLa was completed and distributed not only within King County but amongst other Phase I and II municipalities in the region for their use. In addition, a dedicated SiMPLa website was developed to allow for easy navigation and access to the document and its contents.

Several agencies have internal manuals and programs that are as or more protective of stormwater quality as the baseline requirements found in the SiMPla and will be used by those agencies as equivalent programs. Select King County properties have been issued discharge permits under other NPDES programs and have SWPPPs. These SWPPPs will be used instead of the SiMPla.

S5.C.9.b.vii.

Each Permittee shall implement policies and procedures to reduce pollutants in discharges from lands owned or maintained by the Permittee subject to this permit. Lands owned or maintained by the Permittee include but are not limited to: parks, open space, road right-of-ways, maintenance yards, and stormwater treatment and flow control facilities.

The policies and procedures shall address, but are not limited to:

1. *Application of fertilizer, pesticides, and herbicides, including the development of Nutrient management and Integrated Pest Management Plans;*

2. *Sediment and erosion control;*

3. *Landscape maintenance and vegetation disposal;*

4. *Trash management; and*

5. *Building exterior cleaning and maintenance.*

King County has established policies and procedures to reduce pollutants in discharges from lands owned or maintained by the County subject to this permit. These policies and procedures have been implemented by the various custodial agencies and drawn from a series of programs and documents. This program has been difficult to track and to ensure

that minimum standards are implemented. These minimum standards are to ensure that protective measures are in place for the elements listed above. The County owns or maintains numerous properties including: road ROW; active and inactive sand and gravel mining pits; maintenance facilities; stormwater facilities; office buildings; park and rides; solid waste transfer stations; equipment storage facilities; pump stations; wastewater treatment plants; parks; trails; animal shelters; and various other classes of developed and undeveloped properties.

In 2009, King County produced a document that drew from the following programs and manuals: the Regional Road Maintenance ESA Program Guidelines — Regional Guidelines, the SWDM, the SPPM, and, the King County Integrated Pest Management Program. This document is comprised of the sections of the above listed documents that relate to the permit conditions outlined in S5.C.9.b.vi and vii. This compilation document is referred to as the SiMPla and has been issued to all King County custodial agencies to be used as the minimum standard for maintenance of lands owned or maintained by King County agencies. Several agencies have internal manuals and programs that are equal to or exceed the SiMPla baseline requirements and will be used by those agencies as equivalent programs. Select King County properties have been issued discharge permits under other NPDES programs and have SWPPPs. These SWPPPs will be used instead of the SiMPla as they meet its minimum standards.

S5.C.9.b.viii.

Implement an ongoing training program for employees of the Permittee who have primary construction, operations or maintenance job functions that could impact stormwater quality. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.

King County maintains a number of training programs within various agencies. These programs provide training to personnel in positions that have construction, operations, or maintenance job functions that could impact stormwater quality. Many of the operations and maintenance functions are conducted by Roads, whose personnel have participated in on-going training programs for construction operations and maintenance for several years. Roads field crews and appropriate support personnel receive the training prescribed by the Regional Road Maintenance ESA Program Guidelines. The Regional Road Maintenance ESA training (Track 1, 2, & 3) focuses on BMP practices and uses, maintenance guidelines, design criteria, habitat requirements, and how to use BMPs to meet ESA requirements whose primary focus is to reduce operational impacts on water quality.

King County offers a series of training programs on the SWDM and coordinates with all departments to ensure that appropriate personnel receive this training. King County continues to review its agencies' programs and will update the list of personnel requiring training under this section. As the County finds additional positions requiring training under this section, it will address the training needs for both existing personnel and new hires.

Other positions must have CESCL certification. King County continues to review its agencies' programs and update the list of personnel requiring CESCL training under this section. As the County finds additional positions requiring training under this section, it will address the training needs for both existing personnel and new hires. Ecology has approved

King County's CESCL Training Program which is conducted by King County employees, thus enabling the County provide timely CESCL training for its employees.

SWS conducts an ongoing review of County programs to identify activities and positions whose operations or maintenance functions could impact stormwater quality. For ease in tracking permit-related training, the County is exploring ways it could use its central employee database.

S5.C.9.b.ix.

Implement 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 General NPDES Permit for Stormwater Discharges Associated with Industrial Activities or another NPDES permit that covers stormwater discharges associated with the activity. The Permittee shall identify facilities subject to this requirement. Implement non-structural BMPs. Generic SWPPPs that can be applied at multiple sites may be used to comply with this requirement. The SWPPP shall include periodic visual observation of discharges from the facility to evaluate the effectiveness of BMPs.

King County has reviewed an inventory of all currently known County-owned properties and identified properties that meet this permit condition. SWPPPs were developed and have been implemented for these properties. The King County property inventory will continue to be updated with input from custodial agencies, and the properties reviewed for applicability to the one-year permit requirement. As properties that meet this requirement are identified, the custodial agencies will be required to develop and implement SWPPPs for those properties.

