Issuance Date: January 17, 2007
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Modification Date: September 1, 2010

PHASE I MUNICIPAL STORMWATER PERMIT

National Pollutant Discharge Elimination System and
State Waste Discharge General Permit
for discharges from
Large and Medium Municipal Separate Storm Sewer Systems

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
OLYMPIA, WASHINGTON 98504-7600

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 et seq.

Until this permit expires, is modified, or revoked, Permittees that have properly obtained coverage under this permit are authorized to discharge to waters of the state in accordance with the special and general conditions which follow.

Kelly Susewind, P.E., P.G.
Water Quality Program Manager
Department of Ecology

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TABLE OF CONTENTS

SPECIAL AND GENERAL CONDITIONS

APPENDICES

SPECIAL CONDITIONS

Notice: If Legislation related to this permit is passed into law, Ecology will, as necessary, modify, revoke and re-issue, or terminate this permit to carry out Legislative requirements. Any such modification will be in accordance with General Condition G14 *General Permit Modification and Revocation*, and in accordance with the provisions of WAC 173-226-230.

S1. PERMIT COVERAGE AND PERMITTEES

A. Geographic Area of Permit Coverage

This permit covers *discharges* from Large and Medium *Municipal Separate Storm Sewer Systems* (MS4s) as established at Title *40 CFR* 122.26, except for *municipal separate storm sewers* (MS3s) owned or operated by the Washington State Department of Transportation. Large and medium MS4s include all MS3s located within cities or counties required to have permit coverage.

For S*econdary Permittees* required to obtain coverage under this permit, the minimum geographic area of coverage includes the portion of the MS4 which is located within the unincorporated areas of Clark, King, Snohomish, and Pierce Counties and the incorporated areas of the cities of Seattle and Tacoma. Ecology may establish additional geographic areas of coverage specific to an individual Secondary permittee.

B. The following Cities and Counties are covered under this permit as Permittees:

1. The City of Tacoma and the City of Seattle.
2. Clark, King, Pierce, and Snohomish Counties.

C. King County is covered as a *Co-Permittee* with the City of Seattle for discharges from outfalls King County owns or operates within the City of Seattle.

D. Upon application and coverage in accordance with Special Condition S1.F., the following entities are covered under this permit as *Secondary Permittees*:

1. Port of Seattle, excluding Seattle-Tacoma International Airport.
2. Port of Tacoma.
3. Active drainage, diking, flood control, or diking and drainage districts located in the Cities or unincorporated portions of the Counties listed in S1.B. above, which own or operate municipal separate storm sewers serving non-agricultural land uses.
4. Other owners or operators of municipal separate storm sewers located in the Cities or unincorporated portions of the Counties listed in S1.B above.

E. Unless otherwise noted, the term “Permittee” includes Permittee, Co-Permittee, and Secondary Permittee, as defined above in Special Conditions S1.B., S1.C. and S1.D.

F. Coverage for Secondary Permittees

1. To obtain coverage under this permit, each Secondary Permittee identified under Special Condition S1.D. shall either:

    a. Submit a *Notice of Intent* (NOI) and provide public notice of the application for coverage in accordance with WAC 173-226-130. The NOI shall constitute the application for coverage. Ecology will notify applicants in writing of their status concerning coverage under this permit within 90 days of Ecology's receipt of a complete NOI.

    b. Submit a co-application jointly with a permittee named in S1.B. and provide public notice of the application for coverage in accordance with WAC 173-226-130. The co-application shall consist of an amendment to the Phase I Part 1, and Part 2 permit applications. Ecology will notify applicants in writing of their status concerning their co-application.

2. Secondary Permittees required to get coverage under this permit, and the NPDES and State Waste Discharge Permit for discharges from Small Municipal Separate Storm Sewers in Western Washington and/or the NPDES and State Waste Discharge Permit for discharges from Small Municipal Separate Storm Sewers in Eastern Washington may obtain coverage by submitting a single NOI.

3. NOIs and co-applications shall be submitted to:

    Department of Ecology
    Water Quality Program
    Municipal Stormwater Permit Program
    P.O. Box 47696
    Olympia, WA 98504-7696

G. All MS4s and MS3s owned or operated by Permittees named in S1.B. and located in another city or county area requiring coverage under this permit or either the *Western Washington Phase II Municipal Stormwater Permit* or the *Eastern Washington Phase II Municipal Stormwater Permit* are also covered under this permit.

S2. AUTHORIZED DISCHARGES

A. This permit authorizes the discharge of stormwater to surface waters and to ground *waters of* the *state* from municipal separate storm sewers owned or operated by each Permittee covered under this permit in the geographic area covered by this permit pursuant to S1.A. subject to the following limitations:

1. Discharges to ground waters of the state through facilities regulated under the Underground Injection Control (UIC) program, Chapter 173-218 WAC, are not covered under this permit.

2. Discharges to ground waters not subject to regulation under the federal *Clean Water Act* are covered in this permit only under state authorities, Chapter 90.48 *RCW*, the Water Pollution Control Act.

B. This permit authorizes discharges of non-stormwater flows to surface waters and ground waters of the state from municipal separate storm sewers owned or operated by each Permittee covered under this permit, in the geographic area covered pursuant to S1.A, only under the following conditions:

   1. The discharge is authorized by a separate individual or general National Pollutant Discharge Elimination System (NPDES) permit; or

   2. The discharge is from emergency fire fighting activities; or

   3. The discharge from another illicit or non-stormwater discharge that is managed by the Permittee as provided in Special Condition S5.C.8., S6.D.3., or S6.E.3.

   4. These discharges are also subject to the limitations in S2.A.1. and S2.A.2. above.

C. This permit does not relieve entities that cause illicit discharges, including spills of oil or hazardous substances, from responsibilities and liabilities under state and federal laws and regulations pertaining to those discharges.

D. Discharges from municipal separate storm sewers constructed after the effective date of this permit shall receive all applicable state and local permits and use authorizations, including compliance with Chapter 43.21C RCW (the State Environmental Policy Act).

E. This permit does not authorize discharges of stormwater to waters within Indian Reservations except where authority has been specifically delegated to Ecology by the U.S. Environmental Protection Agency. The exclusion of such discharges from this permit does not waive any rights the State may have with respect to the regulation of the discharges.

S3. RESPONSIBILITIES OF PERMITTEES

A. Each Permittee, Co-Permittee and Secondary Permittee is responsible for complying with the terms of this permit for the municipal separate storm sewers it owns or operates.

   1. Each Permittee, as listed in S1.B., is required to comply with all conditions of this permit, except for S6. *Stormwater Management Program for Co-Permittees and Secondary Permittee*s.

   2. King County, as a Co-Permittee, is required to comply with all conditions of this permit except for S6.D. and S6.E.

   3. The Port of Tacoma and the Port of Seattle, are required to comply with all conditions of this permit except for S5. *Stormwater Management Program* and conditions S6.D. and S6.F.

   4. All other Secondary Permittees, except for the Port of Tacoma and the Port of Seattle are required to comply with all conditions of this permit except for S5. *Stormwater Management Program* and conditions S6.E., S6.F., and S8.C. through S8.H.

B. Permittees may rely on another *entity* to satisfy one or more of the requirements of this permit. Permittees that are relying on another entity to satisfy one or more or their permit obligations remain responsible for permit compliance if the other entity fails to implement the permit conditions. Where permit responsibilities are shared they shall be documented as follows:

   1. Permittees and Co-Permittees that are continuing coverage under this permit shall submit a statement that describes the permit requirements that will be implemented by other entities. The statement must be signed by all participating entities. There is no deadline for submitting such a statement, provided that this does not alter implementation deadlines. Permittees and Co-Permittees may amend their statement during the term of the permit to establish, terminate, or amend their shared responsibilities statement, and submit the amended statements to Ecology.

   2. Secondary Permittees shall submit an NOI that describes which requirements they will implement and identify the entities that will implement the other permit requirements in the area served by the Secondary Permittee's MS4. A statement confirming the shared responsibilities, signed by all participating entities, shall accompany the NOI. Secondary Permittees may amend their NOI, during the term of the permit, to establish, terminate, or amend shared responsibility arrangements, provided this does not alter implementation deadlines.

C. Unless otherwise noted, all appendices to this permit are incorporated by this reference as if set forth fully within this permit.

S4. COMPLIANCE WITH STANDARDS

A. In accordance with RCW 90.48.520, the discharge of toxicants to waters of the State of Washington which would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria is prohibited. The required response to such discharges is defined in section S4.F., below.

B. This permit does not authorize a discharge which would be a violation of Washington State surface water quality standards (Chapter 173-201A WAC), ground water quality standards (Chapter 173-200 WAC), sediment management standards (Chapter 173-204 WAC), or human health-based criteria in the national Toxics Rule (Federal Register, Vol. 57, NO. 246, Dec. 22, 1992, pages 60848-60923). The required response to such discharges is defined in section S4.F., below.

C. The Permittee shall reduce the discharge of pollutants to the *maximum extent practicable* (MEP).

D. The Permittee shall use all known, available, and reasonable methods of prevention, control and treatment (*AKART*) to prevent and control pollution of waters of the State of Washington.

E. In order to meet the goals of the Clean Water Act, and comply with S4.A., S4.B., S4.C., and S4.D., each Permittee shall comply with all of the applicable requirements of this permit as defined in S3. Responsibilities of Permittees.

F. A Permittee remains in compliance with S4. despite any discharges prohibited by S4.A. or S4.B., when the Permittee undertakes the following response toward long-term water quality improvement:

1. A Permittee shall notify Ecology in writing within 30 days of becoming aware, based on credible site-specific information, that a discharge from the municipal separate storm sewer owned or operated by the Permittee is causing or contributing to a known or likely violation of Water Quality Standards in the receiving water. Written notification provided under this subsection shall, at a minimum, identify the source of the site-specific information, describe the nature and extent of the known or likely violation in the receiving water, and explain the reasons why the MS4 discharge is believed to be causing or contributing to the problem. For ongoing or continuing violations, a single written notification to Ecology will fulfill this requirement.

2. In the event that Ecology determines, based on a notification provided under S4.F.1., or through any other means, that a discharge from a municipal separate storm sewer owned or operated by the Permittee is causing or contributing to a violation of Water Quality Standards in a receiving water, Ecology will notify the Permittee in writing that an adaptive management response outlined in S4.F.3. below is required unless Ecology also determines that:

    a. The violation of Water Quality Standards is already being addressed by a Total Maximum Daily Load or other enforceable water quality cleanup plan; or

    b. Ecology concludes the violation will be eliminated through implementation of other permit requirements.

3. Adaptive Management Response

    a. Within 60 days of receiving a notification under S4.F.2., or by an alternative date established by Ecology, the Permittee shall review its Stormwater Management Program and submit a report to Ecology. The report shall include:

        i. A description of the operational and/or structural BMPs that are currently being implemented to prevent or reduce any pollutants that are causing or contributing to the violation of Water Quality Standards, including a qualitative assessment of the effectiveness of each BMP.

        ii. A description of potential additional operational and/or structural BMPs that will or may be implemented in order to apply AKART on a site-specific basis to prevent or reduce any pollutants that are causing or contributing to the violation of Water Quality Standards.

iii. A description of the potential monitoring or other assessment and evaluation efforts that will or may be implemented to monitor, assess, or evaluate the effectiveness of the additional BMPs.

iv. A schedule for implementing the additional BMPs including, as appropriate: funding, training, purchasing, construction, monitoring, and other assessment and evaluation components of implementation.

b. Ecology will, in writing, acknowledge receipt of the report within a reasonable time and notify the Permittee when it expects to complete its review of the report. Ecology will either approve the additional BMPs and implementation schedule or require the Permittee to modify the report as needed to meet AKART on a site-specific basis. If modifications are required, Ecology will specify a reasonable time frame in which the Permittee shall submit and Ecology will review the revised report.

c. The Permittee shall implement the additional BMPs, pursuant to the schedule approved by Ecology, beginning immediately upon receipt of written notification of approval.

d. The Permittee shall include with each subsequent annual report a summary of the status of implementation, and the results of any monitoring, assessment or evaluation efforts conducted during the reporting period. If, based on the information provided under this subsection, Ecology determines that modification of the BMPs or implementation schedule is necessary to meet AKART on a site-specific basis, the Permittee shall make such modifications as Ecology directs. In the event there are ongoing violations of water quality standards despite the implementation of the BMP approach of this section, the Permittee may be subject to compliance schedules to eliminate the violation under WAC 173-201A-510(4) and WAC 173-226-180 or other enforcement orders as Ecology deems appropriate during the term of this permit.

e. Provided the Permittee is implementing the approved adaptive management response under this section, the Permittee remains in compliance with Condition S4., despite any on-going violations of Water Quality Standards identified under S4.F.A or B above.

f. The adaptive management process provided under Section S.4.F is not intended to create a shield for the Permittee from any liability it may face under 42 U.S.C. 9601 *et seq.* or RCW 70.105D.

G. Ecology may modify or revoke and reissue this General Permit in accordance with G14 *General Permit Modification and Revocation* if Ecology becomes aware of additional control measures, management practices or other actions beyond what is required in this permit, that are necessary to:

1. Reduce the discharge of pollutants to the MEP;

2. Comply with the state AKART requirements; or

3. Control the discharge of toxicants to waters of the State of Washington.

S5. STORMWATER MANAGEMENT PROGRAM

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

1. In accordance with the requirements in S9 *Reporting Requirements,* each Permittee shall prepare written documentation of their SWMP and submit it to Ecology in written and electronic formats with the first year annual report. The documentation of the SWMP shall be organized according to the program components in S5.C., and shall be updated annually. The SWMP documentation shall include a description of each of the program components included in S5.C., and any additional actions necessary to meet the requirements of *applicable TMDL*s.
2. Each Permittee shall track the cost or estimated cost of development and implementation of each component of the SWMP. This information shall be provided to Ecology upon request.
3. Each Permittee shall track the number of inspections, official enforcement actions and types of public education activities as required by the respective program component. This information shall be included in the annual report.

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

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

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

1. Legal Authority

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

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

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

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

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

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

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

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

2. Municipal Separate Storm Sewer System Mapping and Documentation

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

b. Minimum performance measure information and its form of retention shall include:

i. No later than 2 years from the effective date of this permit each Permittee shall map all known municipal separate storm sewer *outfalls* and receiving waters, and structural stormwater treatment and flow control BMPs owned, operated, or maintained by the Permittee. Mapping of outfalls and structural BMPs shall continue on an on-going basis as additional outfalls are found, and as new BMPs are constructed or installed. No later than 2 years from the effective date of this permit each permittee shall initiate a program to map connection points between municipal separate storm sewers owned or operated by the Permittee and other municipalities or other public entities.

ii. No later than 4 years from the effective date of this permit each Permittee shall map the attributes listed below for all storm sewer outfalls with a 24 inches nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems. For Counties, the mapping shall be done within *urban/higher density rural sub-basins*. For Cities, the mapping shall be done throughout the City. Attributes mapped shall include: Land use, Tributary conveyances (indicate type, material, and size where known); and associated drainage areas.

iii. Each Permittee shall initiate a program to develop and maintain a map of all connections to the municipal separate storm sewer authorized or allowed by the Permittee after the effective date of this permit.

