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King County

King County Surface Water Management Rate Study

Report Prepared by the Water and Land Resources Division of the King County Department of Natural Resources and Parks

For the King County Executive and the King County Council

September 10, 2012

Surface Water Management (SWM) Rate Study Report

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Acronyms

BMPs = best management practices
CIP = capital improvement program
LID = low impact development
NPDES = National Pollutant Discharge Elimination System
SWM = surface water management
TMDL = total maximum daily load (an indicator of water quality problems)
WLRD = Water and Land Resources Division
WRIA = Water Resource Inventory Area

Executive Summary

In 1986, the King County Council adopted the original surface water management (SWM) rate structure, which assessed fees on all developed and cleared properties in the SWM service area. Since 1986, the area covered by SWM fees and services has expanded to include all of unincorporated King County. The fee has been raised several times since then, the most recent being in 2011. A rate adjustment ("discount") program was established to encourage landowners to manage stormwater runoff and treat water quality on their own properties.

In Ordinance 17246, the King County Council directed the Water and Land Resources Division (WLRD) of the Department of Natural Resources and Parks to analyze the current rate structure, focusing on revising the existing rate adjustment ("discount") program for non-residential parcels. The intent is to offer better incentives to landowners to encourage them to control stormwater runoff and improve water quality on their property.

The revenues to fund SWM programs are decreasing as cities annex the more densely populated areas of unincorporated King County. At the same time, the Washington Department of Ecology (Ecology) will be issuing a new and more stringent National Pollutant Discharge Elimination System (NPDES) permit for County management of stormwater runoff and water quality in the unincorporated area. The new permit will run from August 1, 2013 through July 31, 2018. Until then, Ecology has extended the current permit through July 31, 2013. WLRD has assessed revenue requirements to implement the current and the new permits while continuing other popular SWM-funded programs in the face of annexations.

The resulting recommendations for these efforts are:

1. The rate adjustment program will offer a tiered approach on non-residential parcels of additive discounts that can be "stacked" up to 90 percent to give landowners credit for varying levels of stormwater controls, water quality treatment, and management practices. (See chapter II for specifics.)
2. A rate increase of $36.00 is proposed for residential parcels to maintain the current base SWM programs, comply with the new NPDES permit, and improve delivery of capital projects. Rates for non-residential classes would be increased by approximately 27 percent. (See chapter III for details.)

I. Introduction and Background

A. Purpose of the Study and Report

At the direction of the King County Council, per Ordinance 17246, WLRD has undertaken a study of the County's SWM rate structure, looking in particular at the rate adjustment ("discount") program. In addition, WLRD evaluated resources needed to meet the more stringent requirements of the 2013-2018 NPDES municipal stormwater permit and to address other water quality and quantity and public safety issues. Also considered in this assessment was how to balance decreasing revenues as a result of annexations and the effects of inflation. The study and its results are described in this report.

The report is organized into three chapters followed by related appendices. The first chapter summarizes why SWM programs are required, what the SWM fees fund, key reasons for the study, and the amount of SWM fees other local jurisdictions collect. The second chapter explains the current rate structure and recommends changes to the rate adjustment program. The third chapter looks at what it would take to fulfill all legal obligations and service priorities to address stormwater runoff in a comprehensive manner. The chapter also recommends a rate increase in 2013-14 and describes what it will pay for.

B. Surface Water Management Services

State and federal laws require King County to provide services that respond to the impacts on surface waters of land development and conversion of forested land to impervious area. Increased impervious area increases stormwater runoff from rainfall that cannot percolate into the ground or evaporate. This can cause flooding, erosion, and pollution, and can lead to drainage obstructions and stream flows that are too high in the winter and too low during the summer. Different land use practices contribute pollutants to the runoff, which can result in degradation of ground and surface waters. The County's SWM programs offer services to help identify, prevent, manage, and resolve these problems in the unincorporated area. To pay for these services, a fee authorized under state law (RCW 36.89) is assessed on property owners in unincorporated King County. (Cities are required to provide similar services in the incorporated areas.)

1. Drivers for SWM

There are several forces that set requirements, motivate, and provide the rationale for the County's SWM programs. These include the King County Code, Comprehensive Plan, and Strategic Plan as well as federal laws such as the Clean Water Act and the Endangered Species Act and state permits such as the NPDES municipal discharge for stormwater and water pollution control and regulations for salmon recovery and growth management.

In addition, SWM programs are driven by ratepayers' needs and concerns. WLRD managers convened an external outreach group to seek feedback on some of the concepts presented in this report. Different citizen and business interests and sections of the County were represented in the group to obtain a spectrum of perspectives. The group met twice and reviewed the final write-up of their discussions. Because of the limited time, the intent was to hear the range of responses rather than strive for consensus recommendations. In general, the participants were supportive of the new rate adjustment program. They also felt that retrofits, restoration, and education should be King County's top priorities for addressing stormwater runoff and related water quality problems. They did not see the proposed numbers for the rate increase. (See Appendix 1 for a separate report summarizing the outreach group's discussions.)

2. Summary of what SWM fees cover

SWM fees contribute to funding a range of WLRD programs, including:

- Stormwater Operations (NPDES permit and facilities management, complaint response);
- Stormwater Capital (facility remediation, retrofits, private and public drainage projects);
- Ecosystem Capital (habitat restoration and protection projects);
- Regional Services (for example, County cost-shares of watershed coordination teams, community lake grants);
- Rural Services (agricultural water quality, forest stewardship, groundwater protection, basin stewardship);
- Science and the Environmental Lab (monitoring, technical support).

Here are some examples of services in unincorporated King County that are paid for with revenues collected from SWM fees:

- Identification, design, and construction of capital projects to improve drainage and water quality, stabilize ravines, and restore fish and wildlife habitat.
- Response to more than 1,000 customer service calls per year regarding flooding, water quality problems, erosion, sedimentation, stormwater facility concerns, and SWM fee charges and discounts.
- Maintenance and/or inspection of over 2,000 stormwater facilities such as retention and detention ponds for controlling runoff flows, bio-swales for removing pollutants from runoff, and pipes and ditches for conveying runoff.
- Monitoring of King County waters to ensure water quality is not degraded.

- Working with farmers, livestock owners, rural landowners, and forest landowners to implement best management practices (BMPs) and land stewardship to reduce stormwater quantity and quality impacts.
- Providing the science and monitoring for county implementation of the NPDES stormwater permit, response to the Endangered Species Act, basin planning, and land use decisions that protect impacts from stormwater runoff.

As Table 1 shows, SWM-funded programs fall in four of the five product families listed in the 2012 WLRD Business Plan.

Table 1. WLRD Product Families and Products

WLRD Product Families	SWM-Fee Funded Products
1. Control Stormwater Discharge	Complaint response; Regulatory compliance; Stormwater capital projects; Stormwater facilities maintained; Stormwater billings
2. River Flood Safety	Funded by Flood Control District; no SWM-funded products
3. Land Protected and Restored	Acres restored; New acres protected; Habitat restoration projects; Technical assistance
4. Emergency Response	Lab tests; Information brochures and internet sites; Stormwater drainage response; Water quality hotline
5. Water Quality Protection	Data sets; Technical assistance and scientific advice

It should be noted that other revenues fund some of these product families as well.

The current geography and population covered by the SWM fee is all of unincorporated King County, which includes Vashon Island and unincorporated lands inside the Urban Growth Area (UGA) as well as rural and resource lands outside the UGA. The current population served is roughly 255,000. The current land area totals 1,723 square miles. (See map of the SWM service area in Appendix 2.)

C. Key Reasons for SWM Rate Study

There are five primary reasons that King County is reviewing the current SWM fee rate and rate structure.

1. New and expanded NPDES permit requirements

As required by the federal Clean Water Act, the Washington Department of Ecology (Ecology) issues a municipal NPDES permit to specify conditions under which a local government is allowed to discharge stormwater into state water bodies. The more populated counties and cities in the state including King County, as Phase I permittees, have been required by the state to adhere to increasingly stricter NPDES stormwater discharge permits over time. In addition, the Puget Sound Partnership and Ecology cite stormwater runoff as one of the top threats to Puget Sound water quality. As a result, the 2013-2018 permit includes more stringent requirements that will cost more to implement. (See chapter III, section B1 for details on what the new permit will require.)

2. Declining revenues due to annexations

Annexations by cities of most of the remaining urban and urbanizing areas in unincorporated King County (Potential Annexation Areas) have resulted in a decline in revenues to the SWM fund. Although annexations will reduce the County's cost of providing site-specific services in more densely populated areas, some of the basic costs of running the SWM programs will not decrease in corresponding amounts.

Fifty square miles of some of the most populated areas are inside the urban growth boundary and subject to annexation under the Growth Management Act. The state legislature has been offering financial incentives to encourage cities to annex adjacent unincorporated urban areas. It is expected that the remaining urban and urbanizing areas in King County will be annexed by cities in the next 10 years. This would be a reduction in total annualized impacts of approximately 19 percent, based on

2012 SWM rate and revenues. Table 2 summarizes annexation projections expected through 2014. (See also Map of Annexations Expected in 2012-2014 in Appendix 4.)

Table 2. Annexation Projections for 2012-2014

City	Annexation	Annual Impact* ($)	2012** ($)	2013** ($)	2014** ($)
Snoqualmie	Snoqualmie Mill Pond	$229,000	$114,500	$229,000	$229,000
Bellevue	Eastgate	286,000	167,000	286,000	286,000
Bothell	Bothell "islands"	329,000	-	329,000	329,000
Renton	West Hill	753,000	-	-	565,000
Issaquah/ Sammamish	Klahanie	567,000	-	-	425,000
Burien	N. Highline (Area Y)	1,430,000	-	1,097,000	1,430,000
Burien	N. Highline East (Sliver and Triangle)	137,000			137,000
	TOTALS	**$3,734,000**	**$281,500**	**$1,941,000**	**$3,401,000**

All dollar amounts are based on current rate of $133 per residential parcel.
*These are total revenues lost from annexations. While some expenditures for site-specific services decrease, there is a minimum funding level necessary to provide area-wide programs, which is included in the rate request.
** Some annexations occur during the course of a year, making revenue loss less than the annual amount.

3. Underfunded restoration and retrofit obligations

As development has increased in King County, more is known about its effects on water quality, runoff, and salmon habitat. This new knowledge now informs how the County regulates new construction. However, earlier development occurred with inadequate or no controls, causing impacts that need to be rectified through capital projects such as repairing and, when necessary, replacing aging stormwater facilities and infrastructure, retrofitting areas developed prior to requirements established for improved stormwater control, and restoring habitat damaged and lost by stormwater runoff. These are all top priorities according to the Puget Sound Partnership for recovery of Puget Sound. However, to date, insufficient funding has been available from all levels of government to make acceptable headway in mitigating all stormwater impacts. (For details, see chapter III, section A.)

4. Optimization of aging County assets

WLRD has responsibility to manage nearly 1,000 flow control and water quality treatment facilities, 90 conveyance facilities, more than 2,000 County outfalls, and inspection and enforcement of maintenance compliance for more than 800 private flow control and treatment facilities. In addition, to meet regulatory requirements, WLRD staff inspect and enforce compliance with pollution-prevention requirements on more than 2,100 developed non-residential properties. As some County pipes near the end of their life-span, WLRD is proposing to develop a comprehensive framework to optimize management of County stormwater assets to efficiently determine and prioritize major maintenance and replacement demands. (See chapter III, section B3 for a description.)

5. Incentives for better stormwater management on private property

In 2011, King County worked with gravel industry representatives to revise the SWM rate discount program to better reflect landowner investments to control stormwater runoff. These changes are intended to encourage non-residential ratepayers to enhance how they manage stormwater on their properties. (For details, see chapter II, section B.)

D. SWM Services and Fee Collections of Neighboring Jurisdictions

The 2012 SWM fee rates for King, Pierce, and Snohomish counties along with Tacoma and 29 cities in King County were compared. The mean average is $153.18; the median is $150.37. Algona has the lowest SWM fee at $66.00; Seattle has the highest at $261.66. As Phase I NPDES permittees, the three counties and the cities of Seattle and Tacoma all have to comply with more stringent NPDES permit requirements than the other cities and smaller counties, which have to meet less rigorous requirements as Phase II permittees. (The full comparison of SWM fees can be found in Appendix 3.)

II. Proposed Changes to the Rate Adjustment ("Discount") Program

A. Current Rate Structure

The current fee assessment is based on the fact that the amount and type of land development contribute to the need for stormwater services by increasing the amount of runoff during rainstorms. The measure used to calculate contribution of runoff from each parcel is the amount of impervious surface (i.e., hard surfaces such as parking lots, roofs, and driveways). Properties are categorized broadly by land use and assessed according to the relative amount of impervious surface.

Impervious surface is considered an equitable method for distributing program costs because the services provided by the King County SWM programs either respond to impacts of surface water runoff or provide tools to prevent such problems.

The major categories of properties and the amounts billed for 2012 are shown in Table 3. Specifics on the rate classes and fees are explained in the subsections that follow the table.

Table 3. 2012 SWM Billings by Property Category

Category	Amount	% of Grand Total
RESIDENTIAL		
Single Family Residential	$ 10,751,854	53.17 %
Condos/Townhomes	$ 483,612	2.39 %
Residential Subtotals	**$ 11,235,466**	**55.56 %**
***NON-RESIDENTIAL* Subtotals**	**$ 3,838,301**	**18.98%**
ROADS/HIGHWAYS		
County Roads	$ 3,744,664	18.52%
State Highways	$ 796,008	3.94%
Roads/Highways Subtotals	**$ 4,540,672**	**22.45%**
DEBT SERVICE - Annexed Areas	**$ 608,894**	**3.01 %**
GRAND TOTALS*	**$ 20,223,333**	**100.00%**

*Total billed does not include adjustments for possible annexations in the second half of 2012.

1. Residential charges

With the exception of certain discounts, all single family residential properties are currently charged a uniform fee of $133/parcel. Unlike charges for other land uses, the residential charges are not based on characteristics of individual parcels (parcel size and percent impervious). The concept of a flat fee was based on previous rate studies, the most recent being 1999, that determined that single family residential parcel characteristics were similar enough to justify a single rate based on the average size of parcel and amount of impervious area. In addition, there are nearly 84,000 single family residential parcels in unincorporated King County, and the County cannot feasibly measure impervious area or parcel size for all these parcels. Thus a statistically representative sample of residential parcels has been measured and used as the basis of the residential rate.

2. Non-residential charges

Non- residential parcels are organized into different rate categories based on their percentage of impervious surface (Table 4). Fees for these properties are calculated by multiplying the appropriate rate by the total acreage of the parcel.

The exception to this formula is the Very Light category of parcels, which have 10 percent impervious surface area or less and are charged a flat per-parcel fee. These parcels generally have large undeveloped areas, resulting in significantly less impact to the surface water system. In addition, since many of these properties were recreational, agricultural, or timber lands identified in the King County Comprehensive Plan, the flat fee is intended to encourage retention of the low intensity of development for open space benefit.

Table 4. Current Classes and Rates for Non-Residential Parcels

Rate Class/ Category	Percent Impervious	Annual Rate
2/ Very Light	0 to ≤ 10%	$133.00 per parcel
3/ Light	> 10% to ≤ 20%	$320.61 per acre
4/ Moderate	> 20% to ≤ 45%	$702.61 per acre
5/ Moderately Heavy	> 45% to ≤ 65%	$1,199.36 per acre
6/ Heavy	> 65% to ≤ 85%	$1,641.53 per acre
7/ Very Heavy	> 85% to ≤ 100%	$2,046.72 per acre

3. Rate adjustment ("discount") program

King County Code includes provisions for reducing a parcel's SWM fee charge if the parcel contains stormwater control facilities, provides other specified mitigation for runoff, or if there are special discounts (e.g., low-income senior discount). Up until 2011, the King County Code allowed for a one-rate-class discount (i.e., reclassification to a lower rate class) for eligible properties. However, as a result of concerns raised that the historic discount program did not adequately take into account the functional benefits of on-site facilities built under new requirements, the one-rate class discount was temporarily increased to a two-rate-class discount as part of the 2011 budget. This budget also included a proviso that directed WLRD to evaluate the discount program. In the spring of 2011, WLRD transmitted a report to the Council that recommended the temporary two-rate-class discount be continued through 2012 but then be replaced by a new "stackable" (additive) discount program that would incorporate percentage discounts based on a range of specific facility characteristics to handle flow control and water quality. More details on the proposed discount program are provided below in section B.

4. Roads charges

County and state roads are treated similarly to non-residential accounts, with one exception. The fees are calculated by multiplying the roadway acreage, including the entire right-of-way, by a per-acre rate, which is derived from the percent impervious area for different types of roadways. Consistent with state law, the fee is assessed at 30 percent of the total calculation. This benefit recognizes ongoing expenditures by state and county departments of transportation for the construction, operation, and maintenance of facilities designed to control stormwater runoff from road and highway rights of way. This discount is required for state highways under RCW 90.03.525. It is applied to county roadways using the same justification.

B. Proposed Changes to Rate Adjustment ("Discount") Program and Rationale

King County Code 9.08 includes provisions for reducing a parcel's SWM fee charge if the parcel contains stormwater control facilities. However, the code's historical (1987-2010), or "old," one-rate-class discount may be insufficient to reflect the extent to which surface water is managed through on-site infiltration or other infrastructure or BMPs. In addition, the historic discount program might not have

always or adequately reflected the effectiveness of stormwater controls on gravel mining sites as well as other non-residential developed properties.

Because of these issues, the one-rate-class facility discount was temporarily increased to a two-rate-class facility discount (2011 discount) as part of the 2011 budget, pending consideration of a new discount program to better reflect the extent to which a parcel's surface water is managed.

1. New stackable rate adjustment ("discount") program

In 2011, the County worked with gravel industry representatives to review and revise the historic discount program to offer stronger incentives to non-residential land owners to control stormwater flow on their property.

a. Guiding principles

To ensure that SWM rates are consistent with applicable legal requirements, the following guiding principles were used to develop the updated discount program for non-residential parcels. They were included in King County Ordinance 17246 as "a reasonable and legitimate basis for future amendments to the rate adjustment program." The principles state that the rate adjustment program for non-residential parcels to the extent possible:

(1) will be linked to the effectiveness of facility or on-site practices that reduce stormwater impacts (that is, the more effective the facility is at reducing stormwater impacts, the greater the discount);

(2) will be administratively feasible;

(3) will provide an incentive to property owners to improve on-site control of stormwater, such as via retrofitting an existing facility, improved operations and maintenance, and similar approaches;

(4) will be consistent, meaning not in conflict, with other King County Code requirements; and

(5) will be available to all non-residential properties once adopted.

b. Proposed discounts

The new discount program is a tiered system of percentage discounts that gives credit for various levels or types of surface and storm water controls applied to the runoff from developed surfaces on the non-residential parcel. The following discounts can be additive and therefore are referred to as "stackable":

(1) **Twenty percent** can be discounted for flow control facilities that meet any current or previous King County standard for design of such facilities and serve 50 percent or more of the parcel's impervious surface. This discount is referred to as the "**basic flow control facility** discount." Any other qualifying discounts listed below are in addition to, or are stacked on top of, this discount.

(2) **Twenty percent** can be discounted for flow control facilities that meet modern design standards (standards adopted in the 1990 or later versions of the King County Surface Water Design Manual) and serve 50 percent or more of the parcel's impervious surface. Such facilities are typically four to 10 times larger than those meeting pre-1990 design standards. This discount is in addition to the basic flow control facility discount above for a maximum possible discount of 40 percent discount for **modern flow control facilities**. The 40 percent value reflects the importance of flow control in protecting public safety and property from flooding and erosion, and protecting streams and aquatic resources from erosive flows. This discount is also in addition to any other qualifying discounts below.

(3) **Twenty percent** can be discounted for **county standard flow control best management practices (BMPs) and/or infiltration facilities** that serve to absorb, retain, or disperse runoff from 50 percent or more of the parcel's impervious surface so its discharge to the surface

water system is minimized. Such practices and facilities encourage groundwater recharge and reduce the impacts of runoff volumes to streams and aquatic resources. Flow control BMPs are essentially low impact development BMPs. This discount replaces the current pervious surface absorption discount and, unlike the current discount, is in addition to any other qualifying discounts in this list.