S5.C.10. Education and Outreach Program

S5.C.10.a.

The SWMP shall include an education program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the Permittee. The goal of the education program is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. An education program may be developed locally or regionally.

The County's diverse educational and outreach programs are almost all regional in nature, and many have existed and proven their value over the past ten years. The County has led the region in the use of social marketing in its education and outreach programs.

Social marketing is distinguished from other management approaches by six basic principles: (1) the framework of the marketing effort is designed to change behavior; (2) there is recognition in the program development of competition; (3) the marketing is directed to a typical consumer; (4) to help develop the programs, extensive research is first used to understand consumers' desires and needs; (5) populations are segmented and behavior changing messages are only effective with a selection of target audiences; and (6) continuous monitoring and revision of program tactics help to achieve desired outcomes.

S5.C.10.b.

Minimum Performance Measures:

S5.C.10.b.i.

Each Permittee shall implement or participate in an education and outreach program that uses a variety of methods to target the audiences and topics listed below. The outreach program conducted between February 16, 2007 and the expiration date of this permit shall be designed to achieve measurable improvements in each target audience's understanding of the problem and what they can do to solve it.

King County implements numerous public outreach and education programs, many of which are targeted to one or more of the audiences specified in this permit requirement and address many of the specified topics through programs in several departments and divisions, and through partnerships with Local Hazardous Waste Management, regional salmon recovery (WRIA based) groups, Grant Exchange program and KCD. Some of these programs are primarily focused on topics that are related to stormwater, but include other critical factors, e.g. stewardship, soil conservation, wastewater, habitat restoration or protection, etc. Other programs provide significant relevance to stormwater impacts and behavior changes that alter those impacts (yard care, animal waste, car washing, LID practices, vehicle oil leaks, etc). Because of the wide diversity of King County's programs, they have been listed, and the one-year permit topics they address, in matrix form in Appendix 4. These programs reflect 2013 offerings. In subsequent years, the number and types of programs will change in keeping with changes in the service area, financial resources, and evaluation of the program's effectiveness.

In those programs most directly related to stormwater, there are ten distinct and sometimes overlapping areas of emphasis and/or delivery mechanisms. The emphasis areas are not designed as conventional education programs with the goal of conveying information and awareness, but rather as behavior change programs with the goal of motivating target

audiences to implement specific BMPs. The 10 areas of emphasis/delivery mechanisms and the related tools are found in Appendix 4.

As a direct response the 2007 permit, King County facilitated the formation of a regional outreach consortium: STORM, which focuses entirely on meeting permit requirements. With the public education and outreach requirements virtually identical in both the Phase I and Phase II permits, municipalities quickly saw the advantage of combining their resources to create a strategy and campaign for outreach that would transcend jurisdictional boundaries. King County serves on the Steering, Campaign, and Measurement Committees. STORM will coordinate its efforts with the Salmon Conservation Plan implementation occurring at the WRIA level and with the Puget Sound Partnership.

King County on behalf of STORM was a successful applicant for one of Ecology's GROSS grants for 2012-2013 and has been using the grant money to create and implement a regional outreach and messaging campaign to further STORM's message. This new campaign will draw attention to the regional problem with vehicle leaks and publicize best management practices designed to help citizens check for and repair polluting vehicle leaks. King County staff manages the grant on behalf of the forum with the help of a consultant and a steering and advisory committees around five key tasks:

1. Marketing Strategy
2. Outreach Tools
3. Media Campaign
4. Implement Targeted Outreach Programs
5. Project Evaluation

Target Audiences and Relevant Topics:

1. *General Public*

    - *General impacts of stormwater flows into surface waters.*

    - *Impacts from impervious surfaces.*

    - *Source control BMPs and environmental stewardship, actions and opportunities in the areas of pet waste, vehicle maintenance, landscaping and buffers.*

        The matrix in Appendix 4 details all existing programs targeting general public audiences and topic relevance.

2. *General public and businesses, including home based and mobile businesses*

    - *BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials.*

    - *Impacts of illicit discharges and how to report them.*

        The Water Quality Compliance Program of SWS audits businesses and, as part of the audit, provides technical assistance and information about relevant BMPs required in the SPPM to owners or managers.

The Airport will provide annual training to the Airport's tenants on the Airport's policies related to spill response and the requirements of their stormwater permits.

The matrix in Appendix 4 details all educational programs targeting the general public and select business audiences and their topic relevance.

3. *Homeowners, landscapers and property managers*

    - *Yard care techniques protective of water quality.*
    - *BMPs for use and storage of pesticides and fertilizers.*
    - *BMPs for carpet cleaning and auto repair and maintenance.*
    - *Low Impact Development techniques, including site design, pervious paving, retention of forests and mature trees.*
    - *Stormwater treatment and flow control BMPs.*

    A wide array of programs that address homeowner and general public awareness and behaviors, related to all or many permit topics, is described in Appendix 4.

