

Section 4—SWM Facilities and Maintenance

Section 4: SWM Facilities and Maintenance

Introduction

System operations and maintenance are integral components of a successful surface water management program. Roadway and non-roadway areas contribute runoff to the City's stormwater system and require BMPs to reduce the impacts of contaminated runoff and particulates to stormwater facilities and receiving waters.

Surface water and stormwater facilities require regular inspection, cleaning, and repair to ensure that they are functioning as intended in order to provide the required flow control, treatment, detention, and conveyance. An effective Operations and Maintenance program aims to protect public health and safety, maintain drainage system integrity and function, reduce infrastructure repair and life cycle costs, enhance water quality, and achieve regulatory compliance.

Under the City's Phase II Permit, the City of Woodinville is required to conduct and record operation and maintenance activities within specific timeframes, according to specific standards, including facility inventory/mapping, inspection, cleaning, maintenance, and repair. This Section outlines the City's existing operations and maintenance program activities, compares them to the minimum permit requirements, and evaluates regulatory compliance status. Where needed, options that the City can consider to achieve regulatory compliance are presented for consideration. The Section concludes with a discussion of management issues and provides suggestions for future compliance activities and SWM Program implementation.

Background

Prior to the incorporation of the City in 1993, the King County Surface Water Management Division managed surface water within the Woodinville area and provided facility maintenance. Upon incorporation, the City assumed the management of routine stormwater facilities through the adoption of its own Surface Water Utility. Since that time, the City has entered into interlocal agreements with King County for continued support. Today, through these annual agreements, King County continues to administer the various stormwater management fees and provides inspection and maintenance services as directed by the City. In the spring of 1999, the City began the development of an in-house stormwater management maintenance and operations program, which included the hiring of a maintenance supervisor. In January 2001, the City hired two maintenance workers and began purchasing equipment to develop the City's Stormwater Maintenance Program. Since that time, the City has been progressively assuming more of the City's routine maintenance functions, and continuing to reduce the role of King County.



Staffing and Organization

Since January of 2003, the City's Public Works maintenance staff has consisted of a supervisor, a lead worker, and a three-person crew, supported by seasonal staff during the summer. Collectively, the maintenance staff share the responsibility of maintaining the streets, stormwater infrastructure, publicly owned parking lots, repair of all fleet vehicles and equipment, and responding to citizen inquiries and complaints. The City's parks and public buildings are maintained by other crews.

Stormwater Facilities Map and Database

A comprehensive drainage system network map is an essential element of the City's Stormwater Management Program. Facility mapping gives the City an understanding of the stormwater system and provides the basis for scheduling maintenance activities and evaluating infrastructure needs.

As part of the Phase II Permit, the City is required to complete a municipal storm system map that addresses the following items:

- Location of municipal storm system outfalls and receiving waters and structural stormwater BMPs owned, operated, or maintained by the Permittee.
- For all storm sewer outfalls with a 24-inch nominal diameter or larger, map the tributary conveyances, associated drainage areas, and land use.
- Map all connections to the municipal separate storm sewer authorized by the City.
- Geographic areas served by the City's municipal separate storm sewer system that do not discharge stormwater to surface waters.
- Comply with Ecology's approved mapping standard, preferably in a GIS format.

As part of this study, the City's GIS database of drainage facility mapping was both expanded and updated, building upon the City's previously-established drainage network map. The base-mapping includes streets, parcel boundaries, contours, pipes, ditches, culverts, manholes/catch basins, drainage basin and watershed boundaries, as well as other features. A database was developed to accompany the GIS mapping that included parameters such as material type and size, pipe orientation, pipe size, pipe length, and pipe diameter.

Stormwater System Inventory

The City's surface water infrastructure includes catch basins, pipe networks with manholes, detention basins and stormwater tanks, roadside ditches and swales, treatment facilities, outfalls, and culverts. Mapping of the system has recently been updated; the current mapped inventory is summarized in Table 4-1 and displayed graphically in Figure 4-1.