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

- City of Seattle and City of Tacoma: 2 years after the effective date of this permit.
- Clark, King Pierce and Snohomish Counties: one half the area of the County within urban/higher density rural sub-basins 4 years after the effective date of this permit.

v. No later than 4 years from the effective date of this permit each Permittee shall map geographic areas served by the Permittee's MS4 that do not discharge stormwater to surface water.

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

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

3. Coordination

a. The SWMP shall include coordination mechanisms among departments within each jurisdiction to eliminate barriers to compliance with the terms of this permit. The SWMP shall also include coordination mechanisms among entities

covered under a municipal stormwater NPDES permit to encourage coordinated stormwater-related policies, programs and projects within a watershed.

b. Minimum Performance Measures:

i. No later than 1 year after the effective date of this permit, establish, in writing, and begin implementation of, intra-governmental (internal) coordination agreement(s) or Executive Directive(s) to facilitate compliance with the terms of this permit.

ii. No later than 2 years after the effective date of this permit, or within 2 years following the addition of a new Secondary Permittee, establish:

- Coordination mechanisms clarifying roles and responsibilities for the control of pollutants between *physically interconnected* MS3s of the Permittee and any other Permittee covered by a municipal stormwater permit.
- Coordinating stormwater management activities for *shared waterbodies*, among Permittees and Secondary Permittees, to avoid conflicting plans, policies and regulations.

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

4. Public Involvement and Participation

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

b. Minimum performance measures:

i. No later than 6 months after the effective date of this permit, develop and begin implementing a process to create opportunities for the public to participate in processes involving the development, implementation and update of the Permittee's SWMP. Each Permittee shall develop and implement a process for consideration of public comments on their SWMP.

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

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

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

b. Minimum performance measures:

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

ii. The local requirements shall include a site planning process and BMP selection and design criteria that, when used to implement the minimum requirements in Appendix 1, will protect water quality, reduce the discharge of pollutants to the maximum extent practicable, and satisfy the state requirement under chapter 90.48 RCW to apply all known, available, and reasonable methods of prevention, control and treatment (AKART) prior to discharge. Permittees shall document how the criteria and requirements will protect water quality, reduce the discharge of pollutants to the maximum extent practicable, and satisfy the state AKART requirements.

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

iii. Low Impact Development

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

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

iv. No later than 18 months from the effective date of this permit, each Permittee shall adopt a local program that meets the requirements in S5.C.5.b.i through iii(1)., above. Ecology review and approval of the local manual and ordinances is required. Approved manuals and ordinances are listed in Appendix 10. Permittees shall provide detailed, written justification of any of the requirements which differ from those contained in Appendix 1 of this permit.

The Permittee shall submit draft enforceable requirements, technical standards and manual to Ecology no later than 12 months after the effective date of this permit. Ecology will review and provide written response to the Permittee. If Ecology takes longer than 60 days to provide a written response, the required deadline for adoption will be automatically extended by the number of calendar days that Ecology exceeds a 60 day period for written response.

In the case of circumstances beyond the Permittee's control, such as litigation or administrative appeals that may result in noncompliance with the requirements of this section, the Permittee shall promptly notify Ecology and submit a written request for an extension.

v. No later than 18 months after the effective date of this permit, the program shall establish legal authority to inspect private stormwater facilities and enforce maintenance standards for all new development and redevelopment approved under the provisions of this section.

vi. No later than 18 months after the effective date of this permit, the program shall include a process of permits, plan review, inspections, and enforcement capability to meet the following standards for both private and public projects, using *qualified personnel*:

- Review all stormwater site plans submitted to the Permittee for proposed development involving land disturbing activity that meet the thresholds in S5.C.5.b.i., above.
- Inspect prior to clearing and construction, all permitted development sites that meet the thresholds in S5.C.5.b.i., and that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7.
- Inspect all permitted development sites involving land disturbing activity that meet the thresholds in S5.C.5.b.i., above, during construction to verify proper installation and maintenance of required erosion and sediment controls. Enforce as necessary based on the inspection.
- Inspect all development sites that meet the thresholds in S5.C.5.b.i., upon completion of construction and prior to final approval/occupancy to verify proper installation of permanent erosion controls and stormwater

facilities/BMPs. Enforce as necessary based on the inspection. A maintenance plan shall be developed for permanent stormwater facilities/BMPs and responsibility for maintenance shall be assigned.

- Compliance with the above inspection requirements shall be determined by the presence of an established inspection program designed to inspect all sites involving land disturbing activity that meet the thresholds in S5.C.5.b.i. Compliance during this permit term shall be determined by achieving at least 80% of scheduled inspections. The inspections may be combined with other inspections provided they are performed using qualified personnel.
- The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.
- The program shall include an enforcement strategy to respond to issues of non-compliance.

vii. No later than the effective date of this permit, the Permittee shall make available the "*Notice of Intent for Construction Activity*" and/or copies of the "*Notice of Intent for Industrial Activity*" to representatives of proposed new development and redevelopment. Permittees will continue to enforce local ordinances controlling runoff from sites that are covered by other stormwater permits issued by Ecology.

viii. No later than 18 months after the effective date of this permit, each permittee shall ensure that all staff whose primary job duties are implementing the program to Control Stormwater Runoff from New Development, Redevelopment, and Construction Sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. As determined necessary by the Permittee, follow-up training shall be provided to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.

6. Structural Stormwater Controls

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

adequately controlled by the other required actions of the SWMP, and shall provide proposed projects and an implementation schedule.

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

b. Minimum Performance Measures:

i. No later than 1 year after the effective date of this permit, each Permittee shall develop a Structural Stormwater Control program designed to control stormwater impacts that are not adequately controlled by other required actions of the SWMP. Implementation of the program shall begin no later than 18 months after the effective date of this permit. Permittees shall provide a list of planned individual projects that are scheduled for implementation during the term of this permit and describe how the selected projects comply with AKART and MEP requirements. Updates and revisions to the list will be provided in the annual report and will address any concerns identified by Ecology during its review of the Structural Stormwater Control program.

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

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

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

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

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

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

7. Source Control Program for Existing Development

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

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

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

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

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

b. Minimum Performance Measures for Source Control Program:

i. No later than 18 months after the effective date of this permit, adopt and begin enforcement of an ordinance, or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities (See Appendix 8 to identify pollutant generating sources).

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

Ecology review and approval of the ordinance, or other enforceable documents, and source control program is required. Each Permittee shall submit the proposed source control program and all necessary documentation to Ecology for review, no later than 12 months after the effective date of this permit. If Ecology does not request changes within 60 days, the proposed source control BMPs are considered approved.

Operational source control BMPs shall be required for all pollutant generating sources. Structural source control BMPs shall be required for pollutant generating sources if operational source control BMPs do not prevent illicit discharges or violations of surface water, ground water, or sediment management standards because of inadequate stormwater controls. Implementation of source control requirements may be done through education and technical assistance programs, provided that formal enforcement authority is available to the Permittee and is used as determined necessary by the Permittee, in accordance with S5.C.7.b.iv., below.

ii. No later than 18 months after the effective date of this permit, establish a program to identify sites which are potentially pollution generating. The program shall include:

- Inventory or listing of the land uses/businesses using the categories of land uses and businesses in Appendix 8. The Permittee shall periodically update the inventory as new businesses are identified and business ownership/management and responsibilities change.
- Complaint-based response to identify other pollutant generating sources, such as mobile or home-based businesses.

iii. Starting no later than 24 months after the effective date of this permit, implement an audit/inspection program for sites identified pursuant to S5.C.7.b.ii. above.

- All identified sites with a business address shall be provided, by mail, telephone, or in person, information about activities that may generate pollutants and the source control requirements applicable to those activities. This information may be provided all at one time or spread out over the last three years of the permit term to allow for some tailoring and distribution of the information during site inspections. Businesses may self-certify compliance with the source control requirements at the discretion of the Permittee. The Permittee shall inspect 20% of these sites annually to assure BMP effectiveness and compliance with source control

requirements. The Permittee may select which sites to inspect each year and is not required to inspect 100% of sites over a 5-year period. Sites may be prioritized for inspection based on their land use category, potential for pollution generation, proximity to receiving waters, or to address an identified pollution problem within a specific geographic area or sub-basin. The Permittee may count follow up compliance inspections at the same site toward the 20% inspection rate.

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

iv. No later than 24 months after the effective date of this permit, each Permittee shall implement a progressive enforcement policy to require sites to come into compliance with stormwater requirements within a reasonable time period as specified below:

- If the Permittee determines, through inspections or otherwise, that a site has failed to adequately implement required BMPs, the Permittee shall take appropriate follow-up action(s) which may include: phone calls, reminder letters or follow-up inspections.
- When a Permittee determines that a facility has failed to adequately implement BMPs after a follow-up inspection, the Permittee shall take further enforcement action as established through authority in its municipal code and ordinances, or through the judicial system.
- Each Permittee shall maintain records, including documentation of each site visit, inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating an effort to bring facilities into compliance. Each Permittee shall also maintain records of sites that are not inspected because the property owner denies entry.
- A Permittee shall contact Ecology immediately upon discovering a source control violation that presents a severe threat to human health or the environment. A Permittee may refer non-emergency violations of local ordinances to Ecology, provided, the Permittee also makes a documented effort of progressive enforcement. At a minimum, a Permittee's enforcement effort shall include documentation of inspections and warning letters or notices of violation.

v. No later than 24 months after the effective date of this permit, each Permittee shall ensure that all staff whose primary job duties are implementing the source control program are trained to conduct these activities. The training shall cover the legal authority for source control (adopted codes, ordinances, rules, etc.), source control BMPs and their proper application, inspection protocols, and enforcement procedures. Follow-up training shall be provided as needed to address changes in

procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.

8. *Illicit Connections* and Illicit Discharges Detection and Elimination

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

b. Minimum Performance Measures:

i. No later than the effective date of this permit, each Permittee shall continue implementing an on-going program to prevent, identify and respond to illicit connections and illicit discharges. The program shall include procedures for reporting and correcting or removing illicit connections, spills and other illicit discharges when they are suspected or identified. No later than 24 months after the effective date of this permit, each permittee shall develop procedures for addressing pollutants entering the MS4 from an interconnected, adjoining MS4.

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

ii. No later than 18 months after the effective date of this permit, each Permittee shall evaluate, and if necessary update, existing ordinances or other regulatory mechanisms to effectively prohibit non-stormwater, illicit discharges, including spills, into the Permittee's municipal separate storm sewer system.

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

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

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

- Discharges from potable water sources, including water line flushing, *hyperchlorinated* water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4;
- Discharges from lawn watering and other irrigation runoff. These discharges shall be minimized through, at a minimum, public education activities (see S5.C.10) and water conservation efforts.
- Dechlorinated swimming pool discharges. The discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.
- Street and sidewalk wash water, water used to control dust, and routine external building washdown that does not use detergents. The Permittee shall reduce these discharges through, at a minimum, public education activities (see S5.C.10.) and/or water conservation efforts. To avoid washing pollutants into the MS4, Permittees shall minimize the amount of street wash and dust control water used. At active construction sites, street sweeping shall be performed prior to washing the street.
- Other non-stormwater discharges. Other non-stormwater discharges shall be in compliance with the requirements of a stormwater pollution prevention plan reviewed by the Permittee which addresses such discharges.

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

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

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

iii. No later than 18 months after the effective date of this permit, each Permittee shall ensure that all municipal field staff who are responsible for identification, investigation, termination, cleanup, and reporting of *illicit*

discharges, including spills, improper disposal and *illicit connections*, are trained to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.

iv. No later than 24 months after the effective date of this permit, develop and implement an ongoing training program for all municipal field staff, which, as part of their normal job responsibilities might come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system, shall be trained on the identification of an illicit discharge or connection and on the proper procedures for reporting and responding to the illicit discharge or connection. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.

v. Each Permittee shall provide a publicly-listed, water quality citizen complaints/reports telephone number. Except for Clark County, which shall meet this requirement no later than 6 months from the effective date of this permit, this citizen compliant/reports telephone number shall be in place no later than the effective date of this permit. Complaints shall be responded to in accordance with S5.C.8.b.vii. and viii., below.

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

(1) Each City covered under this permit shall prioritize conveyances and outfalls and complete field screening for at least 60% of the conveyance systems within the Permittee's incorporated area no later than 5 years from the effective date of the permit.

(2) Each County covered under this permit shall prioritize outfalls and conveyances in urban/higher density rural sub-basins for screening and shall complete field screening for at least half of the conveyance systems in these areas no later than 5 years from the effective date of this permit. In addition, Counties shall complete field screening in at least 1 rural sub-basin no later than 5 years from the effective date of this permit.

vii. Response to Illicit Connections

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

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

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

viii. No later than 6 months after the effective date of this permit, each Permittee shall either participate in a regional emergency response program, or develop and implement procedures to investigate and respond to spills and improper disposal into municipal separate storm sewers owned or operated by the Permittee. Permittees shall have a program to prioritize and investigate complaints/reports or monitoring information that indicates potential illicit discharges, including spills. Permittees shall immediately respond to problems/violations judged by the Permittee to be urgent, severe, or an emergency. Spills of oil or hazardous materials shall be reported to appropriate authorities.

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

9. Operation and Maintenance Program

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

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

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

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

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

v. A training component.

b. Minimum Performance Measures:

i. Maintenance Standards. No later than 18 months after the effective date of this permit, each Permittee shall establish maintenance standards that are as protective or more protective of facility function than those specified in Chapter 4 of Volume V of the 2005 *Stormwater Management Manual for Western Washington*. For existing facilities which do not have maintenance standards, the Permittee shall develop a maintenance standard.

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

(2) Unless there are circumstances beyond the Permittee's control, when an inspection identifies an exceedence of the maintenance standard, maintenance shall be performed:

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

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

ii. Maintenance of *stormwater facilities regulated by the Permittee*

(1) No later than 18 months after the effective date of this permit, each Permittee shall evaluate and, if necessary, update existing ordinances or other enforceable documents requiring maintenance of all permanent stormwater treatment and flow control facilities regulated by the

Permittee (including catch basins), in accordance with maintenance standards established under S5.C.9.b.i., above.

(2) No later than 18 months after the effective date of this permit, each Permittee shall develop and implement an initial inspection schedule for all known, permanent stormwater treatment and flow control facilities (other than catch basins) regulated by the Permittee to inspect each facility at least once during the term of this permit to enforce compliance with adopted maintenance standards as needed based on the inspection. The inspection program is limited to facilities to which the Permittee can legally gain access, provided the Permittee shall seek access to the types of stormwater treatment and flow control facilities listed in the 2005 *Stormwater Management Manual for Western Washington*.

(3) No later than 4 years after the effective date of this permit, each Permittee shall develop an on-going inspection schedule to annually inspect all stormwater treatment and flow control facilities (other than catch basins) regulated by the Permittee. The annual inspection requirement may be reduced based on maintenance records.

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

(4) No later than 2 years after the effective date of this permit each Permittee shall manage maintenance activities to inspect all new permanent stormwater treatment and flow control facilities, including catch basins, in new residential developments every 6 months during the period of heaviest construction to identify maintenance needs and enforce compliance with maintenance standards as needed.

