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6.0 MULTNOMAH COUNTY

6.1 INTRODUCTION AND OVERVIEW

This section (6.0) was prepared to specifically address Multnomah County's requirement under the City of Gresham NPDES Phase I permit to submit a permit renewal application package. The section provides a summary of the background related to the MS4 NPDES permits, a description of the County's permit area, and a summary of where in this document the specific permit renewal submittal requirements have been met for Multnomah County.

Permit Background

In the early 1990s, the Federal Clean Water Act required municipalities with populations greater than 100,000 to apply for and obtain a National Pollutant Discharge Elimination System (NPDES) permit for their stormwater discharges. In Oregon, this program was delegated to the Oregon Department of Environmental Quality (DEQ). As a result, DEQ directed six Oregon jurisdictions and associated co-permittees to apply for and obtain a municipal NPDES stormwater permit. The City of Portland and the City of Gresham are two of the six jurisdictions required to obtain an NPDES permit, and Multnomah County is a co-permittee on each of these City's permits.

For Part 1 of the original MS4 NPDES permit application (1993), the City of Gresham and its co-permittees performed a review of their stormwater systems including mapping, outfall inventories, monitoring of stormwater quality, etc. The second part of the application (1995) required the development of a Stormwater Management Plan (SWMP), which included the requirement to develop specific categories of Best Management Practices (BMPs) to address specific sources of pollutants. However, the requirements did not specify the number or type of BMPs that should be implemented. Instead, the requirement states that BMPs should be implemented to reduce the discharge of pollutants to the "maximum extent practicable." The City of Gresham and its co-permittees received their NPDES stormwater permit from DEQ in 1995.

The permit period for the 1995 NPDES permit was five years during which time jurisdictions were responsible for implementation of their SWMPs. The permit required a renewal at the end of the five-year permit period (i.e., 2000). The renewal application was fairly simple and required jurisdictions to provide updated copies of their SWMPs and to describe the rationale for any changes to their programs. In March 2004, the new NPDES permits were issued to the six larger Oregon jurisdictions, including the City of Gresham and its co-permittees.

The 2004 permit included some new requirements. The most significant change to the permit was that for jurisdictions that discharge to water bodies where TMDLs have been established, the permit required each jurisdiction to quantify the effectiveness of their SWMPs, set pollutant load reduction benchmarks for performance of SWMPs, check in on progress towards meeting those benchmarks, and apply an adaptive management process until benchmarks are achieved. The 2004 permits also included requirements to conduct a SWMP evaluation, more specific monitoring requirements, additional annual reporting requirements, and requirements to prepare

a revised/updated SWMP. Within the permit was also a requirement to submit a permit renewal application package 180 days prior to permit expiration.

Description of the County's Permit Area

Multnomah County's activities and associated BMP implementation with the Gresham Permit area have been significantly reduced over the years. In 1995, the County transferred many of its roads to the City of Gresham, including a majority of the drainage system and outfalls. Effective January 1, 2006, the remaining County roads within the City of Gresham were transferred to the City pursuant to Senate Bill 1096. Maintenance of the transferred roads is currently performed by the County; however, the roads are under the jurisdiction of, and they are the responsibility of Gresham. The road maintenance is conducted by the County pursuant to an Intergovernmental Agreement (IGA).

Within close proximity to the Gresham NPDES permit area, the County also has jurisdiction over roadways within the cities of Troutdale and Wood Village. These cities received MS4 NPDES Phase II permits for their stormwater discharges in 2007. As the County has been implementing, and will continue to implement their stormwater BMPs consistently among these jurisdictions, they met with DEQ to discuss whether these areas could all be brought together and covered under one permit (i.e., the Gresham MS4 NPDES Phase I permit). This was requested by Multnomah County to facilitate a comprehensive stormwater management, reporting and compliance program for these County areas. In other words, bringing these roads under the coverage of the Gresham Phase I permit would eliminate the need for coverage under two additional permits (Troutdale and Wood Village). DEQ agreed to the approach of including the County's Troutdale and Wood Village roadways under the Gresham Phase I NPDES permit as part of this permit renewal process.

In terms of the anticipated re-issuance of the Gresham permit in 2009, the permit area for the County will now include approximately 11 miles of arterial roads within the City of Fairview, 13 miles of roadway within Troutdale, and 4 miles of roadway in Wood Village. These roads are owned, operated and maintained by the County. The County also remains responsible for zoning and planning in the unincorporated residential area known as Interlachen.

Multnomah County Permit Renewal Submittal Document Organization

The following Table 6-1 provides a summary of permit renewal submittal requirements and additional DEQ requests associated with the permit renewal submittal along with the relevant section of this document where the requirement or request has been fulfilled.

Table 6-1
Submittal Requirement Locations in the Document

| Permit Renewal Submittal Requirements: | Document Section Where the Permit Renewal Submittal Requirement is Met: |
|---|--|
| i. Rationale for SWMP changes. | Appendix A – Section 5.0 |
| ii. Pollutant loads estimates. | Section 6.4 |
| iii. Changes to land use areas. | Section 6.4 |
| iv. Stormwater management focus. | Section 6.3 |

| Permit Renewal Submittal Requirements: | Document Section Where the Permit Renewal Submittal Requirement is Met: |
|---|--|
| v. Non-stormwater discharges evaluation. | Section 6.5 |
| vi. Evaluation of program effectiveness (i.e., trends analysis). | Section 2.0 |
| vii. Fiscal evaluation. | Section 6.6 |
| viii. Benchmark development. | Appendix A – Section 3.0 |
| ix. 303(d) evaluation. | Section 1.0 |
| x. Maps. | Section 7.0 |
| xi. Public involvement summary. | Section 6.7 |
| xii. Source identification. | Section 6.8 |
| Additional Informational Requests from Greg Geist's Letter Dated 1/08: | Document Section Where Additionally Requested Information is Provided |
| MEP Determination | Section 6.2 |
| Update to the 2005 Qualitative Assessment of the Change in Pollutant Loads | Section 6.9 |

6.2 MAXIMUM EXTENT PRACTICABLE DETERMINATION

MS4 permittees must implement a program to reduce the discharge of pollutants to the maximum extent practicable (MEP), including management practices, control techniques and systems, and design and engineering methods. The programs vary by municipality and should be developed in a flexible manner in consideration of site-specific conditions to optimize reductions in stormwater pollutants on a location-by-location basis. The programs include best management practices (BMPs), monitoring, and other available and reasonable controls, which are then documented as requirements in the permit and Stormwater Management Plan (SWMP).

MS4 permittees initially developed and established their stormwater programs that met the MEP standard as part of their original 1993 permit application. That original program has become the foundation for each permittee's current program – a foundation that has been continuously evaluated and improved through adaptive management since permit issuance in 1995. As a result, the program described in the County's proposed 2008 SWMP is the result of the cumulative effect of implementing, continuously evaluating, and making corresponding changes (i.e., adaptive management) to a variety of technically and economically feasible BMPs that ensure that the most appropriate controls are implemented in the most effective manner based on site-specific conditions. This process has occurred with on-going oversight and approval from the Oregon Department of Environmental Quality. As such, the 2008 SWMP reflects the County's best professional judgment regarding resource allocations and optimization to reduce or eliminate the discharge of stormwater pollutants from the MS4 system based upon site-specific conditions and other factors as described further below.

Over time, the County has used the following sequential processes to ensure its SWMP meets the MEP standard:

- I. The original development of the SWMP submitted with the 1993 permit application.
- II. The continual adaptive management process reported in annual reports.
- III. The SWMP review conducted for the 2006 Interim Evaluation Report
- IV. The SWMP review conducted for this 2008 permit renewal application.

These processes are described below.

6.2.1 Permit Application (1993)

To comply with Clean Water Act requirements, Multnomah County as a co-applicant with the City of Gresham and two other co-applicants (the City of Fairview and the Oregon Department of Transportation) were required to submit an application for an NPDES permit to cover their MS4 discharges. The application was submitted in two parts. The first part of the application required the compilation of information related to the stormwater system within the permit area including outfall investigation results, maps, monitoring data, and legal authority. The second part of the application required the development of a SWMP. The SWMP was required to include best management practices (BMPs) to address several categories of stormwater management issues. Collectively, the BMPs were developed to reduce pollutants to the MEP. As a result, the City of Gresham and its co-applicants undertook an extensive process to develop their SWMPs to address the MEP standard. Gresham and its co-applicants participated in multiple workshops to define the stormwater problems and develop strategies to address them. Pollutants of concern were identified based on data collected locally by the City of Portland and based on national literature.

A public process was held to elicit the public's concerns, understanding, priorities and willingness to support a stormwater management program. The process included stormwater consultants, watershed committee representatives, developers, and a neighborhood association representative. A comprehensive list of one hundred and twenty candidate BMPs were identified that were expected to beneficially affect stormwater quality, regardless of the technical, economic or political feasibility of implementation. It would have been fiscally and in some cases physically infeasible to implement all 120 BMPs. Therefore, a screening process was conducted to rank and select the highest priority BMPs. Selection criteria were developed for the screening process in order to prioritize the BMPs based upon available and future projected resources to support their implementation. The selection criteria included the following:

- a. Lifecycle costs
- b. Meets a regulatory requirement
- c. Addresses a pollutant of concern
- d. Ability to implement (included public acceptability and willingness to pay)
- e. Reliability/sustainability

Based upon scoring criteria applied by committee representatives, the BMPs were narrowed to an overall list of 45. Using professional feedback, more detailed BMP fact sheets on each of the 45 BMPs were prepared, and another complete review and screening by the City and its co-applicants was conducted. The BMPs were again narrowed to an agreed list of 35 that were considered to represent the permittee's standard of reducing pollutants to the MEP based on the screening criteria used to evaluate the BMPs and based on available and future projected resources.

It should be noted that Multnomah County represents only approximately 367 acres or 2% of the MS4 NPDES permitted area covered by the City of Gresham NPDES permit. With the

exception of Rivergrove and Johnson Cities (co-permittees on the Clackamas County permit), Multnomah County covers less MS4 NPDES permitted area than any other Phase 1 co-permittee in Oregon. In addition to the fact that the County doesn't have the jurisdiction to implement some of the selected BMPs (e.g., industrial controls and development standards in the urban areas), some of the selected BMPs could also be more efficiently and effectively implemented on a permit-wide basis by the City of Gresham. Examples of these BMPs included public education programs and stormwater quality monitoring programs. From a jurisdictional or practical standpoint, it didn't make sense for the County to take on some of these BMPs themselves in the County portions of the permitted area. However, the County has helped to fund some of these BMPs that are implemented by Gresham (e.g., public education and monitoring). As a result, the County's original 1993 SWMP (required under the 1995 – 2000 permit) included 24 BMPs that were most heavily focused on operations and maintenance practices implemented in right-of-way locations.

6.2.2 Adaptive Management

As described above, the County's overall program consists of, and is implemented through BMPs. While specific BMPs are required as part of the MS4 NPDES permit, the level of BMP implementation is not specified. Therefore, throughout the terms of the County's permit(s), meetings were held (with BMP task leaders) to determine how to allocate resources among BMPs in a way that is most cost effective with respect to pollution reduction. Estimating the cost effectiveness of each of the BMPs is a subjective task based on best professional judgment given the state of the art regarding BMP effectiveness. For example, there is typically consensus regarding the need for and value of street sweeping and catch basin cleaning programs. However, quantifying the effectiveness of those programs with respect to pollutant load reductions is very difficult, if not impossible to accomplish. During the initial permit term (1995 – 2000), meetings were held quarterly with staff responsible for implementing BMPs. Input was obtained from staff at these meetings in terms of what seemed to be most effective in the field and what procedures required refinement. The purpose of these meetings was to optimize resources. As a result, refinements were made to the BMPs over time. One of the key refinements included the establishment of field data tracking sheets and a sophisticated and detailed database tracking system. The database is expected help the County to more effectively evaluate the effectiveness of their program over time.

In addition to the internal evaluation meetings, NPDES implementation reports have been prepared and submitted to DEQ annually. These Annual Reports have included the following:

- a. The status of implementing the components of the SWMP
- b. Proposed changes to the SWMP components and/or newly proposed BMPs.

Examples of SWMP changes/improvements that were provided in the annual reports to present include the following:

- Revised landscape specifications for R.O.W.s to require the use of "low impact" species.
- Implemented a procedure to collect, wash, and re-use rock materials applied for de-icing purposes.

- Assigned a County representative to the regional coalition for Clean Rivers and Streams.
- Attended Columbia Slough Watershed Council and Fairview Creek committee meetings.
- Increased the frequency of maintenance of the storm drainage system.
- Incorporated “Green Street” standards into the functional classification overlay for new County road projects.
- Acquired a new street sweeper and increased the frequency of street sweeping.
- Purchased mini-booms and absorbent materials for quick response to minor spills of oil or fluid.
- Implemented a “hot-line” for all areas for reporting of dumping activities.
- The County Board approved of the initiation of an “adopt a road” program.
- Revised storm drain stencils to be bi-lingual.
- Adjusted the timing of ditch cleaning activities to minimize sediment discharges.
- Acquired a “Quick Response” truck equipped with spill response and containment materials.
- Incorporated ODOT erosion control measures into all bid documents.
- Implemented more stringent erosion control measures for road construction projects utilizing ODOT’s 00280 contract specifications.

This ongoing adaptive management process has been conducted since 1995 to ensure that the County’s SWMP continues to meet the MEP standard.

6.2.3 Interim Evaluation Report (2006)

The first permit term included the five-year period from 1995 to 2000. There was a delay in DEQ’s issuance of new permits (scheduled for 2001) due to third-party group concerns. DEQ convened a working group to receive input on those concerns and issued a new permit in 2004. Third party groups then requested that DEQ reconsider the permit. DEQ did reconsider the permit and as a result, revisions to the 2004 permit were issued in 2005. However, the permit revisions did not change the term or expiration date of the permit. The new permit included requirements associated with conducting a review/evaluation of the SWMP and preparing a revised SWMP to be submitted to DEQ in an Interim Evaluation Report (IER) due May 1, 2006. The specific permit requirements related to conducting a SWMP evaluation are as follows:

Schedule B, 3.b.(1):

The Interim Evaluation Report must be submitted to the Department by May 1, 2006.

The Report must contain the following:

(a) An evaluation of, and proposed revisions to, the previously submitted SWMP which addresses the requirements of Schedule D, 8.b.(2) (see below) and Schedule B, 1.e.(2)(monitoring), including the rationale supporting the proposed revisions.

Schedule D, 8.b.(2): Evaluation of SWMP

The permittee must review Schedule D, 8.b.(3) and, for each component, determine whether implementation of the components in the SWMP as submitted is sufficient to reduce the discharge of pollutants to the maximum extent practicable. The permittee must submit to the Department details on how each of the components are, or will be, addressed and the rationale

for the continued existing or revised level of implementation. (If certain components are not included in the plan, then the rationale for exclusion must also be submitted.)

During this evaluation, it may be found that the SWMP will need improvement and/or modification to ensure continued reduction of pollutants to the maximum extent practicable. The results of the evaluation, including any proposed revisions to the SWMP, must be reported to the Department as described in Schedule B, 3.b.(1).

As a result of the requirement to produce an Interim Evaluation Report and conduct an evaluation of the SWMP, Multnomah County hired a consultant with a national reputation for expertise in stormwater to assist with this process. The process included an internal audit of the effectiveness of plan elements (based on best professional judgment regarding the state of the practice), financial allocations, and regulatory requirements. An updated draft plan was prepared, and the public process in the development of the updated plan included the following:

- Copies of the proposed SWMP were made available to interested parties upon request, and the proposed plan was made available on the County's website.
- The public was provided with a minimum of 30 days to provide comments on the proposed SWMP prior to submission to the DEQ.
- A summary of public participation materials and public comments received during the development of the revised SWMP was included with the IER.

As a result of this process, changes were made to enhance the SWMP to ensure that it would continue to meet the MEP standard. The changes were mostly focused on organization of the SWMP document itself to better facilitate the readers understanding, and internal staff understanding of BMP tasks and responsibilities. Examples of revisions to the SWMP that occurred as a result of the IER SWMP evaluation and public process included the following:

- Prepared a responsibility matrix to show where a jurisdiction (such as Gresham or Portland) is conducting activities to meet a permit requirement on behalf of the County.
- Added a section to describe the application area for each BMP.
- Adjusted the titles of the BMPs to better reflect the activities conducted.
- Consolidated some of the BMPs to minimize repetitive and duplicative descriptions of activities.
- Reorganized BMPs to better represent the general permit categories.
- Added a separate BMP to focus on the identification and investigation of sanitary discharges to the storm system.

6.2.4 Permit Renewal Submittal (2008)

The County's 2008 permit renewal submittal package, as a co-permittee on the City of Gresham's permit, is due 180 days prior (August 1, 2008) to the expiration of the County's current permit (January 31, 2009). Prior to this renewal submittal, the County worked with DEQ and other Phase I NPDES municipalities to develop a template for an ongoing process to use in making an MEP determination. The process that was recommended included evaluation of the SWMPs based on the following three factors:

- **Program Effectiveness:** Describe how your program continues to address pollutants of concern in MS4 discharges to local receiving waters.
- **Local Applicability:** Describe how your program continues to be appropriate for local conditions (climate, geology, hydrology, MS4 size, etc.).
- **Program Resources:** Describe how you continue to allocate program resources appropriately (e.g., current ability to finance the program, capacity to perform operation and maintenance, tax base, public acceptability).