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Table 4-1 Existing Inventory Summary		
Inventory Item	Quantity	Unit
Catch Basins/Manholes	3,260	Each
Outfalls/Major Culverts	1,958	Each
Roadside Ditches/Swales	37.6	Miles
Total Length of 12" Pipe	39.3	Miles
Total Length of 18" Pipe	5.7	Miles
Total Length of 24" Pipe	4.1	Miles
Total Length of Greater Than 24" Pipe	4.0	Miles
Total Length of Pipes	53.1	Miles
Stormwater Ponds/Tanks	20	Each
Streets	60	Miles
Vaults	12	Each

Facility inventory data as of February 16, 2010. Please note that the City may be able to use Low Impact Development 'green' techniques to manage runoff where site topography and geologic conditions are suitable.

The City's current drainage network base map and database complies with the Phase II Permit requirements and is a good base upon which to build an ongoing stormwater system map program. Mapping will continue to be updated and refined as new information is obtained, including outfall determinations, tributary areas and structural stormwater BMPs.

The City's existing stormwater GIS database was used in this study as the basis for developing city-wide hydraulics analysis. It was also used for determining pipe size, material type, flow direction, and system connectivity, as well as the basis for developing and graphically displaying the needed SWM capital projects. The stormwater GIS database was significantly updated during the city-wide hydraulic analysis, working in concert with the City's GIS staff. The City is committed to developing a complete and updated GIS-based mapping of its drainage systems and will continue to update the GIS database as new development and re-development occurs to allow for complete and accurate future hydraulic analysis.

Recommendation for Continued Development of Stormwater Facilities Map

The City's existing drainage network map will require updates as new development and redevelopment occurs. Staff, engineers and contractors working on new development and capital improvement projects should submit as-builts and other pertinent drainage

information, for making the base map complete and keeping the base drainage network database up-to-date. The City should schedule updates twice a year to the drainage base mapping to incorporate as-built data and any additional surveyed information collected by City staff.

Equipment

Equipment from the City's shared maintenance equipment pool that is used for surface water infrastructure maintenance includes:

- 5-yard dump truck
- F-450 flatbed truck
- Backhoe/trailer
- Mower
- Street sweeper
- Pick-up trucks

Cleaning of manholes, catch basins, and pipes requires the services of a vactor or jet rodder truck. The City currently contracts these services to outside vendors on an annual basis, including emergency response.



Vactor truck used to clean out stormwater conveyance system.

In forecasting maintenance equipment needs, the City will need to take into account the additional equipment needs associated with alternative pavement surfacing methods. If, for example, the City were to allow the use of porous pavement in public streets or parking lots, the additional need for vactor equipment or services would need to be determined.

Maintenance Facility

The City is currently using a vacated school building as their temporary maintenance facility, located just next to City Hall. All vehicles are parked in the former school parking lot, and equipment is stored in the upper level storage area. The site has been retrofitted with catch basin filter inserts and bio-swales to provide water quality treatment of stormwater. A SWPPP will be developed for this site and submitted to Ecology later this year in order to comply with the City's Phase II Permit.

Maintenance Activities

The maintenance staff performs most of the maintenance activities required to support the City's Operations and Maintenance Program. However, the City does contract out a few services such as annual public and private facility inspections, vactor services, and major repair work. King County performs the facility inspections and generates work orders for the

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public facilities that are sent to the City. The County also mails out maintenance correction lists for the private facilities that are maintained by private property owners and provides follow up education and inspection services.

The City's maintenance staff provides the following surface water maintenance activities:

- Street and drainage system cleaning
- Drainage conveyance system repair and construction
- Open channel and ditch maintenance
- Public retention/detention facility maintenance
- Emergency response and miscellaneous service programs

Each of these activities are described below. Please note that with alternative stormwater practices, comes the possibility of more complex maintenance activities and additional equipment needs for the City of Woodinville.