(4) **Twenty percent** can be discounted for **county standard water quality treatment facilities or equivalent** that serve 50 percent or more of the parcel's impervious surface to remove pollutants from runoff prior to discharge to the surface water system or to groundwater. The "or equivalent" would be demonstrated through regular monitoring of stormwater discharges that show water quality standards for surface and/or ground water are not being violated. This discount replaces the current water quality treatment facility discount and, unlike the current discount, is in addition to any other qualifying discounts in this list.

(5) **Ten percent** can be discounted to parcels on which stormwater discharges from the parcel's impervious surface are regulated under a separate site-specific **NPDES stormwater permit** issued by the state. The discount recognizes the additional rigor required for managing surface and storm water runoff on a parcel that has been issued an individual NPDES permit, such as ongoing monitoring and reporting of stormwater discharges and immediate correction of problems that are detected. Sites that are subject to such an NPDES permit also receive more frequent inspections. This discount is in addition to any other qualifying discounts in this list.

The above tiered system of stackable percentage discounts for non-residential parcels replaces the current facility rate-class type discount and pervious surface absorption rate-class type discount. In addition, the new discount program also replaces the current 65-10 one-rate-class discount on non-residential parcels with a flat percentage discount of 80 percent for properties that are at least 65 percent forested and have no more than 10 percent effective impervious area. (On some of these properties, BMPs for dispersing and infiltrating runoff must be used to achieve 10 percent effective impervious area.) This discount is a stand-alone and not available with the other discounts listed above. The rationale for replacing the old discount with the new program is that the same level of stormwater control effectiveness is achieved, so the discounts should be consistent.

Because the 2010 proviso targeted only the discounts applied to non-residential parcels, no changes in the discounts for single-family residential parcels were considered. The 65-10 discount as currently applied to single-family residential parcels will continue to be applied in the same way, which is a 50 percent reduction to the residential parcel fee. For example, half the proposed residential parcel fee of $169 would be $84.50. Also, residential parcels that currently receive a 50 percent discount for an onsite county standard flow control or water quality treatment facility will continue to receive this amount of discount under the recommended new program. Discounts on residential parcels are not stackable.

2. Analysis of aggregation rate class adjustment

As part of the 2011 review of possible discounts, the gravel industry proposed an option to lower a property's rate class by allowing owners of contiguous parcels to aggregate their parcels for the purposes of determining their base SWM fee. Aggregation of contiguous parcels could result in a lower SWM fee if the percentage of impervious surface for the aggregated site was such that it put the site into a lower rate class. An owner of multiple contiguous parcels could compare the sum of SWM fee charges for all the parcels to what the SWM fee would be if the multiple parcels were treated as one (i.e., aggregated) parcel and apply the less expensive option. If the aggregation

resulted in a lower SWM fee, then that rate would become the base SWM fee from which qualifying percentage discounts would be subtracted for stormwater controls that mitigate the runoff impacts from impervious surfaces.

After analyzing the likely effects and impacts of such a rate class adjustment, WLRD recommended in 2011 against implementing it for the following reasons (summarized):

a. Based on the initial analysis of the aggregation rate class adjustment under the current rate structure, there is no demonstrated water quality or quantity benefit to the surface water system achieved by offering such an adjustment.

b. Because no surface or ground water benefit is achieved, this adjustment is counter to the following guiding principle from King County Ordinance 17246 (described in 1a above): "The new discount program will be, to the extent possible, linked to the effectiveness of facility or on-site practices that reduce storm water impacts, i.e., the more effective the facility is at reducing storm water impacts the greater the discount."

c. There is no incentive to the property owner to improve stormwater control. This is counter to the following guiding principle also from King County Ordinance 17246 (and described in 1a above): "Program provides property owner incentive to improve on-site control of stormwater, e.g., via retrofitting existing facility; improved operations/maintenance etc."

d. Because no surface water benefit is achieved and the aggregation adjustment mainly benefits parcels within Rate Class 2 that already pay the lowest SWM fees, the extra cost to administer this adjustment ($114,000 in the first year and $38,000 per year in out years) is difficult to justify.

e. Evaluation of the aggregation adjustment indicated that it would more than double the SWM fee revenue impact of the old discount program (increasing it from $1.15 million to $2.7 million), which could necessitate increasing SWM fees for parcels outside of the discount program to compensate for this impact alone. This is counter to the following guiding principle from King County Ordinance 17246 (described above in 1a): "New discount program will not be at the expense of properties not in the discount program in 2011..."

f. For parcel aggregations in Rate Class 3 or greater, the rate class adjustment tends to reward those aggregations that have the highest impervious surface percentage within a given rate class.

g. When aggregation options were analyzed across all contiguous parcels under single ownership in the SWM service area, aggregation resulted in reduced SWM rate class designation for some property owners, but in an increased SWM rate class designation for other property owners.

A later consideration was to determine whether there were some parcel or multiple parcel landscape characteristics that could be defined that could result in water quality benefits if multiple parcels under common ownership were aggregated. None could be identified.

It may be possible to use a multiple-parcel, single-site NPDES stormwater discharge permit as a surrogate for a characteristic that provides some water quality benefit due to the fact that NPDES discharge permits require practices that benefit water quality. Such practices include frequent facility inspections, surface water quality monitoring, reporting of facility performance to the Washington StateDepartment of Ecology, and prompt correction of any identified surface water problems. However, the recommended discount program gives a ten percent discount to any parcel that is in compliance with a separate, site-specific NPDES stormwater discharge permit. Thus, using this same characteristic as a condition for a rate adjustment appears to be unnecessary.

Any property owner in unincorporated King County who owns contiguous parcels has the right to apply for a boundary lot adjustment to aggregate two or more contiguous parcels. If a property

owner wishes to aggregate contiguous parcels for whatever reason, it is already an option. In addition, if a separate parcel is served by a stormwater facility on an adjacent parcel, the served parcel is eligible for a rate adjustment in both the existing and proposed rate adjustment program.

In light of these factors, it is still recommended that the aggregation discount not be implemented. While aggregation could reduce the SWM rates for some property owners, that reduction does not represent any demonstrable improvement in water quality.

III. Proposed Rate Increase and Rationale

Since the SWM fee was first established in 1987, the King County Council has approved rate increases to address stormwater runoff impacts from development. Under County Code, this also includes water quality improvements and salmon habitat restoration and protection.

A. Context: What It Would Take to Fulfill All Requirements to Address Impacts from Stormwater Runoff

In its Action Agenda, the Puget Sound Partnership identified the lack of stormwater controls in older developed areas as one of the most significant problems preventing Puget Sound recovery. The application of water quality controls and substantially more effective flow controls did not occur until the early 1990s. Consequently, nearly all development occurring prior to 1990 has little or no flow control and no water quality control. In unincorporated King County, more than two thirds of the land was developed prior to 1990. This amounts to about 150 square miles of land on which native forest was converted to impervious surfaces, lawn and landscape surfaces, and pasture or crop land surfaces without stormwater controls to mitigate the increased runoff and pollution generated by these surfaces.

WLRD recently completed a preliminary assessment of future retrofit requirements to reduce stormwater runoff and mitigate quantity and quality impacts. The assessment identified 64 small stream and lake basins in unincorporated King County that have fair to poor biological health or a water quality impairment likely caused by stormwater runoff from developed land. The biological health was determined using the benthic index of biological integrity, which is a scientific system of measuring multiple indicators to evaluate the condition of a stream. Preliminary estimates for water quality improvements in these small basins could cost approximately $1.1 billion, or about $11 million annually for 100 years. Practically speaking, such a sum would likely be beyond the SWM service area capability . However, by not retrofitting these small basins to more holistically address the impact of stormwater runoff, individual drainage and erosion problems will continually need piecemeal solutions. These will cost more in the long run without resolving any water quality impairments. (See Appendix 5 for a map and list of the 64 small stream basins that have documented degraded water quality.)

It should be noted that these 64 stream basins were selected based on the presence of documented problems coupled with a small basin size that makes them more sensitive to the impacts of stormwater runoff from developed land. As such, they do not reflect the full scope of stream basins that have either documented or non-documented problems attributable to stormwater runoff from developed land.

In addition to the lack of stormwater controls in areas that urbanized prior to 1990, another long-time problem related to stormwater runoff and poor water quality faces Puget Sound and King County. Puget Sound Chinook salmon were listed in 1999 as threatened under the federal Endangered Species Act. Other salmon species and steelhead are also in trouble. Uncontrolled stormwater runoff degraded salmon habitat and contributed to these listings. Salmon are not only a regional cultural icon, they have been a cornerstone of the state's economy and lifeblood to the tribes. In addition, the Puget Sound Partnership Action Agenda calls for implementation of the Puget Sound Salmon Recovery Plan, and the Partnership has recently identified habitat protection and salmon recovery as one of their top three strategic initiatives.

To determine 10-year goals to support Chinook salmon recovery, local governments, state and federal agencies, business and environmental interests, and concerned citizens collaborated extensively over many years to create federally and state approved plans. Using the most current scientific information available, these watershed-based plans recommend 146 projects totaling many millions of dollars to restore and protect salmon habitat. Many of the sites are critical for salmon spawning and rearing. These projects also support water quality improvement. However, although the watershed plans were approved more than six years ago, finding adequate funds to implement the habitat projects has proved challenging, and salmon remain far from recovery. (See Appendix 6 for a map and list that show location and status of 146 salmon habitat projects identified as important for meeting 10-year watershed planning goals in support of salmon recovery.)

In summary, it would take significant sums of money to not only maintain current levels of environmental quality but to fully address the impacts of stormwater runoff, poor water quality, and salmon habitat degradation on public safety, the economy, and quality of life. These problems will grow as the region continues to grow and become more populated. This provides context to what will be proposed for actual funding by the SWM rate fee in the next biennium. (See next section below.)

B. New or Expanded Requests for the 2013-14 Biennium

Additional funding to address new and expanded SWM services is requested in the 2013-14 biennial budget for the following reasons:

1. To meet the requirements of the new NPDES municipal stormwater permit for unincorporated King County;
2. To respond to declining revenues due to annexations and to address inflation and central overhead costs to keep base programs operating;
3. To more effectively involve interested communities in capital projects;
4. To more efficiently manage stormwater assets;
5. To implement capital program commitments to retrofit stormwater controls, improve water quality, and restore and protect salmon habitat;
6. To improve water quality along roadways.

Table 6 summarizes what the proposed rate increase will fund. Program descriptions follow the table.

Table 6 SWM Rate Increase Request by Programs

Program/Service	Average Annual Cost ($)
Base Program[1]	$2,016,936
NPDES Permit	1,950,000
CIP Community Outreach (Loan-out)[2]	(33,000)
Capital Asset Management	300,000
CIP Expansion (Debt Service)	199,000
Roads Water Quality Projects (2013 only)	500,000
TOTALS	**$4,932,936**

[1] Base Program includes adjustments for annexations, inflations, and overhead.

[2] CIP Community Outreach costs will be absorbed through adjustment of third burden rate; see chapter III, section C3 for an explanation.

Below are descriptions of each program for which a change in funding is requested. It should be noted that although staff reductions have been made as a result of annexations and changed work priorities, there will be no reduction in force because of new work associated with new NPDES permit requirements and capital program expansion.

1. New NPDES permit requirements

King County and other jurisdictions are legally required to comply with the NPDES permit. Penalties for lack of compliance can be quite costly. Most current NPDES-related tasks and programs will need to be expanded as outlined below to meet requirements of the new permit:

- Web-based mapping to more readily pinpoint potential drainage and conveyance problems;
- Updated stormwater regulations and manuals that include low impact development standards for greener construction alternatives;
- Expanded detection and elimination of illicit discharges to the county's stormwater system;
- Increased inspection and enforcement of maintenance of private stormwater facilities to ensure public safety;
- Sampling, source tracing, enforcement, and technical assistance in four areas of the county that have total maximum daily load (TMDL) water quality problems;
- Basin-scale planning to more holistically address protection and restoration of water quantity and quality;
- New Puget Sound-wide cost-share program to more cost-efficiently monitor stormwater program effectiveness.

2. Overhead/inflation/annexations

Projections for increased overhead include central county support and business and occupation (B&O) taxes. These costs cannot be altered. A percentage of revenues lost from annexations will need to be replaced to keep SWM service area-wide programs sustainable. (See chapter I, section B2 for a summary of SWM-funded programs and section C2 for additional detail on effects of annexations on SWM revenues.)

3. Capital program community outreach

WLRD currently lacks adequate capacity to reach out to communities and provide general communications about restoration and protection strategies and actions, including capital projects. This can result in the hasty and costly redirection of staff, the stalling of projects to address community concerns, and going in to communities after the fact trying to explain what occurred and why. A more active approach would be more efficient, build stronger community ties, and better achieve King County Strategic Plan goal of public engagement. In addition, the recent independent peer review of WLRD engineering practices recommends increasing public and stakeholder involvement earlier in CIP planning and implementation. (The *Independent Expert Panel Review of Water and Land Resources Division's Project Scoping and Implementation Practices* can be found online at http://www.kingcounty.gov/environment/dnrp/publications/wlrd-expert-review-report.aspx.) Costs would be absorbed through adjustment of the third burden rate. (See chapter III, section C3 for an explanation.)

4. Stormwater capital asset management

As discussed below in section B5a(5) of this chapter, some stormwater facilities in King County are approaching the end of their functional life. To cost-effectively prioritize potential problems, WLRD will develop a framework in the coming biennium to optimize the lifespan of its stormwater assets. The purpose is to more efficiently manage and predict maintenance and capital program demands for WLRD stormwater assets. These are the assets for which WLRD has responsibility by way of (1) its custodianship of certain county-owned stormwater assets, (2) its regulatory obligation under the County's NPDES municipal general stormwater permit to enforce compliance, and (3) its mission to protect public safety, property, and water quality. (See chapter I, section C4 and subsection a. below for a description of the stormwater assets WLRD manages.)

In 2013, the management framework will be scoped and software will be selected to manage the full inventory, maintenance, and replacement of assets. In 2014, the framework will be developed and staff trained to use it. It is expected that the framework will become available for use starting in 2015. Looking at the experiences of other King County agencies and other local governments that are developing asset management programs, it generally takes three to five years to get the framework in place and adapt internal systems for full use.

a. Scope of assets that will be addressed

(1) Flow control and treatment facilities/BMPs (nearly 1,000);
(2) Conveyance facilities (~90);
(3) Properties WLRD manages where there is a potential for stormwater quantity and quality impacts;
(4) Private flow control and treatment facilities/BMPs for which WLRD has a regulatory obligation to inspect and enforce compliance with adopted maintenance standards (more than 800 facilities, more than 1,000 BMP sites);
(5) Private conveyance facility catch basins for which WLRD has a regulatory obligation to enforce compliance with adopted maintenance standards;
(6) Developed commercial, industrial, and non-residential properties for which WLRD has a regulatory obligation to inspect and enforce compliance with pollution-prevention requirements (nearly 2,200 sites);
(7) Private conveyance facilities for which WLRD has a concern with respect to its mission to protect public safety, property, and water quality; for example, potential facility failure due to age, lack of maintenance, or other factors (see section B5a(5) of this chapter below for more detailed discussion) (155 lengths of pipe);
(8) County outfalls for which WLRD is obligated by its NPDES permit to screen for illicit discharge (more than 2,000).

The stormwater asset management framework would not address conveyance facilities and property under the custodianship of other county agencies (possible exception is the mapping data WLRD manages for these agencies) and stormwater assets in cities that WLRD inspects under services contracts.

b. Key tasks for development of the asset management framework

There are several steps to create the asset management framework:

- Assess WLRD's current asset management procedures, standards, and practices to identify gaps, inefficiencies, and improvements to optimize management of assets.
- Address level of service options for maintenance practices including mowing frequency and inspection of WLRD properties, and policy for adoption of private pipes, etc.
- Identify replacement plan (criteria and finances) for aging facilities and components.
- Select new software needed to efficiently inventory and track all stormwater assets (this task is already under way).
- Seek stakeholder and resident input to finalize the framework.

5. Capital programs increase

An evaluation of existing capital projects to mitigate and prevent problems due to stormwater runoff and discharge of pollutants in the SWM service area demonstrated a significant number of identified problems that could be solved by an increase in the SWM-funded capital program. The capital projects identified are for both the stormwater and ecosystem capital programs (defined below) and for the water quality and runoff projects in the right of way for the Roads Services Division.

To move forward on implementation of these capital improvement projects, WLRD is proposing to use bonds to finance $11.3 million of capital construction projects in WLRD and the Roads Services Division. This bond-financed capital program will increase capacity to conduct feasibility, design, and construction of capital projects in 2013 and 2014. As proposed, the bonds would be interest only through 2016, at which time debt from a major bond issuance from 1996 will be retired. In 2017, payments for full amortization will commence at an annual cost of about $1.0 million. This would enable the stormwater and the ecosystem (habitat) capital programs to be increased by $1.6 million each above the base funding in each year of the biennium, in addition to the $3.155 million of Roads capital projects. Remaining funds would go towards improving community relations, capital project management, and monitoring effectiveness.

This increased capital program will help move the County closer to meeting requirements and commitments to retrofit pre-1990 development, improve water quality, and restore salmon habitat as well as reduce the significant water quality impacts associated with King County roads. In addition, the investments will help achieve the service excellence and environmental sustainability and public safety goals of the Strategic Plan. (Specifics regarding each capital program (stormwater, ecosystem, and roads) are described in the following subsections.)

a. Stormwater capital

Stormwater capital includes programs that assist landowners in improving water quality on their properties as well as projects that are focused on replacing aging infrastructure and building new facilities to retrofit areas developed prior to current stormwater control standards. Described below are (1) stormwater retrofits, (2) the Agricultural Drainage Assistance Program, (3) the Neighborhood Drainage Assistance Program, (4) the Stewardship Water Quality Cost-Share Program, and (5) aging infrastructure replacement programs. The proposed bond will add a total of $3.8 M of bond revenue to help fund all of these programs as described below. (See Appendix 8 for a map and list of specific stormwater capital projects.)

(1) Stormwater retrofits

The lack of stormwater controls in development prior to 1990 has contributed to water quality impairments and fair to poor biological health of stream basins. A preliminary analysis indicates the magnitude of what it would take to retrofit these areas. (See section A of this chapter for a description and results of the analysis of 64 small stream basins that have documented poor to fair biological health or water quality.) To begin addressing this, WLRD and the Roads Services Division will collaborate in the coming biennium to develop a systematic strategy for retrofitting, including evaluation of additional costs, necessary resources, prioritization, and community concerns and interests. Retrofitting would not only improve water quality and biological health of the basin, it would likely decrease the need for and associated cost of responding to emergency erosion and flooding problems on both public and private properties and King County roads.

(2) Agricultural Drainage Assistance Program

The Agricultural Drainage Assistance Program (ADAP), created in the late 1990s, helps the owners of agricultural lands maintain and improve the drainage on their property. Improved drainage can extend the growing season by allowing fields to be planted earlier in the year and harvested later in the season or can put fields back into production that became too wet to work due to lack of maintenance.

After determining that the permitting requirements under the old system were burdensome to farmers, the ADAP was revised in collaboration with farmers and local and state regulatory agencies. The streamlined ADAP that was introduced to farmers in 2012 reduces staff time required for each project by standardizing BMPs for consistency and

predictability, and simplifies permitting so that for most projects, landowners will need only a Hydraulic Project Approval from the state along with a farm plan.

The capital bond includes funding for ADAP of an additional $150,000 to bring the total program for the biennium to $170,000. This additional funding will help farmers in King County improve agricultural productivity through improved drainage systems in agricultural production districts.

(3) Neighborhood Drainage Assistance Program

The Neighborhood Drainage Assistance Program (NDAP) was created in 1992 to help property owners address problems with their drainage facilities caused by increased runoff from upstream development. These drainage problems are typically associated with the largely private off-road stormwater conveyance system. Problems can be resolved by building new drainage facilities (CIP), by maintaining existing drainage facilities (Facility Fix), or with small drainage improvement projects that cost less than $5,000 and do not require permits (Quick Fix).

The NDAP prioritizes projects using a cost/benefit ratio for CIP and Facility Fix projects. Quick Fix projects are performed on a first come, first served basis if funding is available. Although total costs vary within each category of project, for budgeting purposes, the cost range of each project type is (1) CIP projects are greater than $40,000; (2) Facility Fixes range between $5,000 and $40,000; and (3) Quick Fixes cost less than $5,000. These numbers are based on actual project costs for past projects and consideration of any unusual circumstances related to the projects used for the estimates. NDAP funding has been limited or non-existent in recent years as a result of other more pressing capital needs.