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

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

control systems inspected under the requirements of S5.C.9. (Operation and Maintenance Program)

iii. Maintenance of stormwater facilities owned or operated by the Permittee

(1) No later than 24 months after the effective date of this permit each Permittee shall begin implementing a program to annually inspect all permanent stormwater treatment and flow control facilities (other than catch basins) owned or operated by the Permittee, and implement appropriate maintenance action in accordance with adopted maintenance standards. The annual inspection requirement may be reduced based on inspection records.

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

(2) No later than 24 months after the effective date of this program each Permittee shall begin implementing a program to conduct spot checks of potentially damaged permanent treatment and flow control facilities (other than catch basins) after major storm events (24 hour storm event with a 10 year recurrence interval). If spot checks indicate widespread damage/maintenance needs, inspect all stormwater treatment and flow control facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established under S5.C.9.b.i., above, based on the results of the inspections.

(3) Compliance with the inspection requirements of S5.C.9.b.iii.(1), and (2) above, shall be determined by the presence of an established inspection program designed to inspect all sites. Compliance during this permit term shall be determined by achieving an annual rate of at least 95% of inspections no later than 180 days prior to the expiration date of this permit.

iv. Maintenance of Catch Basins Owned or Operated by the Permittee

(1) No later than 24 months after the effective date of this permit each Permittee shall begin implementing a program to annually inspect catch basins and inlets owned or operated by the Permittee.

- Inspections may be conducted on a “circuit basis” whereby a sampling of catch basins and inlets within each circuit is inspected to identify maintenance needs. Include in the sampling an inspection of

the catch basin immediately upstream of any system outfall. Clean all catch basins within a given circuit for which the inspection indicates cleaning is needed to comply with maintenance standards established under S5.C.9.b.i., above.

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

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

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

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

vi. Within 12 months of the effective date of this permit, establish practices to reduce stormwater impacts associated with runoff from parking lots, streets, roads, and highways owned or operated by the Permittee; and road maintenance activities conducted by the Permittee.

Implementation of practices shall begin no later than 18 months after the effective date of this permit, and continue on an ongoing basis throughout the term of the permit. The following activities shall be addressed:

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

vii. No later than 18 months after the effective date of this permit, each Permittee shall establish and implement policies and procedures to reduce pollutants in discharges from lands owned or maintained by the Permittee

subject to this permit. Lands owned or maintained by the Permittee include but are not limited to: parks, open space, road right-of-ways, maintenance yards, and stormwater treatment and flow control facilities.

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

(1) Application of fertilizer, pesticides, and herbicides, including the development of Nutrient management and *Integrated Pest Management* Plans;
(2) Sediment and erosion control;
(3) Landscape maintenance and vegetation disposal;
(4) Trash management; and
(5) Building exterior cleaning and maintenance.

viii. No later than 24 months after the effective date of this permit, develop and implement an ongoing training program for employees of the Permittee who have primary construction, operations or maintenance job functions that could impact stormwater quality. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.

ix. Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the Permittee in areas subject to this permit, that are not required to have coverage under the *General NPDES Permit for Stormwater Discharges Associated with Industrial Activities* or another NPDES permit that covers stormwater discharges associated with the activity. The Permittee shall identify facilities subject to this requirement. The SWPPPs shall be developed within 24 months of the effective date of this permit. Implementation of non-structural BMPs shall begin immediately after the pollution prevention plan is developed. A schedule for implementation of structural BMPs shall be included in the SWPPP. Generic SWPPPs that can be applied at multiple sites may be used to comply with this requirement. The SWPPP shall include periodic visual observation of discharges from the facility to evaluate the effectiveness of BMPs.

10. Education and Outreach Program

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

b. Minimum Performance Measures:

i. No later than 12 months after the effective date of this permit, each Permittee shall implement or participate in an education and outreach program that uses a variety of methods to target the audiences and topics listed below. The outreach program shall be designed to achieve measurable improvements in each target audience's understanding of the problem and what they can do to solve it.

(1) General Public

- General impacts of stormwater flows into surface waters.
- Impacts from impervious surfaces.
- Source control BMPs and environmental stewardship, actions and opportunities in the areas of pet waste, vehicle maintenance, landscaping and buffers.

(2) General public and businesses, including home based and mobile businesses

- BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials.
- Impacts of illicit discharges and how to report them.

(3) Homeowners, landscapers and property managers

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

(4) Engineers, contractors, developers, review staff and land use planners

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

ii. Each Permittee shall implement or participate in an effort to measure understanding and adoption of the targeted behaviors for at least one targeted audience in at least one subject area. The resulting measurements shall be used to direct education and outreach resources most effectively as well as to evaluate changes in adoption of the targeted behaviors.

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

S6. STORMWATER MANAGEMENT PROGRAM FOR CO-PERMITTEES AND SECONDARY PERMITTEES

A. This section applies to all Secondary Permittees, whether coverage under this Permit is obtained individually, or as a Co-Permittee with a City and/or Town and/or County and/or another Secondary Permittee.

1. To the extent allowable under state, federal and local law, all components are mandatory for each Secondary Permittee covered under this permit, whether covered as an individual Permittee or as a Co-Permittee.

2. Each Secondary Permittee shall develop and implement a stormwater management program (SWMP). The SWMP shall be designed to reduce the discharge of pollutants from regulated small MS4s to the maximum extent practicable and protect water quality.

3. Unless an alternate implementation schedule is established by Ecology as a condition of permit coverage, the SWMP shall be developed and implemented in accordance with the schedules contained in this section and shall be fully developed and implemented no later than180 days before the expiration date of this Permit. Notwithstanding the schedules in this Permit, Secondary Permittees that are already implementing some or all of the required SWMP components shall continue implementation of those components.

4. Secondary Permittees may implement parts of their SWMP in accordance with the schedule for cities, towns and counties in S5 *Stormwater Management Program*, provided they have signed a memorandum of understanding or other agreement to jointly implement the activity or activities with one or more jurisdictions listed in S1.B., and submitted a copy of the agreement to Ecology.

5. Secondary Permittees and Co-Permittees shall prepare written documentation of the SWMP. The SWMP documentation shall be organized according to the program components and shall be updated at least annually for submittal with the Permittee's annual reports to Ecology.

   a. For all Secondary Permittees except the Port of Seattle and the Port of Tacoma, The SWMP documentation shall include:

      i. A description of each of the program components included in S6.D.1. through S6.D.6., and

      ii. Any additional actions necessary to meet the requirements of applicable TMDLs pursuant to S7 *Compliance with Total Maximum Daily Load Requirements*.

   b. For the Port of Tacoma and the Port of Seattle the SWMP documentation shall include:

i. A description of each of the program components included in S6.E.1. through S6.E.7., and

ii. Any additional actions necessary to meet the requirements of applicable TMDLs pursuant to S7 *Compliance with Total Maximum Daily Load Requirements.*

6. Conditions S6.A., S6.B., and S6.C. are applicable to all Co-Permittees and Secondary Permittees covered under this permit. In addition:

   a. S6.D. is applicable to all Secondary Permittees except the Port of Seattle and the Port of Tacoma. S6.D. does not apply to Permittees listed in S1.B., or S1.C.

   b. S6.E. is applicable only to the Port of Seattle and the Port of Tacoma.

   c. S6.F. is applicable only to King County as a Co-Permittee with the City of Seattle for MS4s owned by King County but located within the City of Seattle.

B. Coordination

The SWMP shall include mechanisms to encourage coordinated stormwater-related policies, programs and projects within a watershed and interconnected MS4s. Where relevant and appropriate, the SWMP shall also include coordination among departments of the Secondary Permittee to ensure compliance with the terms of this permit.

C. Legal Authority

To the extent allowable under state law and federal law, each Secondary Permittee shall be able to demonstrate that it can operate pursuant to legal authority which authorizes or enables the Secondary Permittee to control discharges to and from municipal separate storm sewers owned or operated by the Secondary Permittee.

This legal authority may be a combination of statutes, ordinances, permits, contracts, orders, interagency agreements, or similar instruments.

D. Stormwater Management Program for Secondary Permittees

The term "Secondary Permittees" means drainage, diking, flood control, or diking and drainage districts, Ports (other than the Ports of Seattle and Tacoma, (see S6.E.)), public colleges and universities, and any other owners or operators of municipal separate storm sewers located within the municipalities that are listed as Permittees in S1.B. The Stormwater Management Program (SWMP) for Secondary Permittees shall include the following components:

1. Public Education and Outreach

Each Secondary Permittee shall implement the following stormwater education strategies:

a. Storm drain inlets owned and operated by the Secondary Permittee that are located in maintenance yards, in parking lots, along sidewalks, and at pedestrian access points shall be clearly and permanently labeled with the message "Dump no waste" and indicating the point of discharge as a river, lake, bay, or ground water.

   i. No later than three years from the date of permit coverage, at least 50 percent of these inlets shall be labeled.

   ii. No later than 180 days prior expiration date of this Permit, or as established as a condition of coverage by Ecology, all of these inlets shall be labeled.

   iii. As identified during visual inspection and regular maintenance of storm drain inlets per the requirements of S6.D.3.d. and S6.D.6.a.i. below, or as otherwise reported to the Secondary Permittee, any inlet having a label that is no longer clearly visible and/or easily readable shall be re-labeled within 90 days.

b. Each year, beginning no later than three years from the date of permit coverage, public ports, colleges and universities shall distribute educational information to tenants and residents on the impact of stormwater discharges on receiving waters, and steps that can be taken to reduce pollutants in stormwater runoff. Different combinations of topics shall be addressed each year, and, before the expiration date of this Permit. Where relevant, tenants and residents shall receive educational information about the following topics:

   i. How stormwater runoff affects local waterbodies,

   ii. Proper use and application of pesticides and fertilizers,

   iii. Benefits of using well-adapted vegetation,

   iv. Alternative equipment washing practices, including cars and trucks that minimize pollutants in stormwater,

   v. Benefits of proper vehicle maintenance and alternative transportation choices; proper handling and disposal of wastes, including the location of hazardous waste collection facilities in the area,

   vi. Hazards associated with illicit connections, and

   vii. Benefits of litter control and proper disposal of pet waste.

   Compliance with this requirement may be achieved through participation in the local jurisdiction's public education and outreach programs.

2. Public Involvement and Participation

No later than 180 days before the expiration date of this Permit, or as established as a condition of coverage by the Ecology, each Secondary Permittee shall:

a. Publish a public notice in the local newspaper or on the Permittee's website and solicit public review of its SWMP.

b. Make the latest updated version of the SWMP available to the public. If the Secondary Permittee maintains a website, the SWMP shall be posted on the Secondary Permittee's website.

3. Illicit Discharge Detection and Elimination

Each Secondary Permittee shall:

a. From the date of permit coverage, comply with all relevant ordinances, rules, and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern non-stormwater discharges.

b. Develop and adopt appropriate policies prohibiting illicit discharges no later than one year from the date of permit coverage. Identify possible enforcement mechanisms no later than one year from the date of permit coverage; and, no later than eighteen months from the date of permit coverage, develop and implement an enforcement plan using these mechanisms to ensure compliance with illicit discharge policies. These policies shall address, at a minimum: illicit connections; non-stormwater discharges, including spills as defined below; or otherwise improperly disposing of hazardous materials, pet waste, and litter.

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

ii. The policies do not need to prohibit the following categories of non-stormwater discharges:

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

iii. The policies shall prohibit the following categories of non-stormwater discharges, unless the stated conditions are met:

- Discharges from potable water sources, including water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4;
- Discharges from lawn watering and other irrigation runoff. These discharges shall be minimized through, at a minimum, public education activities and water conservation efforts conducted by the Secondary Permittee and/or the local jurisdiction.
- Dechlorinated swimming pool discharges. The discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.
- Street and sidewalk wash water, water used to control dust, and routine external building washdown that does not use detergents. The Secondary Permittee shall reduce these discharges through, at a minimum, public education activities and/or water conservation efforts conducted by the Secondary Permittee and/or the local jurisdiction. To avoid washing pollutants into the MS4, the Secondary Permittee shall minimize the amount of street wash and dust control water used. At active construction sites, street sweeping shall be performed prior to washing the street.
- Other non-stormwater discharges shall be in compliance with the requirements of a stormwater pollution prevention plan reviewed by the Permittee which addresses control of such discharges.

iv. The Secondary Permittee's SWMP shall, at a minimum, address each category in iii above in accordance with the conditions stated therein.

v. The SWMP shall further address any category of discharges in ii or iii above if the discharge is identified as a significant source of pollutants to waters of the State.

c. No later than 180 days before the expiration date of this Permit, or as established as a condition of coverage by Ecology, develop a storm sewer system map showing the locations of all known storm drain outfalls, labeling the receiving waters, and delineating the areas contributing runoff to each outfall. Make the map (or completed portions of the map) available on request to Ecology and/or to other Permittees or Secondary Permittees. The preferred, but not required, format of submission will be an electronic format with fully described mapping standards. An example description is provided on Ecology's website.

d. Conduct field inspections and visually inspect for illicit discharges at all known outfalls that discharge to surface waters. Visually inspect at least one third (on average) of all known outfalls each year beginning no later than two years from the date of permit coverage. Develop and implement procedures to identify and remove illicit discharges. Keep records of inspections and follow-up activities.

e. No later than 180 days before the expiration date of this Permit, or as established as a condition of coverage by the Ecology, develop and implement a spill response plan that includes coordination with a qualified spill responder.

f. No later than two years from permit coverage date, provide staff training or coordinate with existing training efforts to educate relevant staff on proper *best management practices* for preventing spills and illicit discharges. All relevant staff shall be trained.

4. Construction Site Stormwater Runoff Control

From the date of permit coverage, each Secondary Permittee shall:

a. Comply with all relevant ordinances, rules, and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern construction phase stormwater pollution prevention.

b. For all construction projects under the control of the Secondary Permittee, which require a construction stormwater permit, Secondary Permittees shall obtain coverage under the NPDES General Permit for Stormwater Discharges Associated with *Construction Activities,* or an alternative individual NPDES permit prior to discharging construction related stormwater.

c. Coordinate with the local jurisdiction regarding projects owned and operated by other entities which discharge into the Secondary Permittee's MS4, to assist the local jurisdiction with achieving compliance with all relevant ordinances, rules, and regulations of the local jurisdiction(s).

d. Provide training or coordinate with existing training efforts to educate relevant staff in erosion and sediment control *BMP*s and requirements, or hire trained contractors to perform the work.

e. Coordinate as requested with Ecology or the local jurisdiction to provide access for inspection of construction sites or other land disturbances, which are under the control of the Secondary Permittee during the active grading and/or construction period.

5. Post-Construction Stormwater Management for New Development and Redevelopment

From the date of permit coverage, each Secondary Permittee shall:

a. Comply with all relevant ordinances, rules and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern post-construction stormwater pollution prevention measures.

b. Coordinate with the local jurisdiction regarding projects owned and operated by other entities which discharge into the Secondary Permittee's MS4, to assist the local jurisdiction with achieving compliance with all relevant ordinances, rules, and regulations of the local jurisdiction(s).