Street and Drainage System Cleaning

The purpose of the street cleaning program is to remove silt, sand, leaves, and miscellaneous debris from the road surfaces before it enters the public drainage system, which may reduce the capacity of the conveyance system and/or cause water pollution. Street sweeping is an effective method of pollution prevention that removes pollutants from the street system so they are not transported through the conveyance system to receiving waters where they can negatively impact water quality. In 2009 City crews logged 625 hours in street sweeping. In 2010, the City expects to log 700 hours of sweeping activity. Sweeping is performed by City staff on a seasonal schedule as follows:

- Tourist District and downtown core – once per week April through September
- Tourist District and downtown core – every other week October through March
- Major and minor arterials – every other week
- Residential streets – once every four months
- City wide leaf pick up – every day in October, November and December

The drainage system (manholes, catch basins, pipes, vaults) is cleaned with a vactor or jet rodder truck; currently, these services are contracted to an outside vendor. In 2009, the City cleaned 800 catch basins at a cost of \$30,000. In 2010, the City plans to clean two vaults and clean 810 catch basins and has budgeted \$60,000 for these activities. During cleaning activities the City frequently finds other problems such as brick and grout failures that need attention. This occurred approximately 12 times in 2009. In rare cases (2 in 2009) catch basins and pipes have been found fully clogged with debris. Based on statistics for 2009 and the first half of 2010, the City estimates an annual waste collection/disposal burden of 200 tons of material from catch basin cleaning activities.

Drainage Conveyance System Repair and Construction

City maintenance staff also performs minor construction and repair as needed, for existing catch basins, manholes, and pipes to ensure the proper function of the public storm and surface water system. Major repairs that cannot be performed with existing City equipment are contracted to outside vendors and/or King County. In general, a stormwater system will last between 50 and 100 years depending on the site conditions and the materials used in construction.

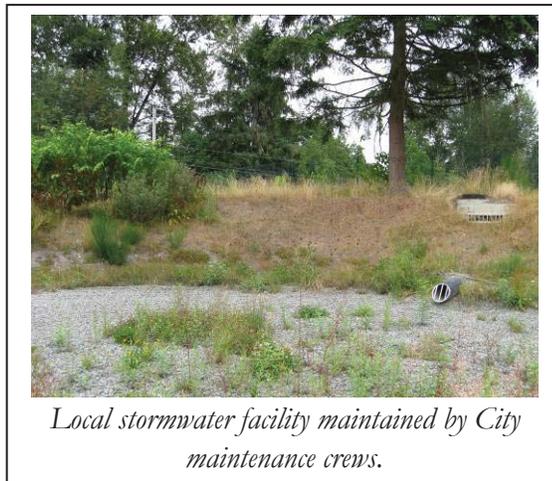
Open Channel and Ditch Maintenance

The City's open channel and ditch maintenance program is responsible for cleaning and stabilizing the public open channel and ditch systems, maintaining adequate system conveyance capacity, managing vegetation, minimizing channel/ditch erosion, improving water quality, and ensuring the proper operation of the public storm and surface water system.

Public Retention/Detention Facility Maintenance

The retention/detention facility maintenance program maintains public drainage facilities so they operate as designed and preserve a clean, landscaped appearance. Maintenance of retention/detention facilities includes:

- Removal of sediment from the bottom of ponds, storage vaults, inlets, and other structures
- Access road repair
- Vegetation control (mowing and major landscaping)
- Garbage and debris removal
- Fence & sign repair
- Overall aesthetic appearance



Local stormwater facility maintained by City maintenance crews.

Emergency Response and Miscellaneous Service Programs

The emergency response program provides quick response to emergency situations during storm events and other non-storm related emergencies. Typical emergency situations include:

- Flooding
- Landslides
- Fallen Trees
- Spills

As part of Phase II Permit requirements, the City is in the process of developing an IDDE program. The City has already taken steps to establish and post a spill reporting hotline on its website.

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Maintenance and engineering staff respond as a team to emergencies and citizen service requests as they occur. The City has created and routinely uses a Citizen Request for Service form to receive and follow up on public complaints. In addition, the City contracts with King County and private companies for additional support as needed.