The NDAP waiting list of potential projects currently contains 17 CIPs, nine Facility Fixes, and three Quick Fixes; it would take an estimated $965,000 to complete all projects on the waiting list that was started in 2007. To eliminate the backlog within five years would require almost $200,000 per year. Frequency of past requests was used to estimate adding requests for both base funding and bond funding for a full program in 2013 and 2014 of $260,000. While this level of funding will not be enough to eliminate the backlog, it will reduce its growth and address multiple significant problems.

(4) Stewardship Water Quality Cost-Share Program

The Stewardship Water Quality Cost-Share Program provides match funding for livestock landowners to implement water quality and habitat BMPs recommended in farm conservation plans developed with the King Conservation District. The match ranges from 50-75 percent on a variety of practices that include, but are not limited to: heavy use area protection/confinement areas, manure management, clean water diversion, roof runoff management, stream and wetland buffer fencing, riparian restoration, pasture renovation, and stream crossings.

The program has been an effective means to encourage landowners and operators to implement BMPs and has served as seed money to start natural resource protection and enhancement on private lands. Each property has a lifetime cap of $5,000. This allows the program to spread natural resource protection and enhancement over a larger geographic footprint. The farm conservation plan requirement and the property lifetime cap limit the demand at any given time. The program was budgeted and grants awarded at $62,000 in 2009 and $75,000 in each year since.

The predicted demand for the program is $75,000 to $100,000 every year beginning 2012; these figures do not include addressing the four creek basins targeted in the new NPDES

permit for TMDL water quality improvements. Unused funds can be carried over to following year if need be and reduce the appropriation that year.

(5) Aging infrastructure replacement

Stormwater detention and conveyance pipes deteriorate over time and should be replaced so that they meet intended function. The age at which a pipe should be replaced will vary based on what it is made of and other factors. WLRD owns or must come to terms with a large number of pipes that have been identified to be at or near replacement age as described in the next two sections.

Since these pipes have not yet been assessed to determine the urgency of replacement or the hazard posed by their failure, it is recommended that in-pipe inspections and engineering assessments be completed to determine pipe condition/failure risk and the impact of pipe failure to public safety and aquatic resources. The information collected from these assessments will be used to prioritize the pipe replacements and recommend a plan of action that may include replacement, repair, or subsequent inspection over time to monitor pipe condition.

(a) Off-road stormwater conveyance pipes at or near replacement age

A sizeable number of 18-inch and larger stormwater conveyance pipes outside of King County-maintained road rights-of-way are at or near replacement age and are not currently being regularly inspected and maintained by either the County or private parties. (See Appendix 7 for a map of these pipe systems.) Metal pipes have a life expectancy of 30-50 years while concrete pipes last 50-100 years. As their age approaches or exceeds this expected life, the risk of failure increases significantly and the consequence of failure could be substantial -- flooding inside of homes, overtopping of roads, severe erosion and sedimentation of natural streams, and/or landslides.

The King County Code (9.04.120.A) states that "The person or person holding title to the property and the applicant required to construct a drainage facility shall remain responsible for the facility's continual performance, operation and maintenance in accordance with the standards and requirements of the department and remain responsible for any liability as a result of these duties." The pipes in most cases are trunk line systems that traverse multiple private lots within residential subdivisions, conveying runoff between, to, or from county-managed pipes within county road rights-of-way. In many cases, the pipes are in easements originally dedicated by the subdivision to King County or for public drainage but they were never formally accepted by the County for permanent ongoing maintenance. Therefore, as required by the County Code (9.04.115.B.3), responsibility for their maintenance defaults to the multiple property owners of land through which the pipes traverse. However, this responsibility may never have been communicated to the private lot owners whose properties are traversed by the pipes. Nor were the owners provided information on recommended inspection frequency, maintenance standards, and methods. In addition, effective inspection and maintenance of pipe systems that traverse multiple lots require all the lot owners to work together and share in the costs, which can be difficult to coordinate and fund, even for a homeowners association. Consequently, these pipes are assumed to have not been managed since they were originally constructed.

One hundred and fifty unmanaged lengths of conveyance pipe were found in unincorporated King County. These lengths total about 21,400 linear feet of aging trunk line conveyance pipes that could pose a potential risk to public safety and aquatic resources in the next five to 10 years. The question is whether King County should take responsibility for the pipes or take enforcement action against the property owners to

compel active management and replacement of the pipes as needed. If King County decides to take on the responsibility to replace these pipes, the total estimated cost of replacement is approximately $26.5 million, which includes design, acquisition, permitting, and construction. The estimated cost of inspections/assessments is summarized in Table 7 for each length of pipe and totals close to $900,000 ($101,880 + 775,000 = $876,880).

Table 7. Off-Road Conveyance Pipe Estimated Replacement Costs

Category	Total	Portion in King County Easement
Pipe length (ft)	21,389	2,340
Total # of pipe lengths	155	21
Average age in 2013 (yrs)	41.7	36
Total replacement cost estimate	$26,503,000	$2,920,000
Total in-pipe inspection cost	$102,000	$11,000
Total engineering assessment cost	$775,000	$105,000

The proposed capital bond includes funds for a comprehensive assessment of 80 off-road conveyance pipes that have been identified as at or near replacement age as well as funds to design and implement replacement of three pipes determined to be at greatest risk during the biennium. WLRD will also evaluate service options and policies for these conveyance systems to guide future operations and capital investments.

(b) Stormwater detention pipes at or near replacement age

WLRD maintains a number of stormwater detention pipes that are at or near replacement age by virtue of being corrugated metal pipe that will be 30 years or older in 2013. (See map in Appendix 7 for locations.) As these pipes reach an age of 30-50 years, it is assumed the risk of failure increases significantly and the consequence of failure could range from flooded homes and roads to severe erosion and water quality impacts to streams and aquatic resources. In addition, all of the pipes were designed to pre-1990 detention standards, which means they may need to be enlarged to meet modern detention standards.

There are 22 such pipes in almost as many subdivision developments, about five of which are located within Potential Annexation Areas. This totals about 3,100 linear feet of aging detention pipe that could pose a significant risk to public safety and aquatic resources in the next five to 10 years. The total estimated cost of replacement is about $4.8 million, which includes design, acquisition, permitting, and construction. The estimated cost of inspections/assessments totals about $123,000.

b. Ecosystem capital

Ecosystem capital includes land and water habitat restoration and protection projects that correct or prevent habitat degradation contributed to by stormwater runoff in unincorporated King County. Projects were identified in watershed-based salmon conservation plans developed through extensive interjurisdictional, multi-stakeholder collaboration and approved by federal and state agencies. Actions identified are in the four county watersheds (Snoqualmie, Lake Washington/Cedar/ Sammamish, Green-Duwamish, which includes Vashon-Maury Island, and the White). Activities include:

- Acquiring and protecting habitat sites;
- Designing and constructing restoration projects;

- Feasibility and reconnaissance studies to develop project concepts and conduct preliminary evaluations;
- Monitoring, maintenance, and post-construction inspections;
- Post-project remediation recommended by monitoring and adaptive management; and
- Creating a management reserve contingency fund.

(See Appendix 9 for a map and list of projects.)

To keep pace with the 10-year goals of the watershed plans, King County should complete, on average, more than 13 projects each year. To meet this target, the County should have completed 68 projects by end of 2010. However, funding for these actions at local, state, and federal levels has been far below the levels needed for full implementation. Consequently, King County reported completion of only 23 projects by the end of 2010. The watershed plans identified implementation schedules that reflect critically low salmon population levels and downward population trends for the region's listed species. The region needs to increase funding to levels identified in the recovery plan to achieve targeted goals within the critical time periods needed to support recovery of salmon populations. (See section A of this chapter for a discussion of what it would take to support recovery of listed Puget Sound salmon species, including implementing 146 ecosystem and habitat projects in unincorporated King County.)

Implementation of the watershed-based salmon plans, including this ecosystem CIP work, is recommended in many sections of the 2008 King County Comprehensive Plan (e.g., Chapter 4 Environment, Section VI, cooperative Salmon Recovery and Puget Sound Partnership). These actions are also key to achieving the King County Strategic Plan goals of environmental sustainability and public engagement.

Using the limited funds available to leverage federal, state, and local grants, King County has prioritized recovery action projects that deliver high-value ecological gains and are feasible within current funding constraints. (See Table 8 below and Appendix 9.) The requested budget increase would begin to provide funds for post-project remediation based on monitoring and adaptive management for projects that restore riverine processes and for which significant geomorphic changes can be anticipated in the first five to 10 years after construction. The increase including new bond revenue of $3.8 million would help address the significant revenue needs for additional larger projects and increase efficiencies.

Table 8. Ecosystem Capital Program Funding Projections

Project/Program Groups	2013-14 Base ($)	2013-14 Bond ($)	2013-14 Total ($)		10-Year Estimated Demand** ($)
WRIA 7 Ecosystem Restoration	$1,006,635	$1,357,850	$2,364,485		$35,995,000
WRIA 8 Ecosystem Restoration	34,000	150,000	184,000		140,574,000
WRIA 9 Ecosystem Restoration	443,885	716,045	1,159,930		101,471,000
WRIA 10 Ecosystem Restoration	31,000	100,000	131,000		1,000,000
Vashon Ecosystem Restoration	360,000	86,105	446,105		Included in WRIA 9
Ecosystem Restore and Protect*	937,250	1,085,000	2,022,250		26,400,000
Monitoring and Maintenance	550,000	0	550,000		10,000,000
Small Habitat Restoration	480,000	305,000	785,000		36,000,000
Totals	**$3,842,770**	**$3,800,000**	**$7,642,770**		**$351,440,000**

*Ecosystem Restore and Protect refers to management reserve, project management, feasibility, reconnaissance, monitoring/maintenance, hazardous removal/protection.

**10-Year Estimated Demand comes from the Puget Sound Salmon Recovery Plan and the WRIA 10-year plans. For additional detail, see map and list of projects in Appendix 7.

b. Roads water quality maintenance and capital projects

The Washington Department of Ecology has issued reports that show many of the toxics polluting Puget Sound come from stormwater running off vehicles and impervious paved and gravel county roads. Some of this runoff is captured in roadside ditches, but a percentage ends up downstream. To address this, maintenance and capital improvements to roads rights of way are necessary for water quality. WLRD and the King County Department of Transportation Roads Services Division worked together to include $1.0 million in SWM rate increase for increased cleaning and maintenance of catch basins and additional street sweeping of busy intersections. The rate request also will support $3.155 million of bond-funded water quality related capital construction projects in the Roads Services Division to address existing high priority water quality problems in the road rights of way. In addition, the Roads Services Division will work in collaboration with WLRD during the biennium to systematically address the most important areas of retrofit and water quality degradation on and off the roadways in the SWM service area. (See Appendix 10 for map and list of priority projects to be funded in the Roads Services Division by the proposed bond.)

C. Other Possible Revenue Sources

To maximize funding opportunities for SWM programs, WLRD has evaluated grants, debt financing to extend funding, and how other agencies are charged for WLRD staff services.

1. Grant options

King County staff obtain roughly $5 million to $7 million a year in state, federal, and regional grants for stormwater and ecosystem (habitat) capital projects. However, each year starts with a blank slate, and as state and federal budgets shrink, there is less certainty and no consistency in achieving useful funding from grants. King County will continue to apply, but the competition grows fiercer as the funding pots grow smaller.

2. Debt financing/bonds

In the 1990s, the County issued bonds to help fund some SWM capital improvements. Since that time, the County has used a pay-as-you-go system. Because retrofitting and restoration projects have long lifespans, it may be more appropriate to amortize the design and construction costs over the life of the asset rather than use only the pay-as-you-go system. To move forward on implementation of several major capital improvement projects, WLRD is proposing to use bonds to finance $11.3 million of capital construction projects in WLRD and the Roads Services Division. As

proposed, the bonds would be interest-only through 2016, at which time debt from a major bond issuance from 1996 will be retired. In 2017, payments for full amortization will commence at an annual cost of about $1.0 million. This would enable the stormwater and the ecosystem capital programs to be increased by $ 1.6 million each in each year of the biennium, in addition to the $3.155 million of Roads Services Division capital projects. (See section B for descriptions of projects to be funded by the bonds and appendices 8, 9, and 10 for maps and lists of the CIP projects.) The remaining funds would go towards improving community relations, capital project management, and monitoring effectiveness.

3. Full cost recovery burden rate (capital program)

The SWM program revised its methodology for calculating indirect cost allocations that are recovered from chargeable labor. This change is in keeping with King County capital program practices. King County's financial system includes a feature that enables allocation of labor and indirect costs to programs that benefit from labor charged through the use of calculated "burden rates." Most staff who are home-based in the WLRD Ecological Services, Stormwater CIP, and Acquisitions units are dedicated to supporting capital projects, some in WLRD, some in other county agencies. Under the current methodology, the burden rates reflected certain county, department, and division indirect costs, but did not reflect costs such as section oversight and management, and administrative support hours for capital program staff. By moving to full-cost recovery, this will result in a net decrease to the SWM operating fund.

King County Surface Water Management Rate Study
Outreach Group Meeting #2
Summary Notes

Outreach Group Meeting #2

June 5, 2012
6:00 – 8:30 p.m.
Renton Community Center, Renton

Participants

Name	Organization/Affiliation
Jimmy Blais	Gary Merlino Construction Company
Tom Carpenter	4 Creeks Unincorporated Area Council
John Chaney	Rural Forest Commission
Bruce Chattin	Washington Aggregates & Concrete Association
Matt Hinck	CalPortland
Bobbi Lindemulder	Agriculture/Livestock
Philip McCready	Vashon-Maury Island Groundwater Protection Committee
Bernie McKinney	Middle Green River Coalition & Rural Forest Commission
Pat Traub	Executive's Rural Business Committee & raises horses
Heather Trim	People for Puget Sound

Other Attendees

Name	Organization/Affiliation
Curt Crawford	King County
Jane Lamensdorf-Bucher	King County
Joanna Richey	King County
Ray Outlaw	EnviroIssues
Nicole Addington	EnviroIssues

Meeting Summary

Introductions and Agenda

Ray Outlaw of EnviroIssues welcomed the group of participants and led a round of introductions. Ray then briefly reviewed the agenda topics, which included:

King County Surface Water Management Rate Study
Outreach Group Meeting #2
Summary Notes

- Meeting #1 recap
  - Briefly revisit parking lot topics
  - Discount program
- Effects of annexations on King County Stormwater Management (SWM) funds
- SWM investment options: What do you value?
- Proposed 3rd meeting

Meeting #1 – Parking Lot Topics

Jane Lamensdorf-Bucher of King County apologized for missing the first meeting. She heard there were many questions brought forward for further discussion and wanted to provide more information to respond to these questions.

What are other alternative funding sources?
Jane referred the group to an information packet provided by King County. On the first page were listed various funding sources for SWM in King County. Jane said grant sources are highly variable and cannot be predicted from one year to the next. Grant funding amounts to approximately $5-7 million per year.

How do SWM fees in King County compare with other regions?
Jane provided a list of other SWM fee amounts for several cities in King County as well as for Pierce and Snohomish counties and the City of Tacoma. Jane said King County SWM fees are in the middle range. She also noted that all these jurisdictions base their SWM fee on contribution to the problem rather than benefit from services provided.

Question (Matt Hinck): Are the SWM fees structures comparable across the different jurisdictions? Jane said SWM fees across all jurisdictions are based on the amount of impervious surface area. Residential fees are generally set at a flat rate, but some jurisdictions have different rate classes depending on the size of the residential property.

Does any jurisdiction base its fees on benefits of services provided rather than contribution to the problem?
Joanna Richey of King County said she spoke with a county attorney who has been working on SWM issues for over 12 years. This lawyer has evaluated case law and litigation associated with SWM. While he was unable to say definitively that there has never been a jurisdiction that collected fees based on benefits, he has never heard of one. All the SWM fee structures he is aware of are largely based on some surrogate for impervious surface area.

Efficiency
Jane said King County is required to increase efficiency by three percent every year. King County is continuously looking for ways to provide services more efficiently and does not simply cut staff to be more efficient. Efficiency is becoming increasingly important as King County revenues decrease as a result of annexations. Jane added that the county is always open to suggestions on how to be more efficient.

Question (Tom Carpenter): The efficiency question was originally about the ratio between on-the-ground work and other activities, such as research and permitting. What is the percentage of SWM dollars that are going to on-the-ground projects? Joanna said the policy goal is to transfer 30 percent of the fund to

capital projects on an annual basis, which is similar to other jurisdictions. Approximately 20 percent is spent on overhead costs.

Question (Tom Carpenter): There are no data to help evaluate whether that 30 percent is reasonable or if it should be readjusted. Shoveling dirt is more efficient than studying that dirt. Joanna said there are many services considered "on-the-ground" that are not in the capital budget. Many projects in King County's operating budget manipulate ground surface, but are not included in the capital costs category.

How does King County prioritize capital projects?
Jane said prioritization criteria are included in the information packet for review.

Other questions?
Jane added there were several other miscellaneous questions that are also answered from information included in the packet and that the county is still working on more detailed responses to questions submitted via email

Discount Program

Curt Crawford of King County reviewed the discount program principles. He said the discount program being proposed is in response to a Council budget proviso that raised the question of how King County applies discounts for SWM fee ratepayers. In 2011, King County worked with a stakeholder group from the gravel industry to develop a new discount program for commercial properties. The proposed new program could result in discounts of up to 90 percent. Curt added those properties that have greater than 65 percent natural condition and less than 10 percent impervious surface area can receive a flat discount of 80 percent under the 65-10 discount program.

Question (Heather Trim): Facilities maintenance does not always occur regularly, especially over time. How frequently are properties receiving the discounts examined or assessed? Curt said King County inspects properties every other year. On the year King County does not inspect the property, that property owner must certify that they have done the required inspection and maintenance.

Question (John Chaney): If eligible residential property owners are able to participate in the 65-10 program, it would likely have a major impact on SWM fees. Curt said the discount can be applied to residential sites. The program is advertised on King County's website and is available to anyone that meets the criteria. Property owners must sign a covenant allowing King County employees to inspect the property, which may not appeal to some property owners.

Question (Tom Carpenter): Can King County provide an example of a business that would have a fee increase under the new discount program? Curt said a property owner may receive a 54 percent discount under the previous discount program for a pre-1990 flow control system. That older flow control facility would qualify for only a 20 percent discount under the new program, leading to a $9,000 increase in SWM fees for that property.

Comment (Matt Hinck): Companies still get credit for certain activities and this would create incentives for actions like installing facilities that improve water quality. Joanna said if the King County Council adopts the proposed discount program, it would not be retroactive. The new program will likely go into effect in 2013. It may take two or three years of site inspections before the existing facility database is fully populated with the data needed to correctly apply the new discounts. For example, on parcels where we currently don't know the impervious area served by the facility, we will assume it is 100 percent of the

area until we determine otherwise through the next site inspection. King County is strongly supportive of incentivizing facility upgrades that have positive impacts.

Comment (Tom Carpenter): The cost to retrofit a facility would be high compared to what the SWM fee would be. Jimmy Blais said costs are relative to how much the property is paying. His company has paid hundreds of thousands in SWM fees; depending on the size of the property, some would spend less on retrofits than on fees.

Many in the group generally agreed the discount program made sense and would be beneficial.

Comment (Tom Carpenter): Intuitively, the discount program makes sense. Tom said his concern was about the flat rate, which seems to have been addressed with this proposed discount plan. He did not have any negative opinions to share on the program since it does seem to incentivize beneficial improvements and grandfathers older programs so the property owner has some control.

Comment (Jimmy Blais): As an industry, we all support the proposed discount program. He noted that the aggregation discount has not been mentioned. Joanna said additional analysis is still needed on that aspect of the discount program. She asked Jimmy to provide more information on aggregation for those who are not familiar with it.

Jimmy said there are sand and gravel mines covering multiple parcels that all drain to one basin. Ten different parcels may be served by the same flow control device and best management practices based on which basin each parcel is in. Under the existing SWM fee structure, each parcel is eligible for a discount based on the SWM facilities on that parcel. The gravel industry and King County discussed aggregation of those parcels into one unit for SWM fee discount purposes since they are all served by the same device and handled as one site by the company.

Comment (Tom Carpenter): Water quality and discharge for an aggregated parcel would be the same as if that parcel was separated. It is important to measure against the outcome. Curt said King County was not in favor of aggregation as noted in the Council proviso report [sent to the group after the meeting] because there did not appear to be a water quality benefit to aggregation. Joanna added that in a previous report, King County committed to becoming outcome-based. King County is examining various sites managed by single businesses as single outcomes and trying to identify the multiple conditions that would apply under single-business operations. King County has not determined what those conditions might consist of and the conditions need to be administratively feasible.