6. Pollution Prevention and Good Housekeeping for Municipal Operations

Each Secondary Permittee shall:

a. No later than three years from the date of permit coverage, develop and implement a municipal operation and maintenance (O&M) plan to minimize stormwater pollution from activities conducted by the Secondary Permittee. The O&M Plan shall include appropriate pollution prevention and good housekeeping procedures for all of the following operations, activities, and/or types of facilities that are present within the Secondary Permittee's boundaries.

i. Stormwater collection and conveyance system, including catch basins, stormwater sewer pipes, open channels, culverts, structural stormwater controls, and structural runoff treatment and/or flow control facilities. The O&M Plan shall address, but is not limited to: scheduled inspections and maintenance activities, including cleaning and proper disposal of waste removed from the system. Secondary Permittees shall properly maintain stormwater collection and conveyance systems owned or operated by the Secondary Permittee and regularly inspect and maintain all structural post-construction stormwater BMPs to ensure facility function.

For facilities located in Western Washington, Secondary Permittees shall establish maintenance standards that are as protective or more protective of facility function than those specified in Chapter 4 Volume V of the 2005 *Stormwater Management Manual for Western Washington.*

For facilities located in Eastern Washington, Secondary Permittees shall establish maintenance standards that are as protective or more protective of facility function than those specified in Chapters 5, 6 and 8 of the 2004 *Stormwater Management Manual for Eastern Washington*.

Secondary Permittees shall conduct spot checks of stormwater treatment and flow control facilities following a 24 hour storm event with a 10-year or greater recurrence interval.

ii. Roads, highways, and parking lots. The O&M Plan shall address, but is not limited to: deicing, anti-icing, and snow removal practices; snow disposal areas; material (e.g. salt, sand, or other chemical) storage areas; all-season BMPs to reduce road and parking lot debris and other pollutants from entering the MS4.

iii. Vehicle fleets. The O&M Plan shall address, but is not limited to: storage, washing, and maintenance of Secondary Permittee vehicle fleets; and fueling facilities. Secondary Permittees shall conduct all vehicle and equipment washing and maintenance in a self-contained covered building or in designated wash and/or maintenance areas.

iv. External building maintenance. The O&M Plan shall address, building exterior cleaning and maintenance including cleaning, washing, painting and other maintenance activities.

v. Parks and open space. The O&M Plan shall address, but is not limited to: proper application of fertilizer, pesticides, and herbicides; sediment and erosion control; BMPs for landscape maintenance and vegetation disposal; and trash management.

vi. Material storage areas, heavy equipment storage areas, and maintenance areas. Secondary Permittees shall develop and implement a Stormwater Pollution Prevention Plan to protect water quality at each of these facilities owned or operated by the Secondary Permittee and not covered under the General NPDES Permit for Stormwater Discharges Associated with *Industrial Activities* or under another NPDES permit that covers stormwater discharges associated with the activity.

vii. Other facilities that would reasonably be expected to discharge contaminated runoff. The O&M Plan shall address proper stormwater pollution prevention practices for each facility.

b. From the date of coverage under this Permit, Secondary Permittees shall also have permit coverage for all facilities operated by the Secondary Permittee that are required to be covered under the General NPDES Permit for Stormwater Discharges Associated with Industrial Activities.

c. The O&M Plan shall include sufficient documentation and records as necessary to demonstrate compliance with the O&M Plan requirements in S6.D.6.a.i. through vii above.

d. Train all employees whose construction, operations, or maintenance job functions may impact stormwater quality. The training shall address:

i. The importance of protecting water quality,

ii. The requirements of this Permit,

iii. Operation and maintenance requirements,

iv. Inspection procedures,

v. Ways to perform their job activities to prevent or minimize impacts to water quality, and

vi. Procedures for reporting water quality concerns, including potential illicit discharges.

E. Stormwater Management Program for the Port of Seattle and Port of Tacoma

The Stormwater Management Program (SWMP) for the Port of Seattle and the Port of Tacoma shall be developed and implemented in accordance with the schedules contained in this section and shall be fully developed and implemented no later than three years from the effective date of coverage.

Notwithstanding the schedules for implementation of SWMP components contained in this permit, Permittees that are already implementing some or all of the SWMP components in this section shall continue implementation of those components of their SWMP.

The SWMP for the Port of Seattle and the Port of Tacoma of shall include the following components:

1. Education Program

The SWMP shall include an education program aimed at tenants and Port employees. The goal of the education program is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.

Minimum Performance Measure

a. No later than 18 months after receiving coverage under this permit, the Permittee shall make educational materials available to tenants and Port employees whose job duties could impact stormwater.

2. Public Involvement and Participation

No later than 180 days before the expiration date of this Permit, each Port shall:

a. Publish a public notice in the local newspaper and solicit public review of its SWMP.

b. Make the latest updated version of the SWMP available to the public. The SWMP shall be posted on the Port's website.

3. Illicit Discharge Detection and Elimination

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

Minimum Performance Measures

a. From the date of permit coverage, comply with all ordinances, rules, and regulations of the local jurisdiction(s) in which the Port district's MS3 is located that govern non-stormwater discharges.

b. Develop and adopt appropriate policies prohibiting illicit discharges no later than one year from the date of permit coverage. Identify possible enforcement mechanisms no later than one year from the date of permit coverage and, no later than eighteen months from the date of permit coverage, develop and implement an enforcement plan using these mechanisms to ensure compliance with illicit discharge policies. These policies shall address, at a minimum: illicit connections; non-stormwater discharges, including spills as defined below; or otherwise improperly disposing of hazardous materials, pet waste, and litter.

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

   ii. The policies do not need to prohibit the following categories of non-stormwater discharges:

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

   iii. The policies shall prohibit the following categories of non-stormwater discharges unless the stated conditions are met:

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

   - Discharges from lawn watering and other irrigation runoff. These discharges shall be minimized through, at a minimum, public education activities and water conservation efforts conducted by the Secondary Permittee and/or the local jurisdiction.

   - Dechlorinated swimming pool discharges. The discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to

prevent resuspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.

- Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents. The Ports of Seattle and Tacoma shall reduce these discharges through, at a minimum, public education activities and/or water conservation efforts conducted by the Port and/or the local jurisdiction. To avoid washing pollutants into the MS4, the amount of street wash and dust control water used shall be minimized. At active construction sites, street sweeping shall be performed prior to washing the street.
- Other non-stormwater discharges shall be in compliance with the requirements of a stormwater pollution prevention plan reviewed by the Permittee which addresses control of such discharges.

iv. The SWMP shall, at a minimum, address each category in iii above in accordance with the conditions stated therein.

v. The SWMP shall further address any category of discharges in ii or iii above if the discharge is identified as a significant source of pollutants to waters of the State.

c. The SWMP shall include an ongoing program for gathering, maintaining, and using adequate information to conduct planning, priority setting, and program evaluation activities for Port-owned properties. The following information will be gathered and retained:

i. Mapping of known municipal separate storm sewer outfalls, and maps depicting land use for property owned by the Port, and all other properties served by municipal separate storm sewers known to and owned or operated by the Port. The mapping shall be completed within 2 years of receiving coverage under this permit.

ii. Mapping of tributary conveyances, and the associated drainage areas of municipal separate storm sewer outfalls owned or operated by the Port, with a 24 inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems. The mapping shall be completed within 2 years of receiving coverage under this permit.

iii. To the extent consistent with national security laws and directives, each Port shall make available to Ecology upon request, GIS data layers generated by the Port depicting outfall locations, land use, tributary conveyances and associated drainage areas of outfalls owned or operated by the Port. The preferred format of submission will be an electronic format with fully described mapping standards. An example description is provided at Ecology's website.

iv. No later than 24 months after receiving coverage under this permit, develop and implement a program to document operation and maintenance records for stormwater facilities covered under this permit. The information shall be available for inspection by Ecology.

v. Upon request, and to the extent consistent with national security laws and directives, mapping information and operation and maintenance records shall be provided to the City or County in which the Port is located.

d. Conduct field inspections and visually inspect for illicit discharges at all known outfalls that discharge to surface waters. Visually inspect at least one third (on average) of all known outfalls each year beginning no later than 3 years from the date of permit coverage. Develop and implement procedures to identify and remove any illicit discharges. Keep records of inspections and follow-up activities.

e. 180 days before the expiration date of this Permit, develop and implement a spill response plan that includes coordination with a qualified spill responder.

f. Provide staff training or coordinate with existing training efforts to educate relevant staff on proper best management practices for preventing spills and illicit discharges.

4. Construction Site Stormwater Runoff Control

The SWMP shall include a program to reduce pollutants in stormwater runoff from construction activities under the functional control of the Permittee.

Minimum performance measures:

a. Comply with all relevant, rules, and regulations of the local jurisdiction(s) in which the Port is located that govern construction phase stormwater pollution prevention measures. Within one year of the effective date of coverage, and to the extent allowed by local ordinances, rules, and regulations, comply with the applicable minimum technical requirements for new development and redevelopment contained in Appendix 1.

b. When applicable, seek and obtain coverage under the General NPDES Permit for Stormwater Discharges Associated with Construction Activities.

c. Coordinate with the local jurisdiction regarding projects owned and operated by other entities which discharge into interconnected MS3s, to assist the local jurisdiction with achieving compliance with all relevant ordinances, rules, and regulations of the local jurisdiction(s).

d. Provide training or coordinate with existing training efforts to educate port staff responsible for implementing construction stormwater erosion and sediment control BMPs and requirements, or hire trained contractors to perform the work.

e. Coordinate as requested with Ecology or the local jurisdiction to provide access for inspection of construction sites or other land disturbances that are under the control of the Port during the active grading and/or construction period.

5. Post-Construction Stormwater Management for New Development and Redevelopment

The SWMP shall include a program to address post-construction stormwater runoff from new development and redevelopment projects. The program shall establish controls to prevent or minimize water quality impacts.

Minimum performance measures:

a. Comply with all relevant ordinances, rules and regulations of the local jurisdiction(s) in which the Port is located that govern post-construction stormwater pollution prevention measures, including proper operation and maintenance of the MS3. Within one year of the effective date of permit coverage, and to the extent allowed by local ordinances, rules, and regulations, comply with the applicable the minimum technical requirements for new development and redevelopment contained in Appendix 1.

b. Coordinate with the local jurisdiction regarding projects owned and operated by other entities which discharge into interconnected MS3s, to assist the local jurisdiction in achieving compliance with all relevant ordinances, rules, and regulations of the local jurisdiction(s).

6. Operation and Maintenance Program

The SWMP shall include an operation and maintenance program for all stormwater treatment and flow control facilities, and catch basins to ensure that BMPs continue to function properly.

Minimum Performance Measures:

a. Each Port shall prepare an operation and maintenance manual for all stormwater BMPs that are under the functional control of the Permittee and which discharge stormwater to its MS3, or to an interconnected MS3.

i. The O&M manual shall be completed no later than 2 years after receiving coverage under this permit. A copy of the manual shall be retained in the appropriate Port department.

ii. The operation and maintenance manual shall establish facility-specific maintenance standards that are as protective, or more protective than those specified in Chapter 4 of Volume V of the 2005 *Stormwater Management Manual for Western Washington*. For existing stormwater facilities which do not have maintenance standards, the Permittee shall develop a maintenance standard.

iii. The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facility's required condition at all times between inspections. Exceeding the maintenance standards between inspections and/or maintenance is not a permit violation. Maintenance actions shall be performed within the time frames specified in S6.E.6.b.ii.

b. The Port will manage maintenance activities to inspect all stormwater BMPs listed in the O&M manual annually, and take appropriate maintenance action in accordance with the O&M manual.

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

ii. Unless there are circumstances beyond the Permittees control, when an inspection identifies an exceedence of the maintenance standard, maintenance shall be performed:

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

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

c. The Port shall provide appropriate training for Port maintenance staff.

d. The Port will maintain records of inspections and maintenance activities.

7. Source Control in existing Developed Areas

The SWMP shall include the development and implementation of one or more Stormwater Pollution Prevention Plans (SWPPPs). A SWPPP is a documented plan to identify and implement measures to prevent and control the contamination of discharges of stormwater to surface or ground water. SWPPP(s) shall be prepared and implemented for all Port-owned lands, except environmental mitigation sites owned by the Port, that are not covered by a NPDES permit issued by Ecology that covers stormwater discharges.

Minimum Performance Measures

a. SWPPP(s) shall be developed within 24 months of receiving coverage under this permit.

b. The SWPPP(s) shall include a facility assessment including a site plan, identification of pollutant sources, and description of the drainage system.

c. The SWPPP(s) shall include a description of the BMPs used or proposed for use by the Permittee. Stormwater BMPs shall be selected from the 2005 *Stormwater Management Manual for Western Washington* (or an equivalent Manual approved by Ecology). Implementation of non-structural BMPs shall begin immediately after the pollution prevention plan is developed. A schedule for implementation of structural BMPs shall be included in the SWPPP(s).

d. The Port shall maintain a list of sites covered by the SWPPP(s) required under this permit. At least 15% of the listed sites shall be inspected annually, and 80% of the total number of listed properties shall be inspected by 180 days before the expiration date of the permit.

e. The SWPPP(s) shall include policies and procedures to reduce pollutants associated with the application of pesticides, herbicides and fertilizer.

f. The SWPPP(s) shall include measures to prevent, identify and respond to illicit discharges, including illicit connections, spills and improper disposal. Immediately upon becoming aware of a spill into the drainage system owned or operated by the Port, the Port shall notify the City or County it is located in, and notify Ecology.

g. The SWPPP(s) shall include a component related to inspection and maintenance of stormwater facilities and catch basins that is consistent with the Port's Operation and Maintenance Program, as specified in S6.E.6. above.

8. Monitoring Program. Monitoring requirements for the Port of Seattle and Port of Tacoma are included in Special Condition S8.

F. Stormwater Management Program for King County as a Co-Permittee

King County, as a Co-Permittee with the City of Seattle for the discharges from outfalls King County owns or operates in the City, shall participate in the City of Seattle's Stormwater Management Program in accordance with the Joint Stormwater Management Program element of the Memorandum of Agreement between the City and County dated September 25, 1995. The apportionment of responsibilities for stormwater management within the City shall be governed solely by the MOA or its amendment, provided the City's stormwater management program, including King County participation, shall fully comply with Section S5 of this permit. Any amendments to the MOA shall be approved by Ecology before becoming effective.

S7. COMPLIANCE WITH TOTAL MAXIMUM DAILY LOAD REQUIREMENTS

The following requirements apply if an applicable Total Maximum Daily Load (TMDL) is approved for stormwater discharges from MS4s owned or operated by the Permittee. Applicable TMDLs are TMDLs which have been approved by EPA on or before the date permit coverage is granted.

A. For applicable TMDLs listed in Appendix 2, affected Permittees shall comply with the specific requirements identified in Appendix 2. Each Permittee shall keep records of all actions required by this permit that are relevant to applicable TMDLs within their jurisdiction. The status of the TMDL implementation shall be included as part of the annual report submitted to Ecology.

   Where monitoring is required in Appendix 2, the permittee shall conduct the monitoring according to a Quality Assurance Project Plan (QAPP) approved by Ecology.

B. For applicable TMDLs not listed in Appendix 2, compliance with this permit shall constitute compliance with those TMDLs.

C. For TMDLs that are approved by EPA after this permit is issued, Ecology may establish TMDL-related permit requirements through future permit modification if Ecology determines implementation of actions, monitoring or reporting necessary to demonstrate reasonable further progress toward achieving TMDL waste load allocations, and other targets, are not occurring and shall be implemented during the term of this permit or when this permit is reissued. Permittees are encouraged to participate in development of TMDLs within their jurisdiction and to begin implementation.