Information regarding these three factors with respect to Multnomah County's SWMP is provided as follows:

Program Effectiveness:

Information that the County reviews in terms of program effectiveness includes data compiled for annual reports, regional information on BMP effectiveness provided through local conferences and/or the Oregon Association of Clean Water Agencies, and monitoring results from the City of Gresham's stormwater monitoring program of which the County is a participant through funding. Given that it has only been two years since the SWMP was thoroughly re-evaluated and revised for the IER, new information regarding program effectiveness has not been identified that would result in any additional programmatic revisions to the County's SWMP.

Local Applicability:

The County has a very limited permit area, which predominantly consists of County roads located in the urban areas of Fairview, Troutdale, and Wood Village and a small unincorporated residential area called Interlachen. The County continually evaluates and focuses on the implementation of BMPs that address these specific land uses. As with the program effectiveness factor, given that it has only been two years since the SWMP was thoroughly re-evaluated and revised, new information regarding local applicability has not been identified that would result in any additional programmatic revisions to the County's SWMP.

Program Resources:

The County implements their stormwater management program primarily through the transportation division; land use planning in the Interlachen area makes up a small portion of the program. In terms of funding the program, the County does not have a stormwater utility or storm system development charges (i.e., SDCs) therefore limiting the amount of funding available. The County's transportation division is funded through vehicle registration fees and a portion of the gas tax. This funding for the transportation division is distributed among bridges, road maintenance, transportation planning, road engineering, traffic engineering and R.O.W. permits. When the annual available funding amount is determined, the Board of County Commissioners holds hearings to identify priorities for allocating the funding within the division. The hearings are conducted every year and include citizen discussion. The County implements their stormwater program based on funding priorities and determinations from these hearings. As a result of these hearings, funding has been allocated for the stormwater program to implement

best management practices that are the most efficient and reflective of County services in the NPDES permit area. This has continued to result in the greatest emphasis being placed on road and bridge operations and maintenance BMPs.

While significant changes were not made to the 2006 SWMP for this permit renewal process, significant work was conducted to enhance the document. Details regarding these changes are provided in Section 5.0 of the SWMP that is provided as Appendix A to this document.

Based on the very limited portion of the Gresham permit area that is represented by the County, the public input with respect to developing priorities for funding stormwater management activities, and the internal meetings conducted to make decisions related to the best allocation of resources among BMPs from an efficiency and pollutant load reduction standpoint, the County considers itself to be in compliance with the MEP requirement. EPA envisions application of the MEP standard as an iterative process. Therefore, as additional information is gained regarding the effectiveness of BMPs, and as public acceptance evolves, adaptive management efforts implemented by the County may result in future modifications to the SWMP that will continue to meet the MEP standard.

6.3 STORMWATER MANAGEMENT PROGRAM FOCUS

As described previously, the County's portion of the permit area includes approximately 11 miles of roadway in Fairview, 13 miles of roadway within Troutdale, 4 miles of roadway in Wood Village and the small unincorporated residential area of Interlachen. Given the predominance of the County's jurisdiction as roadways, the County's stormwater management program focus will continue to be on operations and maintenance practices that reduce pollutant loads in right-of-way areas.

6.4 ANNUAL POLLUTANT LOAD ESTIMATES

6.4.1 Estimates of Changes in Land Use Area

In accordance with Schedule B(2)(c) of Multnomah County's MS4 NPDES permit, the County is required to provide the following as part of their permit renewal submittal:

iii) Estimates of the changes of various land use areas within the co-permittees jurisdictional boundaries, the stormwater runoff from those changed areas for the appropriate design storm criteria, and volume and percentage of stormwater runoff from those changed areas that is treated using structural and nonstructural controls that have occurred since the previous permit renewal submittal.

There have not been any changes to land use areas within Multnomah County's jurisdictional boundaries within the Gresham MS4 Phase I NPDES permit. Multnomah County's jurisdiction under this permit continues to include road right-of-ways and one small unincorporated residential area known as Interlachen.

6.4.2 Quantitative Update to Pollutant Loads Estimates (using methodology outlined by ACWA)

In accordance with Schedule B(2)(c) of Multnomah County's MS4 NPDES permit, the County is required to provide the following as part of their permit renewal submittal:

ii) an updated estimate of total annual stormwater pollutant loads for the original pollutants of concern as listed in the Part 2 of the original application, or other stormwater pollutants on the 303(d) list as directed by the Department.

The original Part 2 application, prepared in 1995 by the City of Gresham, City of Fairview, Multnomah County, and ODOT contained estimated total annual pollutant loads for the entire permit area. Loads were calculated by watershed instead of permittee; therefore, specific loads associated with Multnomah County's permit area were not provided.

For the permit renewal submittal, the Multnomah County areas that were originally accounted for under the 1995 permit were the roadways within the City of Gresham and the City of Fairview and a small unincorporated area referred to as Interlachen, a residential area outside of the Fairview city limits. Multnomah County transferred ownership of their remaining roadways within Gresham to the City of Gresham in 2006; therefore these roads within Gresham are now accounted for in Gresham's updated (2008) pollutant loads estimates. The County only has 11 miles of roadway within the City of Fairview; therefore County roads within Fairview were not separated out from the rest of the Fairview permit area and Fairview's (2008) updated pollutant load estimates. Pollutant loads for Interlachen have been calculated by Multnomah County for purposes of this permit renewal submittal and are included in the overall annual pollutant loads summarized in Table 6-2 below.

The County also has responsibility for 13 miles of roadways within Troutdale and 4 miles of roadways within Wood Village. As described in Section 6.1 (Description of the County's permit area) DEQ has agreed that these roadway areas may be covered under the Gresham Phase I MS4 NPDES permit to consolidate Multnomah County's program under two permits (Portland and Gresham) instead of also needing to be covered by the Troutdale and Wood Village Phase II NPDES permits. Due to this inclusion of new County areas to the Gresham permit, pollutant loads associated with the roadway areas in Troutdale and Wood village have not been previously calculated as part of the original loads model (i.e., for the Part 2 application). However, Multnomah County has now calculated loads for these areas for the purposes of this permit renewal submittal (see Table 6-2 below).

Loads for the roadway areas in Troutdale and Wood Village have been combined with loads associated with Interlachen, and the total annual pollutant loads for the original parameters of concern (associated with the 1995 Part 2 Gresham MS4 NPDES permit) have been calculated and provided in Table 6-2.

Table 6-2
Updated Annual Estimate of Pollutant Loads for the original (1995)
Parameters of Concern

| Pollutant Load Parameter | LCL, lbs | Mean, lbs | UCI, lbs |
|--------------------------|----------|-----------|----------|
| TDS | 70,757 | 109,264 | 160,786 |
| TSS | 137,453 | 190,376 | 260,929 |
| BOD5 | 12,270 | 20,723 | 32,496 |
| COD | 56,596 | 118,621 | 205,250 |
| NO3-N | 563 | 849 | 1,210 |
| TKN | 1,742 | 2,358 | 3,059 |
| Total P | 386 | 515 | 670 |
| Ortho-P | 80 | 138 | 239 |
| Cd | 1.15 | 1.71 | 2.44 |
| Cu | 29 | 39 | 51 |
| Pb | 40 | 68 | 106 |
| Zn | 175 | 241 | 314 |
| Total Ag | 0.43 | 0.60 | 0.81 |
| Total Oil & Grease | 7,303 | 9,902 | 13,134 |

LCL = Lower confidence limit

UCI = Upper confidence limit

Load calculations in Table 6-2 assume full build-out conditions (future land use); mean land use concentration data as processed and summarized by the ACWA Phase 1 committee for use in benchmark calculations; and land use based runoff coefficients estimated using the West Gresham Master Plan and best professional judgment. The total average annual rainfall of 42” was used to estimate loads. A summary of the County’s areas and associated runoff coefficients used in the model are provided in Table 6-3 below.

Table 6-3
Summary of Model Input Parameters

| Land Use Category | Land use within Modeled Area* (%) | Land use within Modeled Area* (acres) | Runoff Coefficient |
|--------------------------|-----------------------------------|---------------------------------------|--------------------|
| Agricultural | 0% | 0.00 | 0.068 |
| Industrial | 0% | 0.00 | 0.725 |
| Commercial | 0% | 0.00 | 0.815 |
| Open space | 0% | 0.00 | 0.068 |
| Vacant | 0% | 0.00 | 0.068 |
| Residential | 56% | 161.20 | 0.365 |
| Multi-family Residential | 0% | 0.00 | 0.59 |
| Transportation | 44% | 126.16 | 0.86 |
| Total (acres): | | 287.36 | |

* Note: The County’s 79.31 roadway acres within Fairview are not represented here or included in the loads model as they have been included in the loads model developed for the City of Fairview.

6.5 NON-STORMWATER DISCHARGES EVALUATION

A non-stormwater discharge is defined as a discharge to the MS4 system that is not the direct result of stormwater runoff or snowmelt activity. With respect to non-stormwater discharges, Schedule A(3) of the permit requires the following:

A(3) - Each co-permittee must effectively prohibit non-storm water discharges into the MS4 unless such discharges are otherwise permitted by an existing NPDES permit. Unless identified by any co-permittee, or the Department, the following non-storm water discharges need not be addressed by the co-permittee's illicit discharge program, provided appropriate BMPs, if needed, to minimize the impacts of such sources are developed under the SWMP: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated groundwater infiltration; uncontaminated pumped ground water; discharges from potable water sources; start up flushing of groundwater wells; aquifer storage and recovery (ASR) wells; potable groundwater monitoring wells; draining and flushing of municipal potable water storage reservoirs; foundation drains; air conditioning condensate; irrigation water; springs; water from crawl space pumps; footing drains; lawn watering; individual residential car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash waters; discharges of treated water from investigation, removal and remedial actions selected or approved by the Department pursuant to Oregon Revised Statute (ORS) Chapter 465, the state's environmental cleanup law; and discharges or flows from emergency fire fighting activities where discharges or flows from fire fighting are identified as not significant sources of pollutants to waters of the state.

With respect to reporting on compliance with the above requirement, the permit also requires the following as stated in Schedule B(2)(c)(v) associated with the permit renewal submittal:

B(2)(b)(iii) - For each of the listed non-storm water discharges [Schedule A(3)] expected to occur in a co-permittee's area, the co-permittee must identify the appropriate control measures and the rationale for the selection of these BMPs (or the rationale for why BMPs are deemed not necessary).

The following analysis of non-stormwater discharges was conducted for the MS4 NPDES Permit Interim Evaluation Report submitted by the County to DEQ in May of 2006. It is repeated here as the information is still current and updates were not deemed necessary.

The following four conclusions were made regarding each category of non-stormwater discharges:

1. The County does not have this type of non-stormwater discharge.
2. The County does have this type of non-stormwater discharge. However, based on best professional judgment and/or regional monitoring results, the quality of such discharges is not expected to adversely impact receiving waters.
3. The County does have this type of non-stormwater discharge. However, the impact on receiving waters is not expected to be significant relative to other impacts that are being addressed by the County's SWMP and/or control of this discharge is not practicable or is covered by another entity such as the State.
4. The County does have this type of non-stormwater discharge and has determined that the impact should be addressed. A BMP is included in the SWMP to address this impact.

The attached Table 6-4 provides a summary of the review that was conducted and its results. It should be noted that some of the non-stormwater discharge categories were combined based on their similarities with respect to potential impacts.

Table 6-4
Summary of Non-stormwater Discharges

| Category of Non-Stormwater Discharge | Conclusion 1-4 that Applies | Rationale for Selecting Statement 1 – 4 (see text of statements above) | Relevant SWMP BMP or County Activity that Addresses the Discharge |
|---|------------------------------------|--|--|
| <ul style="list-style-type: none"> - Water line flushing. - Water from potable groundwater monitoring wells. - Water from draining and flushing municipal potable water reservoirs | 1 | The County does not engage in these activities. | N/A |
| <ul style="list-style-type: none"> - Discharges from potable water sources. | 2 | Depending on the size of the discharge and the capacity of the receiving stream, discharges from potable water sources could potentially have an impact on the aquatic organisms in streams/rivers with respect to concentrations of chlorine. Although safe to humans, chlorine at fairly low levels can be harmful to fish. The County does not have potable water discharges in the Gresham permit boundary. Within Portland's permit boundary, very infrequently, the use of rain making machines on the Willamette River bridges for movie production has required management practices to address chlorine. Due to the frequency and volume coupled with the distance of discharge and the atomized nature of rain making this discharge in the County's best professional judgment is not considered to be a significant issue. | N/A |
| <ul style="list-style-type: none"> - Runoff from landscape irrigation - Runoff from lawn watering | 4 | These 2 categories of non-stormwater discharges have been grouped together as they both relate to watering of yards and or landscaped areas. It is broadly recognized (and recent national research has shown) that contaminants from our lawns and landscaped areas such as pesticides and fertilizers can be washed into the storm system when it rains (Schueler, 1995). To reduce impact to the County MS4 the County has focused on these issues in their public education programs and messages as described in their stormwater management plan. | See Public Involvement BMP PI-1 of the Stormwater Management Plan |
| <ul style="list-style-type: none"> - Water from diverted stream flows | 1 | The County does not divert stream flows into the municipal storm sewer system. | N/A |

| Category of Non-Stormwater Discharge | Conclusion 1-4 that Applies | Rationale for Selecting Statement 1 – 4 (see text of statements above) | Relevant SWMP BMP or County Activity that Addresses the Discharge |
|--|-----------------------------|---|---|
| <ul style="list-style-type: none"> - Rising groundwater - Uncontaminated groundwater infiltration - Uncontaminated pumped groundwater - Water from start up flushing of groundwater wells - Water from aquifer storage and recovery wells | 2 | <p>These 5 categories of non-stormwater discharges have been grouped together as they all relate to the discharge of groundwater. Within the Gresham permit boundary, in the unincorporated area of Interlachen high or rising ground water infiltration into the County’s MS4 system is rarely observed by County Road Maintenance crews. Along the arterials within Fairview, storm drains run at elevations that are higher than local groundwater tables, most storm drain piping is in good condition, and local ground waters tend to be of fairly high quality. With respect to aquifer storage and recovery wells, DEQ has stated that they consider such water to be “safe” to discharge to MS4 systems because it is either free from contaminants or it is likely to contain only very low concentrations of contaminants.</p> | <p>See Identify and Investigate Illicit Discharges BMP ILL-5 of the Stormwater Management Plan</p> |
| <ul style="list-style-type: none"> - Water from foundation drains - Water from footing drains - Water from crawl spaces | 3 | <p>These 3 categories of non-stormwater discharges have been grouped together as they all relate to discharges associated with eliminating accumulated groundwater or stormwater from building structures. Within the Permit areas the County only reviews residential new or re-development that may have foundation drains, crawl spaces and/or footing drains that have the potential to contribute non-stormwater and/or pollutants to the MS4 system in the unincorporated area of Interlachen (Pop. 317) within the Gresham permit boundary. However, not all of these structures drain directly to the MS4 system, some drain to lawns or green spaces, where possible.</p> <p>Once installed, these structures are covered and are therefore not considered to be a conveyance for construction sediment. Stormwater entering these structures during the building process is filtered through the soil and is not likely to be a significant source of pollutants. There may be an on-going risk of stormwater pollutants being carried from these structures to the MS4 system from homeowner landscaping practices, spills or illegal dumping. However, these impacts are not expected to be significant relative to other impacts that are being addressed by the County’s SWMP. In addition, the County presently requires all</p> | <p>See Public Involvement BMP PI-1 & 3 of the Stormwater Management Plan</p> |

| Category of Non-Stormwater Discharge | Conclusion 1-4 that Applies | Rationale for Selecting Statement 1 – 4 (see text of statements above) | Relevant SWMP BMP or County Activity that Addresses the Discharge |
|--|-----------------------------|--|--|
| | | new construction and major reconstruction projects to comply with applicable provisions of the Building Code. | |
| Air conditioning condensate | 1 | <p>Within the permitted areas the County only reviews the residential re-development within the unincorporated areas of Interlachen (Pop. 317) within the Gresham permit boundary.</p> <p>There are no reasons to suspect that condensate that is released from air conditioning systems in the residential area of Interlachen contains contaminants, or that it enters the storm system. Most of the types of A/C systems used produce condensate that consists of H₂O only. In such systems, the condensate is not re-circulated (as it would be in systems that employ wet cooling towers). Also, in such systems, no chemicals are added to the condensate. The condensate is usually discharged onto landscaping.</p> | N/A |
| - Water from agricultural irrigation operations | 1 | The County's permitted areas do not include any agricultural land uses. | N/A |
| - Water from springs | 1 | Within the County's permitted areas, the County is not aware of any water from springs that discharges directly into the County's limited MS4 system. | N/A |
| - Runoff from individual residential car washing | 4 | Runoff from individual residential car washing is likely to contain surfactants, sediments, metals, oil and grease, and/or other pollutants. On an individual level, the impact is likely very small; however the cumulative impacts in an urban area may be significant. Such runoff may drain into the MS4 system and be conveyed to receiving waters via the MS4. The City of Portland has conducted monitoring of the quality of runoff from four charity car washes. The findings from all four sites indicated elevated levels of suspended sediments and metals such as chromium, copper, lead, nickel and zinc. One site also had elevated levels of bacteria. To reduce these impacts, behavioral changes are necessary. The County's permitted areas do not include commercial areas where charity car washes are likely to occur. With respect to individual residential car washing, areas where this would occur in the County's portion of the permitted | See Public Involvement BMP PI-1 & 3 of the Stormwater Management Plan |