Comment (Matt Hinck): One of the issues that drive the aggregation discussion is the base rate structure. Matt added that if the SWM rate was exactly linear to the impervious area, then the need for aggregation would be eliminated.

Comment (Tom Carpenter): The administrative costs of additional rate categories would have to be recovered. SWM fees should not become more difficult to manage. Tom used the example of the cost of a postage stamp, which is the same cost regardless of if a letter is going across the street or across the country because the service is the same. Heather asked whether impacts or benefits to the environment from aggregation have been analyzed. Joanna said King County is considering the issue. Jane added that aggregation is only being considered for parcels that are under the same ownership.

King County Surface Water Management Rate Study
Outreach Group Meeting #2
Summary Notes

Comment (John Chaney): There should be a rational basis for any discount, including aggregation. The important consideration is whether there is a net positive benefit to the environment; any economic benefits should be secondary. John agreed with the importance of ensuring any program is administratively feasible and meets objectives. Curt said King County conducted an analysis of the previous year to determine the potential revenue impacts of aggregation and the county determined the current revenue impact from discounts would more than double. Jimmy Blais said that aggregation would have an economic benefit for property owners but would be neutral in environmental impact.

Comment (Heather Trim): There is some concern that the "big dogs" will receive the discount, while smaller businesses will not receive the same benefits or potentially suffer under aggregation. Matt said aggregation is an attempt to move toward economic fairness. Some businesses are paying a disproportionally higher SWM fee for the same level of impact.

Comment (Bruce Chattin): The aggregation question is important to industry. Time keeps running out before a full discussion can be held and there is a perceived concern about revenue reduction. People would like to know if aggregation is being considered or not. If it is not being seriously considered, it is important to understand why since it is consistent with the SWM program. Parcels are managed by site; not individually. Joanna said King County is not dismissing the possibility of aggregation. They are currently considering all the issues from both environmental and economic perspectives as well as the impact of revenue reductions to King County and the administrative feasibility.

Comment (Tom Carpenter): The discussion about revenue impacts is unclear. Revenue impacts are phenomena seen in a rated system where a certain amount of dollars must be received. This assumption is not necessarily valid for SWM fees. The conversation is much more dynamic than a question of whether to apply aggregation discounts or not. The question is if we are benefitting the environment. It does make sense to have the same amount of revenue, but the concern becomes how to make sure larger companies receiving aggregation discounts do not have negative impacts on smaller companies. There are ways to solve this problem from a business management perspective.

Comment (Pat Traub): Use of 65-10 discount by residential property owners could cause revenues to go down.

Comment (Jimmy Blais): It is unlikely a lot of residential parcel owners would apply for the 65-10 discount because of the required covenant on the parcel that allows King County to have access to the property. The application process costs several hundred dollars and requires many hours to develop maps and deliver all the materials to King County.

Comment (Pat Traub): The application could be done through a farm plan.

Comment (John Chaney): Any discounts should be equitable. Discounts that can be applied to both commercial and residential properties should take into account whether they are equitably applied. The system being proposed does appear to be more rational than the current approach, which is a step in the right direction. How the discounts are marketed should be discussed, as well as the outcome of an aggregation discount.

Comment (Bruce Chattin): The question is how to achieve outcomes and benefits. How revenues are generated is a different question.

King County Surface Water Management Rate Study
Outreach Group Meeting #2
Summary Notes

Annexation

Jane briefly described the impacts of annexation in King County over the next several years.

Question (Pat Traub): Will some of the parcels King County is currently monitoring be incorporated through annexations? Jane said that annexed parcels will become the responsibility of the city that parcel resides in. However, King County must have a base capacity for some activities such as monitoring and public outreach. Below a certain level of funding, the county cannot provide that service at all. Site-specific projects would decrease, but National Pollutant Discharge Elimination System (NPDES) permit requirements will remain the same on parcels still within King County. A ballpark estimate is that for every dollar being lost because of annexation, King County is still required to provide about 50 cents worth of services to unincorporated property owners.

Comment (Tom Carpenter): That is a problem that needs to be fixed. King County should consider operating at funding levels below what they are considering necessary in order to provide certain services. The entire process should be re-engineered.

Comment (Heather Trim): The argument that budgets can be cut indefinitely only goes so far. There is a certain base funding level that must be maintained in order to provide services.

Comment (Bobbi Lindemulder): Snohomish County has contracts with various cities for some aspects of the NPDES permit. Cities conduct outreach and workshops, which is less expensive than having someone working part-time for the county. Outsourcing can be very useful. Jane said King County already outsources some services.

King County Service Categories

Jane pointed out the service areas being funded by SWM fees and asked meeting participants where they feel King County should spend SWM fees.

Comment (Pat Traub): The county could sell grass cut on King County lands. Also, there are some services that do not need to be provided by King County if they are provided elsewhere.

Comment (Bernie McKinney): Any successful business spends 11-16 percent of its budget on advertising/outreach/education. That amount could go much farther for SWM fees in order to educate landowners across the board. The county should ask landowners how they can help steward their land so it is a better property in terms of SWM.

Comment (Pat Traub): Is there a vision or mission statement? What is the goal and what is King county trying to accomplish? Jane said the focus is on water quality improvement by addressing stormwater that falls to the ground and hits impervious surfaces. Joanna said they are trying to protect public safety and property from uncontrolled runoff in addition to water quality.

Heather Trim added that the Puget Sound Partnership (PSP) has assessed all the creeks and rivers in King County, giving them a score based on overall health. The goal of PSP is to improve all scores so all creeks and rivers are considered high quality. That is a metric that can be used to evaluate King County's goals.

King County Surface Water Management Rate Study
Outreach Group Meeting #2
Summary Notes

Question (Bobbi Lindemulder): How does a potential SWM fee increase for protection of public health and water quality interact with flood control district funds? Jane said the SWM fees for surface water management are separate from the fees collected for the Flood Control District and are generally for different purposes.

Jane refereed to a map showing watershed processes that have been ongoing since Chinook salmon were listed. The map showed multi-jurisdictional government-approved watershed plans that are needed to meet the goals of salmon protection in the next 10 years.

Jane then referred to another map illustrating stormwater capital programs. Curt said a lot of the developed landscape has little or no stormwater control, especially developments built prior to the 1990s, which comprise about two thirds of the developed landscape. There are 64 small stream basins where ongoing monitoring is showing degraded stream health and/or water quality and where development occurred without sufficient stormwater controls. It would cost an estimated $1.1 billion dollars to install the additional stormwater controls needed to restore stream health and water quality. The addition of these controls is referred to as "stormwater retrofitting." The stormwater capital program currently receives approximately $2.2 million a year, which is used mostly to address public safety and drainage problems. To address the stormwater retrofit needs of these 64 small stream basins over a 100-year period would require an additional capital investment of about $11 million per year.

Jane said the purpose of the maps is to provide a sense of the problem. King County is aware that they will not be able to fund or complete all these projects.

Comment (Matt Hinck): Industry is required to meet NPDES permit requirements and must spend money to be in compliance. The public has the option of whether or not to spend money on many of these SWM projects.

Comment (Heather Trim): King County's SWM programs are not the only way these issues are being addressed. There are new laws being considered and programs to encourage behavior change. The map may differ dramatically in the next few years depending on available technology and the amount of effort expended on these programs.

Comment (Bobbi Lindemulder): What would be the impact of completing all the projects identified by King County? How would these projects benefit the public? Curt said runoff patterns would more closely resemble forest conditions pre-development. The actual impact would need to be measured basin by basin because each is different. It is estimated to cost $8 million to retrofit Basin #9, the highest priority basin for King County, with the appropriate stormwater control.

Question (Bruce Chattin): How do we accomplish all the work identified to complete Basin #9? Joanna said completing Basin #9 would require either $8 million in additional revenue or taking that money from other services. Most funding for stormwater retrofitting is from grants.

Comment (Pat Traub): People should be responsible for repairing flooding in their own basement, unless the problem is caused by an unmaintained ditch or another issue upstream. The party responsible for the damage should be responsible for paying to fix the damage. Curt said that effective stormwater controls were not required on new developments until the 1990s when the size of flow control facilities increased dramatically and water quality treatment of stormwater runoff was first required. Before 1990, many

controls were ineffective or nonexistent and thus contributed to water quality and quantity problems. The county established the SWM program to address such problems.

Question (Bernie McKinney): Flooding is a liability issue. Do developers face liability? Curt said developers are not liable since their plans were approved and met the standards at the time. King County has no authority to seek liability, but there have been cases brought by downstream parties against upstream developments.

Comment (Heather Trim): This funding exercise is difficult because there is no sense for how much these different categories actually cost and what the environmental benefits are. It would be more helpful to discuss principles and determine which activities best meet the priority environmental goals. New developments will be able to better address stormwater issues as technology continues to improve, but the technology is not able to address every problem at this point. Curt added that there are cumulative impacts occurring that better construction practices cannot address.

Comment (Bruce Chattin): Retrofitting and restoration would have the largest benefit to the environment out of the listed service categories.

Comment (Heather Trim): In addition to those two categories, outreach is also an incredibly important service category to prioritize. Outreach leads to behavior change at person to person, farm to farm, or business to business levels.

Comment (Pat Traub): Boeing often holds outreach talks on stormwater. King County should partner with bigger business on education in order to reach more people than by holding small meetings. Boeing conducts restoration projects through outreach programs. Many other large businesses have these programs as well.

Comment (Bernie McKinney): One issue with restoration projects is that funding can be difficult to obtain. Many organizations spend the majority of the year working on securing funding for the following year's restoration projects. It should be easier to obtain funding. Retrofitting a structure is not necessarily enough; many of the retrofits are full of invasive plant species and do not have the same environmental benefits as a natural parcel of land. It is important to look at restoration holistically and determine maintenance plans for facilities being built now. Otherwise, new stormwater ponds end up filled with reed canary grass.

Question (Jimmy Blais): Why is King County funding habitat restoration projects when there is funding from other sources? How does King County decide where to spend funds? Bobbi said county funding can be used as a leveraging tool to obtain additional funding. Larger funds require a match component from a local source. Even a small contribution from King County can allow additional grant dollars from other sources that will help fund the overall project. King County funding demonstrates local commitment to the project.

Comment (Jimmy Blais): If a parcel is paying 10 percent of its budget into a fee to address a certain concern, that 10 percent should be spent on addressing that specific concern. Jane said that stormwater runoff leads to pollution, erosion and other issues, which has led to problems for salmon survival, among other things. Stormwater runoff is currently the single most unaddressed toxic form of pollution in Puget Sound.

King County Surface Water Management Rate Study
Outreach Group Meeting #2
Summary Notes

Comment (Bruce Chattin): Businesses would like to know how they can help King County reduce their SWM fees and invest in themselves to reduce runoff. Homeowners likely do not have much incentive to reduce their SWM fee because those are not large enough compared to the investment that would be required to reduce the fee.

Comment (Bobbi Lindemulder): There could be ratings for meeting certain requirements. Businesses could be given recognition depending on how much they have done to address SWM issues. Business would be able to advertise as being environmentally friendly.

Comment (Bernie McKinney): Incentivizing homeowners will be a much larger challenge than incentivizing businesses.

Comment (Heather Trim): People need to be told how to change their behavior; if you just tell people there is a problem, no one will take action.

Comment (Pat Traub): The challenge is how to change homeowner behavior. $133 isn't much to do this.

Comment (Bernie McKinney): Educate homeowners and get them to care.

Ray noted that he heard restoration, retrofits, and education resulting in behavior change were the three priority service categories.

Comment (Bobbi Lindemulder): Focus on preventive maintenance instead of reactive maintenance. Facilities should be improved before there is a threat to public safety or property.

Comment (Pat Traub): Take preventive actions instead of reactive. Stop just putting out fires, work on addressing the cause of fires. Will get farther in the long run.

Comment (Bobbi Lindemulder): Think bigger scale – look beyond individual properties to Puget Sound-scale.

Comment (Bruce Chattin): Bruce suggested reducing the exemptions to schools since schools are also contributing to problems caused by stormwater.

Question (Heather Trim): If roads are given exemptions from SWM fees, how much money are they spending on their own to address stormwater? Jane said roads agencies partly address stormwater by the way the road is built, along with continued maintenance and repairs. Curt added that roads are given a 70 percent discount; not an exemption.

Question (Pat Traub): Is the SWM discount based on the year the road was built or repaired? Jane said the discount is based on the structure set by Washington State law for the state roads agency.

Comment (Bruce Chattin): It would be helpful to hear from the Council about what information they are looking for. If we move forward with the discussion from today, the message will be shaped differently. Jane said that the information heard during these meetings would be reported to the Council.

Comment (Pat Traub): Large corporations could be approached to help with funding and receive some recognition, such as a plaque displayed at a project site they helped sponsor. Schools do community

projects and there are also many community groups that can help address stormwater. It is frustrating that King County staff who are supposed to be working for rural landowners have offices located in Seattle, which is costly. Pat also noted that many rural residents don't like government.

Comment (Bobbi Lindemulder): Consider outsourcing such as Snohomish County does with the Snohomish Conservation District.

Question (Jimmy Blais): What does King County mean when they say they are going to be revising the SWM rate structure? Jane said King County is re-evaluating some of the rate classes because of changes in land use and density from when the fee structure was last revisited. Fees will still be based on the amount of impervious area.

Question (Jimmy Blais): Is King County considering increasing fees for less dense areas to make up for the fee difference after annexation? Jane said King County is looking at whether the fee structure is reasonable based on the information currently available. King County currently charges the same rate for all residential properties, but the amount of impervious surface may vary between smaller and larger properties. One potential change could include different size classes for residential properties. In addition, the land-use characteristics are changing so it is appropriate to revisit the fee structure.

Question (Bruce Chattin): Is 50 percent of the program emphasis focused on impacts from residential properties? Do homeowners see 50 percent of the program benefits? Joanna said that way of thinking makes sense intuitively but she did not have an immediate answer. She added that residential ratepayer fees provide more than half of the SWM revenues. In addition, as noted earlier, SWM fees are based on contribution to the problem, not benefits from the programs.

Wrap-Up and Next Steps

Jane said the next meeting is proposed for August. King County is revising the rate structure model and requires time to have all the information programmed into the system before King County will be prepared to hold another meeting with the most up-to-date information on costs.

Ray said the next meeting is tentatively scheduled for August 13 or 14. The group indicated a preference for August 14. Some people wanted to hold a meeting earlier and potentially have additional meetings to further discuss the issues. Jane said King County would schedule a meeting for August 14 and send out more specific information closer to the meeting date.

Summary of Action Items:

- Share discount program budget proviso report – Jane/Ray [DONE]
- Send presentation and materials to the group – Jane/Ray [DONE]
- Complete and send responses to specific information requests – Jane [DONE]

King County Surface Water Management Rate Study - 2012
Outreach Group Report

Introduction

The King County Water and Land Resources Division (WLRD) has been working on a study to determine future surface water management (SWM) program needs and requirements in unincorporated King County and to evaluate possible changes to the current SWM fees and discount program.

As a component of this study, King County and EnviroIssues (consultant) conducted two outreach group meetings in May and June 2012 to solicit feedback and gain a more thorough understanding of differing public perspectives. The intent was not to necessarily achieve consensus (due to the limited time) but to hear a representative sampling of input and ideas. These meetings also provided an opportunity for King County to inform participants about various SWM issues the County is currently facing.

Outreach Group Participants

Outreach group participants were identified by King County staff, and additional recommendations were made by EnviroIssues and other interested parties. County staff made every effort to identify participants who were from different parts of the county and had both interests in the topic and some on-the-ground experience with the technical aspects of SWM.

EnviroIssues contacted each potential participant (phone/email) to extend the invitation, describe goals and objectives, and answer general questions. In cases where an invited individual was unable to participate, King County and EnviroIssues worked to identify alternatives. The resulting participants were geographically disbursed from around unincorporated King County and represented a variety of interests, including, but not limited to, business, environment, agriculture, livestock, forestry, and private property (see following table for details).

Participants

Name	Organization/Interests	Meeting #1	Meeting #2
Jimmy Blais	Gary Merlino Construction Company	X	X
Tom Carpenter	4 Creeks Unincorporated Area Council	X	X
John Chaney	Rural Forest Commission	X	X
Bruce Chattin	Washington Aggregates & Concrete Association	X	X
Karen Deal	Lakeside Industries	X	
Matt Hinck	CalPortland		X
Bobbi Lindemulder	Agriculture/Livestock		X
Philip McCready	Vashon-Maury Island Groundwater Protection Committee	X	X
Bernie McKinney	Middle Green River Coalition		X

King County Surface Water Management Rate Study - 2012
Outreach Group Report

Name	Organization/Interests	Meeting #1	Meeting #2
	Rural Forest Commission		
Pat Traub	Executive's Rural Business Committee; Equestrian		X
Heather Trim	People for Puget Sound	X	X

County and EnviroIssues Staff

Name	Organization/Affiliation	Meeting #1	Meeting #2
Curt Crawford	King County	X	X
Jane Lamensdorf-Bucher	King County		X
Joanna Richey	King County	X	X
Ray Outlaw	EnviroIssues	X	X
Pat Serie	EnviroIssues	X	
Nicole Addington	EnviroIssues		X

Meetings

Both meetings were attended by King County SWM staff, facilitated by EnviroIssues, and included PowerPoint presentations and focused discussion opportunities. This report summarizes feedback received; complete summaries from each meeting can be found as appendices to this report. Specific meeting content and participation are described herein. Both meetings were held at the Renton Community Center on weeknights from 6 to 8:30 p.m.

Meeting One – May 14, 2012

King County staff provided participants with an overview of the SWM programs and fee structure, water quality and surface water management needs and permit requirements, and the SWM discount program (existing and proposed). This meeting focused on developing a general level of understanding of SWM program requirements and drivers. Participants asked a variety of clarifying questions about SWM programs and the outreach process.

Meeting Two – June 5, 2012

This meeting offered participants an opportunity to follow-up on county responses to questions identified during the first meeting and to recap key concerns and issues. King County staff also sought specific feedback on proposed discount program changes, discussed the effects of annexations on SWM revenue,

and asked participants to share their thoughts on how to invest SWM funding in stormwater and water quality programs.

Summary of Feedback

The following summarizes major themes heard during the two outreach meetings and outlines recommendations, questions, concerns, and other topics identified as important to consider in more detail at a later date. Throughout each of the meetings, the concepts of fairness and equity to landowners were commonly discussed and became an important principle for discussing any changes to the status quo.

Outreach group participants were also asked to review the content of this report and provide feedback, which is incorporated below, to ensure the report accurately represents the information shared and discussed. The resulting feedback provided additional details regarding a range of topics including: funding priorities, the need for additional meetings and further discussion, incentives and discounts, equity of SWM fees, and outreach and education.

SWM Programs and Fee Structure

King County outlined the basic structure of SWM fees during the first outreach meeting, which consists of a flat rate for residential properties and rate classes for commercial and other non-residential properties based on the amount of impervious surface area, calculated per parcel/year (very light class) or per acre/year (other non-residential classes). The fees fund a variety of services, but the current revenue generated is not sufficient to address all stormwater and related water quality problems.

- In general, the group felt the fee structure should more accurately reflect the on-the-ground impacts of stormwater runoff and reward those who reduce or minimize impacts.
- Some participants were concerned about exemptions for undeveloped parcels since different vegetation types have vastly different surface water management capabilities and impervious surface is not the only contributor to the problem.
- The group was curious to learn if there are any examples of a fee structure based on benefits received from SWM programs, rather than on estimated contribution to the problem as King County does. To respond, King County found that other jurisdictions in the region also charge fees based on contribution to the problem; in fact, King County was unable to identify any jurisdictions that charge based on benefits.
- Businesses have a greater incentive to reduce their SWM fees through incentive programs than homeowners who pay much smaller SWM fees.
- Incentives for stewardship for both large and small parcel owners would help (e.g., incentives to replace invasive with native plants). Other counties, such as Snohomish, may provide examples.
- Some expressed concern that the fee structure is "out of balance" between urban and rural types of development.

Discount Program (existing and proposed changes)

The existing discount ("rate adjustment") program includes discounts for property owners who are low-income and disabled or senior citizen, as well as for open space, public schools, and facilities that meet

specific criteria for stormwater management. Additionally, the 65/10 program gives property owners a discount if greater than 65 percent of the property is in a native condition and less than 10 percent consists of impervious surface.