S8. MONITORING

A. Except for the Port of Seattle and the Port of Tacoma, Secondary Permittees are not required to conduct water sampling or other testing during the effective term of this permit, with the following exceptions:

   1. Any water quality monitoring required for compliance with TMDLs, pursuant to section S7 *Compliance with Total Maximum Daily Load Requirements* and Appendix 2 of this permit; and

   2. Any sampling or testing required for characterizing illicit discharges pursuant to section S6.D.3. of this permit.

B. Permittees shall provide the following information in each annual report:

   1. A description of any stormwater monitoring or studies conducted by the Permittee during the reporting period. If stormwater monitoring was conducted on behalf of the Permittee, or if studies or investigations conducted by other entities were reported to the Permittee, a brief description of the type of information gathered or

received shall be included in the annual report(s) covering the time period(s) during which the information was received.

2. An assessment of the appropriateness of the BMPs identified by the Permittee for each component of the SWMP; and any changes made, or anticipated to be made, to the BMPs that were previously selected to implement the SWMP, and why.
3. Information required pursuant to S8.C.2. below.

C. The Permittees listed in S1.B., and the Port of Seattle, and the Port of Tacoma shall develop and implement a long-term monitoring program.

1. The monitoring program shall include three components
    a. Stormwater monitoring which is intended to characterize stormwater runoff quantity and quality at a limited number of locations in a manner that allows analysis of loadings and changes in conditions over time and generalization across the Permittees' jurisdiction. Stormwater monitoring requirements are outlined in S8.D.
    b. Targeted stormwater management program effectiveness monitoring which is intended to improve stormwater management efforts by evaluating at least two stormwater management practices that significantly affect the success of or confidence in stormwater controls. Stormwater management program effectiveness monitoring requirements are outlined in S8.E.
    c. BMP evaluation monitoring is intended to evaluate the effectiveness and operation and maintenance requirements of stormwater treatment and hydrologic management BMPs. BMP evaluation monitoring requirements are outlined in S8.F.
2. Each of the components of the monitoring program shall include a Quality Assurance Project Plan (QAPP). QAPPs shall be prepared in accordance with Ecology's QAPP guidelines, available from Ecology's website. The monitoring program shall be developed by qualified staff or contractors with experience in applying Ecology's or EPA's QAPP Guidelines.

    All QAPPs shall be submitted to Ecology for review, in accordance with the deadlines in S8.G. below. QAPPs for Stormwater Monitoring (S8.D.), and Stormwater Treatment and Hydrologic Management BMP Evaluation Monitoring (S8.F.) shall be reviewed and approved by Ecology prior to monitoring.

D. Stormwater Monitoring

1. Stormwater monitoring site selection
    a. Stormwater monitoring sites shall have the tributary conveyance system and drainage area mapped, and be suitable for permanent installation and operation of flow-weighted composite sampling equipment. Permittees shall document

how sites are selected and the basin size based on comparison of the times of concentration with rainfall durations for typical seasonal storms.

Each site must represent a discernible type of land use, but not a single industrial or commercial complex. Ideally, to represent a particular land use, no less than 80% of the area served by the outfall or conveyance will be classified as having that land use. Permittees may move upstream in the conveyance system to achieve the desired land use.

b. Counties shall monitor one outfall or conveyance representing each of the following land uses: Commercial, Low density residential, and High density residential.

c. Cities shall monitor one outfall or conveyance representing each of the following land uses: Commercial, High density residential, and Industrial.

d. The Ports of Seattle and Tacoma shall each monitor one outfall or conveyance.

2. Stormwater monitoring frequency and type of sampling

a. Each stormwater monitoring site shall be sampled according to the following frequency unless good faith efforts with good professional practice by the Permittee do not result in collecting a successful sample for the full number of storms:

Sixty-seven percent of the forecasted qualifying storms which result in actual qualifying storm events are required to be sampled, up to a maximum of eleven (11) storm events per water year. Qualifying storm events are defined in S8.D.2.a.i and ii, below. Qualifying storm event sampling must be distributed throughout the year, approximately reflecting the distribution of rainfall between the wet and dry seasons (with a goal of 60-80% of the samples collected during the wet season and a goal of 20-40% of the samples collected in the dry season).

Additionally, the Permittee shall analyze up to a maximum of three (3) samples that are collected as a result of attempts to sample the eleven (11) required storm events and do not meet the rainfall volume storm event criterion but do meet the other storm event and sample criteria. Not including the chemical sampling and analysis required by S8.D.2.d., the maximum number of sampled storm events to be analyzed is fourteen (14) per year.

i. The wet season is from October 1 through April 30. A qualifying wet season storm event is defined as follows:

- Rainfall volume: 0.20” minimum, no fixed maximum
- Rainfall duration: No fixed minimum or maximum
- Antecedent dry period: Less than or equal to 0.02” rain in the previous 24 hours

- Inter-event dry period: 6 hours

ii. The dry season is from May 1 through September 30. A qualifying dry season storm event is defined as follows:

- Rainfall volume: 0.20" minimum, no fixed maximum
- Rainfall duration: No fixed minimum or maximum
- Antecedent dry period: less than or equal to 0.02" rain in the previous 72 hours
- Inter-event dry period: 6 hours

b. Storm events shall be sampled using flow-weighted composite storm sampling. Automatic samplers shall be programmed to begin sampling as early in the runoff event as practical and to continue sampling past the longest estimated time of concentration for the tributary area.

For storm events lasting less than 24 hours, samples shall be collected for at least seventy-five percent (75%) of the storm event hydrograph. For storm events lasting longer than 24 hours, samples shall be collected for at least seventy-five percent 75% of the hydrograph of the first 24 hours of the storm.

Each composite sample must consist of at least 10 aliquots. Composite samples with 7 to 9 aliquots are acceptable if they meet the other sampling criteria and help achieve a representative balance of wet season/dry season events and storm sizes.

Continuous flow recording of all storm events (not just sampled storm events) is necessary for at least one year to establish a baseline rainfall/runoff relationship.

Precipitation and flow data shall be reported, and composite samples shall be analyzed and results reported for the constituents/parameters listed below. Chemicals below detection limits after two years of data analysis may be dropped from the analysis. Refer to Appendix 9 for a listing of acceptable laboratory analysis methods and target reporting limits.

i. Precipitation event data including antecedent dry period and rainfall distribution throughout the event, flow and hydrograph data including sampled and total runoff time periods and volumes

ii. Conventional Parameters Including: TSS, turbidity, Conductivity, Chloride, Biochemical oxygen demand (BOD_5), Hardness, and Methylene Blue Activating Substances (MBAS).

iii. Nutrients: Total phosphorus, Orthophosphate, Total kjeldahl nitrogen, and Nitrate – nitrite.

iv. Metals, including, at a minimum: total and dissolved copper, zinc, cadmium, and lead; and mercury sampling in commercial and industrial land use areas.

v. Organics: PAHs; phthalates.

vi. Pesticides including:

- Herbicides: 2,4-D, MCPP, Triclopyr,
- Insecticides: Diazinon, Malathion, Chlorpyrifos, Dichlobenil, Prometon
- Fungicides: Pentachlorophenol

c. If the volume of stormwater sample collected from a qualifying storm is insufficient to allow analysis for all parameters listed S8.D.2.b. above, the sample shall be analyzed for as many parameters as possible in the following priority order:

i. All land use types: 1. TSS; 2. Conductivity; 3. MBAS; 4. Metals and hardness;

ii. Industrial/Commercial: 5. PAH's and phthalates; 6. Pesticides; 7. Nutrients 8. BOD5; and 9. Chlorides

iii. Residential: 5. Nutrients; 6. Pesticides; 7. PAH's and phthalates; 8. BOD_5; and 9. Chlorides

If insufficient sample exists to run the next highest priority pollutant, that analysis should be bypassed and analyses run on lower priority pollutants in accordance with the remaining priority order to the extent possible.

d. The Permittee shall test the seasonal first-flush for toxicity in accordance with the criteria and procedures described in this section. This toxicity testing is for screening purposes only and is not effluent characterization or compliance monitoring under Chapter 173-205 WAC.

Toxicity testing shall be completed once by each Permittee required to perform toxicity testing during this permit cycle. Toxicity testing shall be performed based on the schedule below:

i. The following Permittees shall sample the seasonal first flush for toxicity beginning August 2010:

- City of Seattle
- Snohomish County
- City of Tacoma
- Clark County

ii. The following Permittees shall sample the seasonal first flush for toxicity beginning August 2011:

- Port of Tacoma
- Port of Seattle
- King County
- Pierce County

iii. Toxicity storm event criteria:

- August or September, with at least a one-week antecedent dry period (or October, irrespective of antecedent dry period, if unsuccessful in August or September).

iv. Toxicity Sample criteria:
- Adequate volume to perform toxicity testing, any associated egg (includes both yolk and embryo) analysis, and the chemical analyses as described below. The total volume required for toxicity testing and associated egg analysis is in the range of twenty-four (24) to forty-four (44) liters. The volume required for chemical analysis is approximately ten (10) liters.

v. The Permittee shall contact the toxicity laboratory prior to the forecasted storm event to inquire about gamete (test organism) availability. If the laboratory confirms that gametes of sufficient quantity and quality will not be available for toxicity testing, the Permittee shall not attempt to collect toxicity samples for that storm event.

If the Permittee is unsuccessful in completing a toxicity test despite good faith, documented efforts, or due to an invalid or anomalous test result, a second sampling attempt is required if sufficient time remains to meet the toxicity storm event criteria. If the second attempt is also unsuccessful, the Permittee shall document its efforts in its annual stormwater monitoring report and shall not be required to conduct further sampling and analysis efforts under S8.D.2.d for that water year.

e. Sampling and Reporting Requirements for seasonal first-flush toxicity tests

i. The Permittee shall submit all reports for toxicity testing in accordance with the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria.* Reports shall contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data in electronic format for entry into Ecology's database, then the Permittee shall send the data to Ecology along with the test report, bench sheets, and reference toxicant results.

ii. The Permittee shall collect the sample for toxicity testing using flow-weighted or time-weighted composite samplers or sampling methods.

iii. The Permittee shall collect the sample for the associated chemical analysis at the same time and location as the toxicity testing sample. The associated chemical analysis shall be for the following parameters: TSS, chloride, hardness, methylene blue activated substances (MBAS), metals including total and dissolved copper, zinc, cadmium, and lead (mercury in commercial or industrial land use areas only), PAHs, phthalates, and

pesticides including 2,4-D, MCPP, Triclopyr, Diazinon, Malathion, Chlorpyrifos, Dichlobenil, Prometon and Pentachlorophenol.

iv. Sample holding times, temperatures, and handling shall meet Ecology's guidance (WQ-R-95-80, or version current at the permit revision date). The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing as specified in the most recent version of Department of Ecology publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*.

v. Testing procedures should follow: E-test (seven day), Environment Canada, Pacific Environmental Science Center, Environmental Toxicology Section, SOP ID: RBTELS11.SOP, 1999. The test procedure may take advantage of the smaller volume modification described in: Canaria, E.C., Elphick, J.R. and Bailey, H.C. 1999. A simplified procedure for conducting small scale short-term embryo toxicity tests with salmonids is found in Environ. Toxicol. 14:301-307.

vi. Toxicity tests must meet quality assurance criteria in the most recent versions of the Environment Canada manual EPS 1/RM/28 and the Department of Ecology Publication #WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If test results are determined to be invalid by the laboratory or Ecology determines the test results are anomalous, Ecology may require the Permittee to attempt to collect a second toxicity test sample if Ecology believes sufficient time remains to collect a sample meeting the toxicity storm event criteria. The Permittee will be notified in writing that it is required to attempt to collect an additional sample meeting the terms of S8.D.2.d. If the Permittee is unable to collect and test a second sample, it must document its efforts in the annual stormwater monitoring report. The Permittee shall not be required to make more than two sample attempts for toxicity testing described in S8.D.2.d.

- The Permittee may sample receiving water at the same time as the stormwater and instruct the lab to measure the hardness of both and increase the hardness of the stormwater sample to match the hardness of the receiving water sample prior to beginning the toxicity test. Otherwise, the Permittee must conduct whole effluent toxicity tests on an unmodified sample of stormwater.
- Control water and dilution water must be a moderately hard reconstituted laboratory water or pristine natural water of sufficient quality for good control performance.
- The EC_{50} must be calculated by the trimmed Spearman-Karber procedure. Abbott's correction may be applied to the data before

deriving this point estimate. A minimum of five (5) concentrations and a control must be used in the testing

vii. Follow up actions

If the EC_{50} from any valid and non-anomalous test is 100% stormwater or less, the Permittee must implement follow-up actions.

Terminated organisms must be preserved for up to six months. Within sixty (60) days after final validation of the data, the Permittee shall compare the chemical analysis results for the same sample event to a library of toxicity test results compiled by Ecology and identified for this purpose, using good faith efforts to determine if the presence of an analyzed contaminant is within a range reported in the literature that may adversely affect fish embryos and if so to review the source literature.

If a possible chemical contaminant(s) of concern is determined by the library comparison and literature review, the Permittee must prepare and submit a report summarizing the toxicity and chemical analysis results, the library comparison, a review of relevant sources of literature from Ecology's library, the possible chemical contaminant(s) of concern, and an explanation of how the Permittee's stormwater management actions are expected to reduce stormwater toxicity. This report will be submitted to Ecology within one hundred twenty (120) days after final validation of the toxicity and chemistry data. In addition, the report will be attached as an appendix to the following year's annual stormwater monitoring report.

If a possible chemical contaminant(s) of concern is not determined by library comparison and literature review, a Gas Chromatograph/Mass Spectrometer (GC/MS) analysis of the eggs from the highest test concentrations must be performed. The GC/MS need not be quantitative but only capable of identifying stormwater contaminants present in the eggs. Within one hundred fifty (150) days after final validation of the toxicity and chemical analysis data, the Permittee must prepare and submit a report summarizing the toxicity and chemical analysis results, the library comparison, a review of relevant source literature from Ecology's library, the GC/MSs results, and an explanation of how the Permittee's stormwater management actions are expected to reduce stormwater toxicity. In addition, the report will be attached as an appendix to the following year's annual stormwater monitoring report.

f. Each storm event shall be sampled using grab samples for the following constituents/parameters:

i. Total Petroleum Hydrocarbons (TPH) using NWTPH-Gx and NWTPH-Dx. (sample must be collected early in the storm event and skimmed from the surface), and

ii. Fecal coliform bacteria.

g. Annual sediment monitoring. Sediments samples shall be collected at each stormwater monitoring site, or in the vicinity of each stormwater monitoring site. Use of in-line sediment traps or similar collection system is preferred. Sampling of receiving water sediment deposits is an alternative where approved by Ecology.

i. Sediment samples shall be analyzed for: total solids, grain size, total organic carbon, copper, zinc, cadmium, lead, and mercury (mercury not necessary for residential land use sites), PAHs, phthalates, phenolics, PCBs (not necessary for residential sites), and pesticides.

ii. Parameters that are below detection limits after two years of data may be dropped from the analysis. A minimum of one sample per year shall be collected.

iii. If the volume of sediment sample is insufficient to analyze for all of the parameters listed above, the sample shall be analyzed for as many parameters as possible in the following priority order:

- All land use types: 1) Grain size (if enough sample is available for all parameters, use grain size method in Appendix 9; otherwise characterize grain size qualitatively); 2) Total organic carbon; 3) Metals.
- Industrial/Commercial: 4) PAH's and Phthalates; 5) Phenolics; 6) PCB's; and 7) Pesticides.
- Residential: 4) Pesticides; 5) PAH's and Phthalates; and 6) Phenolics.

g. For each stormwater monitoring site calculate the Event Mean Concentrations (EMCs), total annual pollutant load, and the seasonal pollutant load for the wet and dry seasons based on the water year. The loadings shall be expressed as total pounds and as pounds per acre, and must take into account potential pollutant load from base flow. Reporting shall be in accordance with S8.H.