| Category of Non-Stormwater Discharge | Conclusion 1-4 that Applies | Rationale for Selecting Statement 1 – 4 (see text of statements above) | Relevant SWMP BMP or County Activity that Addresses the Discharge |
|---|-----------------------------|---|---|
| | | area are very limited and for those areas, educational BMPs are in place. | |
| - Water from riparian habitats and wetlands | 2 | Runoff from areas of riparian habitat and/or wetlands may occasionally flow into the MS4 system. Elevated levels of bacteria and oxygen-demanding organic matter are often found in waters that drain from riparian habitat areas and typical wetlands. However, it is not clear whether such areas drain enough water into the MS4 system to warrant concern, and the water quality and natural resource benefits from these areas are considered to outweigh any negative water quality impacts they may have. Wetland and riparian areas absorb stormwater volumes (hence reducing erosive peak flows) filter sediments, and provide uptake of nutrients and biological transformation of many harmful pollutants. Therefore, the County does not have any BMPs to eliminate or further treat discharges from these areas. | N/A |
| - Dechlorinated swimming pool water | 2 | Water that is drained from swimming pools is generally not suitable to discharge into MS4 systems or into receiving waters because it contains chlorine and other pool-maintenance chemicals. However, after it has been treated to remove chlorine, it is not expected to pose significant water quality problems, especially after it has passed through the MS4 system enroute to the receiving waters. | N/A |
| - Street wash waters | 1 | The County does not use water to wash streets. | N/A |
| - Treated effluent from DEQ-approved remedial action programs | 2 | Water that is discharged from systems that have been installed to “pump-and-treat” contaminated groundwater is generally considered suitable to discharge into MS4 systems or into receiving waters because it is either free from contaminants or it is likely to contain only very low concentrations of contaminants. Water that is discharged from pump-and-treat systems is typically sampled and analyzed using sensitive testing procedures that are designed to detect even very low concentrations of pollutants. The results of such tests would be reported to DEQ if this activity were to occur in the limited unincorporated area. Therefore, the County does not have any BMPs to eliminate or further treat discharges from this activity. | N/A |
| - Runoff from emergency fire- | 4 | The County does not have responsibility for fire-fighting activities in the permit | N/A |

| Category of Non-Stormwater Discharge | Conclusion 1-4 that Applies | Rationale for Selecting Statement 1 – 4 (see text of statements above) | Relevant SWMP BMP or County Activity that Addresses the Discharge |
|--------------------------------------|-----------------------------|---|---|
| fighting activities. | | areas. Therefore, there are no BMPs in the County stormwater management program that directly relate to the prevention of pollutant discharges in stormwater due to fire-fighting activities. However, BMPs are in place (Illicit Discharge Control, ILL-1) to control runoff and pollutants resulting from spills both hazardous and non-hazardous that may be associated with a fire event and subsequent fire-fighting operations to reduce receiving water impacts. | |

6.6 FISCAL EVALUATION

The MS4 permit requires a fiscal evaluation summarizing program expenditures for the current permit term and program allocations based on the proposed SWMP. The program activity for the proposed SWMP is similar in substance to the current SWMP.

While the new Gresham permit will have new coverage for County owned roads in the City of Troutdale and Wood Village, no new or additional funding will be required for the new coverage. The County's SWMP is applied county-wide, and those new coverage areas are already under the plan and are treated with the existing BMPs.

The program activities in the existing and proposed SWMP are primarily associated with the following Department of Community Services divisions:

- **Road Services** – Activities include the following:
 - road maintenance (including right-of-way vegetation and emergency hazard response);
 - road engineering;
 - water quality program (administer the County Stormwater Management Plan).

Road Services receives funding from the State Highway Fund: revenue from this source includes the State gasoline tax, weight/mile tax on trucks, and vehicle registration fees, which are constitutionally dedicated to road related issues.

- **Land Use & Transportation Planning** – Activities include design review of capital improvements for County roads and private development that impact the transportation system. Land Use Planning also reviews and permits new development in the Interlachen area. Program expenditures are derived from the County general fund.

The table below outlines the annual program expenditure estimate for the current permit term and anticipated needs of the proposed SWMP:

| Program Area | Annual current SWMP expenditure | Annual proposed SWMP budget |
|------------------------------------|---------------------------------|-----------------------------|
| Road Services: | | |
| – Road maintenance | \$131,275 | \$220,200 |
| – Road engineering | \$83,455 | \$141,700 |
| – Water Quality Program | \$53,254 | \$122,900 |
| Land Use & Transportation planning | \$2,208 | \$2,100 |

6.7 PUBLIC INVOLVEMENT SUMMARY

The Gresham and Portland MS4 permit includes a requirement that the co-permittees shall make their SWMP available for public comment for 30 days prior to submission to the Oregon DEQ. The County is a co-permittee on both permits. The permit also states that the co-permittees must include in their permit renewal package a summary of material public comment and how these comments were addressed.

The County conducted one public comment period to address the public involvement requirements in the Gresham and Portland permits, because the County has one SWMP to serve both permits. The public involvement activities included the following actions:

- The County attended a Portland Stormwater Advisory Committee (SAC) meeting on May 14, 2008 to discuss the approach to new measurable goals. The SAC did not make specific comments on the County's SWMP.
- The Stormwater Management Plan (SWMP) was made available for public comment from June 6 to July 7, 2008. The public comment period was advertised in the following media:
 - A notice was placed in the Daily Journal of Commerce and Oregonian (East and West edition)
 - An email notice was sent to the Interlachen Homeowner's Association Board
 - The SWMP Public Review notice was mailed out to the 1,700+ mailing list on June 4 by the City of Portland for all the co-permittees' SWMPs to the City of Portland distribution list. The notice announced the Portland NPDES website, and a telephone hotline to receive requests for hard copies of the SWMP
 - The County SWMP was available for download in PDF format on-line on the County's Water Quality web page. The website was also linked to the City of Portland's NPDES web page. Comments were directed to this website, or by mail.
 - Email notice by DEQ to their Interested Parties distribution list
 - The County distributed a news release announcing the public comment period to local news media.

Public comment

There were no written public comments received during the public comment period. Several hard copies were requested through the hotline, however none of the recipients of the draft submitted a response. In two telephone messages, residents inquired about the stormwater discount program. These inquiries were directed to the City of Portland's stormwater discount program.

6.8 SOURCE IDENTIFICATION

Schedule B(2)(c)(i-xii) of the MS4 NPDES permit outlines the requirements for the contents of the Permit Renewal Submittal. Item (xii) requires the following:

(xii) An update of the source identification portions of the co-permittees' original Parts 1 and 2 NPDES MS4 Permit Application.

For the previously submitted Part 1 MS4 NPDES permit application the following information was required to be submitted with respect to the identification of sources:

A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000 if cost effective) extending one mile beyond the service boundaries of the municipal storm sewer system covered by the permit application. The following information was required:

- 1. The location of known municipal storm sewer system outfalls discharging to waters of the United States.*
- 2. A description of the land use activities (undeveloped, residential, commercial, agricultural, and industrial uses) accompanied with estimates of population densities and projected growth for a 10-year period within the drainage area served by the separate storm sewer. For each land use type, an estimate of average runoff coefficient shall be provided.*
- 3. The location and description of the activities of the facility of each currently operation or closed municipal landfill or other treatment, storage, or disposal (TSD) facility for municipal waste.*
- 4. The location and permit number of any known discharge to the municipal storm sewer that has been issued a NPDES permit.*
- 5. The location of major structural controls for storm sewer discharges (retention basins, detention basins, major infiltration devices, etc.).*
- 6. The identification of publicly owned parks, recreational areas, and other open lands.*

The information for each of these items was updated and is provided in the maps in Appendix B of this permit renewal submittal.

For the previously submitted Part 2 MS4 NPDES permit application, the Source Identification component of the permit also required an industrial inventory. The County's portion of the Gresham permit area does not include any industrial facilities.

6.9 UPDATE TO THE 2005 QUALITATIVE ASSESSMENT OF THE CHANGE IN POLLUTANT LOADS

After the previous permit (1995 – 2000) was renewed in 2004, DEQ reconsidered and made modifications to the permit in July of 2005. One of the issues under reconsideration was a concern from third party commenters that new development within the permit area and expansions of the service area would result in an increase in pollutant loads which would then result in failure to comply with Oregon's antidegradation policy (OAR 340-041-00004). As a result of these comments, DEQ requested that permittees for four of the Phase I permits, including Multnomah County, conduct an assessment to compare pollutant loads authorized by the 1995 MS4 permits to pollutant loads authorized by the 2004 permits. The assessment was conducted and included as part of the "antidegradation analysis" section of the supplemental

permit evaluation reports submitted in July of 2005 (Strecker and Austin, 2005). The assessment included the following:

- A review of the permit areas in 1995 versus the permit areas in 2004.
- A summary of what the permit authorized in terms of discharges in 1995.
- A summary of BMPs implemented since 1995 to reduce loads.
- A summary of water quality trends in two local receiving waters.

The 1995 permitted sources for Multnomah County under the Gresham permit included “*all existing and new discharges of stormwater from the municipal separate storm sewer system within the incorporated areas of the cities of Gresham and Fairview, and the small areas of unincorporated Multnomah County within the urban service boundaries of the two cities.*” For Multnomah County, the permitted sources in the new 2004 Gresham permit were identical to those in the previous 1995 Gresham permit and the permit area did not change. Given the consistent permitted sources and permit area between 1995 and 2004, and given the significant BMP efforts implemented since 1995 as described in the SWMP, a conclusion was made in the 2005 assessment that the pollutant loads associated with authorized discharges in 2004 were less than pollutant loads associated with authorized discharges in 1995.

With respect to this 2008 permit renewal submittal, DEQ requested that co-permittees provide an updated assessment comparing loads permitted in 2004 with pollutant loads expected during the 2009 cycle. As discussed in section 6.1, the only change related to Multnomah County’s permit area under the Gresham permit is that the County roadways in Troutdale and Wood Village will now be covered under the Gresham Phase I MS4 NPDES permit. This change is being made so that the County will not be required to also be covered under two additional Phase II MS4 NPDES permits for Troutdale and Wood Village. As the County has been implementing and will continue to implement stormwater related BMPs consistently among these jurisdictions, the change was made to facilitate a comprehensive stormwater management, reporting, and compliance program for these County areas. The County’s overall area requiring coverage under a permit did not change. In addition, Multnomah County is continuing to implement the extensive list of BMPs summarized in the SWMP. Due to the load reductions realized through implementation of BMPs in combination with no net change in the area requiring coverage under a permit, the conclusions drawn in the 2005 assessment are still valid, and the loads associated with the discharges in 2008 are not expected to be any greater than the loads associated with discharges authorized in the 2004 Gresham permit (i.e., all existing and new discharges of stormwater in the permit area).

Reference:

Strecker, E., and Austin, L; *Qualitative Assessment of the Change in Pollutant Loads Associated with MS4 Discharges in the Portland Metropolitan Area*, July, 2005.

Appendix A
Stormwater Management Plan
(includes the rationale for SWMP changes, monitoring and TMDL Benchmark Results)



Multnomah County

NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM (NPDES) MUNICIPAL
SEPARATE STORM SEWER SYSTEM (MS4) PERMIT
STORMWATER MANAGEMENT PLAN

Multnomah County
1600 S.E. 190th Avenue
Portland, OR 97233

June 6, 2008

Multnomah County Stormwater Management Plan (SWMP)

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Multnomah County Stormwater Management Plan (SWMP)

1.0 Introduction

The Oregon Department of Environmental Quality (DEQ) regulates stormwater from Multnomah County through two separate Phase I National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Discharge Permits. These permits are number (No.) 101314 for the areas within the City of Portland permit boundary and No. 108013 for the areas within the Gresham permit boundary. Multnomah County is a co-permittee on both Portland and Gresham's MS4 Permit. Within close proximity to the Gresham NPDES permit area, the County also has jurisdiction over roadways within the cities of Troutdale and Wood Village. These cities received MS4 NPDES Phase II permits for their stormwater discharges in 2007. As the County has been implementing, and will continue to implement their stormwater BMPs consistently among these jurisdictions, they met with DEQ to discuss whether these areas could all be brought together and covered under one permit (i.e., the Gresham MS4 NPDES Phase I permit). This was requested by Multnomah County to facilitate a comprehensive stormwater management, reporting and compliance program for these County areas. In other words, bringing these roads under the coverage of the Gresham Phase I permit would eliminate the need for coverage under two additional permits (Troutdale and Wood Village). DEQ agreed to the approach of including the County's Troutdale and Wood Village roadways under the Gresham Phase I NPDES permit as part of this permit renewal process.

This Stormwater Management Plan (SWMP) describes activities related to implementation of the County's MS4 NPDES Permits. The primary component of the SWMP is the list of best management practices (BMPs), which outline the specific tasks that the County will conduct in order to reduce stormwater pollution to the maximum extent practicable (MEP). In addition, the SWMP is required to include a stormwater monitoring plan and benchmarks for addressing Total Maximum Daily Load requirements where applicable.

Although the County operates under two separate MS4 permits, the County has a limited amount of regulatory area under each permit. In addition, a number of activities related to specific permit requirements are either the responsibility of the lead permittee or they are conducted by one of the other co-permittees on behalf of Multnomah County through an Intergovernmental Agreement (IGA). To clarify the County's variable permit responsibilities, Table 1-1 is provided. Table 1-1 indicates the specific regulatory areas of responsibility Multnomah County has under each MS4 permit, outlines each permit requirement, and specifies when and whether Multnomah County is responsible for addressing the requirement.

The remainder of this document includes the following:

Section 2.0 – This section provides details regarding the specific regulatory areas of responsibility.

Section 3.0 – This section includes a description of how the County is addressing the stormwater monitoring and TMDL benchmark requirements.

Section 4.0 – This section includes the stormwater management plan (SWMP) and provides a list of the County's best management practices (BMPs).

Section 5.0 – This section summarizes the rationales for changes in this revision.

2.0 Summary of Multnomah County's Area of Permit Responsibility

As mentioned in Section 1.0, Multnomah County has select regulatory responsibilities for each of their two MS4 NPDES permits. Specifically, within Portland's NPDES permit area, Multnomah County is only responsible for the Willamette River bridges and a few small unincorporated pocket areas within the Portland Urban Services boundary (see Figure 2-1). Under Gresham's NPDES permit, Multnomah County is responsible for approximately twenty-eight miles of arterial roadways in the Cities of Fairview, Troutdale, and Wood Village, and the unincorporated Interlachen residential area that is located between Fairview Lake and Blue Lake (see Figure 2-2). More specific details regarding the County's jurisdiction are provided below.

Portland MS4 Permit No. 101314 (Co-permittees: Port of Portland and Multnomah County)

Multnomah County's activities and associated BMP implementation within the Portland Permit area has significantly diminished over the years. In 1984, the County transferred road and drainage facility maintenance to the City for roads in the unincorporated pocket areas within the Portland Urban Services Boundary through an Intergovernmental Agreement known as the Westside Pocket Area Maintenance Agreement (WPAMA). Of note is the requirement that road and drainage facility maintenance provided by the City is to be provided in a manner consistent with applicable operations and maintenance best management practices as set forth in the City of Portland's Stormwater Management Plan under their MS4 NPDES Permit. (WPAMA, Art. 3, Sec. I, (A))

As a result of the Metro Urban Growth Management Functional Plan the City of Portland and Multnomah County entered into an Urban Planning Area Agreement (UPAA) dated March 5, 1998. The UPAA provided for the coordination and orderly conversion of unincorporated urbanizable land in the County to urban uses and authorized the City to prepare applicable comprehensive plan and implementing ordinances for the County's urban areas. The County adopted the City's applicable land use regulations, comprehensive plan and zoning through County Ordinance 967, which went into effect January 1, 2002. Under the UPAA, the County agreed to transfer to the City responsibility for implementing and administering comprehensive plan and zoning regulations for all County unincorporated areas within the City's Urban Services Boundary.

An important aspect of the UPAA is the expressed responsibility of the City to address, through their comprehensive plan and zoning regulations, erosion control, floodplain review, grading, and stormwater disposal (UPAA III(C)(2)(a)). Further, land use

planning review shall be provided by the City in a manner consistent with applicable best management practices as set forth in the City of Portland National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit. The level of review shall be provided at the same level provided by the City to other areas within the City limits. (UPAA III(C)(2)(o))

The County's remaining primary stormwater management activity in the City of Portland's MS4 NPDES permit area is associated with five of the Willamette River bridges. Secondly, the County retains jurisdiction to review development connection or impacts to the right-of-way on the roads that the City maintains and operates.