The proposed new discount program would allow incremental percentage discounts up to 90 percent based on the type and level of stormwater management facilities in use for a given parcel. Participants generally agreed that the new discount program appears to be a sound and logical approach.

- The group generally agreed incentives for companies to make water quality improvements is a major benefit of the new program and gives property owners some level of control.
- Gravel industry representatives expressed strong support for the proposed SWM fee discount program and urged its advancement to the King County Council for consideration.
- Currently, public school districts with stormwater curricula are exempted regardless of the area of impervious surface. Many participants felt school exemptions should be further analyzed and likely reduced, since schools also contribute to problems caused by stormwater runoff.
- Questions were also raised regarding the appropriateness of discounts for state and county roads and whether the the roads agencies actually do equal value water quality work. King County noted that the discount for state roads is in state law.
- Several participants questioned the impact to revenue if residential parcels began to widely take advantage of the 65/10 discount, although participants noted that the requirement to allow the county to conduct property inspections and the rigorous application process would likely deter many property owners.
- Some participants expressed concern that biennial inspection of facilities may not occur often enough to ensure parcels are meeting discount program expectations.
- They agreed that receiving credit for activities that have SWM benefits creates necessary incentives for actions that improve water quality.

Aggregation Discount

While the group felt the new discount program overall sounded reasonable, there was also discussion about a potential aggregation policy where several adjacent parcels under a single ownership could be combined into one SWM fee unit to lower the overall rate class and SWM fees accordingly. Gravel industry representatives supported the aggregation discount, while other participants felt the option should be further examined. King County noted they are looking into the pros and cons, as well as administrative challenges, of an aggregation discount option.

Some participants described potential benefits of aggregation including:

- Water quality and discharge for aggregated parcels would not change since management practices would not change.
- Large companies (e.g., gravel mine) manage stormwater by site, not individual parcel.
- Aggregation would allow SWM fees to better reflect the effectiveness of the facility and other onsite management practices.

- The environmental effect would not change and there would be an economic benefit to the property owner.

Some participants raised concerns about aggregation and requested more detailed analysis:

- If the SWM fees were individually calculated based on a parcel's actual impervious area, there would be no need for aggregation.
- Administrative costs for additional rate categories would need to be recovered.
- The main question should be whether aggregation leads to a net positive benefit to the environment. Economic benefits should be secondary.
- Larger companies might receive greater benefits from aggregation while smaller companies might not benefit or may be negatively impacted under the program.
- SWM revenue for county stormwater programs could be reduced.

Annexations

As a growth management policy, the state encourages more densely populated unincorporated areas, which require a more concentrated level of service, to be annexed to cities. Several large annexations from the King County unincorporated area have occurred recently, and several more are expected. During the second outreach meeting, King County outlined the issues regarding annexations in terms of decreasing SWM revenues and potential impacts to services. Staff noted the predicted revenue losses are significant and that the County must maintain a base capacity to offer certain services; below a threshold funding level, the County can no longer provide those services. Participants acknowledged this as a significant challenge.

- One participant argued that funding can be cut below what King County considers necessary, although other participants agreed the County must maintain base level funding to sustain certain services.
- Some participants questioned whether National Pollutant Discharge Elimination System (NPDES) permit requirements for King County would remain the same when areas are annexed.
- Several participants noted outsourcing and partnerships can be a useful approach to help address revenue declines, although some funding would still be needed to implement these approaches.

Water Quality and Surface Management Needs

King County illustrated the needs and expectations for SWM programs. For example, stormwater runoff has been found to be a major cause of Puget Sound pollution. To help address this, there are many developed areas that would require substantial retrofitting for which the total cost would exceed $1.1 billion. King County understands it will not be able to raise this level of funding or complete all the work identified, but the County is trying to find ways to continue to make progress. Staff noted two-thirds of the developed landscape was built prior to the 1990s and has inadequate stormwater controls, and that priority SWM funding often must be spent on safety and property protection, leaving other projects unfunded indefinitely.

- Some participants thought that landowners should be responsible for controlling stormwater runoff and flooding on their own properties unless the problem is caused elsewhere, and inquired whether developers had any liability.
- One participant noted that horizon goals (e.g., 10 years) seem arbitrary and requested clarification of how goals were developed. Others disagreed and stated that we have a large amount of work to do and we need to keep at it at a brisk pace. King County said the focus is on protecting public safety and property from uncontrolled runoff and improving water quality.
- One participant questioned the net benefit of completing all the projects identified. King County responded the benefit would be runoff more closely resembling pre-development forest conditions. However, the actual impact would need to be measured for each individual basin.

Investment Priorities

During the second outreach meeting, participants were asked to consider what programs and project types to invest the SWM revenues in and to share how they would prioritize funds for these various services.

Many participants acknowledged this was a challenging but helpful exercise. While the group felt unable to identify specific percentages for each investment category, they felt strongly that three categories should be key priorities: retrofits, restoration, and outreach. Some in the group expressed frustration and concern that, even with increased revenue, it would be difficult to see marked improvement in water quality overall.

Retrofits and Restoration

The group identified the retrofits and restoration service categories as providing the largest direct benefit to the environment.

One participant added the caveat that retrofits alone are not enough. Restorations should be considered holistically. Maintenance plans should be in place for facilities that are currently being constructed. Without these, completed projects can be taken over by invasive species or other problems that decrease the overall environmental benefit.

The group agreed that preventive action is preferable to reactive efforts. One participant noted that just fighting fires does not get to progress and does not solve the problems. Others said that when possible, maintenance should be performed before facilities become a threat to public safety or property. Preventive maintenance also often costs less than emergency maintenance.

Another participant noted forest health significantly effects water quality and the movement of water through the system. Healthy forests and native vegetation, occurring even on small land areas and through restoration efforts, can provide low-maintenance, long-term value to the entire system.

Restoration should include many options to help infiltrate surface water, such as reforesting previously logged parcels sitting fallow, replanting upland parcels, setting up rain gardens, and implementing low-impact development retrofits.

Outreach

Participants also identified outreach and education, in both rural and urban environments, as crucial to informing landowners about the importance of SWM and to engage them in active land stewardship. Some noted that homeowners should be educated to care about the impacts of stormwater runoff from their property. The group stressed that outreach can lead to behavior change at person-to-person, farm-to-farm, or business-to-business levels. Many participants believe that people will want to do their part if they have the tools and knowledge to do so. One participant commented that a marketing plan to educate and reach property owners would help get them to buy into the solutions to the problems.

Several participants suggested that partnerships (e.g., Boeing, King Conservation District, Middle Green River Coalition), could help reach larger audiences and provide positive examples to smaller landowners.

Participants specifically mentioned how workshops could provide incentives for all landowners and opportunities to learn stewardship and best management practices.

Other Comments on SWM Investment Categories

- Some services do not need to be provided by King County if they are provided elsewhere.
- A vision or mission statement is important – what is the ultimate goal of King County's SWM programs? Is it to protect water quality?
- Industry is required to meet NPDES requirements, while the public has the option of whether to fund SWM projects. Residential projects are not required by law.
- New technologies continue to allow developments to better address SWM issues, but technology cannot address every problem at this point, so SWM services will still be required.
- Obtaining funding for restoration projects can be difficult and time-consuming.
- King County could institute a rating system that would allow businesses to receive recognition and advertise themselves as being environmentally friendly if they meet certain requirements.
- King County should focus on small business and residential operators and find ways to incentivize onsite water management and improved pollution control best management practices.

Additional Topics

During each of the meetings, topics were discussed that were beyond the scope of the rate study but that participants felt needed future focused discussion. Participants were encouraged to share their ideas on these topics and this feedback is documented below.

National Pollutant Discharge Elimination System Requirements

One of the major drivers for King County to re-evaluate the SWM fee program is due to new requirements identified in the 2013-2018 NPDES permit. The new permit will require increases to existing as well as new requirements for SWM.

The outreach group participants generally understood these changes but shared the following feedback:

- Cross-jurisdictional coordination is extremely valuable as it will be important to avoid duplicating efforts. Participants felt cross-jurisdictional coordination could be improved.
- The group discussed the new regional monitoring approach and generally regarded it as an improvement but noted that effective and timely monitoring is critical.
- Some in the group expressed concern that management practices (BMPs) required by the NPDES permit should be sound and reflect peer-reviewed science.
- Participants expressed concern that additional requirements in the NPDES permit are not associated with additional funding.

Efficiency

During the first outreach meeting, some participants asked for more information on the efficiency of SWM programs. King County responded that there is a requirement to increase efficiency by three percent every year and they are always looking for ways to improve efficiency beyond those requirements, especially in the face of declining revenue and increased NPDES costs.

Some participants requested more information on the proportion of funding spent on on-the-ground work versus other activities, such as research and permitting, to better understand how much direct action is achieved with SWM funds. Staff noted the County has a goal to transfer 30 percent of funds to capital projects and that there are a number of other projects that would be considered on-the-ground work but are not included in the capital projects budget. There was also comment on apparent duplication of conservation efforts.

Many in the group expressed a desire to further discuss efficiency in hopes of helping the County provide more and better services for less.

Comparison of King County SWM Fees

The group requested a comparison of SWM fees in King County versus SWM fees charged by other jurisdictions. King County provided a table listing SWM fees by adjacent counties as well as in major cities such as Seattle and Tacoma. Many participants noted that several other jurisdictions break residential properties into different rate classes depending on the amount of impervious area while King County charges a flat rate for all residential properties.

Other Funding Sources

The group was interested in learning about other funding sources for SWM projects and programs. King County provided information about the types of other revenues, such as grants that are received from a variety of sources. While the County has received $5-7 million annually in project grants, it was noted that grant funding is highly variable and cannot be relied upon from one year to the next.

The group was very interested in further discussion on alternative funding sources.

King County Surface Water Management Rate Study
Outreach Group Meeting #1
Summary Notes

Outreach Group Meeting #1

May 14, 2012
6:00 – 8:30 p.m.
Renton Community Center, Renton

Participants

Name	Organization/Affiliation
Jimmy Blais	Gary Merlino Construction Company
Tom Carpenter	4 Creeks Unincorporated Area Council
John Chaney	Rural Forest Commission
Bruce Chattin	Washington Aggregates & Concrete Association
Karen Deal	Lakeside Industries
Philip McCready	Vashon-Maury Island Groundwater Protection Committee
Heather Trim	People for Puget Sound

Other Attendees

Name	Organization/Affiliation
Curt Crawford	King County
Joanna Richey	King County
Ray Outlaw	EnviroIssues
Pat Serie	EnviroIssues

Meeting Summary

Introductions and Agenda

Pat Serie of EnviroIssues welcomed the group of participants and led a round of introductions. Participants briefly introduced themselves and described their interest in the King County Surface Water Management (SWM) rate study.

Pat then briefly reviewed the agenda topics, which included:

- Purpose and scope for the study and related outreach
- Background on Surface Water Management
- Overview of the SWM program and fee structure
- Water quality and surface water management needs

King County Surface Water Management Rate Study
Outreach Group Meeting #1
Summary Notes

- Surface water management discount programs (existing and proposed)

Purpose and Scope for the Study and Related Outreach

Joanna Richey of King County (presentation emailed separately on 5/15/12) briefly explained that the County expects to make changes to the SWM programs and fee structure to meet surface water management needs and is seeking feedback from this group as well as other ratepayers in the service area (via public meetings and/or website comments and surveys). Feedback collected during stakeholder meetings and from other public input will inform the rate study and recommendations to the King County Council (Council).

Question (Bruce Chattin): How did we get here and how does this work fit with other previous work? Joanna responded that the County is hoping to get everyone attending the stakeholder meeting to the same level of understanding and incorporate their feedback into a draft budget proposal. She noted the schedule is tight and only two stakeholder group meetings are currently planned [a third meeting will be added in August]. The County may ask for additional help. She also noted this work is intended to incorporate work already completed to change the SWM fee discount schedule.

Background on Surface Water Management

Joanna described how surface water is managed naturally in undeveloped areas and how it becomes stormwater run-off on less-pervious surfaces. King County is responsible for managing surface water for all of unincorporated King County; cities have similar separately funded programs.

Joanna summarized current legal requirements under the National Pollutant Discharge Elimination System (NPDES) permit, issued by the Washington State Department of Ecology (Ecology). Joanna explained that a new 1-year permit will be issued in 2012 followed by a new 5-year permit for 2013-2018.

Joanna compared current and new permit requirements, noting the 2013 permit will increase some existing requirements and add some new ones.

Question (Tom Carpenter): Who is responsible for cross-jurisdiction coordination? Joanna answered that the NPDES permit requires permitted municipalities to coordinate with one another but the nature of coordination is highly variable. The group discussed some examples of coordination or lack thereof and generally agreed this was an area in need of improvement.

Question (John Chaney): Are there more prescriptive monitoring requirements in the new permit? Joanna answered there are new, more prescriptive requirements in the 2013 permit. Heather Trim noted this will include a new regional approach to monitoring that is generally regarded as better and may be less expensive. John expressed concern about monitoring, noting it must be timely and useful to be effective.

Question (Tom Carpenter): What does increased mapping mean? Joanna explained the County will be required to convert all of their stormwater facilities spatial information (maps) into an electronic format. Tom noted he would like to know more about this process and agreed to discuss the topic with County staff at another time.

Question (Tom Carpenter): What's the status of the peer review of the best management practices (BMPs) required by the permit? Joanna and many in the group agreed the new BMPs being proposed in

the new permit are related specifically to low impact development. They are generally accepted as sound – reflecting peer reviewed science.

Question (Tom Carpenter): Doesn't the County already have basin plans for much of the County? Joanna said that while some basin plans exist, they are quite old and do not meet new requirements. The new permit identifies six specific basins; the County must prepare a basin plan for one of those six during the next five-year permit schedule.

Question (Jimmy Blais): Is there duplication between the state, county, and/or local jurisdictions? Curt Crawford acknowledged there is potential for some duplication of effort with regard to inspections but there are instances where there are very clear, separate roles. He noted that while this topic is not part of tonight's discussion, it is an issue important to raise with Ecology and one which Ecology is working on.

Question (Bruce Chattin): Are the new requirements about improving water quality? Joanna answered yes, that all the new requirements are intended to help improve water quality.

Overview of the SWM Program and Fee Structure

Joanna described the history of the SWM fee in unincorporated King County, which began in 1987, and the fee structure.

Question (John Chaney): Is there an assumption that undeveloped parcels do not contribute to the problem and are therefore exempt? Joanna responded yes, that is the assumption. John expressed concern about this assumption, noting different vegetation types have vastly different surface water management capabilities and impervious surface is not the only contributor to the problem. He explained the need to look at the problem holistically.

Question (group): Are there examples in the state or elsewhere of those who benefit being charged a SWM fee? **Neither Joanna nor Curt is aware of an example but agreed to research further [response is that Pierce and Snohomish counties and most cities in King County charge SWM fees based on contribution to the problem; so far we have not found any jurisdictions that charge based on benefits].**

Question (group): When was the last time single-family residences were evaluated, as new technology may be more accurate? Joanna said they were evaluated in 1999 and are again being evaluated in 2012 using both on-the-ground measurements and remote sensing. Curt noted that remote sensing is still not as accurate as field visits, although the analysis is not yet complete. Joanna added that the residential parcel inventory appears to be slightly different than in 1999 primarily due to the changing character of the SWM service area due to annexation of urban areas. This could change the average percentage of impervious surface on residential parcels, which is the basis of the flat SWM fee rate they are charged. Non-residential and commercial properties are charged based on actual measured impervious surface.

Joanna then reviewed the 2012 budget summary of roughly $22 million, noting the Council approved an increase two years ago for capital projects because there was a large gap between need and available funding.

King County Surface Water Management Rate Study
Outreach Group Meeting #1
Summary Notes

Question (Tom Carpenter): How is funding allocated to projects? Is it based on where the funding comes from? Joanna clarified that work is prioritized by need, although the different sources of funding are used for different project types.

Joanna agreed to provide information on other SWM fees in the region at the next meeting.

Question (Tom Carpenter): Are there other sources of funding besides the SWM fee? Joanna said yes, such as state and federal grants. **The group requested more information with regard to other sources of funding, particularly the amounts.** Several noted it will be important to tell the whole story about funding sources when presenting information to the public.

Water Quality and Surface Water Management Needs

Joanna summarized known water quality and SWM-related capital needs over the next ten years. There was discussion among the group about how 10-year goals could be arbitrary and therefore the group needs to better understand how those goals were developed. Tom noted specifically for habitat restoration projects, compared to the amount of time required to create the current need, 75 years for restoration might be considered reasonable by some.

Joanna briefly highlighted some of the service options being considered based on evaluation of service gaps, which will be a topic during our next meeting.

Surface Water Management Discount Programs (existing and proposed)

Curt reviewed the existing discount program structure. Joanna noted that state and county roads received a 70 percent discount and it is assumed the discount funds are used for stormwater services within the road right of way. There was some discussion about the assumption and Joanna said there is limited quantitative analysis confirming this assumption is true but that both state and county roads do manage stormwater facilities within their roads right of way.

The group noted the discount for low-income and senior citizen property owners needs to be clarified as to whether one or both characteristics are required to receive the discount [clarification is that a property owner must be both low-income and senior to qualify].

There was significant discussion regarding school exemptions. Joanna and Curt clarified that only public school districts with stormwater curricula can be exempted. Curt noted the schools must submit their curricula but the standards are not very specific.

Question (Jimmy Blais): Are exemptions on the table? Joanna said exemptions are not specifically on the table but the County would welcome feedback.

Question (group): Can we calculate the school district square footage? Curt said the discount for school districts totals approximately $800,000.

Curt reviewed the details of the new discount program the County is proposing to implement. The group generally felt the discount program was a good idea. There was some discussion about how this affected overall revenue but Curt noted the impact to revenues was relatively small.

King County Surface Water Management Rate Study
Outreach Group Meeting #1
Summary Notes

Question (Tom Carpenter): Is efficiency part of this overall discussion? Joanna said that efficiency is not something they plan to discuss in great detail but would be willing to have those discussions at another time. EnviroIssues will keep a running list of other discussion topics as well as action items.

Wrap-Up and Next Steps

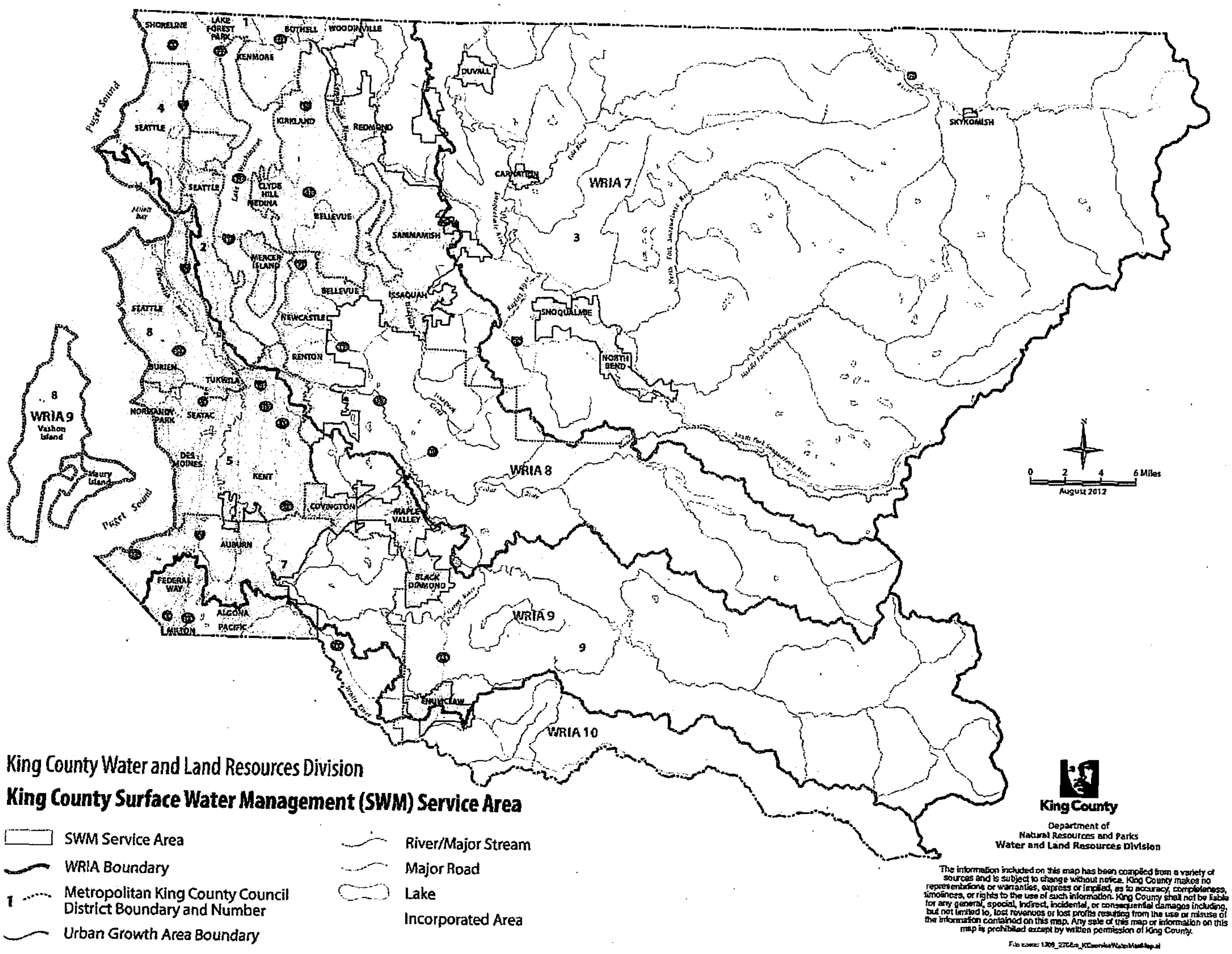
Pat reviewed the general agenda for the next meeting, which includes further discussion on service level drivers and funding level options.