E. Targeted Stormwater Management Program Effectiveness Monitoring

1. Each Permittee shall conduct monitoring designed to determine the effectiveness of the Permittee's SWMP at controlling a stormwater related problem directly addressable by targeted actions in the SWMP. The stormwater management program effectiveness monitoring component shall be designed to answer one of each type of the following questions:

a. The effectiveness of a targeted action (or narrow suite of actions), and

b. The effectiveness of achieving a targeted environmental outcome.

2. The monitoring shall at a minimum include stormwater, sediment or receiving water monitoring of physical, chemical and/or biological characteristics. The monitoring may also include data collection and analysis of other programmatic

measures of effectiveness such as surveys and polls. Monitoring to identify sub-basin-specific water quality problems and characterize discharges for planning purposes may also be included.

3. For each of the two questions selected for monitoring, Permittees shall develop a monitoring program containing the following elements:

   a. Description of the targeted action/targeted environmental outcome and a explanation of why it is significant to the Permittee, and if the problem is significant to other stormwater managers;

   b. Specific hypotheses about the targeted action/targeted environmental outcome that will be tested by the monitoring problem;

   c. Specific parameters of attributes to be measured; and

   d. Expected modifications to management actions depending on the outcome of hypotheses testing.

F. Stormwater Treatment and Hydrologic Management Best Management Practice (BMP) Evaluation Monitoring

1. Each Permittee listed in S1.B. and the Ports of Seattle and Tacoma shall conduct full scale field monitoring to evaluate the effectiveness and operation and maintenance requirements of stormwater treatment and hydrologic management BMPs applied in their jurisdiction. A QAPP is required for each BMP and flow reduction strategy being monitored.

2. Each Permittee listed in S1.B. shall monitor at least two treatment BMPs, at no less than two sites per BMP. The Port of Seattle and the Port of Tacoma shall each monitor at least one treatment BMP, at no less than two sites.

   To ensure a range of BMP types are monitored, Ecology will restrict the total number of monitoring sites for a BMP category to no more than four. BMPs shall be selected from the following list:

   a. Basic Treatment Category: Biofiltration swale, Filter strip, Basic wetpond, Treatment wetland, and Sand filter.

   b. Metals/Phosphorus Treatment Category: Amended sand filter, Two facility treatment train, Compost amended filter strips, Bioretention, and Large wetpond.

   c. Oil Control Category: Linear sand filter, and Catch basin insert.

3. BMPs shall be designed in accordance with the 2005 *Stormwater Management Manual for Western Washington* unless Ecology approves of an alternate design in the QAPP review. Permittees may also petition Ecology to monitor a BMP that is not on the above list.

4. Permittees must use appropriate sections of Ecology's guidance for "Evaluation of Emerging Stormwater Treatment Technologies" (available on Ecology's website)

for preparing, implementing, and reporting on the results of the BMP evaluation program.

The statistical goal is to determine mean effluent concentrations and mean percent removals for each BMP type with 90 - 95% confidence and 75 - 80% power.

Permittees must use USEPA publication number 821-B-02-001, "Urban Stormwater BMP Performance Monitoring," as additional guidance for preparing the BMP evaluation monitoring, and must collect information pertinent to fulfilling the "National Stormwater BMP Data Base Requirements" in section 3.4.3. of that document.

5. The parameters to be monitored in whole water at each test site include:
    a. For Basic, Enhanced, or Phosphorus treatment BMPs: Total suspended solids, Particle size distribution, pH, Total and ortho-phosphorus, Hardness, and Total and dissolved copper and zinc.
    b. For Oil Control BMPs: Total suspended solids, Particle size distribution, pH, NWTPH-Dx and –Gx, and Oil sheen
6. Parameters to be monitored in accumulated sediment at each test site for Basic, Enhanced, Phosphorus treatment, or Oil Control BMPs include: Percent total solids, Grain size, Total volatile solids, NWTPH-Dx, Total phosphorous, and Total cadmium, copper, lead, and zinc.
7. Each Permittee listed in S1.B. shall monitor the effectiveness of one flow reduction strategy that is in use or planned for installation in their jurisdiction.

    Monitoring of a flow reduction strategy shall include continuous rainfall and surface runoff monitoring. Flow reduction strategies shall be monitored through either a paired site study or against a predicted outcome.

G. Monitoring Program Development

Permittees may choose to develop one, two or all of the components of the monitoring program, conduct the monitoring, and report results through an integrated, long-term, water quality monitoring program in collaboration with other municipal stormwater Permittees; or they may independently develop one, two, or all of the components of the monitoring program, conduct the monitoring, and report results.

Collaborative monitoring programs may be developed by a third party (or parties) that are not a Permittee, provided that the Permittee complies with the provisions of Special Condition S3.B (relying on another entity to meet permit requirements).

The schedule for the development of monitoring programs is as follows:

1. Collaboratively developed monitoring programs.
    a. Permittees that intend to meet all or part of the monitoring requirements through a collaborative process shall submit a statement to Ecology explaining their

commitment to the collaborative process no later than 6 months after the effective date of this permit

b. The summary description of the monitoring program and QAPPs, as required, shall be submitted to Ecology no later than 1.5 years after the effective date of this permit. The monitoring program shall be submitted in both paper and electronic form.

c. Approved or final QAPPs shall be completed no later than 2 years after the effective date of this permit, provided that this deadline will be extended by the number of days by which Ecology exceeds 90 days for QAPP review.

d. Full implementation of the monitoring program shall begin no later than 2.5 years after the effective date of this permit. The third party or parties selected to develop the monitoring plan may continue to be utilized to collect and analyze the data and to write the subsequent reports required under this permit.

e. Final reports, including data and analysis for S8.F. Stormwater Treatment and Hydrologic Management BMP Evaluation Monitoring Program that are completed during the permit term shall be submitted to Ecology no later than the fourth year annual report. The fourth year annual report shall also describe Stormwater Treatment and Hydrologic Management BMP Evaluation Monitoring programs that are still in progress at the end of the reporting period, and the expected date for submittal of the final reports.

2. Independently developed monitoring programs.

a. A summary description of the monitoring program and QAPPs, as required, shall be submitted to Ecology no later than 1 year after the effective date of this permit. The monitoring program shall be submitted in both paper and electronic form.

b. Approved or final QAPPs shall be completed no later than 1.5 years after the effective date of this permit, provided that this deadline shall be extended by the number of days by which Ecology exceeds 90 days for QAPP review.

c. Full implementation of the monitoring program shall begin no later than 2 years after the effective date of this permit.

d. Final reports, including data and analysis for S8.F. Stormwater Treatment and Hydrologic Management BMP Evaluation Monitoring Program completed during the permit term shall be submitted to Ecology no later than the fourth year annual report. The fourth year annual report shall also describe Stormwater Treatment and Hydrologic Management BMP Evaluation Monitoring programs that are still in progress at the end of the reporting period, and the expected date for submittal of the final reports.

H. Monitoring Program Reporting Requirements

1. The stormwater monitoring report shall be submitted with the annual report each year, beginning in 2009 for independent monitoring, and 2010 for collaborative monitoring. Each report shall include all monitoring data collected during the preceding water year (October 1 – September 30), provided the first annual monitoring report submitted will include data from a partial water year. Each report shall also integrate data from earlier years into the analysis of results, as appropriate. Permittees that choose to participate in an integrated water quality monitoring program shall submit a single integrated monitoring report. Reports shall be submitted in both paper and electronic form and shall include:
    a. Stormwater Monitoring Reporting
        i. A summary including the location, land use, drainage area size, and hydrology for each site,
        ii. A comprehensive data and QA/QC report for each component of the monitoring program, with an explanation and discussion of the results of each monitoring project,
        iii. The annual pollutant load based on water year for each site expressed in total pounds, and pounds/acre, and
        iv. The wet and dry season pollutant loads based on water year, expressed in total pounds, and pounds/acre.
    b. Stormwater Management Program Effectiveness Monitoring Reporting
        i. A summary of the purpose, design, and methods of the monitoring program,
        ii. The status of implementing the monitoring program,
        iii. A comprehensive data and QA/QC report for each part of the monitoring program, with an explanation and discussion of the results of each monitoring project,
        iv. An analysis of the results of each part of the monitoring program, including any identified water quality problems or improvements or other trends in stormwater or receiving water quality, and
        v. Recommended future actions based on the findings.
    c. Stormwater Treatment and Hydrologic Management Best Management Practice (BMP) Evaluation Monitoring Reporting
        i. A summary including the BMP type location, land use, drainage area size, and hydrology for each site.
        ii. The status of implementing the monitoring program,
        iii. A comprehensive data and QA/QC report for each part of the monitoring program, with an explanation and discussion of the results of each monitoring project,

iv. Performance data or flow reduction performance. Performance data for treatment BMPs shall be reported consistent with:

- The guidelines in appropriate sections of Ecology's guidance for "Evaluation of Emerging Stormwater Treatment Technologies", and
- USEPA publication number 821-B-02-00, "Urban Stormwater BMP Performance Monitoring," including information pertinent to fulfilling the "National Stormwater BMP Data Base Requirements" in section 3.4.3. of that document.

2. If the Permittee monitors any pollutant more frequently at monitoring stations associated with the monitoring programs described in Section S8.D., S8.E., and S8.F.during the proceeding water year, then the results of this monitoring shall be included in the annual monitoring report. If the Permittee conducts any other stormwater monitoring in addition to that required in the required monitoring program, then it must provide a description of the additional monitoring in its annual report.

S9. REPORTING REQUIREMENTS

A. No later than March 31, of each year beginning in 2008, each Permittee shall submit an annual report. The reporting period for the first annual report will be from the effective date of this permit through December 31, 2007. The reporting period for all subsequent annual reports shall be the previous calendar year.

B. Two printed copies and an electronic (PDF) copy of the annual report shall be submitted to Ecology. All submittals shall be delivered to:

Department of Ecology
Water Quality Program
Municipal Stormwater Permits
P.O. Box 47696
Olympia, WA 98504-7696

C. Each Permittee is required to keep all records related to this permit and the SWMP for at least five years. Except as required as a condition of the annual reports, records need to be submitted to Ecology only upon request.

D. Each Permittee shall make all records related to this permit and the Permittee's SWMP available to the public at reasonable times during business hours. The Permittee will provide a copy of the most recent annual report to any individual or entity, upon request.

1. A reasonable charge may be assessed by the Permittee for making photocopies of records.
2. The Permittee may require reasonable advance notice of intent to review records related to this permit.

E. The annual report for Permittees listed in S1.B. and S1.C.

Each annual report shall include the following:

1. A copy of the Permittee's current Stormwater Management Program as required by S5.A.1.
2. For each component of the SWMP the Permittee shall include the following:
    a. Describe the current implementation status including whether the Permittee has met the required implementation deadlines. If permit deadlines are not met, Permittees shall report the reasons why the requirement was not met and how the requirements will be met in the future.
    b. Compare program implementation results to the performance standards established in the permit.
    c. A summary of the number and nature of inspections performed by the Permittee as required by S5.C.5., S5.C.7., and S5.C9.
    d. A summary of the nature and number of official enforcement actions taken to enforce provisions of this permit.

    The above information shall be submitted in a format approved by Ecology.
3. A summary of any actions taken by the Permittee pursuant to S4.F.
4. A summary of the status of any TMDL implementation requirements and any associated monitoring as required by S7.A.
5. The Stormwater Monitoring Report required pursuant to S8.H.
6. Any reporting requirements associated with S8.B. not included elsewhere in the annual report.
7. If the Permittee is relying on another governmental entity to satisfy any of the obligations under this permit provide the name of the other entity and a description of the permit requirements preformed by the other entity.
8. Notification of any annexations, incorporations or jurisdictional boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period, and implications for the SWMP.
9. The annual report shall include certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.
10. A summary of barriers to implementation of LID and actions taken to remove the barriers.
11. A summary of the extent to which basin or watershed planning is being conducted in the Permittee's jurisdiction, either voluntarily, or pursuant to the Growth Management Act (Chapter 36.70A RCW) or any other requirement.

12. In the annual report for calendar year 2010, the Permittee shall identify areas for potential basin or watershed planning that can incorporate development strategies as a water quality management tool to protect aquatic resources.

F. Annual Report for Secondary Permittees, except for the Port of Seattle and the Port of Tacoma

All Secondary Permittees (except the Port of Seattle and the Port of Tacoma) shall complete the *Annual Report Form for Secondary Permittees* (Appendix 4) and submit it along with any supporting documentation to Ecology.

1. The *Annual Report Form for Secondary Permittees* is intended to summarize the Permittees compliance with the conditions of this permit, including:
    a. Status of implementation of each component of the SWMP in section S6 *Stormwater Management Program for Co-Permittees, and Secondary Permittees*, as applicable to the Permittee.
    b. An assessment of the Permittee's progress in meeting the minimum performance standards established for each of the minimum control measures of the SWMP.
    c. A summary of the Permittee's evaluation of their SWMP, according to section S8.B.2.
    d. If applicable, notice that the MS4 is relying on another governmental entity to satisfy any of the obligations under this permit.
    e. Updated information from the prior annual report plus any new information received during the reporting period pursuant to S8.B.1 and S8.B.2.
    f. Certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.
2. Secondary Permittees shall include with the annual report a notification of any jurisdictional boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period, and implications for the SWMP.

G. Annual Report for the Port of Tacoma and the Port of Seattle

The annual report shall include the following:

1. A current copy of the Permittees Stormwater Management Plan as required by S6.A.5.
2. Appendix 3 – *Annual Report Form for the Port of Seattle and the Port of Tacoma*, which in intended to summarizes the Permittees compliance with the conditions of this permit including the status of implementation of each component of the SWMP required by S6 *Stormwater Management Program for Co-Permittees, and Secondary Permittees*, as applicable to the Permittee.

3. The Permittee's SWMP implementation schedule and plans for meeting permit deadlines, and a discussion of the status of SWMP implementation to date. If Permit deadlines are not met, or may not be met in the future, include reasons why, corrective steps taken, and proposed, and expected dates that the deadlines will be met.
4. The stormwater monitoring report required pursuant to S8.H.
5. Notification of any jurisdictional boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period, and implications for the SWMP.
6. If applicable, notice that the MS4 is relying on another governmental entity to satisfy any of the obligations under this permit.
7. Updated information from the prior annual report plus any new information received during the reporting period, according to S8.B.
8. Certification and signature pursuant to G19.D. and notification of any changes to authorization pursuant to G19.C.

GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit.

G2. PROPER OPERATION AND MAINTENANCE

The Permittee shall at all times properly operate and maintain all facilities and systems of collection, treatment, and control (and related appurtenances) which are installed or used by the Permittee for pollution control to achieve compliance with the terms and conditions of this permit.

G3. NOTIFICATION OF DISCHARGE INCLUDING SPILLS

If a Permittee has knowledge of a discharge, including spill(s), into or from a municipal storm sewer, which could constitute a threat to human health, welfare, or the environment, the Permittee, shall:

A. Take appropriate action to correct or minimize the threat to human health, welfare and/or the environment, and

B. Notify the Ecology regional office and other appropriate spill response authorities immediately but in no case later than within 24 hours of obtaining that knowledge. The Department of Ecology's Regional Office 24-hr. number is 425-649-7000 for the Northwest Regional Office and 360-407-6300 for the Southwest Regional Office.

C. Immediately report spills or discharges which might cause bacterial contamination of shellfish, such as broken sewer lines and failing onsite septic systems, to the Ecology regional office and to the Department of Health, Shellfish Program. The Department of Health's Shellfish 24-hr. number is 360-236-3330.

D. Immediately report spills or discharges of oils or hazardous materials to the Ecology regional office and to the Washington Emergency Management Division, 1-800-258-5990.

G4. BYPASS PROHIBITED

The intentional *bypass* of stormwater from all or any portion of a stormwater treatment BMP whenever the design capacity of the treatment BMP is not exceeded, is prohibited unless the following conditions are met:

A. Bypass is: (1) unavoidable to prevent loss of life, personal injury, or severe property damage; or (2) necessary to perform construction or maintenance-related activities essential to meet the requirements of the Clean Water Act (*CWA*); and

B. There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated stormwater, or maintenance during normal dry periods.

"Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss.

G5. RIGHT OF ENTRY

The Permittee shall allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law at reasonable times:

A. To enter upon the Permittee's premises where a discharge is located or where any records must be kept under the terms and conditions of this permit;

B. To have access to, and copy at reasonable cost and at reasonable times, any records that must be kept under the terms of the permit;

C. To inspect at reasonable times any monitoring equipment or method of monitoring required in the permit;

D. To inspect at reasonable times any collection, treatment, pollution management, or discharge facilities; and

E. To sample at reasonable times any discharge of pollutants.

G6. DUTY TO MITIGATE

The Permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment.

G7. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G8. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in the permit shall be construed as excusing the Permittee from compliance with any other applicable federal, state, or local statutes, ordinances, or regulations.

G9. MONITORING

A. Representative Sampling: Samples and measurements taken to meet the requirements of this permit shall be representative of the volume and nature of the monitored discharge, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality.

B. Records Retention: The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when

requested by Ecology. On request, monitoring data and analysis must be provided to Ecology.

C. Recording of Results: For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place and time of sampling; (2) the individual who performed the sampling or measurement; (3) the dates the analyses were performed; (4) who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of all analyses.

D. Test Procedures: All sampling and analytical methods used to meet the monitoring requirements specified in the approved stormwater management program shall conform to the Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR Part 136, unless otherwise specified in this permit or approved in writing by Ecology.

E. Flow Measurement: Where flow measurements are required by other conditions of this Permit, appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations or at a minimum frequency of at least one calibration per year. Calibration records should be maintained for a minimum of three years.

F. Lab Accreditation: Where data collection is required by other conditions of this Permit, all monitoring data, except for flow, temperature, conductivity, pH, total residual chlorine, and other exceptions approved by Ecology, shall be prepared by a laboratory registered or accredited under the provisions of, Accreditation of Environmental Laboratories, Chapter 173-50 WAC. Soils and hazardous waste data are exempted from this requirement pending accreditation of laboratories for analysis of these media by Ecology.

G. Additional Monitoring: Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G10. REMOVED SUBSTANCES

With the exception of decant from street waste vehicles, the Permittee must not allow collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of stormwater to be resuspended or reintroduced to the storm sewer system or to waters of the state. Decant from street waste vehicles resulting from cleaning stormwater facilities may be reintroduced only when other practical means are not available and only in accordance with the Street Waste Disposal Guidelines in Appendix 6.

G11. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

G12. REVOCATION OF COVERAGE

The director may terminate coverage under this *General Permit* in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC. Cases where coverage may be terminated include, but are not limited to the following:

A. Violation of any term or condition of this general permit;

B. Obtaining coverage under this general permit by misrepresentation or failure to disclose fully all relevant facts;

C. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

D. A determination that the permitted activity endangers human health or the environment, or contributes significantly to water quality standards violations;

E. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090;

F. Nonpayment of permit fees assessed pursuant to RCW 90.48.465;

Revocation of coverage under this general permit may be initiated by Ecology or requested by any interested person.

G13. TRANSFER OF COVERAGE

The director may require any discharger authorized by this general permit to apply for and obtain an individual permit in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC.

G14. GENERAL PERMIT MODIFICATION AND REVOCATION

This general permit may be modified, revoked and reissued, or terminated in accordance with the provisions of WAC 173-226-230. Grounds for modification, revocation and reissuance, or termination include, but are not limited to the following:

A. A change occurs in the technology or practices for control or abatement of pollutants applicable to the category of dischargers covered under this general permit;

B. Effluent limitation guidelines or standards are promulgated pursuant to the CWA or chapter 90.48RCW, for the category of dischargers covered under this general permit;

C. A water quality management plan containing requirements applicable to the category of dischargers covered under this general permit is approved;

D. Information is obtained which indicates that cumulative effects on the environment from dischargers covered under this general permit are unacceptable; or

E. Changes made to State law reference this permit.

G15. REPORTING A CAUSE FOR MODIFICATION OR REVOCATION

A Permittee who knows or has reason to believe that any activity has occurred or will occur which would constitute cause for modification or revocation and reissuance under Condition G12, G14, or 40 CFR 122.62 shall report such plans, or such information, to Ecology so that a decision can be made on whether action to modify, or revoke and reissue this permit will be required. Ecology may then require submission of a new or amended application. Submission of such application does not relieve the Permittee of the duty to comply with this permit until it is modified or reissued.

G16. APPEALS

A. The terms and conditions of this general permit, as they apply to the appropriate class of dischargers, are subject to appeal within thirty days of issuance of this general permit, in accordance with Chapter 43.21B RCW, and Chapter 173-226 WAC.

B. The terms and conditions of this general permit, as they apply to an individual discharger, can be appealed, in accordance with Chapter 43.21B RCW, within thirty days of the effective date of coverage of that discharger. Consideration of an appeal of general permit coverage of an individual discharger is limited to the general permit's applicability or nonapplicability to that individual discharger.

C. The appeal of general permit coverage of an individual discharger does not affect any other dischargers covered under this general permit. If the terms and conditions of this general permit are found to be inapplicable to any individual discharger(s), the matter shall be remanded to Ecology for consideration of issuance of an individual permit or permits.

D. Modifications of this permit can be appealed in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC.

G17. PENALTIES

40 CFR 122.41(a)(2) and (3), 40 CFR 122.41(j)(5), and 40 CFR 122.41(k)(2) are hereby incorporated into this permit by reference.

G18. DUTY TO REAPPLY

The Permittee shall apply for permit renewal at least 180 days prior to the specified expiration date of this permit.

G19. CERTIFICATION AND SIGNATURE

All applications, reports, or information submitted to Ecology shall be signed and certified.

A. All permit applications shall be signed by either a principal executive officer or ranking elected official.

B. All reports required by this permit and other information requested by Ecology shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   1. The authorization is made in writing by a person described above and submitted to Ecology, and

   2. The authorization specifies either an individual or a position having responsibility for the overall development and implementation of the stormwater management program. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

C. Changes to authorization. If an authorization under General Condition G19.B.2 is no longer accurate because a different individual or position has responsibility for the overall development and implementation of the stormwater management program, a new authorization satisfying the requirements of General Condition G19.B.2 must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this permit must make the following certification:

   "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for willful violations."

G20. NON-COMPLIANCE NOTIFICATION

In the event it is unable to comply with any of the terms and conditions of this permit, the Permittee must:

A. Notify Ecology of the failure to comply with the permit terms and conditions in writing within **30 days** of becoming aware that the non-compliance has occurred. The written notification to Ecology must include all of the following:

   1. A description of the non-compliance, including the reference(s).

   2. Beginning and ending dates of the non-compliance, or if the Permittee has not corrected the non-compliance, the anticipated date of correction.

   3. Steps taken or planned to reduce, eliminate, or prevent reoccurrence of the non-compliance

B. Take appropriate action to stop or correct the condition of non-compliance.

G21. UPSETS

Permittees shall meet the conditions of 40 CFR 122.41(n) regarding "Upsets." The conditions are as follows:

A. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

B. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (C) of this condition are met. Any determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, will not constitute final administrative action subject to judicial review.

C. Conditions necessary for demonstration of upset. A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:

   1. An upset occurred and that the Permittee can identify the cause(s) of the upset;
   2. The permitted facility was at the time being properly operated; and
   3. The Permittee submitted notice of the upset as required in 40 CFR 122.41(l)(6)(ii)(B) (24-hour notice of noncompliance).
   4. The Permittee complied with any remedial measures required under 40 CFR 122.41(d) (Duty to Mitigate).

D. Burden of proof. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

DEFINITIONS AND ACRONYMS

"40 CFR" means Title 40 of the Code of Federal Regulations, which is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

"AKART" means All Known, Available and Reasonable methods of prevention, control and Treatment. See also State Water Pollution Control Act, Chapter 90.48.010 and 90.48.520 RCW.

"All Known, Available and Reasonable methods of prevention, control and Treatment" refers to the State Water Pollution Control Act, Chapter 90.48.010 and 90.48.520 RCW.

"Applicable TMDL" means a TMDL which has been approved by EPA on or before the date permit coverage is granted.

"Beneficial Uses" means uses of waters of the state, which include but are not limited to: use for domestic, stock watering, industrial, commercial, agricultural, irrigation, mining, fish and wildlife maintenance and enhancement, recreation, generation of electric power and preservation of environmental and aesthetic values, and all other uses compatible with the enjoyment of the public waters of the state.

"Best Management Practices" are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.

"BMP" means Best Management Practice.

"Bypass" means the diversion of stormwater from any portion of a stormwater treatment facility.

"Certified Erosion and Sediment Control Lead" (CESCL) means an individual who is knowledgeable in the principles and practices of erosion and sediment control. The CESCL must have the skills to assess: the site conditions and construction activities that could impact the quality of stormwater; and the effectiveness of erosion and sediment control measures used to control the quality of stormwater discharges. The CESCL must have current certification through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology.

"CESCL" means Certified Erosion and Sediment Control Lead.

"Component" or "Program Component" means the elements of the stormwater management program listed in Special Condition S5 Stormwater Management Program for Permittees or S6 Stormwater Management Program for Co-Permittees and Secondary Permittees.

"Co-Permittee" means an owner or operator of a municipal separate storm sewer that has co-applied for permit coverage with another permittee, and that is only responsible for permit conditions relating to the discharge for which it is operator. See also 40 CFR 122.26(b)(1).

"CWA" means the federal Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. (6-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq.

"Detailed Implementation Plan" means the formal TMDL implementation plan, also known as a Water Quality Improvement Plan.

"DIP" means detailed implementation plan.

"Director" means the Director of the Washington State Department of Ecology, or an authorized representative.

"Discharge" for the purpose of this permit, unless indicated otherwise, refers to discharges from municipal separate storm sewers of the Permittees. See also 40 CFR 122.2.

"Entity" means a governmental body or a public or private organization.

"General Permit" means a permit which covers multiple dischargers of a point source category within a designated geographical area, in lieu of individual permits being issued to each discharger.

"Ground water" means water in a saturated zone or stratum beneath the surface of the land or below a surface water body.

"Heavy equipment maintenance or storage yard" means an uncovered area where any heavy equipment, such as mowing equipment, excavators, dump trucks, backhoes, or bulldozers are washed or maintained, or where at least five pieces of heavy equipment are stored on a long term basis.

"Hyperchlorinated" means water that contains more than 10 mg/Liter chlorine.

"Illicit connection" means any man-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the municipal separate storm sewer system.

"Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

"Industrial or Construction Activity" means manufacturing, processing or raw materials storage areas at an industrial plant; or clearing, grading and/or excavation. These activities are required to NPDES permit coverage in accordance with 40 CFR 122.26.

"Integrated Pest Management (IPM)" means a coordinated decision-making and action process that uses the most appropriate pest control methods and strategy in an environmentally and economically sound manner to meet agency programmatic pest management objectives. The elements of integrated pest management include:

(a) Preventing pest problems;
(b) Monitoring for the presence of pests and pest damage;
(c) Establishing the density of the pest population, that may be set at zero, that can be tolerated or correlated with a damage level sufficient to warrant treatment of the problem based on health, public safety, economic, or aesthetic thresholds;
(d) Treating pest problems to reduce populations below those levels established by damage thresholds using strategies that may include biological, cultural, mechanical, and chemical control methods and that must consider human health, ecological impact, feasibility, and cost-effectiveness; and
(e) Evaluating the effects and efficacy of pest treatments.

"Pest" means, but is not limited to, any insect, rodent, nematode, snail, slug, weed, and any form of plant or animal life or virus, except virus, bacteria, or other microorganisms on or in a living person or other animal or in or on processed food or beverages or pharmaceuticals, which is normally considered to be a pest, or which the director of the department of agriculture may declare to be a pest.

"Large Municipal Separate Storm Sewer System (Large MS4)" means all municipal Separate Storm Sewers located in an incorporated place with a population of 250,000 or more, a County with unincorporated urbanized areas with a population of 250,000 or more according to the 1990 decennial census by the Bureau of Census. See also 40 CFR 122.26(b)(4).

"Low Density Residential Land Use" means, for the purpose of permit section S8, one dwelling unit per 1-5 acres.

"Low Impact Development" (LID) means a stormwater management and land development strategy applied at the parcel and subdivision scale that emphasizes conservation and use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely mimic pre-development hydrologic functions.

"Major Municipal Separate Storm Sewer Outfall" means a municipal separate storm sewer outfall from a single pipe with an inside diameter of 36 inches or more, or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive stormwater from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12

inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 12 acres or more). See also 40 CFR 122.26(b)(5).

"Material Storage Facilities" means an uncovered area where bulk materials (liquid, solid, granular, etc.) are stored in piles, barrels, tanks, bins, crates, or other means.

"MBAS" means Methylene Blue Activated Substances.

"Methylene Blue Activated Substances" are anionic surfactants, including linear alkylate sulfonate and alkyl sulfate, which react with a chemical called methylene blue to form a blue-chloroform-soluble complex; the intensity of color is proportional to concentration

"Maximum Extent Practicable (MEP)" refers to paragraph 402(p)(3)(B)(iii) of the federal Clean Water Act which reads as follows: Permits for discharges from municipal storm sewers shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques, and system, design, and engineering methods, and other such provisions as the Administrator or the State determines appropriate for the control of such pollutants.