Gresham MS4 Permit No. 108013 (Co-permittees: City of Fairview and Multnomah County; also includes County roads in Troutdale and Wood Village)

Multnomah County's activities and associated BMP implementation within the Gresham / Fairview Permit area has also significantly diminished over the years. In 1995, the County transferred many of its roads to the City of Gresham, including a majority of the drainage system and outfalls. Effective January 1, 2006, the remaining County roads within the City of Gresham were transferred to the City pursuant to Senate Bill 1096. Road maintenance for the transferred roads is currently performed by the County, however, the roads are under the jurisdiction of, and they are the responsibility of Gresham. The road maintenance is conducted by the County pursuant to an Intergovernmental Agreement.

The County continues to own, operate and maintain approximately 11 miles of arterial roads within the City of Fairview, 13 miles of roadway within Troutdale, and 4 miles of roadway in Wood Village. The County remains responsible for zoning and planning in the unincorporated residential area known as Interlachen.

3.0 Stormwater Monitoring and TMDL Benchmark Development

Monitoring

The MS4 NPDES permits include specific requirements for stormwater monitoring. As shown in Table 1-1, the cities (Portland and Gresham) conduct the monitoring to meet the requirements and the County participates in the monitoring through intergovernmental agreements (IGAs). These IGAs fulfill the County's responsibilities for monitoring under the permits.

Benchmarks

The MS4 NPDES permits also include specific requirements for benchmarks. Specifically, *"progress towards reducing TMDL pollutant loads must be evaluated by the co-permittee through the use of performance measures and pollutant load reduction benchmarks developed and listed in the SWMP."* TMDLs have been established for the following watersheds in the permit areas for which Multnomah County is a co-permittee.

City of Portland permit area:

- Tualatin River watershed (Fanno Creek),
- Columbia Slough watershed,
- Johnson Creek watershed,
- Tryon Creek watershed,
- Willamette River basin, and
- Springbrook Creek.

City of Gresham permit area:

- Columbia Slough watershed (including Fairview Creek),
- Sandy River watershed, and
- Johnson Creek watershed.

County Roads in Troutdale and Wood Village:

- Columbia Slough watershed, and
- Sandy River watershed.

A benchmark summary is provided for each of the three permit areas listed above as follows:

City of Portland Permit Area

Within the Portland permit area, the County does not have any responsibility for discharges to the Tualatin River, Johnson Creek, Springbrook Creek or Tryon Creek watersheds. While the County does have some pocket unincorporated areas in these watersheds, the City of Portland is responsible for operations and maintenance of roads and related drainage and all planning and zoning in these areas through IGAs with the County. The County does have responsibility for one outfall to the Columbia Slough, located at the Inverness Jail site. This outfall was not included in the City of Portland's benchmark analysis because it does not drain to the MS4 system and only the MS4 area was included in the City's analysis. Regardless of whether this area is included in the MS4, the County has made efforts to reduce discharges from this site. All runoff from this site is treated with a VortechTM structural treatment facility.

In addition, the five County bridges over the Willamette River (Burnside, Broadway, Hawthorne, Morrison and Sellwood Bridges) have some stormwater discharges to the Willamette River, and therefore are subject to wasteload allocations for bacteria. The only potential source of bacteria from the bridge areas would be the holding tanks for the restroom facilities (for bridge operators) that are located on the bridges; the Sellwood Bridge does not have restroom facilities. These holding tanks are inspected and, if necessary, maintained quarterly to prevent the potential for leaks (see BMP ILL-5). In addition, StormFilters for filtering pollutants are included and maintained in the catch basins located on the Burnside and Broadway bridges. Given this information, and the fact that these areas represent a very *de minimus* portion of the Portland permit area, Multnomah County-specific numerical benchmarks have not been developed.

City of Gresham Permit Area

As described above, within the Gresham permit area, the County's responsibility includes approximately 11 miles of arterial roadways in the City of Fairview. The County does not have any MS4-related responsibilities for any areas within the City of Gresham. The County roadways in Fairview are located within the Columbia Slough watershed. The City of Gresham and the City of Fairview have developed benchmarks for discharges to the Columbia Slough. The County's roadway discharges have been accounted for in the City of Fairview benchmarks. A summary of the City of Fairview benchmarks is provided with their SWMP. These benchmarks are for toxics (with TSS as a surrogate), bacteria, total phosphorus, dissolved lead and BOD. County BMPs are in place to address these pollutants in discharges from County roads in Fairview. These BMPs include the following (for reference, BMP ID's are provided):

- Implementation of an adopt-a-road program. (PI-5)
- Conduct street sweeping. (OM-3)
- Minimize Impacts from County truck hauling practices. (OM-6)
- Implement procedures as outlined in the County's Road Maintenance Operations Manual to conduct roadway maintenance practices in ways that reduce the potential water quality impacts. (OM-1)
- Implement a spill response program. (ILL-1)
- Investigate and eliminate illegal dumping. (ILL-4)
- Consider and, where possible address water quality in new CIP and/or roadway improvement projects. (STR-1)
- Implement erosion controls for County projects. (ILL-3)

Through the adaptive management process the County will continually work to refine and revise these BMPs over time so that they represent the County's reduction of pollutant discharges to the maximum extent practical.

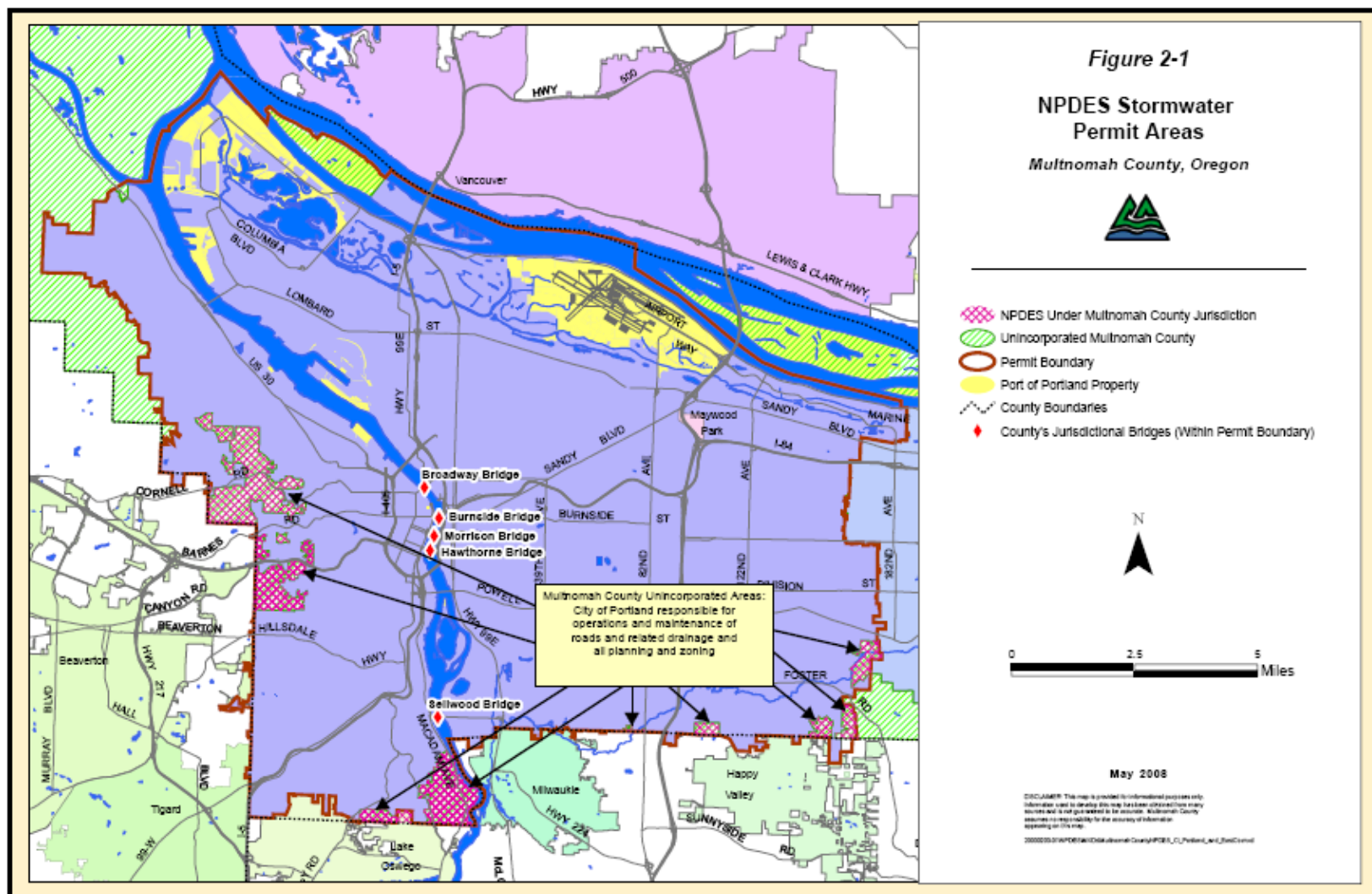
County Roads in Troutdale and Wood Village

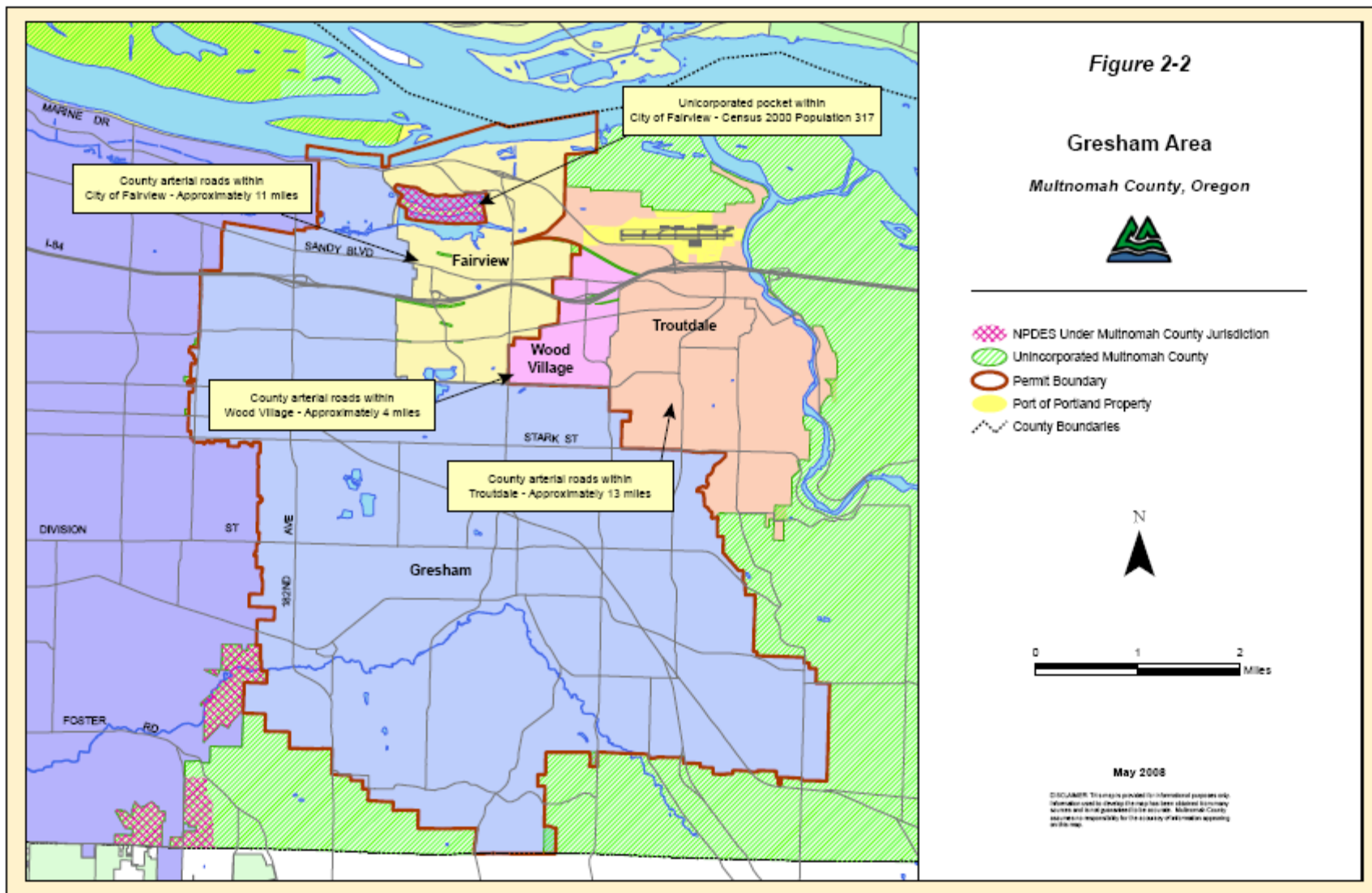
As described above, within Troutdale and Wood Village, the County's responsibility includes approximately 17 miles of arterial roadways. These roadways are located within the Columbia Slough and Sandy River watersheds. The cities of Troutdale and Wood Village will be required to develop benchmarks for discharges to these watersheds under their Phase II MS4 NPDES permits. However, benchmark development is not required until the Phase II permits are renewed in 2012. It is assumed that the County's discharges will be accounted for in the Troutdale and Wood Village benchmarks. For the Columbia Slough, benchmarks will be needed for toxics (with TSS as a surrogate), bacteria, total phosphorus, dissolved lead, and BOD. For the Sandy River watershed, benchmarks will be needed for bacteria. As with roads in Fairview, County BMPs are in place to address these discharges from County roads in Troutdale and Wood Village. These BMPs include the following:

- Implementation of an adopt-a-road program. (PI-5)
- Conduct street sweeping. (OM-3)
- Minimize Impacts from County truck hauling practices. (OM-6)

- Implement procedures as outlined in the County's Road Maintenance Operations Manual to conduct roadway maintenance practices in ways that reduce the potential water quality impacts. (OM-1)
- Implement a spill response program. (ILL-1)
- Investigate and eliminate illegal dumping. (ILL-4)
- Consider and, where possible address water quality in new CIP and/or roadway improvement projects. (STR-1)
- Implement erosion controls for County projects. (ILL-3)

Through the adaptive management process the County will continually work to refine and revise these BMPs over time so that they represent the County's reduction of pollutant discharges to the maximum extent practical.





| Table 1-1: Multnomah County MS4 NPDES Stormwater Permit Requirements and Responsibilities | | | | | |
|--|--|---|--|--|--|
| NPDES Permit SWMP Requirements | BMPs | Portland NPDES Permit Areas of Responsibility | | Gresham NPDES Permit Areas of Responsibility | |
| | | Five Portland Bridges Over the Willamette | Unincorporated Parcels in Multnomah County | Interlachen Residential Development | Arterial Roadway Areas in the Cities of Fairview, Troutdale and Wood Village |
| Schedule B(1)(a-d) Monitoring Component Requirements | | | | | |
| Assist with monitoring efforts in conjunction with requirements as stated in Tables B-1 and B-2, Schedule B(1)(b)(i-vi), Schedule B(1)(c)(i-ii), and Schedule B(1)(d). | | Multnomah County has an IGA with the City of Portland to meet their responsibilities as stated in Table B-1 and under Schedule B(1)(b). | | Multnomah County has an IGA with the City of Gresham to meet their responsibilities as stated in Table B-1 and under Schedule B(1)(b). | |
| Schedule D(2)(c)(i) Implement structural and source control measures for existing and new residential and commercial areas. | | | | | |
| 1. Maintenance activities and maintenance schedule for structural controls. | OM-2 Inspect and Maintain the Storm Drainage System OM-8 Minimize Impacts from Ditch Maintenance | County BMPs Apply | The City of Portland conducts maintenance under an IGA. | County BMPs Apply | County BMPs Apply |
| 2. Planning procedures to control pollutant discharges from areas of new and redevelopment. | ND-2 Regulate Stormwater Discharge | The City of Portland is the primary reviewing authority for stormwater quality and quantity. | | County BMPs Apply | Private new and redevelopment does not occur within County ROWs. |
| 3. Practices for operating and maintaining streets. | OM-3 Conduct Street Sweeping OM-4 Properly Dispose of Road Waste Material OM-5 Minimize Impacts from Anti-icing Operations OM-7 Minimize Impacts from Right-of-Way and Road Shoulder Maintenance PI-5 Implement the Adopt-A-Road Program | The City of Portland is responsible for sweeping and anti-icing activities. | The City of Portland conducts maintenance activities in these areas. | County BMPs Apply | County BMPs Apply |
| | | Multnomah County cleans the catch basins on the Willamette River Bridges. | | | |
| 4. Retrofitting flood control facilities. | STR-1 Address WQ With New Capital or Roadway Improvement Projects STR-2 Retrofit Existing Facilities for Water Quality Benefit PI-7 Provide Opportunities for Public Involvement During the CIP Process | County BMPs Apply | The City of Portland has planning and zoning authority in these areas. | County BMPs Apply | County BMPs Apply |