Staff Training

Maintenance staff have attended training on the Regional Road Maintenance ESA Program Guidelines and associated BMPs, and additional training on water quality, BMPs, illicit discharges, and inspection/enforcement is being provided by the City's senior Public Works staff.



Recordkeeping

Although the City currently does not have a separate SWM tracking and recording system for its various maintenance and Phase II Permit activities, the City tracks their activities throughout the year and maintains records of all inspections performed by King County and other vendors. Starting in 2009, the City started tracking and recording stormwater maintenance activities using the Task Tracker application.

City's Compliance with Minimum Phase II Permit Requirements for Operations and Maintenance Programs

The City's existing operations and maintenance program addresses many of the requirements of the Permit and is close to meeting its Phase II Permit compliance goals. In some cases, small changes are necessary to update existing standards or activities. In a few areas, there are new activities that the City will need to perform to fully address the requirements meet the due dates required for compliance.

Minimum NPDES Permit Requirements

Table 4-2 (presented at the end of this Section) outlines the minimum maintenance performance measures required by the Phase II Permit and their associated due dates, as listed in Special Condition S.5.C.5 *Pollution Prevention and Operations and Maintenance for Municipal Operations*. Private facility inspection is also required by the Phase II Permit, as listed in Special Condition S.5.C.4 *Controlling Runoff from New Development, Redevelopment and Construction Sites*.

Inspection frequencies are stipulated in the Phase II Permit. In terms of required inspections, compliance is achieved by accomplishing at least 95% of all scheduled inspections specified in S.5.C.b-d, and at least 80% of all scheduled inspections specified in S.5.C.4.c.iii., during the five year term of the Phase II Permit.

The Phase II Permit further stipulates that the maintenance standards in Chapter 4, Volume V of the 2005 Ecology Manual must be applied. When an inspection identifies exceedance of a maintenance standard, the Phase II Permit stipulates the timelines within which maintenance must be performed. The Maintenance Standards from the 2005 Ecology Manual are included in Appendix F for reference.

Regulatory Compliance Assessment and Findings

A regulatory compliance assessment, conducted as part of this surface water comprehensive plan update, was performed to evaluate the City's current stormwater management program. The City's existing SWM Program activities were compared against the Phase II Permit requirements. Where gaps were identified, actions were proposed to meet regulatory compliance needs. Table 4-2 (located at the end of this Section) presents the findings of this regulatory compliance assessment and presents actions, where needed, for the City to achieve regulatory compliance.

In summary, the findings from the assessment indicate that the City needs to continue its existing activities and to take the following additional steps to fully comply with Phase II Permit requirements:

- Adopt either the 2005 Ecology Manual or the 2009 KCSWDM and the associated maintenance standards.
- Develop and implement a nutrient and integrated pest management plan.
- Develop and implement a facilities maintenance plan.
- Develop and implement an ongoing staff training program and maintain records of staff trainings.
- Develop and implement a stormwater pollution prevention plan for City maintenance and materials storage facilities.
- Implement a private facility maintenance enforcement process.

Conclusions

During the Operations and Maintenance Program evaluation of the City's Stormwater Maintenance Program, four issues arose that relate to SWM Program implementation:

- Compliance with ESA.
- The need for a new, permanent maintenance facility.
- The development and attainment of new maintenance standards.
- Potential impacts of annexation on the City's Operations and Maintenance Program.

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Each of these issues and their relationship to the City's emerging SWM Program is documented below.

ESA Compliance

In April of 2002, the City adopted the Regional Road Maintenance ESA guidelines, which follow a recommended set of BMPs for conducting road maintenance activities. Following these guidelines protects the City from assuming liability under Section 7 of the ESA 4(d) rule. An added benefit of following these guidelines is that it also helps the City meet its requirements under the Phase II Permit for reducing stormwater impacts of roadway maintenance.

Permanent Maintenance Facility

The City is evaluating locations and funding options to construct a permanent maintenance facility. A permanent facility would allow the City to purchase additional equipment, take over many of the maintenance tasks that are currently contracted out to others and be more responsive. If the City elects to purchase a vector truck in the future, alternative sites for decant disposal would need to be evaluated. Alternatively, vector services can continue to be provided on contract by other jurisdictions or by emergency response providers, as is the City's current practice.