4. *Engineers, contractors, developers, review staff and land use planners*

    - *Technical standards for stormwater site and erosion control plans.*
    - *Low Impact Development techniques, including site design, pervious paving, retention of forests and mature trees.*
    - *Stormwater treatment and flow control BMPs.*

SWS offers classes on the SWDM for development professionals. These include instruction on LID/ flow control BMPs, water quality facility design, and hydraulic and hydrologic modeling. SWS staff also provides presentations for interested groups on these and related topics.

S5.C.10.b.ii.

Between February 16, 2007 and the expiration date of this permit, each Permittee shall implement or participate in an effort to measure understanding and adoption of the targeted behaviors for at least one targeted audience in at least one subject area. The resulting measurements shall be used to direct education and outreach resources most effectively as well as to evaluate changes in adoption of the targeted behaviors.S5.C.10.b.iii.

All stormwater-related outreach efforts already have or will have a measurement strategy for targeted audiences. Some of these strategies will be developed by STORM in the case of the Ecology GROSS grant, or by DNRP program coordinators.

Measurement will include both implementation monitoring and effectiveness monitoring. Implementation monitoring is typical of conventional education programs and includes counts of participants, materials, etc. Effectiveness monitoring is based on outcome measures (i.e. behavior changes) and will constitute the core of the program evaluation strategy.

The existing Environmental Behavior Index (EBI) instituted by King County in 2005 to measure key environmental behaviors of the general public in our region, will be used to measure behavior change biennially and over the course of time. The index is based on a King County wide public survey which was repeated again late in the 2010 Permit period. The results of this bi-annual survey became available early in 2011. The survey was able to incorporate additional jurisdictional over-sampling for those municipalities. The current EBI will be launched in second quarter 2013. The survey documents behavior change and trends over longer periods of time, helps direct adaptive management, and documents real behaviors for many stormwater BMP topic areas including pet waste, carwashing, fertilizer use, vehicle leaks, and LID. The EBI has been so useful that The Puget Sound Partnership has created its own version of the EBI and is measuring the Puget Sound Region.

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S5.C.10.b.iii.

Each Permittee shall track and maintain records of public education activities.

A tracking system has been be developed and implemented both internally and as part of the STORM measurement strategy together with an efficient system for all participating municipalities to report results.

DICTIONARY OF ACRONYMS

AKART - All known, available, and reasonable methods of prevention, control and treatment
APWA - American Public Works Association
BMP - Best Management Practice
CESCL - Certified Erosion and Sediment Control Lead
CFR - Code of Federal Regulations
CIP - Capitol Improvement Project
CTF - Compliance Tracking Form
DPER - Department of Permitting and Environmental Review (King County)
DES - Department of Executive Services (King County)
DNRP - Department of Natural Resources and Parks (King County)
DOT- Department of Transportation
Ecology - Washington State Department of Ecology
ERTS - Environmental Response Tracking System
EPA - Environmental Protection Agency
ESA - Endangered Species Act
GIS - Geographic Information System
GPS - Geographic Positioning System
IC & IDDE - Illicit Connections and Illicit Discharges Detection and Elimination
IDTF - Illegal Dumping Task Force
IPM - Integrated Pest Management
KC - King County
KCC - King County Code
KCD - King Conservation District
KCIA - King County International Airport
KCPR - King County Parks and Recreation (DNRP)
LID - Low Impact Development
LUIS – Land Use Inspection Services Division of DPER
M/D - Maintenance/defect
MS4 - Municipal Separate Storm Sewer System
MS3 - Municipal Separate Storm Sewer
NPDES - National Pollution Discharge Elimination System
NWRO - Northwest Regional Office, Ecology
ORI - Outfall Reconnaissance Inventory
PCHB - Pollution Control Hearing Board
PHSKC - Public Health – Seattle & King County
ROAD MAP – Regional Operations and Maintenance Program, a regional forum for consistent O &M, mapping, and other standards
ROW- Right of Way
RSD - Roads Services Division (KC, DOT)
SiMPla - Site Management Plan document, see S5.C.9.b.vi. for detail.
SMMWW – Ecology's Stormwater Management Manual for Western Washington
SPCC - Spill Prevention, Control & Countermeasure Plans
SPPM - Stormwater Pollution Prevention Manual
STORM – Stormwater Outreach for Regional Municipalities, a regional public outreach forum
SWDM – King County's Surface Water Design Manual
SWG - Stormwater Working Group, a committee of the Regional Stormwater Monitoring Group
SWM - Surface Water Management
SWMP - Stormwater Management Program
SWPPP - Stormwater Pollution Prevention Plan
SWS - Stormwater Services (KC, DNRP, WLRD)
TESC - Temporary Erosion and Sediment Control
TMDL - Total Maximum Daily Load
WLRD - Water and Land Resources Division (King County)
WRIA - Water Resource Inventory Area