| NPDES Permit SWMP Requirements | BMPs | Portland NPDES Permit Areas of Responsibility | | Gresham NPDES Permit Areas of Responsibility | |
|--|--|---|---|--|--|
| | | Five Portland Bridges Over the Willamette | Unincorporated Parcels in Multnomah County | Interlachen Residential Development | Arterial Roadway Areas in the Cities of Fairview, Troutdale and Wood Village |
| | | | Multnomah County retains authority to initiate capital improvements for County roads. | | |
| 5. Monitor landfills. | Not Applicable | There are no landfills in these areas. | | Although there are no landfills within the existing Multnomah County jurisdictional area, the City of Gresham is currently evaluating an existing closed landfill that was previously on Multnomah County property. The County is cost-sharing in this effort. | |
| 6. Program to reduce pesticides/herbicides/fertilizers. | NS-1 Conduct Vegetation Management Activities NS-2 Specify Native Vegetation in ROW and Permitted Projects PI-1 Participate in Regional Public Education Efforts PI-4 Conduct Training and Education for County Personnel | County BMPs Apply | The City of Portland conducts vegetation management activities as part of the IGAs. | County BMPs Apply | County BMPs Apply |
| Schedule D(2)(c)(ii) Detect and remove illicit discharges and improper disposals into the storm sewer. | | | | | |
| 1. Program, including inspections to eliminate illicit discharges. | ILL-5 Identify and Investigate Sanitary Discharges to the Storm Sewer | County BMPs Apply | County BMPs Apply | County BMPs Apply | County BMPs Apply |
| 2. On-going field screening program. | ILL-5 Identify and Investigate Sanitary Discharges to the Storm Sewer | The Cities of Gresham and Portland conduct field-screening efforts that encompass Multnomah County drainages. The Cities of Troutdale and Wood Village will also be investigating the MS4 as a result of their Phase II permit. Their efforts will also encompass Multnomah County. | | | |
| 3. Field screening follow-up investigations. | ILL-5 Identify and Investigate Sanitary Discharges to the Storm Sewer | County BMPs Apply | County BMPs Apply | County BMPs Apply | County BMPs Apply |
| 4. Spill prevention and response. | OM-6 Minimize Impacts from County Truck Hauling Practices ILL-1 Implement Spill Response Program ILL-2 Address Spills from Private Truck Haulers PI-4 Conduct Training and Education for County Personnel | County BMPs Apply | County BMPs Apply | County BMPs Apply | County BMPs Apply |
| 5. Promote public reporting of illicit discharges. | PI-3 Distribute Public Education Information Regarding Stormwater PI-8 Facilitate Public Reporting of Illicit Discharges | County BMPs Apply | County BMPs Apply | County BMPs Apply | County BMPs Apply |
| 6. Public education re: proper disposal of toxic materials. | PI-6 Maintain Signage to Protect Water Quality | County BMPs Apply | County BMPs Apply | County BMPs Apply | County BMPs Apply |
| 7. Control infiltration from sanitary sewers. | ILL-5 Identify and Investigate Sanitary Discharges to the Storm Sewer | County BMPs Apply | The cities have jurisdiction over sanitary discharges in these areas. | | |

| <i>NPDES Permit</i> | <i>BMPs</i> | Portland NPDES Permit Areas of Responsibility | | Gresham NPDES Permit Areas of Responsibility | |
|--|--|---|--|--|--|
| SWMP Requirements | | Five Portland Bridges Over the Willamette | Unincorporated Parcels in Multnomah County | Interlachen Residential Development | Arterial Roadway Areas in the Cities of Fairview, Troutdale and Wood Village |
| Schedule D(2)(c)(iii) Implement a program to monitor and control pollutants in stormwater associated with industrial facilities. | | | | | |
| 1. Industrial inspection program. | | The County does not have jurisdiction over any industrial discharges within the MS4 NPDES permit areas. | | | |
| 2. Industrial monitoring program. | | | | | |
| Schedule D(2)(c)(iv) Implement and maintain BMPs to reduce pollutants in runoff from construction sites. | | | | | |
| 1. Procedures for site planning to address water quality. | ND-1 Require Erosion Control for Private Development | The City of Portland has planning authority for these areas. | | County BMPs Apply | The cities have site planning authority for these areas. |
| 2. Requirements for construction site BMPs. | ND-1 Require Erosion Control for Private Development | Multnomah County requires specific construction site BMPs for private development areas (Interlachen) and for public roadway and right-of-way improvement projects. | | | |
| 3. Procedures for inspection and enforcement. | ND-1 Require Erosion Control for Private Development ILL-3 Require Erosion and Pollution Controls for Public Projects | County BMPs Apply | County BMPs Apply | County BMPs Apply | County BMPs Apply |
| 4. Education/training for construction site operators. | ILL-3 Require Erosion and Pollution Controls for Public Projects PI-4 Conduct Training and Education for County Personnel | County BMPs Apply | County BMPs Apply | County BMPs Apply | County BMPs Apply |

Other BMPs:
PM-1 Stormwater Program Management, PM-2 Assess and Evaluate the Stormwater BMP Program, PM-3 Maintain Environmental Management Database, STR-3 Inventory and Map the County Storm Sewer System,
PI-2 Participate in Public Meetings
Key:
Gray shaded indicates that Multnomah County is not responsible for this permit requirement for a particular area.
White indicates Multnomah County is responsible for this permit requirement for a particular area. The BMPs listed in column 2 for the permit requirement apply to these areas.

4.0 Stormwater Management Plan

The Multnomah County stormwater management plan (SWMP) is provided in the following pages. It is made up of a series of best management practices (BMPs) that are grouped into the following seven categories:

- Public involvement and education,
- Operations and maintenance,
- Illicit discharge detection and elimination,
- Natural systems,
- New development,
- Structural controls, and
- Program management.

The County complies with NPDES permit requirements through the implementation of the above seven categories of BMPs as shown in Table 1-1 (Section 1.0). There are fourteen separate functional staff groups that are responsible for the implementation of these BMPs. These fourteen groups are as follows:

1. Program Management
2. Public Affairs
3. Bridge Engineering
4. Bridge Maintenance
5. Land Use Planning
6. Transportation Planning
7. Right-of-Way Permits
8. Code Compliance
9. Emergency Response
10. Road Maintenance
11. Road Engineering
12. Sustainability
13. Nuisance Code
14. Asset Management

For each BMP, a fact sheet is provided in the SWMP which includes the portion of the permit area where the BMP applies, which functional staff group or groups are responsible for BMP implementation, a description of the BMP, BMP implementation tasks, measurable goals, and tracking measures. Measurable goals indicate the County commitments related to a specific BMP and tracking measures include the information that will be provided in the annual reports to track BMP implementation status.

PI – Public Involvement and Education

Overall Goal

The Public Involvement and Education BMPs are designed to inform and educate the public about the causes of stormwater pollution, the effects on local streams and rivers, and the need for stormwater management, and to encourage active participation in pollution reduction efforts.

As a result of increased public involvement and education efforts since the first permit term, the BMPs were separated by actual practice area into eight different descriptions to better respond to reporting requirements.

Public Involvement and Education BMPs

BMPs described in more detail on the following pages include the following:

| BMP ID | BMP Description | Area of BMP Application | | | |
|---------------|---|--------------------------------|---------------------------------|------------------------------|--|
| | | Portland Permit Area | | Gresham Permit Area | |
| | | Willamette River Bridges | Unincorporated Multnomah County | Interlachen Residential Area | County Arterials in Fairview, Troutdale and Wood Village |
| PI-1 | Participate in Regional Public Education Efforts | ✓ | ✓ | ✓ | ✓ |
| PI-2 | Participate in Public Meetings | ✓ | ✓ | ✓ | ✓ |
| PI-3 | Distribute Public Education Information Regarding Stormwater | ✓ | ✓ | ✓ | ✓ |
| PI-4 | Conduct Training and Education for County Personnel | ✓ | ✓ | ✓ | ✓ |
| PI-5 | Implement the Adopt-a-Road Program | | | ✓ | ✓ |
| PI-6 | Maintain Signage to Protect Water Quality | ✓ | ✓ | ✓ | ✓ |
| PI-7 | Provide Opportunities for Public Involvement During the CIP Process | ✓ | ✓ | ✓ | ✓ |
| PI-8 | Facilitate Public Reporting of Illicit Discharges | ✓ | ✓ | ✓ | ✓ |

Regulations Addressed by BMPs

See Table 1-1

| | |
|-------------------------|---|
| PI-1 | Participate in Regional Public Education Efforts |
| Application area | County-wide |
| Responsibility | Public Affairs |
| Description | Participate with regional entities and cities in coordinating new and existing efforts to educate and inform the public about stormwater pollution problems, and to involve the public in developing stormwater pollution prevention programs. The County will provide support for the various public involvement and education activities provided by the Regional Coalition of Clean Rivers and Streams (RCCRS). The County participates in the RCCRS by attending meetings and contributing financially to annual campaigns. |
| Tasks | <ol style="list-style-type: none"> 1. Provide County representative to attend the RCCRS meetings. 2. Plan and Implement public education campaign promoting behaviors that improve water quality. |
| Measurable Goal | Continue to participate in the RCCRS. |
| Tracking measure | Provide narrative to describe activities, accomplishments, and level of effort. |

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| PI-2 | Participate in Public Meetings |
| Application area | County-wide |
| Responsibility | Program Management |
| Description | Educate the public about the County's role in protecting stormwater quality and the opportunities for public participation in pollution prevention as well as public involvement and education on stormwater pollution problems by attending public meetings. County staff attends a variety of public meetings including those held by watershed councils depending on staff availability. Each of these groups meets monthly throughout the year with special ad hoc committee work occasionally required. |
| Tasks | 1. Attend public meetings related to water quality. |
| Measurable Goal | Continue to participate in watershed councils. |
| Tracking measure | Narrative describing outcomes and level of effort associated with public meetings. |

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| PI-3 | Distribute Public Education Information Regarding Stormwater |
| Application area | County-wide |
| Responsibility | Program Management |
| Description | Promote public education and involvement in stormwater pollution prevention efforts through distribution of brochures and educational materials regarding water quality and watershed health at County offices and public water quality meetings and maintenance of County Environmental Compliance Program website. The County distributes brochures and educational materials from local watershed councils, Soil & Water Conservation Districts, and utilities at the Land Use Planning and Survey Permit Office, which is an area of public activity. Educational materials are also distributed at other County offices and at public events. |
| Tasks | <ol style="list-style-type: none"> 1. Make brochures and other educational materials available to the public and County staff. 2. Ensure that public education materials are current and cover relevant topics. |
| Measurable Goal | Ensure availability of current materials at meetings, front counters and online. |
| Tracking measure | <p>List publications.</p> <p>Confirm availability of materials.</p> |

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| PI-4 | Conduct Training and Education for County Personnel |
| Application area | County-wide |
| Responsibility | Program Management, Road Maintenance, Bridge Maintenance, Code Compliance, Land Use Planning, Emergency Response, Bridge Engineering, Road Engineering |
| Description | Train and educate appropriate Multnomah County personnel about impacts of on-the-job activities to the MS4, and how to minimize negative impacts to receiving streams. Topics include erosion control, stormwater maintenance activities, inspection practices, construction BMPs, and spill response. Training will also include measures to minimize impacts from regular road maintenance activities as covered in the County's Road Maintenance & Operations Manual (RMOM). In addition, educate the County staff about the public's role in protecting water quality on a watershed-wide basis. |
| Tasks | <ol style="list-style-type: none"> 1. Send a representative(s) to water quality conferences when feasible. Share information learned in training with other staff. 2. Train volunteers, maintenance and operations crews, as well as inspectors on impacts of activities on water quality and MS4 in addition to new approaches to water quality protection and proper reporting procedures. |
| Measurable Goal | Conduct a minimum of one staff training session a year. |
| Tracking measure | Track training events and attendance at conferences. |

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| PI-5 | Implement the Adopt-a-Road Program |
| Application area | Gresham permit area only (including Fairview, Troutdale and Wood Village). |
| Responsibility | Road Maintenance |
| Description | Continue to implement the Multnomah County Adopt-A-Road program to promote public awareness of litter control and impacts to roads and waterways. Increase use of volunteers and track work by volunteers, including County inmate work crews. The Adopt-A-Road program mainly focuses on picking up litter and trimming vegetation. The County uses Adopt-A-Road videos to train participants in the program. Interested groups volunteer time to conduct the maintenance activities. Following a maintenance event, inmate work crews pick up the bags of litter and trimmings collected by volunteer groups. |
| Tasks | <ol style="list-style-type: none"> 1. Develop a strategy to promote the adopt-a-road program. 2. Track road segments where volunteer roadside litter removal and clean-up is performed through participation in County Adopt-A-Road programs. 3. Provide program support (e.g., coordinating volunteers and providing equipment). |
| Measurable Goal | Continue to advertise and support the adopt-a-road program as interest exists. |
| Tracking measure | Report on adopt-a-road activities. |

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|-------------------------|---|
| PI-6 | Maintain Signage to Protect Water Quality |
| Application area | County-wide |
| Responsibility | Road Maintenance |
| Description | Participate in storm drain marking and other signage programs to promote public awareness of the importance of keeping pollutants out of storm drains as opportunities arise. Gresham, Fairview, and Portland currently conduct storm drain marking (e.g., “Dump No Waste, Drains to Stream”). A bi-lingual marker was developed by County staff for application to County Roads. Currently, all catchbasins in the permit area are marked and all stream crossings have signs. |
| Tasks | <ol style="list-style-type: none"> 1. Determine whether any areas need to be marked or re-marked and provide staff and materials to carry this out. 2. Maintain signs in right-of-way promoting watershed awareness, as requested by watershed councils. |
| Measurable Goal | Inspect drain markers and signage annually at all catchbasins and stream crossings in the permit area. |
| Tracking measure | Track replacement of signage. |

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| PI-7 | Provide Opportunities for Public Involvement During the CIP Process |
| Application area | County-wide |
| Responsibility | Transportation Planning |
| Description | Ensure public involvement during two-year update process for Capital Improvement Plan and Program that addresses stormwater quality impacts and issues. Identify NPDES drainage issues and remedies on Capital Improvement Plan project scope sheets. Include in project atlas during public review process. The Capital Improvement Program (CIP) identifies transportation projects that the County needs to build to provide a balanced and efficient transportation system. Public meetings are held throughout the CIP update process. |
| Tasks | 1. Involve the public in the process of updating the Capital Improvement Plan and Program (every two years) and in evaluating the stormwater quality impacts and issues associated with the program. |
| Measurable Goal | Ensure opportunities for public participation in the CIP update process through public meetings. |
| Tracking measure | Track public meetings and other public involvement activities in the CIP update process. |

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| PI-8 | Facilitate Public Reporting of Illicit Discharges |
| Application area | County-wide |
| Responsibility | Road Maintenance, Bridge Maintenance, Right-of-Way Permits, Emergency Response, Nuisance Code |
| Description | Facilitate efforts to report illegal dumping of pollutants, trash, or illegal fill (dirt/soil). The County utilizes its nuisance ordinance (MCC 7.20) to encourage the public to report incidents of illegal dumping. The County Nuisance Division web page provides the process and telephone number to report illegal dumping. Nuisance, as part of this program investigates, enforces and assesses penalties. All of the co-permittees, including the County, work with, and/or contribute money to, volunteer groups such as SOLV to address littering and dumping problems in their jurisdictions. Citizens may call the County Transportation Offices for illegal dumping on a County road or in the right-of-way of any County road. Signs are currently posted in all known problem areas. |
| Tasks | 1. Annually review field logs and public reports regarding litter and illegal dumping. Determine where signs need to be posted regarding illegal dumping and place them. |
| Measurable Goal | Install and maintain signage in all known areas that are problematic in terms of dumping. |
| Tracking measure | Report on the addition of any new signage. |

OM - Operations and Maintenance

Overall Goal

These BMPs are designed for the implementation of operations and maintenance practices for public streets, bridges, storm sewers, and other facilities to reduce pollutants in discharges from the municipal separate storm sewer system.

Within Multnomah County's portion of the Portland and Gresham permit areas, and the unincorporated County area, the County's Transportation Division of the Department of Community Services (DCS) is responsible for operating and maintaining bridges, roads, and associated drainage facilities (except for the unincorporated pocket areas within the Portland permit which are maintained by Portland under an Inter-governmental agreement). The Transportation Division is also responsible for maintaining five Willamette River bridges within the permit area (Hawthorne, Morrison, Burnside, Broadway and Sellwood Bridges).