Philip McCready noted it would also be good to include some discussion on effectiveness. He noted an example of Vashon Island door-to-door outreach as being highly effective at changing behavior at a very low cost.

Joanna agreed to send the presentation out to the group and also asked the group to send any follow-up questions to Ray Outlaw at EnviroIssues who will organize them and ensure they are responded to.

Summary of Action Items:

- Research examples in the state of those who benefit being charged SWM fees – Joanna/Curt [DONE]
- Provide details on other SWM fees in the region at the next meeting – Joanna [DONE]
- Provide more information with regard to other sources of funding for SWM activities, particularly the amounts and primary uses – Joanna/Curt [DONE]
- Clarify whether the discount for low-income and senior citizen requires one or both characteristics for property owners to receive the discount – Joanna/Curt [DONE]
- Provide the presentation to the entire group – Joanna/Ray [DONE]

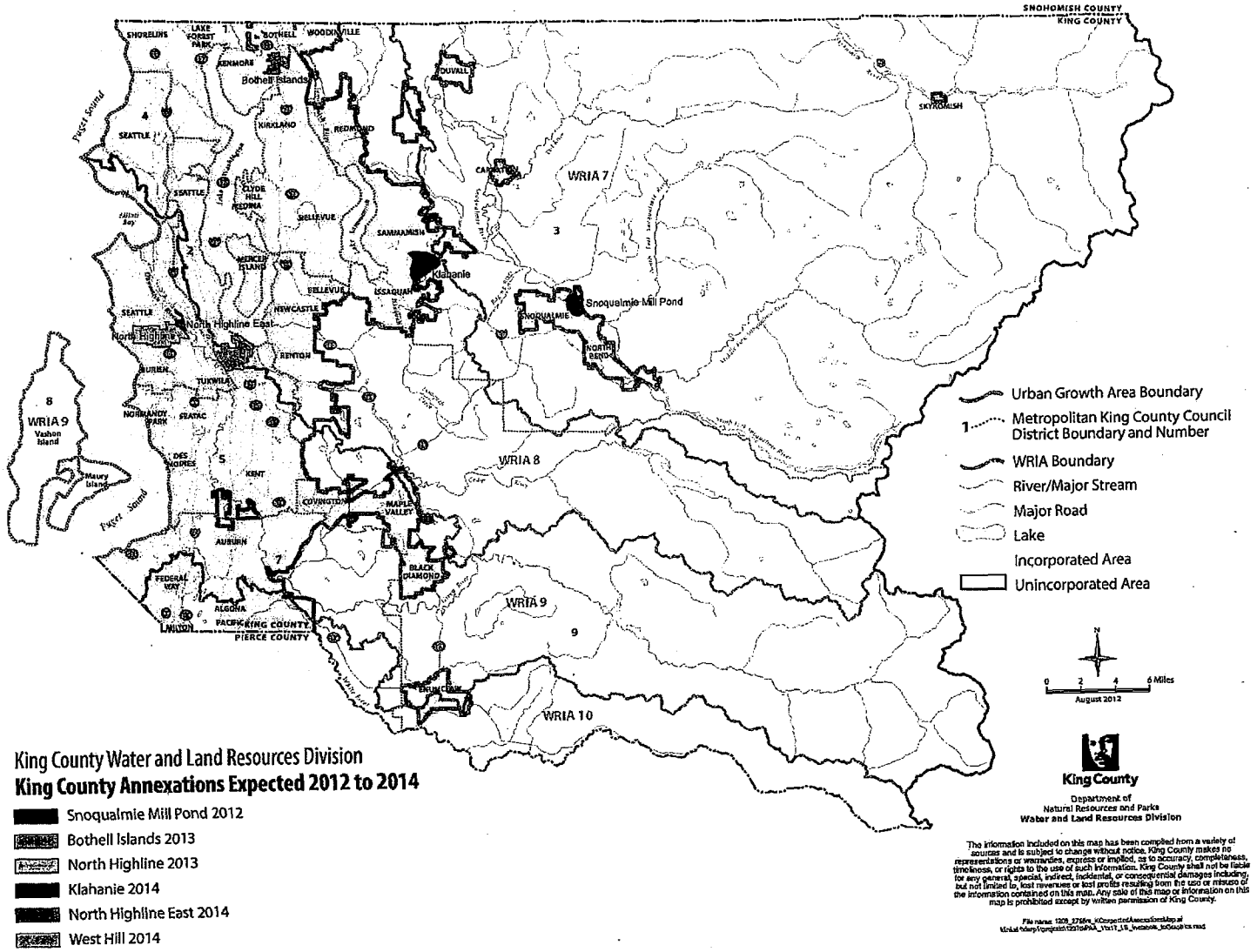

King County Water and Land Resources Division
King County Surface Water Management (SWM) Service Area
SWM Service Area
WRIA Boundary
Metropolitan King County Council District Boundary and Number
Urban Growth Area Boundary
River/Major Stream
Major Road
Lake
Incorporated Area
King County
Department of Natural Resources and Parks
Water and Land Resources Division
The information included on this map has been compiled from a variety of sources and is subject to change without notice. King County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. King County shall not be liable for any general, special, indirect, incidental, or consequential damages including, but not limited to, lost revenues or lost profits resulting from the use or misuse of the information contained on this map. Any sale of this map or information on this map is prohibited except by written permission of King County.
0 2 4 6 Miles
August 2012
WRIA 7
WRIA 8
WRIA 9
WRIA 10
WRIA 9 Vashon Island
Maury Island
Puget Sound
SHORELINE
LAKE FOREST PARK
BOTHELL
WOODINVILLE
KENMORE
DUVALL
SKYKOMISH
SEATTLE
KIRKLAND
REDMOND
CARNATION
CLYDE HILL
MEDINA
BELLEVUE
SAMMAMISH
MERCER ISLAND
ISSAQUAH
SNOQUALMIE
NEWCASTLE
NORTH BEND
RENTON
BURIEN
TUKWILA
NORMANDY PARK
SEATAC
DES MOINES
KENT
COVINGTON
MAPLE VALLEY
AUBURN
BLACK DIAMOND
FEDERAL WAY
ALGONA
PACIFIC
MILTON
ENUMCLAW

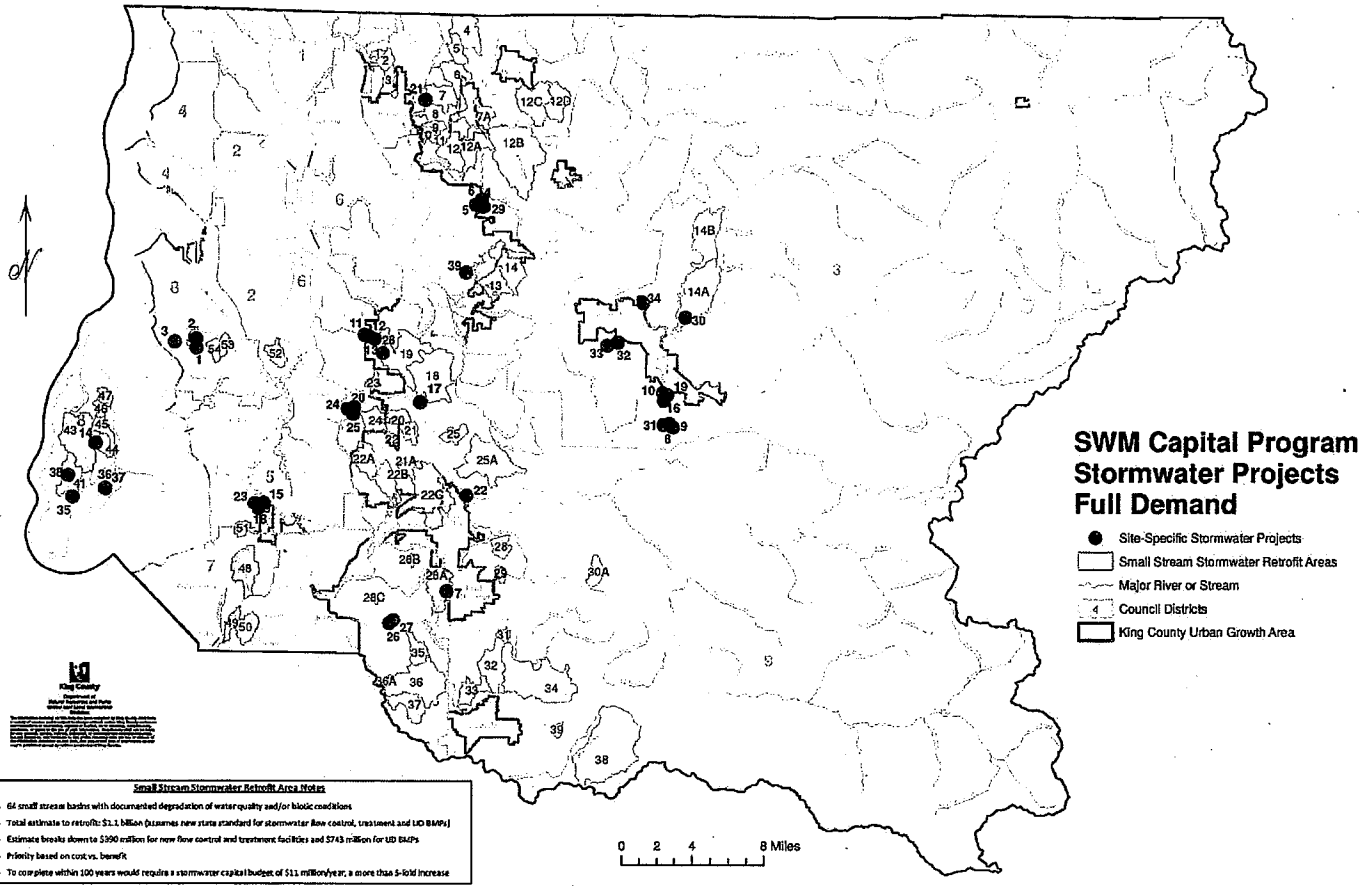
Appendix 3. SWM Fees of Other Jurisdictions for Residential Parcels

Jurisdiction	2011		2012
	Annual ($)	Monthly ($)	Annual ($)
Algona	66.00	5.50	66.00
Auburn	179.40	14.95	193.56
Bellevue	169.44	14.12	225.24
Bothell	110.06	9.17	126.57
Burien	117.44	9.79	120.68
Covington	175.66	14.64	175.66
Des Moines	138.27	11.52	150.73
Duvall	203.04	16.92	209.52
Federal Way	85.15	7.10	85.15
Issaquah	168.96	14.08	168.96
Kenmore	166.80	13.90	167.40
King County*	**133.00**	**11.08**	**133.00**
Kirkland	191.69	15.97	201.24
Lake Forest Park	143.46	11.96	152.07
Maple Valley	103.02	8.59	115.02
Mercer Island	164.64	13.72	179.52
Milton	186.00	15.50	186.00
Newcastle	159.36	13.28	159.36
Normandy Park	192.00	16.00	192.00
North Bend	118.32	9.86	148.32
Pacific	128.52	10.71	128.52
Pierce County*			108.39
Redmond	198.72	16.56	198.72
Renton	124.44	10.37	138.12
Sammamish	150.00	12.50	150.00
SeaTac	82.80	6.90	82.80
Seattle*	234.94	19.58	261.66
Shoreline	138.01	11.50	141.46
Snohomish County*	106.00	8.83	122 inside UGA**; 90 outside UGA
Snoqualmie	129.60	10.80	$ 133.20
Tacoma*	204.00	17.00	$ 213.84
Tukwila	93.00	7.75	$ 102.00
Woodinville	87.15	7.26	87.15
Mean Average	**$ 145.28**		**$ 153.18**
Median	**$ 140.87**		**$ 150.37**
Lowest	**Algona $66.00**		**Algona $66.00**
Highest	**Seattle $234.94**		**Seattle $261.66**

*Jurisdictions have Phase I NPDES stormwater permits, which have stricter requirements and are more costly to implement.

**UGA means urban growth area.




SWM Capital Program
Stormwater Projects
Full Demand
Site-Specific Stormwater Projects
Small Stream Stormwater Retrofit Areas
Major River or Stream
Council Districts
King County Urban Growth Area
0 2 4 8 Miles
Small Stream Stormwater Retrofit Area Notes
64 small stream basins with documented degradation of water quality and/or biotic conditions
Total estimate to retrofit: $1.1 billion (assumes new state standard for stormwater flow control, treatment and LID BMPs)
Estimate breaks down to $390 million for new flow control and treatment facilities and $743 million for LID BMPs
Priority based on cost vs. benefit
To complete within 100 years would require a stormwater capital budget of $11 million/year, a more than 5-fold increase

Key to Map of Small Stream Stormwater Retrofit Areas

(See map – Appendix 5 - for locations)

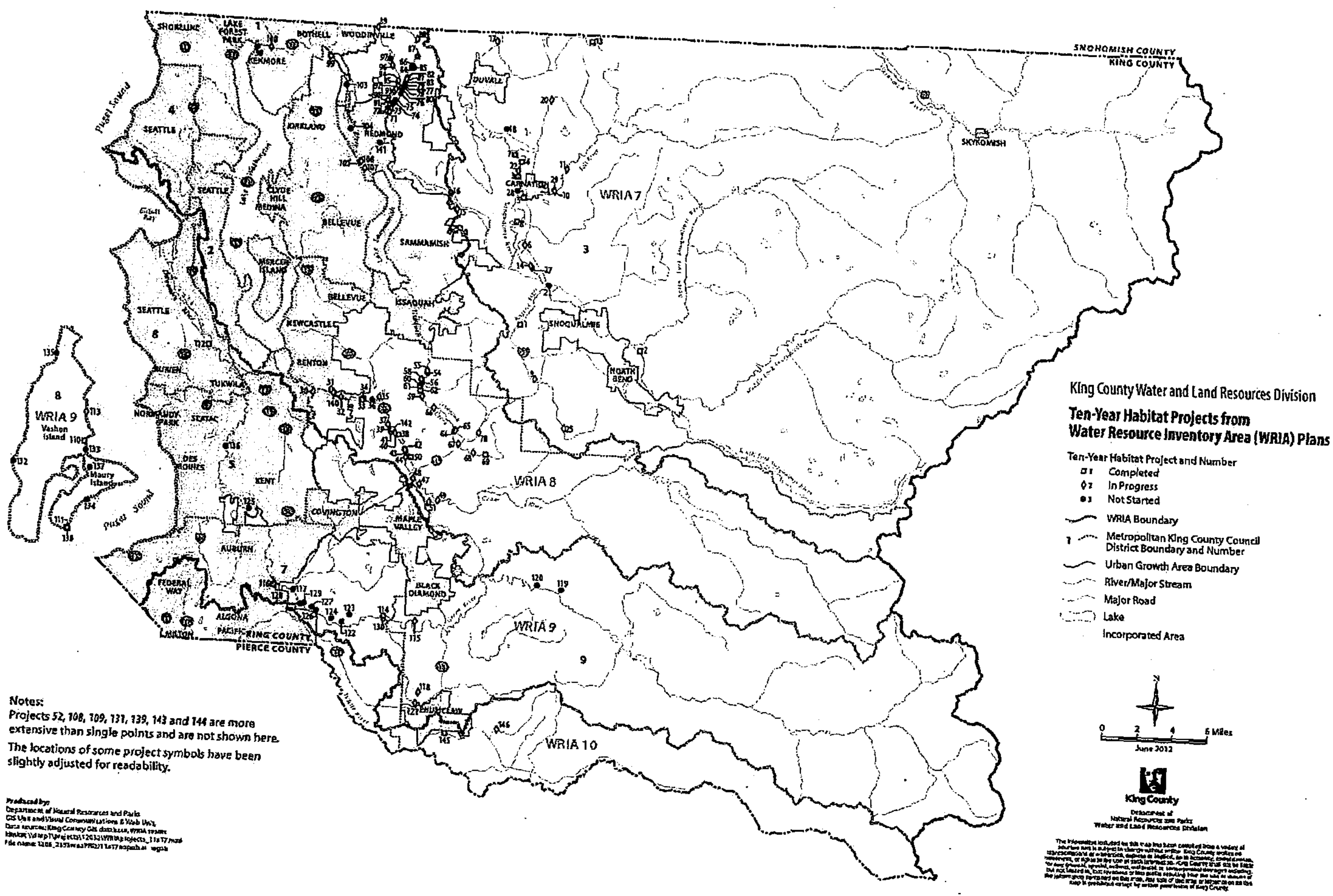
- Sixty-four small stream basins with documented degradation of water quality and/or biotic conditions.
- Total estimate to retrofit: $1.1 billion (assumes new state standard for stormwater flow control, treatment and low impact development best management practices).
- Estimate breaks down to $390 million for new flow control and treatment facilities and $743 million for low impact development best management practices.
- Priority based on cost vs. benefit.
- To complete within 100 years would require a stormwater capital budget of $11 million/year, a more than 5-fold increase, which is likely beyond the capacity of SWM fees.
- This is a preliminary analysis that would require additional evaluation and review.

Small Stream Stormwater Retrofit Areas
(in order of priority)

Area No.	Small Stream Name	Retrofit Cost
9	Bear Creek Trib 0114	$8 M
2	Sammamish Riv Trib 0090	$19 M
11	Evans Creek Trib 0108	$6 M
1	Gold Creek Trib 0088	$6 M
3	Sammamish Riv Trib 0095B	$20 M
12	Evans Creek Trib 0110	$28 M
48	Mill Creek Trib 0051	$55 M
8	Mackey Creek Trib 0129	$14 M
54	Duwamish Riv Trib 54	$7 M
25A	Taylor Creek Trib 0320	$55 M
24	Madsen Creek Trib 0305	$51 M
22B	Little Soos Creek Trib 0092	$18 M
18	McDonald Creek Trib 0212	$34 M
55	Lake Hicks Trib 55	$26 M
5	Bear Creek Trib 0134A	$16 M
52	Lake Washington Trib 52	$29 M
53	Ham Creek Trib 0002	$7 M
13	Issaquah Creek Trib 0181	$16 M
23	Lower Cedar Riv Trib 0307	$5 M
12A	Evans Creek Trib 0106	$24 M
22	Shady Lake Trib 22	$7 M
32	Cristy Creek Trib 32	$30 M
33	Spring Creek Trib 0119	$24 M
22A	Soos Creek Trib 0095A	$18 M
22C	Jenkins Creek Trib 0087	$40 M
49	Hylebos Creek Trib 49	$23 M
36A	Mud Mountain Trib 0047	$2 M

Appendix 5A

Area No.	Small Stream Name	Retrofit Cost
28B	Grass Lake Trib 28B	$2 M
36	Mud Mountain Trib 0048	$86 M
51	Bingamon Creek Trib 51	$13 M
46	Gorsuch Creek Trib 0121	$9 M
6	Struve Creek Trib 0131	$25 M
35	Middle Green Riv Trib 0107	$19 M
10	Evans Creek Trib 0107	$2 M
50	Trout Lake Trib 0033	$26 M
45	Ellisport Creek Trib 0123	$13 M
12D	Lake Marcel Trib 0284	$13 M
21A	Shadow Lake Trib 0089	$10 M
12B	Ames lake Trib 0278	$33 M
21	Otter Lake Trib 21	$7 M
37	Mud Mountain Trib 0050	$35 M
7A	Snoqualmie Riv Trib 0276	$8 M
4	Tuck Creek Trib 0267	$27 M
43	Judd Creek Trib 0129	$29 M
19	May Creek Trib 0282	$37 M
44	Ellis Creek Trib 0124	$11 M
34	Newaukum Creek Trib 0014	$33 M
47	Dillworth Creek Trib 0120	$3 M
25	Lake Francis Trib 0317	$5 M
20	Peterson Creek Trib 0328	$12 M
28C	Lake Holm Trib 28C	$2 M
12C	Weiss Creek Trib 0281	$20 M
14	Patterson Creek Trib 0382	$12 M
41	Fisher Creek Trib 0139	$15 M
29	Rock Creek Trib 0338	$4 M
14A	Tate Creek Trib 0529	$5 M
7	Seidel Creek 0129	$6 M
28A	Middle Green Riv Trib 0113	$6 M
28	Covington Creek Trib 28	$3 M
30A	Middle Green Riv Trib 0149	$2 M
31	Middle Green Riv Trib 31	$0 M
38	Scatter Creek Trib 0073	$6 M
39	Mud Mountain Trib 39	$1 M
14B	Ten Creek Trib 0442	$3 M
	Total	**$1,133 M**
	10-Year Total (Assuming 100-Year Schedule)	**$113 M**



Notes:
Projects 52, 108, 109, 131, 139, 143 and 144 are more extensive than single points and are not shown here.
The locations of some project symbols have been slightly adjusted for readability.