Maintenance Standards

The maintenance standards in the 2005 Ecology Manual as shown in Appendix F are the minimum standards required by the Phase II Permit and focus on stormwater treatment and flow control facilities. The KCSWDM includes the same maintenance standards as the Ecology 2005 Manual; however, it also includes the following six additional maintenance standards that go beyond the Phase II Permit requirements:

- Conveyance pipes and ditches
- Fencing
- Gate/bollards/access barriers
- Grounds (landscaping)
- Access roads
- Stormwater wetlands

While these additional maintenance standards could be useful in guiding maintenance activities that the City already performs, at issue is whether or not the City wants to take on a greater regulatory commitment than is required by the Phase II Permit.

Potential Impacts of Annexation on the City’s Operation and Maintenance Program

The City’s UGA extends from the northern City limits into Snohomish County along the SR-522 corridor and covers an area of approximately 0.5 square miles. In December 2002, Snohomish County prepared The Little Bear Creek Drainage Needs Report which included the City’s UGA as part of the SR-522 study area. The study area includes a mixture of residential, commercial and industrial development and is traversed by the Burlington Northern Santa Fe (BNSF) Railroad as well as SR-522. Stormwater runoff in the SR-522 study area is collected mostly in open channels and ditches. The study area is also served by drainage infrastructure associated with SR-522, the BNSF Railroad and industrial development. The report identified four CIP projects to correct erosion and flooding within the City’s UGA. According to a status report issued in May of 2007 these four projects have been addressed since the initial 2002 report was issued. However, three additional projects within in or adjacent to the City’s UGA have been identified since the initial 2002 report was issued. The culvert replacement project at 61st Avenue SE and 231st Street SE (LB-LB-12) was completed in 2009. The two remaining maintenance projects involved clearing culvert obstructions and regrading/dredging ditches to improve conveyance at 61st Avenue SE and 231st Street SE (LB-LB-31) and 58th Avenue SE and 238th Street SE (LB-LB-32). Status of the remaining two maintenance projects was not available from the County at this time.

Available data from Snohomish County appears to indicate that most existing problems with erosion and flooding have been addressed and the development of future problems minimized by the adoption and application of updated drainage standards. No additional CIP for the City’s UGA is anticipated at this time.



Recommendations

Overall, the City has taken many of the steps necessary to comprehensively address the maintenance requirements of its municipal stormwater management program and those of the Phase II Permit. However, in order to fully comply with Phase II Permit requirements, there are a number of areas where the City should make improvements to its existing SWM Maintenance Program, as presented in Table 4-2. These maintenance activities are listed below with suggestions for future compliance.

Maintenance Standards

Update and perform maintenance as needed in accordance with Phase II Permit timelines.

Annual Inspection and Maintenance of Facilities

Perform maintenance in accordance with updated standards and Phase II Permit timelines. Achieve at least 95% of scheduled inspections by the end of the Phase II Permit term.

Spot Checks of Facilities after Large Storm Events

Continue to inspect problem catch basins and stormwater facilities; maintain and repair as needed in accordance with updated standards and Phase II Permit timelines.

Catch Basin Inspection

Complete inspections of entire inventory and clean/repair as needed in accordance with updated standards and Phase II Permit timelines.

Roadway Maintenance

Continue to follow the Regional Road Maintenance ESA Program Guidelines to reduce stormwater impacts from road maintenance activities.

Non-Roadway Maintenance

Develop and implement a nutrient and integrated pest management plan as well as a facilities maintenance plan to reduce pollutant discharge from public lands, as required by the Phase II Permit.

Staff Training

Continue to send staff to stormwater maintenance training sessions such as the Regional Road Maintenance ESA Program training. Continue to conduct ongoing training at staff meetings to address changes in procedures or requirements. Maintain records of staff trainings.

SWPPP for Maintenance Yard

Develop and implement a SWPPP for the City's maintenance and materials storage facilities.