Operations and Maintenance BMPs

BMPs described in more detail on the following pages include the following:

| BMP ID | BMP Description | Area of BMP Application | | | |
|--------|--|--------------------------|---------------------------------|------------------------------|--|
| | | Portland Permit Area | | Gresham Permit Area | |
| | | Willamette River Bridges | Unincorporated Multnomah County | Interlachen Residential Area | County Arterials in Fairview, Troutdale and Wood Village |
| OM-1 | Review the RMOM for Potential Updates to Address Water Quality | ✓ | | ✓ | ✓ |
| OM-2 | Inspect and Maintain the Storm Drainage System | ✓ | | ✓ | ✓ |
| OM-3 | Conduct Street Sweeping | | | ✓ | ✓ |
| OM-4 | Properly Dispose of Road Waste Material | ✓ | | ✓ | ✓ |
| OM-5 | Minimize Impacts from Anti-icing Operations | | | ✓ | ✓ |
| OM-6 | Minimize Impacts from County Truck Hauling Practices | ✓ | ✓ | ✓ | ✓ |
| OM-7 | Minimize Impacts From Right-of-Way and Road Shoulder Maintenance | | | ✓ | ✓ |
| OM-8 | Minimize Impacts from Ditch Maintenance | | | ✓ | ✓ |

Regulations Addressed by BMPs

See Table 1-1

| | |
|-------------------------|---|
| OM-1 | Review the RMOM for Potential Updates to Address Water Quality |
| Application area | County-wide except for the unincorporated parcels in Multnomah County where the City of Portland conducts maintenance. |
| Responsibility | Program Management, Road Maintenance |
| Description | <p>The goal of this BMP is to ensure that road maintenance practices are conducted in ways that minimize the impact to water quality.</p> <p>The County Road Maintenance and Operation Manual (RMOM) is a reference manual with guidance on vegetation management, equipment and material transport, emergency maintenance, and roadway and drainage maintenance. The manual was developed to comply with ODOT's Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices (2004), and will serve as the core of the County's ESA 4(d) submittal.</p> <p>For this BMP the County will conduct annual reviews of the manual to ensure that it is current with respect to addressing water quality to the extent feasible.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Review the Road Maintenance Operations Manual annually. 2. When manual revisions are made, conduct refresher staff training as provided for under BMP PI-4. |
| Measurable Goal | Ensure that the RMOM is current with respect to addressing water quality. |
| Tracking measure | Describe updates to the RMOM when applicable. |

| | |
|-------------------------|---|
| OM-2 | Inspect and Maintain the Storm Drainage System |
| Application area | County-wide except for the unincorporated parcels in Multnomah County where the City of Portland conducts maintenance |
| Responsibility | Road Maintenance, Bridge Maintenance |
| Description | <p>The goal of this BMP is to ensure that inlets, catch basins, and stormwater conveyance systems are maintained in a manner that reduces pollutants to the maximum extent practicable and to continue to review and revise operations and maintenance procedures as appropriate. Routine cleaning of these basins prevents this sediment from entering main stormwater distribution facilities. Cleaning occurs manually or by Vactor™ two times per year and more often if sediment and debris deposits are heavy.</p> <p>Catch basins on the Willamette River Bridges are serviced the same as described above, except for the catch basin filters installed on the Burnside and Broadway Bridges. The filter cartridges are replaced according to manufacturer suggestions.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Follow written procedures from the Road Maintenance and Operations Manual (RMOM) for routine inspection and maintenance of catch basins. 2. Inspect the entire stormwater conveyance system on an annual basis. 3. Utilize the record keeping system and database to record findings and follow-up work completed by field crews. |
| Measurable Goal | Clean all catchbasins a minimum of 2 times per year. |
| Tracking measure | Frequency of catchbasin cleaning and percent full at time of cleaning. |

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|-------------------------|--|
| OM-3 | Conduct Street Sweeping |
| Application area | Gresham Permit Area and the Sellwood Bridge |
| Responsibility | Road Maintenance |
| Description | <p>The street sweeping program for County roads reduces materials on the roadway and impacts to the stormwater sewer system. The County will continue to review and revise the program and schedule and make improvements as appropriate.</p> <p>Within the Gresham permit area, the County's Transportation Division of the Department of Community Services (DCS) owns, operates and maintains approximately 28 center lane miles of paved public roads. Runoff from these roadways drains as surface flow to roadside ditches, into inlets in sumps, or through piped stormwater system conveyances to outfalls. Street sweeping occurs on curbed streets in accordance with the schedule in the Multnomah County Road Maintenance Operations Manual (RMOM), a minimum of 20 times per year (generally 3 to 4 times per month) for most roadways. All efforts are made to minimize flushing.</p> <p>The City of Portland sweeps the Willamette River Bridges, except the Sellwood Bridge. The County sweeps the Sellwood Bridge typically once a month, or as needed.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Follow written procedures in the Multnomah County RMOM for inspection and maintenance of streets as part of the street sweeping program for protecting water quality. 2. Track street sweeping efforts to record the sweeping frequency. |
| Measurable Goal | Sweep all curbed road segments 20 times per year unless catch basin cleaning records indicate that less frequent sweeping is appropriate. |
| Tracking measure | Track the frequency of sweeping and reference catchbasin conditions from OM-2. |

| | |
|-------------------------|--|
| OM-4 | Properly Dispose of Road Waste Material |
| Application area | County-wide except for unincorporated parcels in Multnomah County where the City of Portland conducts maintenance activities. |
| Responsibility | Road Maintenance, Emergency Response |
| Description | <p>The objective of the road waste disposal operations for County roads is to identify and implement practices for disposal of road waste materials that protect water quality. Materials removed from the drainage system are collected by the County road crews on a regular basis. These wastes are properly decanted or stockpiled at Vance Pit, a County-owned facility, then disposed by a private contractor. The facility, however, continues to be compromised due to vandalism and new disposal methods are desired.</p> <p>The County will continue to investigate alternatives to decant and dispose of road waste materials including the feasibility of a decant facility upgrade for County waste materials, partnerships with neighboring jurisdictions, or contracts with other private waste handlers.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Identify alternatives for a new decant facility to be used for the dewatering of road wastes, or upgrades to the existing facility. 2. As a result of Task 2, include any new road waste disposal procedures in the County's Road Maintenance and Operations Manual (RMOM). 3. Conduct sampling of road wastes and provide reports to the landfill facility, as required by the facility. |
| Measurable Goal | Identify appropriate road waste disposal options by the end of the first permit year. |
| Tracking measure | Describe facility upgrades or selected disposal options and report on updates to the County's RMOM. |

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| OM-5 | Minimize impacts from Anti-icing Operations |
| Application area | Gresham Permit Area only |
| Responsibility | Road Maintenance |
| Description | <p>The overall goal of this BMP is to reduce effects of roadway anti-icing activities on water quality by proper sand collection methods and evaluation of chemical anti-icing applications.</p> <p>During winter sanding operations, the County applies washed rock (less than 3/8" dia.) to roadways. Clean up operations begin as soon as practicable by Multnomah County road crews. Removed sanding material is stockpiled at Multnomah County's Vance Pit for recycling. The material is recycled by rewashing or screening out road debris. If material is free of road debris, it can be reused.</p> <p>Testing was performed during the first permit term on the feasibility of alternative anti-icing materials such as calcium magnesium acetate (CMA). Test results showed that CMA is environmentally safe and better than sand, but more expensive. Multnomah County and the City of Portland currently uses CMA at select locations, such as the Willamette Bridges as a replacement for ethylene glycol, however ODOT continues to use glycol on their bridges in the permit area in extreme ice conditions. The County prohibits the use of salt or glycol on County roadways.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Continue to follow the County's Road Maintenance and Operations Manual procedures for the application, collection, and washing of sanding materials applied to roadways. 2. Continue to research alternative anti-icing methods. |
| Measurable Goal | Conduct street sweeping to recover sanding materials within one week after anti-icing is no longer necessary. |
| Tracking measure | Report on anti-icing applications and material recovery. |

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| OM-6 | Minimize impacts from County Truck Hauling Practices |
| Application area | County-wide |
| Responsibility | Road Maintenance |
| Description | <p>The goal of this BMP is to control discharges from truck hauling activities to the extent that they are impacting County right-of-way (ROW) and/or the Municipal Separate Storm Sewer System (MS4).</p> <p>County trucks haul materials during routine road maintenance activities. Discharges are controlled to the maximum extent practicable. Maintenance crews are trained to avoid any discharge from truck hauling activities. Road Maintenance Operations Manual (RMOM) maintenance practices specify that all equipment operators do an equipment check when hauling material.</p> <p>Release agents are used in dump trucks, for example, during road paving repair operations. County road crews currently use an environmentally friendly non-stick/asphalt release agent to allow paving material to slide out of a dump truck.</p> <p>For this BMP, the County will review County truck hauling practices with field crews annually; recommend revisions (if necessary) to limit occurrence of leaks, spills, or other releases; and, continue to test and evaluate asphalt release agents for truck and tool cleanup, which use “environmentally-friendly” products.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Follow the RMOM procedures for conducting equipment checks when hauling materials. 2. Continue to test and evaluate asphalt release agents currently used for truck and tool cleanup which use “environmentally-friendly” products. 3. Recommend revisions (if necessary) to limit occurrence of leaks, spills, or other releases. Revise operations and the RMOM manual as necessary to reduce potential pollutants. |

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| Measurable Goal | See measurable goal for OM-1. |
| Tracking measure | See tracking measure for OM-1. |

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| OM-7 | Minimize Impacts from Right-of-Way and Road Shoulder Maintenance |
| Application area | County-wide except for the unincorporated parcels in Multnomah County where the City of Portland conducts maintenance. |
| Responsibility | Road Maintenance |
| Description | <p>The purpose of this BMP is to control and reduce the amount of sediments discharged to the receiving waters via the right-of-way. Sediments attract and adhere to other pollutants (heavy metals, oil/grease) and increased turbidity/sedimentation on channel bottoms impairs water quality and fish habitat.</p> <p>The Transportation Division of Multnomah County performs routine maintenance upon most shoulder, ditches, and rights-of-way adjacent to its road system. The maintenance of vegetation within this right-of-way is carried out in an integrated manner. Methods include machine mowing and brushing, hand clearing, shoulder re-grading, mechanical ditchline cleaning, and herbicide application as necessary.</p> <p>For this BMP, the County will maintain right-of-way and road shoulders in ways that avoid and prevent future adverse water quality impacts; and continue review of current maintenance practices.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Conduct right-of-way and shoulder maintenance activities as specified in RMOM. 2. Review RMOM procedures with new and existing staff. |
| Measurable Goal | See measurable goal for OM-1. |
| Tracking measure | See tracking measure for OM-1. |

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| OM-8 | Minimize Impacts from Ditch Maintenance |
| Application area | County-wide with the exception of unincorporated parcels in Multnomah County where the City of Portland conducts maintenance. |
| Responsibility | Road Maintenance |
| Description | <p>The goal of this BMP is to control/reduce amount of sediments and pollutants discharged to the receiving waters. Sediments attract and adhere to other pollutants (heavy metals, oil/grease) and increased turbidity/sedimentation on channel bottoms impairs water quality and fish habitat.</p> <p>Multnomah County's natural ditch lines serve safety and environmental functions: they receive, collect, absorb and transmit stormwater from the road surface, road sub-grade and adjoining private properties; they provide sedimentation and pollutant/nutrient filtering; and they also may carry year round streams or seasonal springs to other receiving water bodies.</p> <p>Various mechanical methods of ditch maintenance are used, including vacuum truck (Vactor™) backhoes, excavators, front-end loaders, road graders and mowers. Routine ditch line cleaning begins each fall by addressing conditions that reduce the carrying capacity of the roadside drainage system. The timing and frequency of such activities, as well as the type of equipment used to remove debris can affect the likelihood of debris being released to the stormwater system and also the integrity of the ditch surface. Ditch maintenance activities are outlined in the Road Maintenance Operations Manual (RMOM).</p> <p>For this BMP, the County will conduct ditch maintenance activities; review the frequency and timing of ditch cleaning in areas where sediment and/or debris tend to accumulate; determine if the frequency and timing of current ditch maintenance practices allows for reduction of pollutants and minimizes the impact on ditch surface (if not, recommend and implement improved frequencies, timing, and/or type of equipment to minimize damage to ditch bottom); and use records to determine where improvements are needed to reduce discharges to ditches.</p> |

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| Tasks | <ol style="list-style-type: none">1. Conduct ditch maintenance activities as specified in the RMOM.2. Review RMOM procedures with new and existing staff. |
| Measurable Goal | See measurable goal for OM-1. |
| Tracking measure | See tracking measure for OM-1. |

ILL – Illicit Discharge

Overall Goal

To prevent, identify, investigate, and if appropriate, control/eliminate any non-stormwater discharges into the municipal separate storm sewer system.

Illicit Discharge BMPs

BMPs described in more detail on the following pages include the following:

| BMP ID | BMP Description | Area of BMP Application | | | |
|--------|---|--------------------------|---------------------------------|------------------------------|--|
| | | Portland Permit Area | | Gresham Permit Area | |
| | | Willamette River Bridges | Unincorporated Multnomah County | Interlachen Residential Area | County Arterials in Fairview, Troutdale and Wood Village |
| ILL-1 | Implement the Spill Response Program | ✓ | ✓ | ✓ | ✓ |
| ILL-2 | Address Spills from Private Truck Haulers | ✓ | ✓ | ✓ | ✓ |
| ILL-3 | Require Erosion and Pollution Controls for Public Projects | ✓ | ✓ | ✓ | ✓ |
| ILL-4 | Identify and Investigate Illegal Dumping | ✓ | ✓ | ✓ | ✓ |
| ILL-5 | Identify and Investigate Sanitary Discharges to the Storm Sewer | ✓ | | | |

Regulations Addressed by BMPs

See Table 1-1

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| ILL-1 | Implement the Spill Response Program |
| Application area | County-wide |
| Responsibility | Emergency Response, Road Maintenance, Bridge Maintenance |
| Description | <p>The goals of this BMP are to prevent spills to the maximum extent practicable, and respond to accidental non-stormwater discharges promptly to reduce the frequency and overall impact of spills to the stormwater system.</p> <p>The County Road Maintenance Operations Manual (RMOM) outlines Emergency Response procedures (per the Multnomah County Emergency Spill Response Plan) to address potential runoff of fine materials through waste streams and ditches. Depending on the magnitude of the spill occurring on County property, County personnel will either initially respond (and utilize appropriate clean up measures for minor spills) or coordinate with National Response Corporation (NRC) Environmental Services or RMCAT Environmental Services for hazardous material spill clean up. Spills occurring on County roads are addressed through HAZMAT units and fire departments. Spills occurring in the unincorporated areas are addressed through the local fire department.</p> <p>For this BMP, the County will continue to manage the spill prevention and response program that reduces the frequency and impact of accidental non-stormwater discharges to the MS4; revise the County Road Maintenance Operation Manual (RMOM), if necessary, to include clear instructions for field personnel in the event of a spill; improve the use of absorbent materials for quick response to minor spills of oil or fluid; keep records of incidents and response; and continue to coordinate response to appropriate incidents with cities.</p> |

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| Tasks | <ol style="list-style-type: none">1. Continue to follow and implement the Multnomah County Spill Response Plan.2. Track and record spills and information regarding spills as they occur.3. Maintain agreements with contractors for spill response.4. Participate in the regional Stormwater Spill Committee lead by the City of Portland Bureau of Environmental Services. |
| Measurable Goal | Conduct spill response procedures when spills are reported. |
| Tracking measure | Track the spills that occur and the outcome of the spills. |

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| ILL-2 | Address Spills from Private Truck Haulers |
| Application area | County-wide |
| Responsibility | Right-of-Way Permits, Road Engineering, Bridge Engineering |
| Description | <p>The goal of this BMP is to control discharges from private truck hauling activities to the extent that they are impacting the County right-of-way.</p> <p>Problems may arise with haulers working on private property and hauling materials onto the County's right-of-way from those properties or city streets. These activities do not require a County permit. The County will respond to leaks or spills when a complaint is received, or if a County road maintenance crew observes problems.</p> <p>For contract work or work requiring a County permit (e.g., County road or bridge projects or in the County right-of-way), the County adds standard language to the contract or permit to inform the contractor of the state requirements prohibiting leaking, spilling, etc. The language is the same as that used by ODOT (00280 ODOT requirements for erosion and sediment control).</p> <p>Trucks in excess of statute-established weight limit (80,000 lbs) require overweight and over-dimension permits to travel over Multnomah County roads. This permit requires the operator to have a spill prevention, contingency, and countermeasure plan.</p> <p>The County's Transportation Division responds to complaints regarding nonhazardous spills and notifies local fire departments and DEQ depending on the type and severity of the spill. Local fire departments and DEQ respond to hazardous spills; however, records show that the majority of spills are nonhazardous.</p> <p>ORS 368.251 et seq. gives the County legal authority to address these incidents. A county road official may order an abatement of a road hazard as authorized by ORS 368.261.</p> <p>For this BMP, the County will review reporting of and action for noticeable private truck hauling practices causing discharges to County roads and the stormwater conveyance system; and work with</p> |

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| | County inspection officers for immediate response. |
| Tasks | 1. Report to the appropriate agency of the private truck hauling practices impacting the County right-of-way and the stormwater conveyance system. |
| Measurable Goal | Contact all private haulers when spills are observed. |
| Tracking measure | Track the spills observed and the outcome. |