Key to Map of 10-Year Habitat Projects from Water Resource Inventory Area (WRIA) Plans

See map for locations.

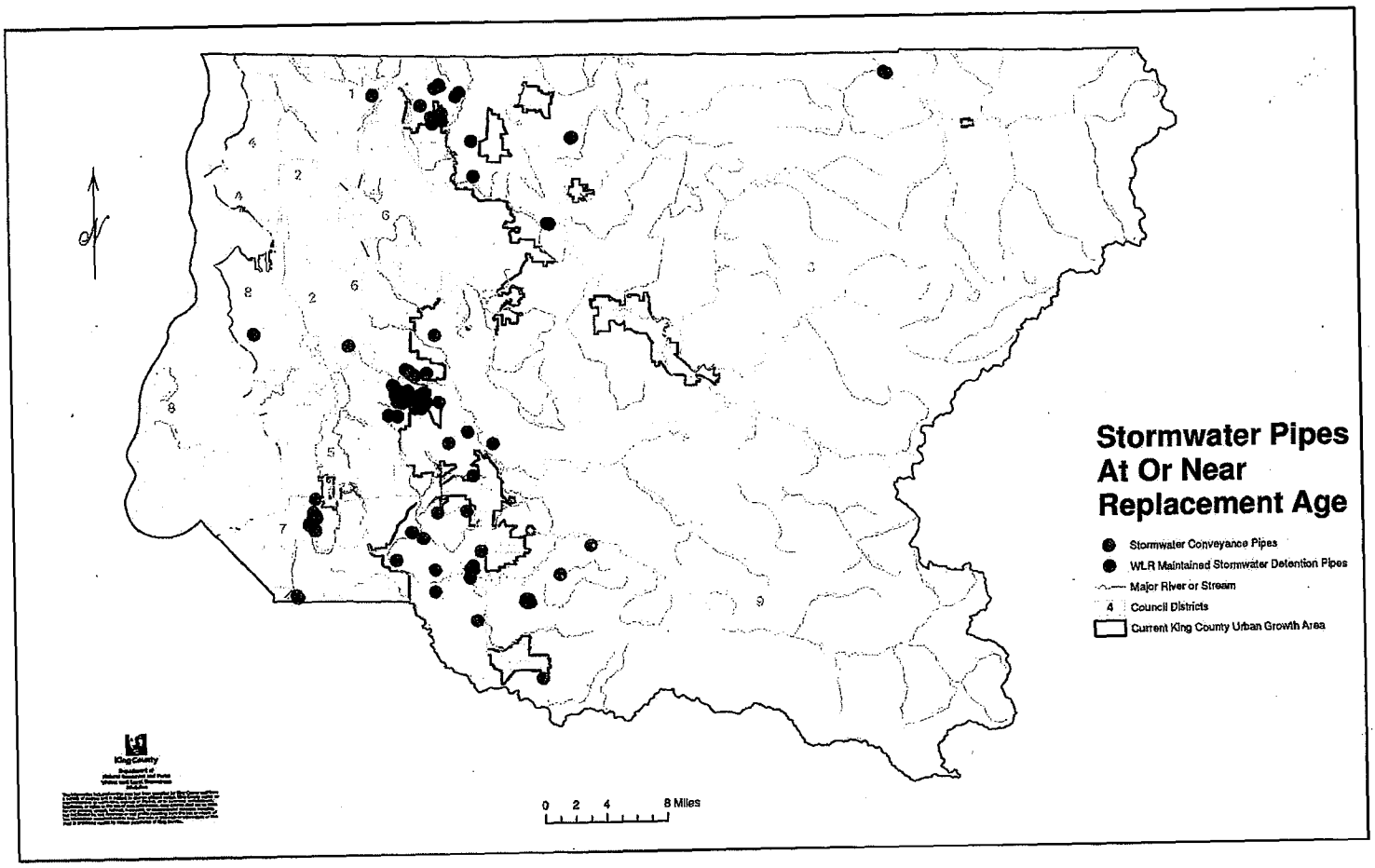
Key	Project Name	Status	WRIA
1	Raging River Preston Reach Restoration	Completed	7
2	Three Forks Natural Area Restoration	Completed	7
3	Camp Gilead Off Channel Reconnection	Completed	7
4	Chinook Bend Reach Restoration	Completed	7
5	Lower Tolt River Floodplain Reconnection	Completed	7
6	Snoqualmie River Riparian Restoration	In Progress	7
7	Stillwater Harris Creek Habitat Restoration	Completed	7
8	Stout Property Riparian Restoration	Completed	7
9	Raging River Upper Preston Reach Acquisition	In Progress	7
10	Tolt River Natural Area Acquisition	In Progress	7
11	Tolt River San Souci Acquisitions	In Progress	7
13	Stossel Creek Acquisition	Completed	7
14	Fall City Natural Areas Acquisition	In Progress	7
15	Patterson Creek State DNR Land Acquistion	In Progress	7
16	Patterson Creek - Stevlingson Acquisition	Not Started	7
17	Cherry Creek Mouth Restoration	In Progress	7
18	East Fork Weiss Creek Fish Passage Improvement	Not Started	7
20	Harris Creek Tributary Fish Passage Improvement	In Progress	7
21	Lower Raging River Restoration	Not Started	7
22	McElhoe/Person Levee Setback	In Progress	7
25	Raging River Kerriston Reach Restoration	In Progress	7
27	Snoqualmie River Fall City Reach Reconnection	In Progress	7
28	Snoqualmie River Footbridge Off Channel Reconnection	Not Started	7
29	Tolt River Natural Area Floodplain Reconnection	In Progress	7
30	Maplewood Neighborhood Flood Buyouts	In Progress	8
31	Cedar Reach 4- Acquisition and Habitat Protection Upstream of Ron Regis Park	In Progress	8
32	Bucks Curve Buyout and Restoration	In Progress	8
33	Cedar Rapids - Ricardi Reach Floodplain Restoration	Completed	8
34	Cedar Rapids - Ricardi Reach Floodplain Acquisition	Completed	8
35	Jones Reach Protection	In Progress	8
36	Protect Riparian Buffer Behind Scott-Indian Grove Levee	Not Started	8

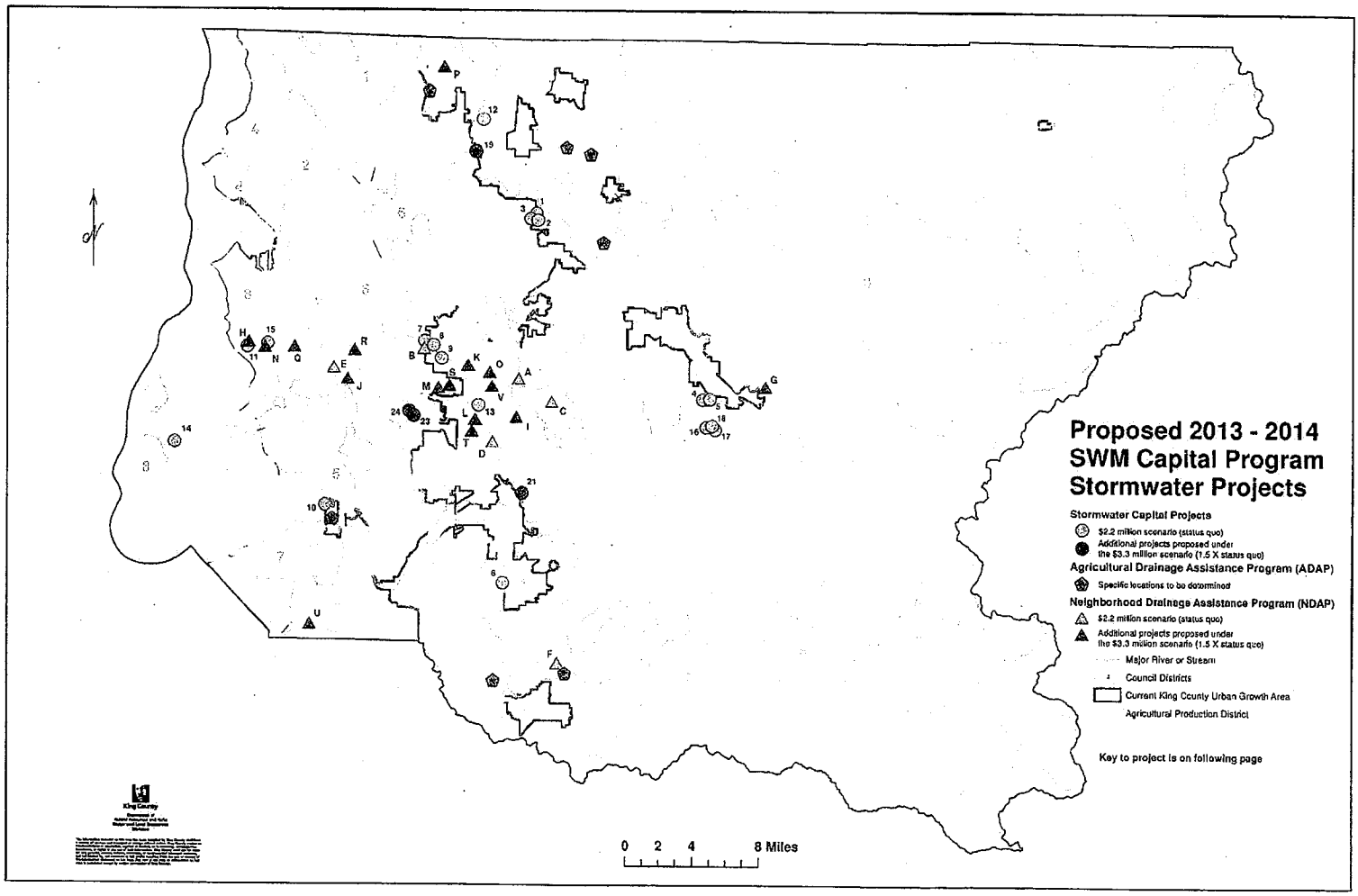
Key	Project Name	Status	WRIA
37	Belmondo Reach Acquisition	In Progress	8
38	Lions Club Side Channel Restoration	Completed	8
39	Cedar Grove Road- Rainbow Bend Levee Removal	In Progress	8
40	Cedar River Rainbow Bend Restoration	In Progress	8
41	Lower Lions Stream Reach Acquisition	In Progress	8
42	218th Place Side Channel Protection and Enhancement	In Progress	8
43	Mouth of Taylor Creek Reach Acquisition	In Progress	8
44	Royal Bend Habitat Protect	In Progress	8
47	Dorre Don Area Flood Buyouts/Restoration- Reach 14	In Progress	8
48	Dorre Don Meanders Reach Acquisition	In Progress	8
49	Landsburg Reach Protection	In Progress	8
50	Lower Taylor Creek Floodplain Restoration	Completed	8
51	Floodplain Acquisition and Restoration Near Mouth of Rock Creek/Cedar River	In Progress	8
52	Evaluation of Potential LWD Sites on Cedar River	In Progress	8
54	Issaquah Creek Reach 9- Potential Sites for Removal of Bank Hardening	Not Started	8
55	Issaquah Creek Reach 9- Stream Buffer Protection	In Progress	8
56	Issaquah Creek Reach 10- Potential Sites for Removal of Bank Hardening/McDonald Creek Confluence Restoration	Not Started	8
58	Issaquah Creek Reach 10- Stream Buffer Protection	In Progress	8
59	Issaquah Creek Reach 11- Log Cabin Site Restoration	In Progress	8
60	Issaquah Creek Reach 11- Potential Sites for Removal of Bank Hardening	Not Started	8
61	Issaquah Creek Reach 11- Riparian Restoration	In Progress	8
62	Issaquah Creek Reach 11- Issaquah Creek/Lake Sammamish Waterways Program	Completed	8
64	Carey/Holder/Issaquah Creek Confluence Easement	In Progress	8
65	Carey/Holder/Issaquah Creek Confluence Easement	In Progress	8
66	Issaquah Creek Reach 12- Issaquah Creek/Lake Sammamish Waterways Program	In Progress	8
67	Carey Creek Reach 1- Issaquah Creek and Lake Sammamish Waterways Program	In Progress	8
68	Carey Creek Reach 2- Issaquah Creek and Lake Sammamish Waterways Program	In Progress	8
69	298th St. Culvert Removal and Restoration	Completed	8
70	Holder Creek Reach 3- Issaquah Creek and Lake Sammamish Waterways Program	In Progress	8
71	Bear Creek Forest Cover Protection	In Progress	8
72	Bear Creek Reach 6- Protect Undeveloped Properties	Not Started	8

Key	Project Name	Status	WRIA
73	Bear Creek Reach 7- Reforest Cleared Areas	Not Started	8
74	Reach 7- Bear Creek Waterways Program	Not Started	8
75	Bear Creek Reach 7- Forest Cover Protection	Not Started	8
76	Bear Creek Reach 8- LWD addition	Not Started	8
77	Swanson Horse Farm Restoration (Bear Creek)	Not Started	8
78	Reach 8- Bear Creek Waterways program	Not Started	8
79	Bear Creek Reach 9- Opportunistic Large Woody Debris Additions	Not Started	8
80	Bear Creek Reach 9- Restoration with private property owners/restore riparian areas, increase in channel complexity and add LWD in Bear Creek reach 9	Not Started	8
81	Reach 9- Bear Creek Waterways Program	In Progress	8
82	Bear Creek Reach 10- Evaluate Locations for LWD Additions	Not Started	8
83	Bear Creek Reach 10- Bear Creek Waterways program	In Progress	8
84	Bear Creek Reach 12- Forest Cover Protection	Not Started	8
85	Bear Creek Reach 12- Bear Creek Waterways	Not Started	8
86	Bear Creek Reach 13- Bear Creek Waterways	Not Started	8
87	Bear Creek Reach 14- Bear Creek Waterways	Not Started	8
88	Bear Creek Reach 15- Bear Creek Waterways	In Progress	8
89	Cottage Lake Creek Forest Cover Protection	In Progress	8
90	Cottage Lake Creek Reach 1- Explore Restoration of Floodplain Connectivity	Not Started	8
91	Cottage Lake Creek Reach 1- Bear Creek Waterways Program	In Progress	8
92	Riparian Restoration at Nichol's Farm	In Progress	8
93	Cottage Lake Creek Reach 2- Nichol's farm	In Progress	8
94	Cottage Lake Creek Reach 3- Riparian Buffer Restoration	In Progress	8
95	Cottage Lake Creek Reach 3- Bear Creek Waterways Program	In Progress	8
96	Cottage Lake Creek Reach 4- Bear Creek Waterways Program	In Progress	8
97	Cottage Lake Creek Reach 5,6- Bear Creek Waterways	Not Started	8
98	Sammamish River Mouth Wetland Restoration	Not Started	8

Key	Project Name	Status	WRIA
99	Sammamish River 3B- Enhance Tributary Confluences of Derby, Gold and Woodin Creeks	In Progress	8
100	Swamp Creek Regional Park Wetland and Stream Restoration	In Progress	8
103	Sammamish River 4A: Enhance Tributary Confluences with Sammamish River	Not Started	8
104	Enhance Tributary Confluences at Willows and Peters Creeks	Not Started	8
105	Sammamish River Reach 6A- Restoration (Willowmoor/Marymoor meander)	In Progress	8
106	Riparian Revegetation between Weir and Confluence of Bear Creek	In Progress	8
107	Riparian Revegetation Between Lake Sammamish and Weir	In Progress	8
108	Sediment Source Study and Beach Nourishment Program	In Progress	8
109	Map Feeder Bluffs for Protection	In Progress	8
110	Ellis Creek Salwater Marsh Protection/Restoration	Completed	9
111	Piner Point on Maury Island (Acquistition)	Completed	9
112	North Wind's Weir Shallow Water Habitat Rehabilitation	Completed	9
113	Point Heyer Driftcell Preservation (Acquisition)	In Progress	9
114	Newaukum Creek Riparian Planting/LWD Placement RM 0-4.3	Completed	9
115	Flaming Geyser Floodplain/Side Channel Reconnection	In Progress	9
116	Fenster-Pautzke Setback and Floodplain Reconnection	Completed	9
117	Hatchery Park LWD Placement	Not Started	9
118	Big Spring Creek	In Progress	9
119	Upper Middle Green River Side Channels	Not Started	9
120	Burrner Slough (Kanaskat North) Off-Channel Creation	Not Started	9
121	Newaukum Creek Riparian Planting/LWD Placement RM 0-14.3	In Progress	9
122	Lones Levee Removal/Channel Migration Restoration	Not Started	9
123	Burns Creek Replanting, LWD Placement, Fencing	Not Started	9
124	Turley Levee Setback, Floodplain Reconnection	Not Started	9
125	Levee Setback to Reconnect Floodplain/Channel Migration	Not Started	9
126	Hamakami Levee Breach to Reconnect Floodplain	Not Started	9
127	Kaech Side Channel and Wetland Reconnection	Not Started	9
128	Neely and Porter Levees Setback and Floodplain Reconnect	Not Started	9

Key	Project Name	Status	WRIA
129	Ray Creek Replanting, Off-Channel Reconnection, Fencing	Not Started	9
130	Middle Greeen Acquisitions	In Progress	9
131	Functioning Nearshore Habitat Protection	Not Started	9
132	Sanford Point Feeder Bluff Restoration on Vashon Island	Not Started	9
133	Tramp Harbor Intertidal Fill Removal on Vashon Island	Not Started	9
134	Maury Island Fill Removal	Not Started	9
135	Sandy Beach Fill and Derelict Pier Removal on Vashon Island	Not Started	9
136	Boeing Levee Setback and Restoration-Mainstem	Not Started	9
137	Raab's Lagoon Evaluation of Habitat Improvement	Not Started	9
138	Piner Point Bulkhead Removal	Completed	9
139	Planted 8,500 Trees and Shrubs on King County Natural Areas along the Green River	In Progress	9
140	Elliot Bridge Habitat Acquisitions	In Progress	8
141	Evans/Bear Creek Restoration-Reach 4&5	Not Started	8
142	Cedar River Rainbow Bend Acquisition	Completed	8
143	SHRP Green River Restoration Project	Completed	9
144	SHRP Snoqualmie River Restoration Project	Completed	7
145	Initiated Construction on the Lower Boise Creek Restoration Project.	Completed	10
146	Contacted landowners along Middle Boise Creek reach to gauge interest in a project to benefit fish habitat and drainage	In Progress	10


Stormwater Pipes
At Or Near
Replacement Age
Stormwater Conveyance Pipes
WLR Maintained Stormwater Detention Pipes
Major River or Stream
Council Districts
Current King County Urban Growth Area
0 2 4 8 Miles


Proposed 2013 - 2014
SWM Capital Program
Stormwater Projects
Stormwater Capital Projects
$2.2 million scenario (status quo)
Additional projects proposed under the $3.3 million scenario (1.5 X status quo)
Agricultural Drainage Assistance Program (ADAP)
Specific locations to be determined
Neighborhood Drainage Assistance Program (NDAP)
$2.2 million scenario (status quo)
Additional projects proposed under the $3.3 million scenario (1.5 X status quo)
Major River or Stream
Council Districts
Current King County Urban Growth Area
Agricultural Production District
Key to project is on following page
0 2 4 8 Miles

Proposed 2013 - 2014 SWM Capital Program Stormwater Projects
Funding Scenarios

See map for locations.