Private Facility Maintenance Enforcement

Continue annual inspections and correction notices. Follow up with enforcement actions to ensure maintenance is conducted as needed.

Maintain Records

Continue to maintain records of maintenance activities. Include records of enforcement actions for private facility maintenance. Record results in Annual report to Ecology.

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Table 4-2 Minimum Maintenance Permit Requirements & Compliance Assessment					
Permit Reference	Minimum Performance Measure	Due Date	Compliance Assessment	Action Required	
				Yes	No
S5.C.5.a	Establish Maintenance Standards consistent with Chapter 4, Volume V of 2005 Ecology Manual	2/16/2010	WMC 14.09 adopts the King County Surface Water Design Manual, which includes maintenance standards. The City is currently operating under the 2005 KCSWDM and needs to update its maintenance standards for consistency with 2005 Ecology Manual.	✓	To meet the minimum Permit requirements, the City could adopt Chapter 4, Volume V of the 2005 Ecology Manual. Alternatively, the City could adopt the 2009 KCSWDM, which includes additional maintenance standards that go beyond the minimum requirements of the Permit. See Appendix F for the Maintenance Standards in the Ecology 2005 Manual.
S5.C.5.a.ii	When an inspection identifies an exceedence of the maintenance standard, maintenance shall be performed within: <ul style="list-style-type: none"> • 1 year for typical maintenance of facilities • 6 months for catch basins • 2 years for maintenance that requires capital construction of <\$25K 	Goes into effect following adoption of maintenance standards in 2010	The City's existing program uses the maintenance standards from the 2005 KCSWDM to guide its maintenance activities. The City will need to comply with this requirement using the updated maintenance standards starting in 2010.	✓	Adopt updated maintenance standards from 2005 Ecology Manual or the 2009 KCSWDM.

Table 4-2 Minimum Maintenance Permit Requirements & Compliance Assessment					
Permit Reference	Minimum Performance Measure	Due Date	Compliance Assessment	Action Required	
				Yes	No
S5.C.5.b	Annual inspections of municipal stormwater treatment and flow control facilities and maintenance in accordance with adopted maintenance standards.	Annually, starting 2/15/10	The City is already conducting annual inspections of public stormwater facilities. The City will need to maintain its facilities in accordance with updated maintenance standards. Inspection frequencies may be reduced based on maintenance records of double the proposed inspection frequency, or written statements may be substituted documenting a specific less frequent inspection schedule based on actual inspection and maintenance experience and certified in accordance with general condition G19 of the Phase II Permit.		✓
S5.C.5.c	Spot checks of potentially damaged treatment and flow control facilities after 10-year storm events. If warranted, inspect all facilities that may be affected. Conduct repairs or take maintenance action in accordance with adopted maintenance standards.	After 2/15/10	The City's existing program conducts spot checks of known problem areas before and after major storm events.		✓

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Table 4-2
Minimum Maintenance Permit Requirements & Compliance Assessment

Permit Reference	Minimum Performance Measure	Due Date	Compliance Assessment	Action Required		Action Required
				Yes	No	
S5.C.5.d	Inspect all municipal catch basins and inlets at least once before the end of the permit term. Clean in accordance with adopted maintenance standards. Dispose of decant water in accordance with Appendix 6 of the Phase II Permit.	Permit End (180 days prior to permit expiration or 8/19/11)	The City's existing program includes catch basin inspection and cleaning. The City has created a rotating schedule for inspection and cleaning to ensure that all catch basins are inspected at least once every 5 years and cleaned in accordance with the updated maintenance standard. The City's contractor is disposing of decant water at a decant facility which complies with Phase II Permit requirements.		✓	
S5.C.5.e	Compliance with inspection requirements of S.C.5.b-d.	Permit End (180 days prior to permit expiration or 8/19/11)	The City's existing program is conducting inspections and will need to demonstrate an annual rate of achievement of at least 95% of scheduled inspections in order to meet this requirement.		✓	