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| ILL-3 | Require Erosion and Pollution Controls for Public Projects |
| Application area | County-wide |
| Responsibility | Right-of-Way Permits, Road Engineering, Bridge Engineering |
| Description | <p>The goals of this BMP are to enforce erosion control measures to reduce sediment discharges to County ROW; monitor to ensure control over regulated contractors' activities; and, continue to require those responsible for damage and water quality pollution due to construction activities to pay the clean-up costs. This BMP is intended to apply to contractors hired to construct County projects, including road and bridge repair and construction, and associated projects.</p> <p>Currently, erosion control measures are required in contract specifications, construction drawings, and/or permits. The County initiates pre-construction meetings to disseminate information about requirements to prevent damages associated with construction projects, and County inspectors monitor the contractors' activities. The County requires a general project bond when the project agreement is executed. This bond ensures that there are funds available in the event that the contractor/owner's activities create erosion and sedimentation damage.</p> <p>The County establishes special provisions and specifications in individual project agreements/ROW permits to address erosion control. Current requirements include placing filters in catch basins, monitoring catch basins, following standards for construction of temporary access roads, and a \$1,000 cash deposit.</p> <p>For this BMP, the County will implement requirements to control discharges from construction sites to ensure that construction practices do not release sediment and contaminants onto roadways or open space where they may be washed into storm drains or waterways; continue to require erosion control measures in contract specifications; continue to require cash deposits, performance-payment bonds, final inspections and other mechanisms to ensure compliance with permit requirements; review erosion control permit requirements with contractors during projects; inspect and review Erosion and Sediment Control Plans to ensure control of discharges; and, continue pre-construction meetings to disseminate information</p> |

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| | about requirements to prevent damages during construction projects. |
| Tasks | <ol style="list-style-type: none"> 1. Provide information to contractors in pre-construction meetings regarding permit specifications for erosion and sediment control practices. 2. Continue to require cash deposits, performance-payment bonds, pre-construction meetings, and final inspections to ensure compliance with County permit requirements regarding erosion and sediment control during bridge road construction projects. 3. Conduct routine erosion control inspections to ensure compliance. Develop monitoring process to ensure control of discharges. 4. Review corrective actions and violations and evaluate whether changes are needed in future permit conditions and/or future pre-construction meetings to clarify requirements to avoid future erosion and sediment control problems. 5. Include pollution control for additional non-sediment related discharges in permits (e.g., paints, solvents, metals, etc.). |
| Measurable Goal | Inspect 100% of sites that obtain permits. |
| Tracking measure | <p>Report number of sites inspected.</p> <p>Report observed erosion and pollution problems and outcomes.</p> |

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| ILL-4 | Identify and Investigate Illegal Dumping |
| Application area | County-wide |
| Responsibility | Road Maintenance, Nuisance Code, Emergency Response, Code Compliance |
| Description | <p>The goal of this BMP is to eliminate or reduce discharge of pollutants associated with illegal dumping, which may adversely impact stormwater and receiving water quality.</p> <p>County personnel during typical job related activities occasionally encounter various forms of illegal dumping either within the County right-of-way, on the premises of County facilities or on private property. If unusual occurrences or substances are found in the ditch, waterway, or right-of-way as observed by County field personnel they are immediately reported to the District Supervisors in the Road Maintenance County Transportation Division. In addition, depending on the type of material, the county staff reports the event to the appropriate supervisor, safety officer, Code Compliance staff, Nuisance Control Officer. The Maintenance and Operations crew will follow the problem to its source and take enforcement action as necessary. In addition, the Sheriff's office manages an inmate crew responsible for investigation and clean-up of illegal dumps.</p> <p>For this BMP, the County will continue to implement a program to identify and investigate illegal dumping of pollutants including trash, fill, oil, or toxic materials in the right-of-way or to the storm sewer system; and, report and follow up on reports by County staff when illegal dumping is discovered during the course of job duties.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Continue to implement the existing field inspection program during routine maintenance activities. Record and report any noticeable illegal dumping, illicit connections and/or discharges to the storm sewer system. 2. Report illegal dumping to appropriate supervisor, Safety Officer, Code Compliance Officer, Nuisance Control Officer or environmental contractor. 3. Follow up identification of an illegal dumping activity or discharge with solutions, including enforcement action as necessary, when the source of an illegal dumping or discharge |

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| | activity can be determined. |
| Measurable Goal | Clean up all reported debris dumped in the right-of-way. |
| Tracking measure | Track observed dumping problems and outcomes. |

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| ILL-5 | Identify and Investigate Sanitary Discharges to the Storm Sewer |
| Application area | Broadway, Burnside, Hawthorne and Morrison Bridges on the Willamette River |
| Responsibility | Bridge Maintenance |
| Description | <p>The goal of this BMP is to identify and investigate any possible sanitary discharges in the storm system.</p> <p>Generally, the Cities within the NPDES permit areas are responsible for ensuring that there are no cross connections or failing sanitary pipes or septic tanks that may potentially discharge into the County's stormwater system. The Investigations and Monitoring Division of the Portland's Bureau of Environmental Services also investigates the major outfalls in the Portland/County permit area and traces observed discharges to their source.</p> <p>County personnel are responsible for inspection and maintenance of the restroom facilities (for bridge operators) on four Willamette River bridges, to ensure that potential leaks are prevented.</p> <p>For this BMP, the County will continue to implement a program to identify and investigate sanitary discharges to the storm sewer system; and, continue a reporting and follow-up procedure for County staff to follow when a cross-connection or illicit connection is discovered during the course of job duties.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Continue to inspect and maintain the bridge restroom facility holding tanks on all bridges. 2. Follow up on illicit discharge investigations by Cities, as needed. |
| Measurable Goal | Conduct quarterly maintenance of bridge facilities. |
| Tracking measure | Confirm maintenance frequency and any problems observed. |

ND – New Development

Overall Goal

New Development Standards (ND) BMPs are designed to mitigate pollutant discharges and other water quality impacts associated with new development and redevelopment during and after construction.

New Development BMPs

BMPs described in more detail on the following pages include the following:

| BMP ID | BMP Description | Area of BMP Application | | | |
|--------|---|--------------------------|---------------------------------|------------------------------|--|
| | | Portland Permit Area | | Gresham Permit Area | |
| | | Willamette River Bridges | Unincorporated Multnomah County | Interlachen Residential Area | County Arterials in Fairview, Troutdale and Wood Village |
| ND-1 | Require Erosion Control for Private Development | | | ✓ | |
| ND-2 | Regulate Stormwater Discharge | | | ✓ | |

Regulations Addressed by BMPs

See Table 1-1

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| ND-1 | Require Erosion Control for Private Development |
| Application area | Interlachen Residential Development |
| Responsibility | Land Use Planning and Code Compliance |
| Description | <p>The goal of this BMP is to control/reduce amount of erosion and sediments discharged to the receiving waters. Negative charged clay particles attract and attach to pollutants, (heavy metals, oil/grease). Increased turbidity/sedimentation on channel bottoms impairs water quality and fish habitat.</p> <p>The Planning Division of the Multnomah County Department of Community Services applies the Grading and Erosion Control Standards (GEC) for most “ground-disturbing activities” through plan review and inspections. The County Planning Division requires Hillside Development (HD) or GEC Permits for grading, clearing or fill on any sites within its jurisdictional authority.</p> <p>HD and GEC Permits standards require temporary and permanent erosion control and water quality protection during construction stages and for long term site stability and mitigation. Inspections are performed by Planning staff for large grading projects and Right-of-Way inspectors perform inspections for the “minimal impact” projects. Each inspection receives either a pass or fail.</p> <p>An erosion control review is required by the County whenever:</p> <ul style="list-style-type: none"> • > 10,000 square feet of ground disturbing activity, or • Areas disturbed < 200 feet from top of bank of watercourse, or Pre-development slopes are > 10 % , or • Post construction; unsupported slopes > 33% that exceed five feet in height. <p>A Hillside Development review is typically required for all construction within a mapped slope hazard zone. See the Hillside Development and Erosion Control ordinance for more detail. This applies to existing undeveloped sites as well as newly developing sites.</p> |

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| | For this BMP, the County will continue issuing grading and hillside development permits per County zoning code. |
| Tasks | <ol style="list-style-type: none"> 1. Review and provide comments on applications for grading permits and hillside development permits. 2. Perform Erosion and Sediment Control Inspections for all approved construction projects. 3. Investigate and enforce related land use and transportation code provisions. 4. Require site remediation where appropriate. |
| Measurable Goal | Inspect 100% of sites once during the permit review, and a second time during active construction. |
| Tracking measure | Number of permits issued, number of inspections conducted, number of problems encountered, number of enforcement actions. |

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| ND-2 | Regulate Stormwater Discharge |
| Application area | Interlachen Residential Development |
| Responsibility | Land Use Planning, Right-of-Way Permits, Code Compliance, Road Engineering |
| Description | <p>The goals of this BMP are to implement localized design standards to adequately address stormwater discharge issues.</p> <p>The County has minimal development review responsibility, yet reviews development for compliance with certain local guidance documents and standards regarding stormwater discharge. County code requires that stormwater runoff attributed to new and re-development is managed on-site for a storm of ten-year, 24 hour design frequency or, is to be discharged to a watercourse in or adjacent to the property at pre-developed rates.</p> <p>The County has development review authority in the Interlachen Residential Area. When conducting hillside development and erosion control permit review, the County Planning Program of the Department of Community Services uses the current City of Portland <i>Erosion and Sediment Control Manual</i> and the <i>Stormwater Management Manual</i>. The Multnomah County Zoning Code makes reference to the Portland guidance manuals.</p> <p>In the unincorporated pockets within the Portland Permit Area connection to the right-of-way and drainage discharge to the right-of way is reviewed by Road Engineering. When conducting development review activities, the County refers to their drainage design standards (Chapter 5 of the Design Construction Manual), which references portions of the City of Portland's water quality design standards for new development. Portland Planning also provides drainage review.</p> <p>Under both the Land Use and Transportation Planning Programs and Right-of-Way permitting processes, engineering criteria are applied to development plans, including considerations of stormwater management. Property owners may be required to install stormwater quality controls and consider using storage facilities (detention ponds) to control stormwater discharge.</p> |

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| | <p>For this BMP, the County will review stormwater regulations, design standards, and criteria, as issued by the City of Portland and other jurisdictions, and consider them for use as guidance to regulate both stormwater discharge associated with new and redevelopment activities; review new development permit applications for appropriate stormwater quality and quantity controls in the Interlachen area.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Continue to review new development permit applications to ensure proper connection to the storm sewer system and application of design standards. 2. Inspect stormwater facilities during and after construction to ensure that the site is compliant with design standards. 3. Enforce the land use and transportation codes with respect to stormwater quality treatment. |
| Measurable Goal | <p>Conduct plan reviews and inspections for 100% of permitted projects.</p> |
| Tracking measure | <p>Percentage of reviewed permits, percentage of permitted sites inspected, describe permit violations and outcomes.</p> |

STR – Structural Control

Overall Goal

These BMPs are designed to implement structural modifications (constructed facilities) to existing systems/development to reduce pollutants in discharges from the municipal separate storm sewer system.

Structural Control BMPs

BMPs described in more detail on the following pages include the following:

| BMP ID | BMP Description | Area of BMP Application | | | |
|--------|--|--------------------------|---------------------------------|------------------------------|--|
| | | Portland Permit Area | | Gresham Permit Area | |
| | | Willamette River Bridges | Unincorporated Multnomah County | Interlachen Residential Area | County Arterials in Fairview, Troutdale and Wood Village |
| STR-1 | Address Water Quality with New Capital or Roadway Improvement Projects | ✓ | ✓ | ✓ | ✓ |
| STR-2 | Retrofit Existing Facilities for Water Quality Benefit | ✓ | ✓ | ✓ | ✓ |
| STR-3 | Inventory and Map the County Storm Sewer System | ✓ | ✓ | ✓ | ✓ |

Regulations Addressed by BMPs

See Table 1-1

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| STR-1 | Address Water Quality with New Capital or Roadway Improvement Projects |
| Application area | County-wide |
| Responsibility | Road Engineering, Bridge Engineering, Land Use Planning, Transportation Planning |
| Description | <p>The goals of this BMP are to ensure that water quality facilities, built as part of a drainage/flood control capital improvement project or road construction project apply appropriate design standards to reduce the discharge of pollutants from sites to the maximum extent practicable, and that practices are applied consistently.</p> <p>The County Transportation Engineering/ Design Group or consultant ensures through design and review of new capital improvement projects that stormwater and Best Management Practice (BMP) structural controls are considered and properly designed for inclusion in the Capital Improvement Program. Currently, the group reviews designs of various capital improvement projects (flood control facilities, culvert replacements) for appropriate water quality controls. The City of Portland Stormwater Management Manual has been used as guidance in the design of stormwater facilities that are part of Road Capital Improvement Projects.</p> <p>The County Planning Program of the Department of Community Services uses the current Portland Stormwater Management Manual in Hillside Development (HD) and Grading and Erosion Control (GEC) Permit reviews county-wide. These permits are required for County road construction projects and include guidelines for stormwater facilities. Stormwater facilities built in conjunction with County road or bridge projects are generally owned and maintained by the County. Long-term maintenance is assured through routine County maintenance and operations procedures.</p> <p>For this BMP, the County will ensure that any capital improvement or road construction project considers long-term water quality protection, where feasible; and review the plans, design, and purpose of such stormwater quality treatment facilities.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Conduct plan checks of stormwater quality treatment facilities that are included in capital improvement or roadway improvement projects to assure they follow standard design criteria that include |

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| | <p>stormwater quality considerations, and that the appropriate facility is selected for the intended purpose.</p> <p>2. Conduct design/permit reviews for road construction. Decide whether to apply the Portland Stormwater Management Manual or another standard to designs.</p> |
| Measurable Goal | Include consideration of stormwater treatment for all significant CIP and road construction projects. |
| Tracking measure | List projects constructed with and without treatment and provide the rationale. |

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| STR-2 | Retrofit Existing Facilities for Water Quality Benefit |
| Application area | County-wide |
| Responsibility | Road Engineering, Bridge Engineering |
| Description | <p>The goal of this BMP is to consider retrofits and improvements to existing stormwater infrastructure for all major repair projects.</p> <p>The County owns and maintains drainage facilities for its portion of the permit area. When major repair is needed, the County will develop and implement retrofits of existing public drainage and flood control facilities (sumps, water quality filtration devices, retention basins, drainage channels, bioswales, trash racks, sediment trap devices, etc.) where practicable to improve water quality, and install new systems according to current standards.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Implement retrofits as opportunities arise. Include stormwater treatment for water quality purposes to reduce pollutants to the maximum extent practicable. |
| Measurable Goal | Include the consideration of stormwater treatment for all major repair projects. |
| Tracking measure | List repair projects conducted both with and without treatment and provide the rationale. |

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| STR-3 | Inventory and Map the County Storm Sewer System |
| Application area | County-wide |
| Responsibility | Road Engineering, Bridge Engineering |
| Description | <p>The goal of this BMP is to ensure County storm sewer mapping is accurate. This BMP supports the MS4 by providing valuable information allowing the County to effectively accomplish other elements of the NPDES permit requirements.</p> <p>The County has a detailed mapping system of drainage facilities including structural control facilities and continually updates this as new facilities are added. A computer system has been developed for inventory of the road system (IRIS: Integrated Road Information System).</p> <p>For this BMP, the County will continue to inventory and map the municipal storm sewer system; improve knowledge of the County system to facilitate identification of problem areas and implementation of control programs in strategic locations; and allocate staff resources to ensure continued map updates.</p> |
| Tasks | 1. Continue to update the County storm sewer system map as needed. |
| Measurable Goal | Keep infrastructure maps current within 6 months. |
| Tracking measure | Narrative to describe updates and whether maps are current. |

NS – Natural Systems

Overall Goal

These BMPs are designed to help preserve and restore the natural environment/functions to reduce pollutants in discharges from the municipal separate storm sewer system.

Multnomah County has implemented and enhanced a vegetation management Functional Group within both Road and Bridge Maintenance, partly in response to Stormwater Implementation Team recommendations, since the first permit term began.