Status Quo - $2.2 million

Baseline Programs - County-Wide

	Program Name	2013 SWM Funding	2014 SWM Funding
	Stormwater Share of SWM Capital Central Costs	$78,615	$78,615
	Greenbridge-Hope VI-Costshare	$91,898	$0
	Stormwater Capital Management Reserve	$0	$50,000
	Project Support Services Base Demand	$200,000	$200,000
	Monitoring & Maintenance Program	$60,000	$60,000
	Emergency Opportunity Program Base Demand (SRO funds $200,000/yr)	$30,000	$30,000
	Facility Remediations (NPDES-Required Projects <$25,000 Each)	$130,000	$75,000
	Feasibility Program Base Demand	$75,000	$75,000
	ADAP (3 Projects 2013, 4 Projects 2014)	$0	$20,000
	Stewardship Water Quality Cost-Share Base Demand	$75,000	$75,000
	Hazard Dam & Lake Remediation Base Demand	$30,000	$30,000
	NDAP less than Base Demand	$25,000	$25,000
	SUBTOTAL	**$795,513**	**$718,615**

NDAP Breakdown by Project			
Map Key	**Project Name**	**2013 Cost**	**2014 Cost**
A	Snodderly	$1,560	
B	Donnelly	$2,500	
C	Gudin	$5,600	
D	Geist	$6,000	
E	Kobuki	$7,600	
F	Quiles		$18,000
	NDAP Breakdown Total	**$23,260**	**$18,000**

Individual Projects/Programs (in priority order)

Map Key	Project Name	2013 SWM Funding	2014 SWM Funding
15	White Center Regional Stormwater Pond Improvements	$10,832	$8,336
11	Seola Pond Retrofit (Partner-Seattle)	$30,000	$265,000
2	Allen Lake Outlet Channel Culvert Replacements and Vegetation Mgmt	$121,000	$25,000

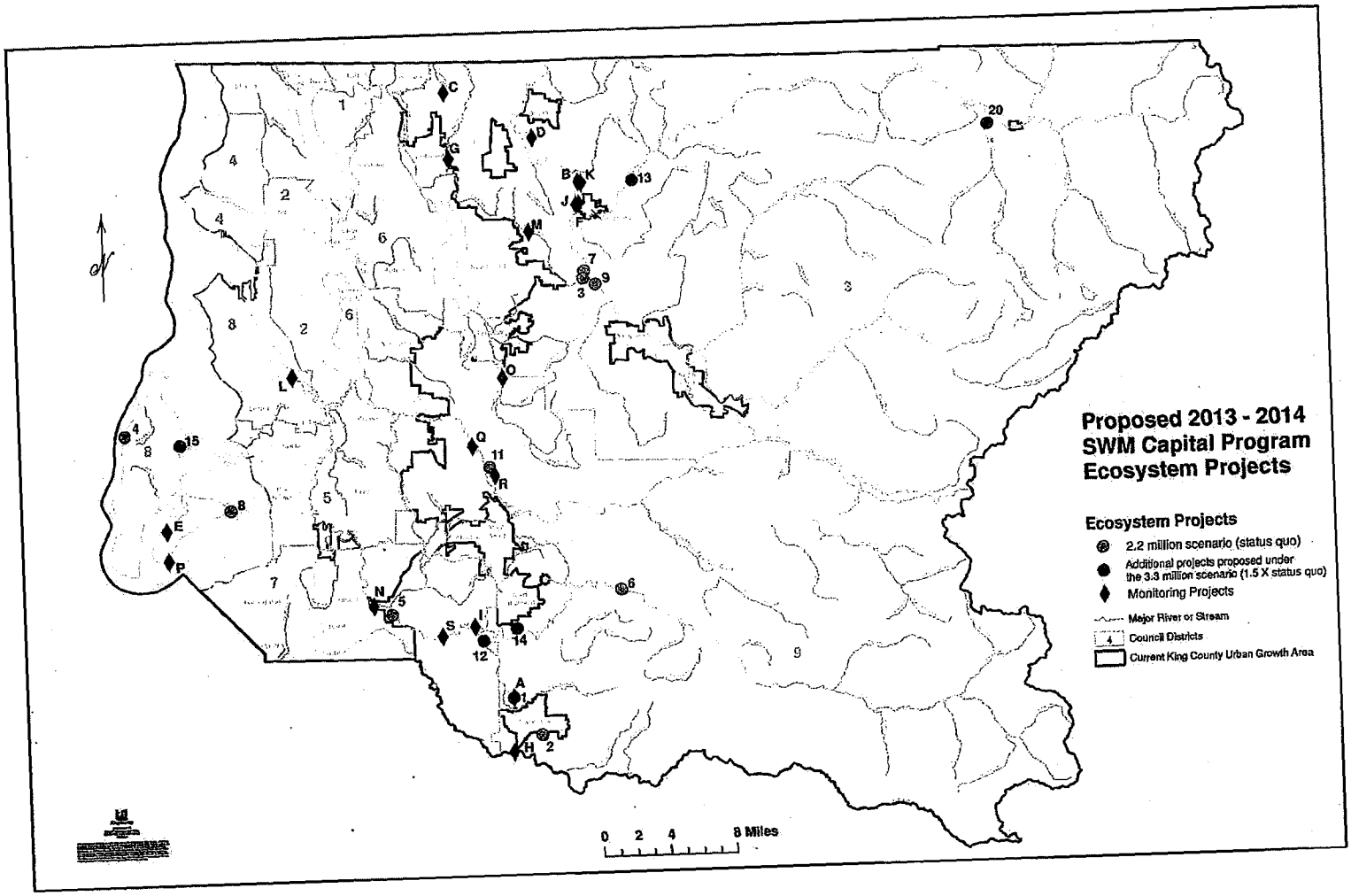
1	Allen Lake 244th Ave Culvert Improvements	$50,000	$175,000
3	Allen Lake Project Planning/Community Relations	$25,000	$50,000
6	Horseshoe Lake Permanent Pumping Solution	$125,000	$358,000
17	Wilderness Rim Emerg Act Plan and Proj Planning/Community Relations	$75,000	$15,000
16	Wilderness Rim Infiltration Pond Interim Overflow Improvements	$75,000	$0
4	Clough Creek Project Planning/Community Relations	$50,000	$15,000
7	May Creek Drainage Improvement Reach 2	$350,000	$342,500
8	May Creek Long Marsh Sediment Management	$93,000	$11,000
9	May Creek Project Planning/Community Relations	$50,000	$50,000
14	Vashon Park & Ride LID Retrofit (DOE GRANT)	$125,000	$50,000
10	Mill Creek/Mullen Slough Project Planning/Community Relations	$50,000	$50,000
18	Wilderness Rim Flooding Proofing Improvements	$114,665	$21,549
13	Upper Jones Road Ravine Erosion	$59,990	$45,000
	SUBTOTAL	**$1,404,487**	**$1,481,385**
	TOTAL	**$2,200,000**	**$2,200,000**

Additional Projects For Capital Bond Funding = Additional $1.6 Million

Additional Projects/Programs (in priority order)

Map Key	Project/Program Name	2013 SWM Funding	2014 SWM Funding
13	Upper Jones Road Ravine Erosion		$300,000
14	Vashon Park & Ride LID Retrofit (DOE GRANT)	$49,270	$40,000
5	Clough Creek Buyout & Sediment Facility	$86,000	$39,000
24	Fairwood 11 Regional Facility Remediation	$20,000	$0
12	Tuscani Facility Remediation	$10,000	$0
21	Cedar Valley Facility Remediation	$10,000	$0
	Aging Stormwater Pipe Assessment Program	$400,000	$200,000
19	Bear Crk Trib 0114 SW Retrofit Siting & Acquisition (5-yr prog)	$200,000	$200,000
23	Fairwood 11 Pipe Replacement 2		$50,000
	NDAP (Increase toward full demand of $130K/yr)	$5,000	$5,000
	ADAP (Increase to meet expected growth in demand)	$4,730	$11,000
	Small Stream Basin Stormwater Retrofit Program	$400,000	$270,000
	TOTAL	**$1,185,000**	**$1,115,000**

NDAP Breakdown by Project			
Map Key	**Project Name**	**2013 Cost**	**2014 Cost**
G	Furguson	$9,800	
H	Thompson	$8,800	
I	Scott	$5,000	
J	Proctor	$13,400	
K	Schultz	$5,500	
L	Hood	$12,000	
M	Smith	$17,800	
N	Lemba	$23,800	
O	Lazaro		$6,000
P	Tybur		$12,800
Q	Hardin		$5,000
R	Mangini		$12,200
S	Angelides		$19,300
T	Farley		$20,000
U	Rees/queen		$13,000
V	Moore		$12,100
	Additional Projects	$100,000	$100,000
	NDAP Breakdown Total	**$196,100**	**$200,400**


Proposed 2013 - 2014
SWM Capital Program
Ecosystem Projects
Ecosystem Projects
2.2 million scenario (status quo)
Additional projects proposed under the 3.3 million scenario (1.5 X status quo)
Monitoring Projects
Major River or Stream
Council Districts
Current King County Urban Growth Area
0 2 4 8 Miles

Appendix 9A:
Proposed 2013 - 2014 SWM Capital Program Ecosystem Projects
Funding Scenarios

See map for locations.

Status Quo/Base = $3.8 million

Baseline Programs - County-Wide

Map Key	Project Name	2013 Funding Request	2014 Funding Request
	Restoration Management Reserve (Contingency)	$75,000	$30,000
	Project Management Standards & Accountability	$135,000	$25,000
	Reconnaissance & Scoping	$50,000	$50,000
	Monitoring & Maintenance	$270,000	$280,000
	Small Habitat Restoration Program	$240,000	$240,000
	Hazard Removal & Protection	$200,000	$300,000
	Community Watershed Improvements	$10,000	$10,000

Individual Projects/Programs (in priority order)

1	Big Spring Creek Stream & Wetland Restoration - Construction	$300,000	$33,000
2	Middle Boise Creek- Evans Restoration - Planting	$31,000	
3	Upper Carlson Levee Removal & Floodplain Restoration-Design/Construction	$253,000	$500,000
4	Cove Creek Estuary Enhancement - Design	$130,000	$40,000
5	Porter Levee Setback & Floodplain Restoration - Design	$62,000	$29,000
6	Kanaskat Reach Floodplain Restoration - Planting	$20,000	
7	Snoqualmie Fish Passage Improvement - Design	$70,000	
8	Pt Robinson Salt Marsh Reconnection - Feasibility	$50,000	$140,000
9	Aldair Levee Removal & Floodplain Restoration - Design		$184,000
	Ecosystem Feasiblity/R648A Watershed Projects - Planning	$25,000	$27,000
11	Mouth of Taylor Creek Restoration - Feasibility		$34,000

Monitoring Projects

Key	Project Name
A	Big Spring Creek Stream & Wetland Restoration
B	Chinook Bend Levee Removal & Floodplain Restoration
C	Cold Creek Wetland Mitigation
D	Deer Creek Drainage Improvement & Stream Enhancements
E	Dockton Heights Shoreline Restoration
F	Gilead Off-Channel Habitat Reconnection

G	Lower Bear Creek Natural Area Habitat Enhancement
H	Lower Boise Creek Stream & Floodplain Restoration
I	Lower Newaukum Creek Stream & Floodplain Restoration
J	Lower Tolt River Levee Setback & Floodplain Restoration
K	McElhoe-Pearson Floodplain Restoration
L	North Winds Weir Intertidal Restoration
M	Patterson Creek Stream & Wetland Restoration
N	Pautzke Levee Removal & Floodplain Restoration
O	Petty Bank Stabilization
P	Piner Point Bulkhead Removal & Shoreline Restoration
Q	Rainbow Bend Levee Removal & Floodplain Restoration
R	Taylor Creek Stream & Wetland Restoration
S	Wallace Home Demolition & Floodplain Restoration
	TOTAL for Status Quo/Base
	GRAND TOTAL for Status Quo/Base

		$1,900,000	**$1,900,000**
		$3,800,000 for bi-ennium	

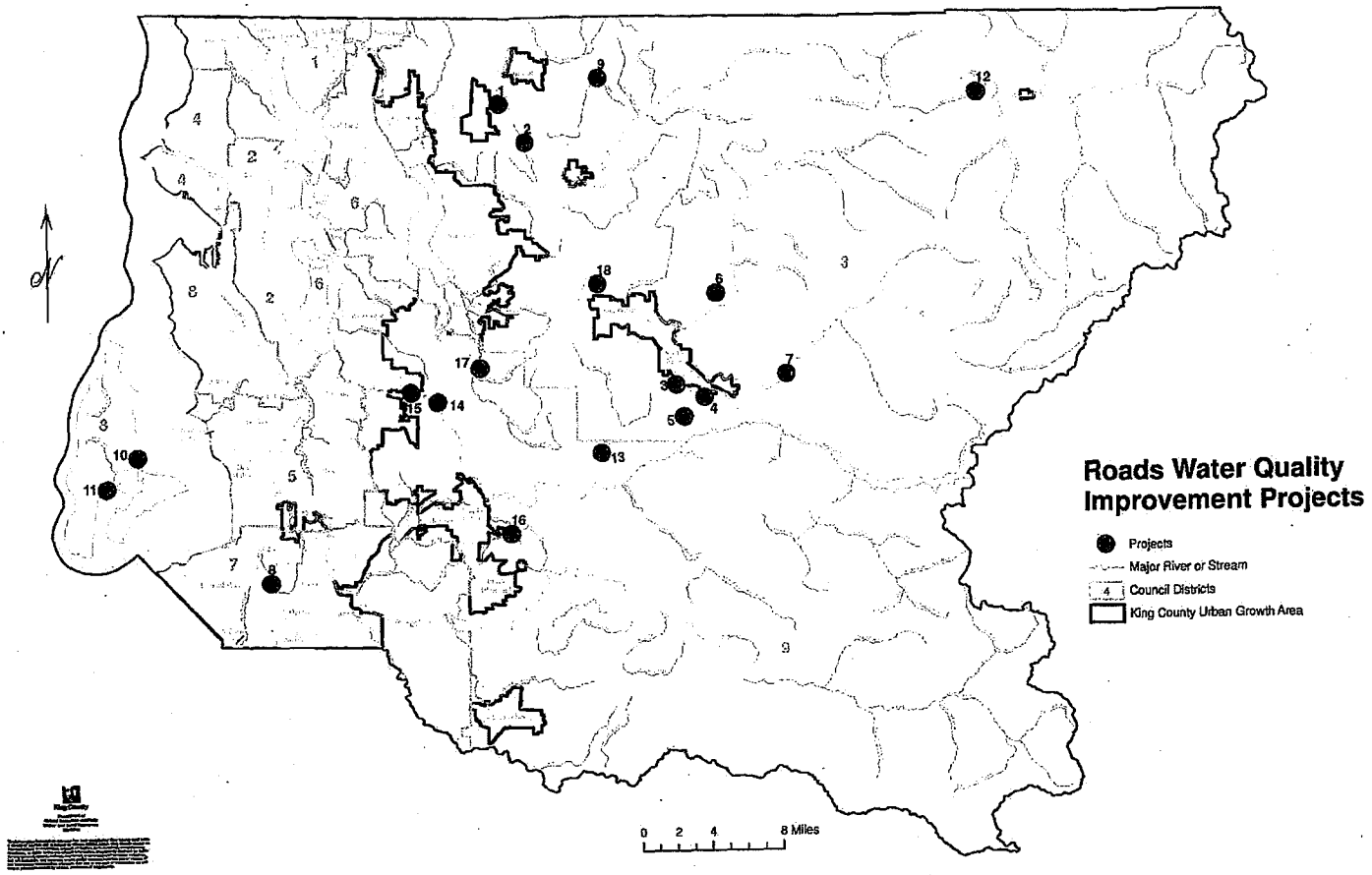
Projects For Capital Bond Funding = $3.8 Million

Additional Ecosystem Projects

Map Key	Project Name	2013 Funding Request	2014 Funding Request
	Restoration Management Reserve (Contingency)		$45,000
	Project Management Standards & Accountability		$45,000
	Reconnaissance & Scoping	$65,000	$65,000
	Small Habitat Restoration Program	$155,000	$150,000
	Hazard Removal & Protection	$150,000	$10,000
	Post-Project Remediation	$100,000	$100,000
2	Middle Boise Creek-Evans Restoration	$50,000	
4	Cove Creek Restoration Project/Vashon	$60,000	
J	Tolt River Floodplain Reconnection	$75,000	$50,000
5	Porter Levee Setback/Green River	$78,000	$100,000
	Community Watershed Improvements/Vashon	$10,000	$10,000
	Ecosystem Feasibility/R648A Watershed Projects	$190,000	$190,000
	Green River Riparian Revegetation	$100,000	$75,000
2	Middle Boise Reach-Scale Improvements		$50,000
	Auburn Narrows Road Removal/Restoration	$50,000	
	Maury Island Fill Removal		$100,000
G	Lower Bear Creek Restoration-Klapp	$50,000	$100,000
	South Fork Skykomish & Miller Feasibility/Restoration	$100,000	
1	Big Spring Creek Restoration	$100,000	

1	Big Spring Creek Revegetation		$48,000
I	Lower Newaukum Feasibility - Planning	$30,000	
3	Upper Carlson Levee Removal & Floodplain Restoration-Design/Construction	$279,000	$488,000
	Snoqualmie Fish Passage Improvement Design		$162,000
9	Aldair Levee Removal & Floodplain Restoration	$172,000	$107,000
6	Kanaskat Reach Floodplain Restoration - Planting	$10,000	$5,000
	Marine Shoreline Revegetation/Vashon	$76,000	

TOTAL for Capital Bond Funding	**$1,900,000**	**$1,900,000**
GRAND TOTAL for Capital Bond Funding	**$3,800,000 for biennium**	


Roads Water Quality Improvement Projects
Projects
Major River or Stream
4 Council Districts
King County Urban Growth Area
0 2 4 8 Miles

Appendix 10A

Proposed 2013-14 SWM-Funded Capital Program
Roads Water Quality Improvement Projects
See map for locations.

Map Key	Project Name (in priority order)	2013 SWM Funding	2014 SWM Funding
3	Clough Creek Ditch Capacity Improvement	$225,000	
1	Novelty Hill Road Bank Stabilization and Ditch Capacity Improvement/Bear Creek	$50,000	
8	Peasley Canyon Drainage Improvement/Green River		$150,000
18	Neal Road Drainage Ditch Capacity Improvement		$50,000
11	Vashon Highway Drainage Improvement	$200,000	
2	NE 80th Farm Ditches Capacity Improvement/Snoqualmie River	$30,000	
15	Jones Road Drainage Improvement/Cedar River		$150,000
4	Riverbend Ditch Capacity Improvement/South Fork Snoqualmie River	$30,000	
17	SE Issaquah Hobart Road at Nudist Camp Creek Drainage Improvement/Issaquah Creek		$30,000
5	Wilderness Rim Ditch Capacity Improvement/Snoqualmie River		$60,000
10	Dockton Road Drainage Improvement	$15,000	$500,000
9	Stossel Creek Road Drainage Improvement/Snoqualmie River	$20,000	
16	Ravensdale Black Diamond Drainage Installation/Cedar River	$15,000	
12	Money Creek Gravel Road Ditch Capacity Improvement/ Skykomish River		$15,000
6	North Fork Gravel Road Ditch Capacity Improvement/ Snoqualmie River		$15,000
7	Middle Fork Gravel Road Ditch Capacity Improvement/ Snoqualmie River		$600,000
13	Kerriston Road Drainage Capacity Improvement/Raging River		$300,000
14	Jones Road at approximately 20005 Bank Stabilization/Cedar River	$140,000	$560,000
	Countywide Annual High Pollution Generating Intersection Stormwater Retrofit Program on Various Water Bodies		
	TOTAL	**$725,000**	**$2,430,000**
	GRAND TOTAL	**$3,155,000**	