Table 4-2 Minimum Maintenance Permit Requirements & Compliance Assessment					
Permit Reference	Minimum Performance Measure	Due Date	Compliance Assessment	Action Required	
				Yes	No
S.5.C.5.f	<p>Establish and implement practices to reduce stormwater impacts associated with runoff from municipal streets, parking lots and roads and road maintenance activities. The following activities must be addressed:</p> <ul style="list-style-type: none"> • Pipe/culvert cleaning • Ditches/roadside vegetation • Street cleaning • Road repair/utility installation • Snow/ice control • Pavement striping • Dust control 	2/15/2010	In April of 2002, the City adopted the Regional Road Maintenance ESA Program Guidelines, which include BMPs for conducting road maintenance activities. Following these guidelines will keep the City in compliance with this requirement, as well as protect the City from take liability under the ESA 4(d) rule.		✓

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Table 4-2 Minimum Maintenance Permit Requirements & Compliance Assessment					
Permit Reference	Minimum Performance Measure	Due Date	Compliance Assessment	Action Required	
				Yes	No
S.5.C.5.g	<p>Establish and implement policies and procedures to reduce pollutants in discharges from public lands including parks, open space, road ROW, maintenance yards and stormwater facilities. At a minimum, the policies and procedures shall address:</p> <ul style="list-style-type: none"> • Nutrient and integrated pest management plans • Sediment and erosion control • Landscape maintenance and vegetation disposal • Trash management • Building exterior cleaning and maintenance 	2/15/2010	The City will need to comply with this requirement starting in 2010.	✓	The City should develop and implement a nutrient and integrated pest management plan as well as a facilities maintenance plan to address compliance with this requirement.

Table 4-2 Minimum Maintenance Permit Requirements & Compliance Assessment					
Permit Reference	Minimum Performance Measure	Due Date	Compliance Assessment	Action Required	
				Yes	No
S.5.C.5.h	<p>Develop and implement an on-going training program for construction, operations and maintenance personnel on:</p> <ul style="list-style-type: none"> • Phase II Permit requirements • O&M standards • Inspection procedures • BMP selection • Reducing water quality impacts in daily activities • Reporting water quality concerns and illicit discharges. • Provide follow up training to address changes in procedures or requirements. • Maintain records of training. 	2/15/2010	The City will need to comply with this requirement starting in 2010.	✓	The City should continue to send staff to stormwater related O&M trainings annually, conduct ongoing training for O&M staff during staff meetings, and maintain records of training. The Regional Road Maintenance ESA Program trainings would satisfy the training needs for the road maintenance activities
S.5.C.5.i	Develop and implement a SWPPP for all municipal heavy equipment maintenance or storage yard and material storage facilities. Implement nonstructural BMPs immediately following SWPPP development.	2/15/2010	The City will need to comply with this requirement starting in 2010.	✓	The City should develop and implement a SWPPP for its maintenance and materials storage facilities.

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Table 4-2 Minimum Maintenance Permit Requirements & Compliance Assessment						
Permit Reference	Minimum Performance Measure	Due Date	Compliance Assessment	Action Required		Action Required
				Yes	No	
S.5.C.5.j	Maintain records of inspections, maintenance and repair activities in accordance with Special Condition S9 Reporting Requirements.	2/15/2010	The City's existing program is maintaining records of maintenance activities and will continue to do so.	✓		
S.5.C.4.c.iii	Annual inspections of private stormwater treatment and flow control facilities and enforcement of maintenance in accordance with adopted maintenance standards.	2/16/2010	WMC 14.09 requires maintenance of private drainage facilities. The City's existing program includes private facility inspections conducted under contract by King County. Notices of deficiencies are sent to property owners; however, there is currently no follow up activity to ensure maintenance is conducted.	✓		The City should implement a maintenance enforcement activity to ensure that private facility maintenance is occurring as required by code.
S.5.C.4.e	Maintain records of inspections and enforcement actions related to private facility maintenance.	2/16/2010	The City's existing program is maintaining records of private facility maintenance inspections and correction notices.		✓	