Natural Systems BMPs

BMPs described in more detail on the following pages include the following:

| BMP ID | BMP Description | Area of BMP Application | | | |
|--------|---|--------------------------|---------------------------------|------------------------------|--|
| | | Portland Permit Area | | Gresham Permit Area | |
| | | Willamette River Bridges | Unincorporated Multnomah County | Interlachen Residential Area | County Arterials in Fairview, Troutdale and Wood Village |
| NS-1 | Conduct Vegetation Management Activities | ✓ | | ✓ | ✓ |
| NS-2 | Specify Native Vegetation in ROW and Permitted Projects | ✓ | | ✓ | ✓ |

Regulations Addressed by BMPs

See Table 1-1

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| NS-1 | Conduct Vegetation Management Activities |
| Application area | County wide except unincorporated parcels in Multnomah County where the City of Portland conducts vegetation management. |
| Responsibility | Road Maintenance, Bridge Maintenance |
| Description | <p>The goal of this BMP is to implement existing/improved vegetation management practices to ensure that pollutants discharged from and into County rights-of-way (roads, ditches) are reduced to the maximum extent practicable.</p> <p>Vegetation management policies and strategies are outlined in the Multnomah County Transportation Integrated Vegetation Management Program (IVM), and vegetation management procedures are outlined in the Road Maintenance Operations Manual (RMOM) including environmental considerations for daily operations such as: tractor mowing, hand brushing, hand weeding, pesticide application, fertilizing, planting, pruning, water, etc.</p> <p>Chemical herbicide applicators receive annual certification from the Oregon Department of Agriculture in proper handling, safety, and application of allowable chemicals. All herbicides are applied in accordance with manufacturers' labels.</p> <p>For this BMP, the County will continue to implement vegetation management strategies and procedures as provided in the Integrated Vegetation Management Program (IVM) and the Road Maintenance Operations Manual (RMOM) to assure that water quality impacts are addressed; include annual Oregon Department of Agriculture certification for pesticide applicators; selectively use pesticides wherever applicable; and, continue to improve application practices and train personnel to reduce pollutants to the maximum extent practicable.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Follow RMOM and IVM procedures. 2. Apply herbicides selectively to reduce overall application, and to promote the growth of native species. 3. <i>Keep Oregon Department of Agriculture (ODA) certifications current.</i> |

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| | <p>4. Selectively target invasive species for control.</p> <p>5. Review and update integrated vegetation management practices (IVM) as necessary.</p> |
| Measurable Goal | Review RMOM vegetation activities and the Integrated Vegetation Management Program (IVM) during the permit term. |
| Tracking measure | Narrative description of relevant changes to IVM and RMOM. |

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| NS-2 | Specify Native Vegetation in ROW and Permitted Projects |
| Application area | County wide except unincorporated parcels in Multnomah County where the City of Portland conducts vegetation management. |
| Responsibility | Land Use Planning, Transportation Planning, Road Engineering, Road Maintenance, Bridge Engineering, Bridge Maintenance |
| Description | <p>The goal of this BMP is to reduce pesticide use and encourage use of self-sustaining native vegetation as means of improving water quality.</p> <p>Native vegetation reduces/eliminates the need for chemicals, watering and maintenance (mowing) thereby, greatly reducing stormwater runoff and pollutant loads. Trees are known to absorb and hold large quantities of rain water, both in the above ground mass and in the root systems. This characteristic can reduce erosive runoff and stabilize soils. Root systems have been found to effectively filter pollutants in groundwater, especially related to landfills. Native vegetation offers many other environmental benefits such as air quality improvement, community ambiance, economic enhancement, and wildlife habitat.</p> <p>Currently, specifications for landscaping in the ROW are an integral part of a road improvement project. Specifications are detailed in the project contract, and require the use of self-sustaining vegetation.</p> <p>Permit approval for a new use or change in use in a County designated Significant Environmental Concern (SEC) zone may require natural vegetative fringe along rivers, lakes, wetlands and streams to be “enhanced and protected to the maximum extent practicable to assure scenic quality and protection from erosion.” Flood plains, water courses and wetlands “shall be retained in their natural state to the maximum possible extent to preserve water quality and protect water retention, overflow and natural functions.”</p> <p>The County coordinates with the cities, landscape industries, nurseries, and others to develop recommendations for new design practices encouraging use of self-sustaining vegetation.</p> <p>Most County rights-of-way are utilizing native species, thereby reducing the need for chemicals, watering and maintenance (mowing).</p> |

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| | <p>For this BMP, the County will promote the use of native vegetation on public and private projects; utilize existing native plant lists for development review; and encourage the use of self-sustaining, non-invasive vegetation as well as Green Street Design practices which reduces the need for pesticides, fertilizers, and water.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Review the current contract specifications for landscaping in the right-of-way, and update as needed. 2. The County, in continuing its current review and approval process, will promote the use of native vegetation and develop contract specifications for landscaping. 3. Ensure contract specifications are followed which require certain landscaping materials and placement. 4. Condition plan approvals with invasives removal, if appropriate. 5. Review and update the IVM as necessary (see NS-1). |
| Measurable Goal | <p>Inspect 100% of project sites for landscaping specifications.</p> |
| Tracking measure | <p>Report compliance with landscaping specifications.</p> |

PM – Program Management

Overall Goal

Program Management BMPs ensure effective program management, coordination, and reporting.

Program Management BMPs

BMPs described in more detail on the following pages include the following:

| BMP ID | BMP Description | Area of BMP Application | | | |
|--------|--|--------------------------|---------------------------------|------------------------------|--|
| | | Portland Permit Area | | Gresham Permit Area | |
| | | Willamette River Bridges | Unincorporated Multnomah County | Interlachen Residential Area | County Arterials in Fairview, Troutdale and Wood Village |
| PM-1 | Stormwater Program Management | ✓ | ✓ | ✓ | ✓ |
| PM-2 | Assess and Evaluate the Stormwater BMP Program | ✓ | ✓ | ✓ | ✓ |
| PM-3 | Maintain Environmental Management Database | ✓ | ✓ | ✓ | ✓ |

Regulations Addressed by BMPs

See Table 1-1

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| PM-1 | Stormwater Program Management |
| Application area | County-wide |
| Responsibility | Program Management |
| Description | <p>The goals of this BMP are to develop and manage the County's stormwater program to ensure compliance with the NPDES permit, and to develop and implement cost-effective, practical BMPs and activities that are designed to reduce stormwater pollution to the maximum extent practicable.</p> <p>Multnomah County participates in periodic co-permittee management committee meetings and the Oregon Department of Environmental Quality (DEQ) meetings. The County conducts program management that includes implementation scheduling, budgeting and tracking. The County prepares the required Annual Compliance Reports and coordinates with the City of Gresham and the City of Portland (leads for the respective NPDES co-permits) in preparing annual reports for submittal to DEQ.</p> |
| Tasks | <ol style="list-style-type: none"> 1. Continue to participate in the co-permittee management committee meetings and any DEQ meetings. Continue to work with the co-permittee agencies and DEQ to implement the stormwater management program. 2. Review each BMP file semi-annually. Prepare an annual report to demonstrate the County's compliance with requirements. Submit to DEQ through City of Portland co-permittee group, and City of Gresham co-permittee group. |
| Measurable Goal | Meet regulatory obligations. |
| Tracking measure | Submit annual report. |

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| PM-2 | Assess and Evaluate the Stormwater BMP Program |
| Application area | County-wide |
| Responsibility | Program Management |
| Description | <p>The County has continually assessed and evaluated BMPs. Work sessions each permit year occur to ensure progress of each BMP. Program updates and progress review regarding BMP implementation is also conducted via emails. BMP files demonstrate work done to date for each BMP. The effectiveness of the BMPs has been summarized in each annual report.</p> <p>The two sets of BMPs (one for the Portland permit, and one for the Gresham permit) were combined in 2006 for future permit terms, into one set of County BMPs. Evaluation of BMP activity allowed a more efficient set of BMPs which can be assessed in more detail, and resulted in the new BMP set.</p> <p>For this BMP, the County will assess and evaluate the BMP program (on a continuous basis and especially annually) to ensure the best use of available resources, and make recommendations for improvements in program implementation tasks; designate County staff to compile/summarize records for each BMP; and, utilize a BMP record-keeping system for evaluation of progress at regular work sessions with the Stormwater Implementation Team.</p> |
| Tasks | 1. Conduct annual meetings or work sessions with the functional groups to assess and evaluate each BMP. |
| Measurable Goal | Evaluate BMPs annually. |
| Tracking measure | Provide results of the BMP evaluations in the annual reports and include any changes to the BMPs. |

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| PM-3 | Maintain Environmental Management Database |
| Application area | County-wide |
| Responsibility | Asset Management |
| Description | <p>The County maintains records of NPDES permit activities through the Environmental Management Database. Data is entered by each functional group for the BMPs which they are responsible, and those data are summarized for the Annual Report.</p> <p>The records track the various activities such as attendance and training obtained/provided by County staff at meetings, seminars, workshops. Data from the various field logs and reporting forms are input into the Environmental Management data base.</p> <p>For this BMP, the County will continue to keep field records of maintenance activities and update the database as needed.</p> |
| Tasks | 1. Conduct maintenance of the Environmental Management database. |
| Measurable Goal | Maintain the database annually. |
| Tracking measure | Confirm annual database maintenance. |

5.0 Summary of Proposed SWMP Changes and the Rationale for Changes

For the permit renewal, the Department of Environmental Quality (DEQ) has written into the Gresham and Portland MS4 NPDES permits a specific requirement for each co-permittee to evaluate their Stormwater Management Plan (SWMP) and describe the rationale for any changes. Specifically, the permits require the following as per Schedule D(2)(b):

“...Each co-permittee must review Schedule D(2)(c) and, for each component, determine whether implementation of the components in the SWMP as submitted is sufficient to reduce the discharge of pollutants to the maximum extent practicable. Each co-permittee must submit to the Department details on how each of the components are, or will be, addressed and the rationale for the continued existing or revised level of implementation. (If certain components are not included in the plan, then the rationale for exclusion must also be submitted.) The level of implementation for each component must, when practicable, have measurable performance indicators to assist with the reporting on the status of implementation as part of the annual reports.”

As a result of the permit requirement provided above, Multnomah County reviewed their SWMP to ensure that the plan is continuing to address Federal regulation CFR 40.122.26, that it is sufficient to reduce the discharge of pollutants to the maximum extent practicable, and that it meets additional requests from DEQ included in a letter dated January 11, 2008. This letter from DEQ provided a clarification of expectations for some of the permit renewal application requirements. One clarification regarding “measurable goals” was specifically related to revising the SWMPs. The purpose of this section is to provide a summary of how the County’s SWMP was revised.

There were two types of changes made to the County’s SWMP. The first set of changes were not substantive but were related to the overall formatting of the document and text. In addition, text was revised to clarify and provide more detail related to measurable goals and tracking measures for each of the BMPs. A more detailed summary of these SWMP revisions is as follows:

- *Revised Format:* In the previous County SWMP, BMPs were provided in a text format with lists of BMP tasks that each included assignments, schedules and performance measures. For the new SWMP, the text of these BMPs has been condensed into a BMP fact sheet format for each BMP. The fact sheet format includes information regarding where the BMP applies, who is responsible for BMP implementation, a BMP description, BMP tasks, measurable goals, and tracking measures. The purpose of the reformatting was to make the document easier to read and to make it easier to locate information on individual BMPs.
- *Added Measurable Goals:* There are several terms included in the 2004-2009 permit language that are confusing with respect to how they are defined. These terms include performance indicators, and performance measures. DEQ

recommended a clarification and consolidation of these two terms for use in the revised SWMPs prepared for permit renewals. The term that DEQ recommended was “measurable goals”. As acknowledged by DEQ, measurable goals are meant to provide a quantification of the efforts proposed for the BMPs in the SWMP by identifying what a permittee specifically intends to do, and when they intend to do it. As targets, measurable goals are not fixed requirements and may change as a result of adaptive management. Further, there is no link established between measurable goals and either results or effectiveness of BMPs. As a result of this DEQ clarification/recommendation, Multnomah County revised the performance measures listed in the previous SWMP and replaced them with measurable goals for each of its BMPs where applicable.

- *Revised Tracking Measures:* Tracking measures relate to the information that will be compiled by the County for the annual compliance reports in order to track progress in addressing measurable goals. The County’s tracking measures were revised/updated to better reflect the new measurable goals provided for each BMP.
- *Renamed/Renumbered Some of the BMPs:* While substantively the BMPs may not have changed, some of them were renamed to better reflect the proposed BMP tasks and activities. For example, OM-8 was changed from “*Conduct Ditch Maintenance*” to “*Minimize Impacts from Ditch Maintenance*”. Some of the BMPs were also renumbered to maintain a consecutive numbering system after select BMPs were added or removed as described below.
- *Removed Tasks that Were Tracking Measures:* Some of the tasks that were listed for the BMPs were actually tracking measures. These tasks are still being completed but they are covered under the tracking measures section of the BMP. An example is Task 2 of the old BMP ND-2 which was to determine whether Hillside Development and/or GEC permits were issued by the County for the reporting period.
- *Consolidated Tasks to Maintain the Environmental Management Database:* In the previous SWMP, there was a task under the majority of the individual BMPs to record related activities into the County’s Environmental Management Database. Rather than have that task listed individually under each BMP, it was removed and added as one comprehensive task under the program management BMP PM-3 (Maintain the Environmental Management Database).

The second set of changes included more specific individual BMP modifications. Again, in general, changes were not substantive but were made to consolidate information where it was repetitive, eliminate information that was not relevant, remove information that was outdated, and improve the readability of the document. A summary of these more specific changes, and the rationale for the changes is provided as follows:

Public Involvement and Education BMPs

BMP PI-3- Distribute Public Education Information Regarding Stormwater: The task to develop and implement a distribution strategy was removed because the County has limited outlets for materials for other agencies material and the County relies on other entities for public education programs. A new task was added to ensure that the educational materials that are distributed are current and cover relevant topics.

BMP PI-4 – Conduct Training and Education for County Personnel: The task to disseminate new training materials was removed because this task is already implicit in the task that is under this BMP to conduct training on new approaches to water quality protection.

BMP PI-5 – Implement the Adopt-a-Road Program: The task to utilize inmate crews to pick up trash bags was removed because this is a consistent element of the program, not subject to change. This task was incorporated into a broader task of program support. Two tasks were also added: the first to promote the adopt-a-road program, and the second to provide program support such as providing equipment and coordination for volunteers.

Operations and Maintenance BMPs

BMP OM-1 – Review the RMOM for Potential Updates to Address Water Quality: This is a new BMP that was added to the SWMP. RMOM is the County Road Maintenance and Operations Manual that provides guidance with respect to conducting road maintenance activities using procedures that minimize impacts to water quality. The County operations and maintenance BMPs are all conducted according to RMOM guidance. Therefore, this BMP was added to ensure that RMOM continues to stay up-to-date as the most appropriate guidance for the County with respect to water quality. While details are still provided in BMP fact sheets for activities such as minimizing impacts from ROW, road shoulder (OM-7), and ditch maintenance (OM-8); and minimizing impacts from County truck hauling practices, the measurable goals for these specific BMPs have all been provided for under OM-1 with respect to ensuring these practices are implemented and stay current.

Due to adding the new BMP OM-1, the BMPs that followed were renumbered and do not directly compare back with the BMP number from the previous SWMP.

BMP OM-3 – Conduct Street Sweeping (Old BMP OM-2): The task to inspect sweeping equipment was removed because it is a routine activity covered under the Road Maintenance and Operations Manual.

BMP OM4 – Properly Dispose of Road Waste Material (Old BMP OM-3): While the content of this BMP did not really change, it was significantly reworded to provide better clarification of activities.

BMP OM-5 – Minimize Impacts from Anti-icing Operations (Old BMP OM-4): Tasks to prohibit the use of salt and glycol and to procure funding for the anti-icing program were removed because these are policies rather than actual tasks.

BMP OM-6 – Minimize Impacts from County Truck Hauling Practices (Old OM-5): Tasks relating to staff training and reviewing new product specifications were removed as these are already covered under either BMP PI – 4 (Conduct Training and Education for County Personnel), or BMP OM-1 (Review the RMOM for Potential Updates to Address Water Quality).

Old BMP OM-6 – Perform Culvert Maintenance: This BMP was removed altogether as maintaining culverts is not a water quality measure. However, it is important to conduct culvert maintenance activities using procedures that minimize water quality impacts. These procedures are implemented by the County as already provided for in RMOM under BMP OM-1. Therefore, this BMP description was no longer needed.

Illicit Discharge Detection and Elimination BMPs

Old BMP ILL-1 – Interagency Coordination on Spill Response: This BMP was removed as a spill response process has been developed and this BMP is no longer relevant.

BMP ILL-3 – Require Erosion and Pollution Controls for Public Projects (Old BMP ILL-4): Added a task to include requirements for pollution controls in contracts for public projects that address additional non-sediment related discharges (e.g., paints, solvents, metals, etc.).

Old BMP ILL-5 – Pollution Control for County Contractors: This BMP was removed as the activities for this BMP were added to ILL-3 as described above.

BMP ILL-5 – Identify and Investigate Sanitary Discharges to the Storm Sewer: A task was added to follow up on illicit discharge investigations by cities as needed.

New Development BMPs

Old BMP ND-1 Coordinate Transfer of Land Use Planning Authority: This BMP was removed because the transfer itself is not a water quality BMP, but rather a part of the annexation process.

BMP ND-1 Require Erosion Control for Private Development (Old ND-2): A task was added to this BMP to require site remediation where appropriate. The task to determine whether permits were issued for an area during the applicable reporting period was removed because this is a sub-task to other tasks in this BMP, such as reviewing permits or investigating un-permitted activity.

Old BMP ND-3 – Stream Setback Requirements: While the County still implements this BMP, it was removed as it was related to riparian health and is not relevant as a BMP

with respect to the MS4. One task that was in this BMP that was maintained was the task to enforce land use and transportation code relating to water quality. This task was moved to, and included under the new BMP ND-2 (Stormwater Treatment for New Development).

BMP ND-2 – Regulate Stormwater Discharge (Old BMP ND-4): The task to review the new Portland standards and consider their adoption was removed because the task was completed. The task to continue to review driveway connections to the ROW and permit for cross culverts was also removed. As this activity is still conducted, it was not relevant as a water quality BMP.

Structural Controls BMPs

These BMPs did not have any significant changes.

Natural Systems BMPs

BMP NS-1 – Conduct Vegetation Management Activities: Two tasks were added to this BMP: the first task was to selectively target invasive species for control; the second task was to review and update the Integrated Vegetation Management Program (IVM) during the permit term.

Program Management BMPs

BMP PM-3 – Maintain the Environmental Management Database: As mentioned above, in the previous SWMP, there was a task under the majority of the individual BMPs to record related activities into the County's Environmental Management Database. Rather than have that task listed individually under each BMP, it was removed and added as one comprehensive task under this BMP.