"Medium Municipal Separate Storm Sewer System (Medium MS4)" means all Municipal Separate Storm Sewers (MS3s) located in an incorporated place with a population of more than 100,000 but less than 250,000, or a county with unincorporated urbanized areas of more than 100,000 but less than 250,000 according to the 1990 decennial census by the Bureau of Census. See also 40 CFR 122.26(b)(7).

"Municipal Separate Storm Sewer (MS3)" means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

(a) owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of wastes, storm water, or other wastes, including special districts under State Law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
(b) designed or used for collecting or conveying stormwater;
(c) which is not a combined sewer; and
(d) which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2

"Municipal separate storm sewer system (MS4)" means all separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems. See also 40 CFR 122.26(b)(18)

"National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology.

"Notice of Intent" means the application for, or a request for coverage under a General NPDES Permit pursuant to WAC 173-226-200.

"NPDES" means National Pollutant Discharge Elimination System.

"Outfall" means point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the State and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels, or other conveyances which connect segments of the same stream or other waters of the State and are used to convey waters of the State.

"Permittee" means any Primary Permittee, Co-Permittee, or Secondary Permittee unless specifically stated otherwise for a particular section of this permit.

"Physically Interconnected" means that one municipal separate storm sewer is connected to a second municipal separate storm sewer in such a way that it allows for direct discharges to the second system. For example, the roads with drainage systems and municipal streets of one entity are physically connected directly to a municipal separate storm sewer belonging to another entity

"Qualified Personnel" means staff members or contractors who have had professional training in the aspects of stormwater management for which they are responsible and are under the functional control of the Permittee.

"RCW" means the Revised Code of Washington State.

"Runoff" means water that travels across the land surface, or laterally through the soil near the land surface, and discharges to water bodies either directly or through a collection and conveyance system. Runoff includes stormwater and water from other sources that travels across the land surface. See also "Stormwater."

"Secondary Permittee" is an operator of municipal separate storm sewer which is not a city, town or county. Secondary Permittees include special purpose districts and other public entities identified in S1.D which operate municipal separate storm sewers.

"Shared Waterbodies" means waterbodies, including downstream segments, lakes and estuaries, that receive discharges from more than one permittee.

"Significant contributor" means a discharge contributes a loading of pollutants considered to be sufficient to cause or exacerbate the deterioration of receiving water quality or instream habitat conditions.

"Stormwater" means runoff during and following precipitation and snowmelt events, including surface runoff, drainage, and interflow.

"Stormwater Associated with Industrial and Construction Activity" means the discharge from any conveyance which is used for collecting and conveying stormwater, which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant, or associated with clearing grading and/or excavation, and is required to have an NPDES permit in accordance with 40 CFR 122.26.

"Stormwater facilities regulated by the Permittee" means permanent stormwater treatment and flow control BMPs located in the geographic area covered by the permit and which are not owned by the Permittee, and are known by the permittee to discharge into municipal separate storm sewers owned or operated by the Permittee.

"Stormwater Management Manual for Western Washington" means the 5-volume technical manual (Publication Nos. 05-10-029 through 05-10-033) published by Ecology in February 2005.

"Stormwater Management Program (SWMP)" means a set of actions and activities designed to reduce the discharge of pollutants from the regulated small MS4 to the maximum extent practicable and to protect water quality, and comprising the components listed in S5 or S6 of this Permit and any additional actions necessary to meet the requirements of applicable TMDLs.

"Total Maximum Daily Load" (TMDL) means a water cleanup plan. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the water body can be used for the purposes the state has designated. The calculation must also account for seasonable variation in water quality. Water quality standards are set by states, territories, and tribes. They identify the uses for each water body, for example, drinking water supply, contact recreation (swimming), and aquatic life support (fishing), and the scientific criteria to support that use. The Clean Water Act, section 303, establishes the water quality standards and TMDL programs.

"Urban/higher density rural sub-basins" means all areas within or proposed to be within the urban growth area (UGA), or any sub-basin outside the UGA with 50% or more area comprised of lots less than 5 acres.

"Vehicle Maintenance or Storage Facility" means an uncovered area where any vehicles are regularly washed or maintained, or where at least 10 vehicles are stored.

"Water Quality Standards" means Surface Water Quality Standards, Chapter 173-201A WAC, Ground Water Quality Standards, Chapter 173-200 WAC, and Sediment Management Standards, Chapter 173-204 WAC.

"Waters of the state" includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the state" as defined in Chapter 90.48 RCW which includes lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and water courses within the jurisdiction of the State of Washington.

APPENDIX 1 – Minimum Technical Requirements for New Development and Redevelopment

Section 1. Exemptions

Forest practices:

Forest practices regulated under Title 222 WAC, except for Class IV General forest practices that are conversions from timber land to other uses, are exempt from the provisions of the minimum requirements.

Commercial agriculture:

Commercial agriculture practices involving working the land for production are generally exempt. However, the conversion from timberland to agriculture, and the construction of impervious surfaces are not exempt.

Oil and Gas Field Activities or Operations:

Construction of drilling sites, waste management pits, and access roads, as well as construction of transportation and treatment infrastructure such as pipelines natural gas treatment plants, natural gas pipeline compressor stations, and crude oil pumping stations are exempt. Operators are encouraged to implement and maintain Best Management Practices to minimize erosion and control sediment during and after construction activities to help ensure protection of surface water quality during storm events.

Road Maintenance:

The following road maintenance practices are exempt: pothole and square cut patching, overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage, shoulder grading, reshaping/regrading drainage systems, crack sealing, resurfacing with in-kind material without expanding the road prism, and vegetation maintenance.

The following road maintenance practices are considered redevelopment, and therefore are not categorically exempt. The extent to which this Appendix applies is explained for each circumstance.

- Removing and replacing a paved surface to base course or lower, or repairing the roadway base: If impervious surfaces are not expanded, Minimum Requirements #1 - #5 apply. However, in most cases, only Minimum Requirement #2, Construction Stormwater Pollution Prevention, will be germane. Where appropriate, project proponents are encouraged to look for opportunities to use permeable and porous pavements.

- Extending the pavement edge without increasing the size of the road prism, or paving graveled shoulders: These are considered new impervious surfaces and are subject to the minimum requirements that are triggered when the thresholds identified for redevelopment projects are met.
- Resurfacing by upgrading from dirt to gravel, asphalt, or concrete; upgrading from gravel to asphalt, or concrete; or upgrading from a bituminous surface treatment ("chip seal") to asphalt or concrete: These are considered new impervious surfaces and are subject to the minimum requirements that are triggered when the thresholds identified for redevelopment projects are met.

Underground utility projects:

Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics are only subject to Minimum Requirement #2, Construction Stormwater Pollution Prevention.

All other new development is subject to one or more of the Minimum Requirements (see Section 3 of this Appendix).

Section 2. Definitions Related to Minimum Requirements

Arterial - A road or street primarily for through traffic. A major arterial connects an Interstate Highway to cities and counties. A minor arterial connects major arterials to collectors. A collector connects an arterial to a neighborhood. A collector is not an arterial. A local access road connects individual homes to a collector.

Certified Erosion and Sediment Control Lead (CESCL) - means an individual who has current certification through an approved erosion and sediment control training program that meets the minimum training standards established by the Department (see BMP C160 in the *Stormwater Management Manual* for *Western Washington* (2005)). A CESCL is knowledgeable in the principles and practices of erosion and sediment control. The CESCL must have the skills to assess site conditions and construction activities that could impact the quality of stormwater and, the effectiveness of erosion and sediment control measures used to control the quality of stormwater discharges. Certification is obtained through an Ecology approved erosion and sediment control course. Course listing are provided online at Ecology's web site.

Effective Impervious surface - Those impervious surfaces that are connected via sheet flow or discrete conveyance to a drainage system. Impervious surfaces on residential development sites are considered ineffective if the runoff is dispersed through at least one hundred feet of native vegetation in accordance with BMP T5.30 – "Full Dispersion," as described in Chapter 5 of Volume V of the *Stormwater Management Manual for Western Washington* (2005).

Highway – A main public road connecting towns and cities

Impervious surface - A hard surface area that either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development. A hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces for purposes of determining whether the thresholds for application of minimum requirements are exceeded. Open, uncovered retention/detention facilities shall be considered impervious surfaces for purposes of runoff modeling.

Land disturbing activity - Any activity that results in movement of earth, or a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land disturbing activities include, but are not limited to clearing, grading, filling, and excavation. Compaction that is associated with stabilization of structures and road construction shall also be considered a land disturbing activity. Vegetation maintenance practices are not considered land-disturbing activity.

Maintenance - Repair and maintenance includes activities conducted on currently serviceable structures, facilities, and equipment that involves no expansion or use beyond that previously existing and results in no significant adverse hydrologic impact. It includes those usual activities taken to prevent a decline, lapse, or cessation in the use of structures and systems. Those usual activities may include replacement of dysfunctional facilities, including cases where environmental permits require replacing an existing structure with a different type structure, as long as the functioning characteristics of the original structure are not changed. One example is the replacement of a collapsed, fish blocking, round culvert with a new box culvert under the same span, or width, of roadway. See also Road Maintenance exemptions in Section 1 of this Appendix.

Native vegetation – Vegetation comprised of plant species, other than noxious weeds, that are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been expected to naturally occur on the site. Examples include trees such as Douglas Fir, western hemlock, western red cedar, alder, big-leaf maple, and vine maple; shrubs such as willow, elderberry, salmonberry, and salal; and herbaceous plants such as sword fern, foam flower, and fireweed.

New development - Land disturbing activities, including Class IV -general forest practices that are conversions from timber land to other uses; structural development, including construction or installation of a building or other structure; creation of impervious surfaces; and subdivision, short subdivision and binding site plans, as defined and applied in Chapter 58.17 RCW. Projects meeting the definition of redevelopment shall not be considered new development.

Pollution-generating impervious surface (PGIS) **-** Those impervious surfaces considered to be a significant source of pollutants in stormwater runoff. Such surfaces include those which are subject to: vehicular use; industrial activities (as further defined in the glossary); or storage of erodible or leachable materials, wastes, or chemicals, and which receive direct rainfall or the run-on or blow-in of rainfall. Erodible or leachable materials, wastes, or chemicals are those substances which, when exposed to rainfall, measurably alter the physical or chemical characteristics of the rainfall runoff. Examples include erodible soils that are stockpiled, uncovered process wastes, manure, fertilizers, oily substances, ashes, kiln dust, and garbage dumpster leakage. Metal roofs are also considered to be PGIS unless they are coated with an inert, non-leachable material (e.g., baked-on enamel coating).

A surface, whether paved or not, shall be considered subject to vehicular use if it is regularly used by motor vehicles. The following are considered regularly-used surfaces: roads, unvegetated road shoulders, bike lanes within the traveled lane of a roadway, driveways, parking lots, unfenced fire lanes, vehicular equipment storage yards, and airport runways.

The following are not considered regularly-used surfaces: paved bicycle pathways separated from and not subject to drainage from roads for motor vehicles, fenced fire lanes, and infrequently used maintenance access roads.

Pollution-generating pervious surfaces (PGPS) **-** Any non-impervious surface subject to use of pesticides and fertilizers or loss of soil. Typical PGPS include lawns, landscaped areas, golf courses, parks, cemeteries, and sports fields.

Pre-developed condition – The native vegetation and soils that existed at a site prior to the influence of Euro-American settlement. The pre-developed condition shall be assumed to be a forested land cover unless reasonable, historic information is provided that indicates the site was prairie prior to settlement.

Project site **-** That portion of a property, properties, or right of way subject to land disturbing activities, new impervious surfaces, or replaced impervious surfaces.

Receiving waters **-** Bodies of water or surface water systems to which surface runoff is discharged via a point source of stormwater or via sheet flow.

Redevelopment **-** On a site that is already substantially developed (i.e., has 35% or more of existing impervious surface coverage), the creation or addition of impervious surfaces; the expansion of a building footprint or addition or replacement of a structure; structural development including construction, installation or expansion of a building or other structure;; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities.

Replaced impervious surface **-** For structures, the removal and replacement of any exterior impervious surfaces or foundation. For other impervious surfaces, the removal down to bare soil or base course and replacement.

Site – The area defined by the legal boundaries of a parcel or parcels of land that is (are) subject to new development or redevelopment. For road projects, the length of the project site and the right-of-way boundaries define the site.

Source control BMP - A structure or operation that is intended to prevent pollutants from coming into contact with stormwater through physical separation of areas or careful management of activities that are sources of pollutants. This manual separates source control BMPs into two types. *Structural Source Control BMPs* are physical, structural, or mechanical devices, or facilities that are intended to prevent pollutants from entering stormwater. *Operational BMPs* are non-structural practices that prevent or reduce pollutants from entering stormwater. See Volume IV of the *Stormwater Management Manual for Western Washington* (2005) for details.

Threshold Discharge Area - An onsite area draining to a single natural discharge location or multiple natural discharge locations that combine within one-quarter mile downstream (as determined by the shortest flowpath). The examples in Figure 2.1 below illustrate this definition. The purpose of this definition is to clarify how the thresholds of this manual are applied to project sites with multiple discharge points.

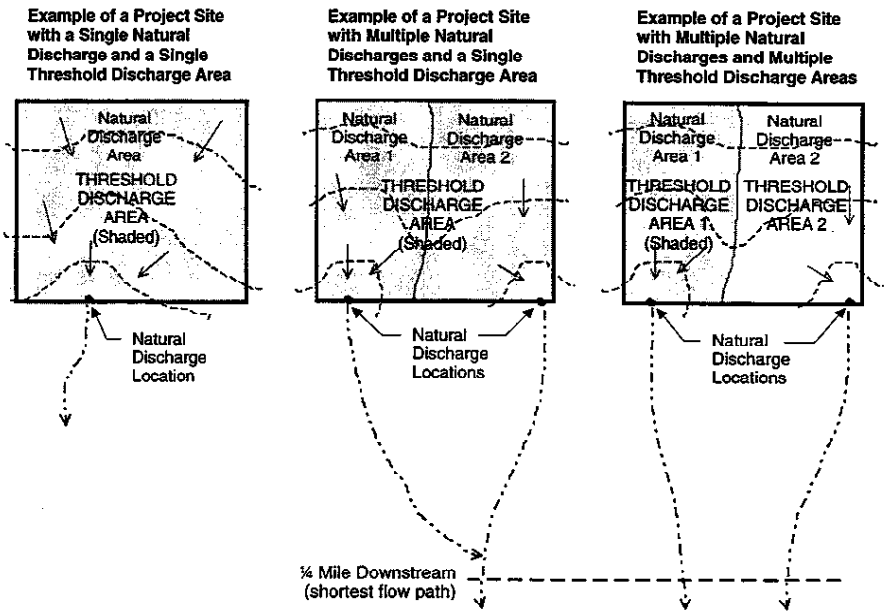

Figure 2.1 Threshold Discharge Areas

Wetland - Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage

ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands.

Section 3. Applicability of the Minimum Requirements

3.1 Thresholds

Not all of the Minimum Requirements apply to every development or redevelopment project. The applicability varies depending on the type and size of the project. This section identifies thresholds that determine the applicability of the Minimum Requirements to different projects. The flow charts in Figures 3.1, 3.2 and 3.3 must be used to determine which of the Minimum Requirements apply. The Minimum Requirements themselves are presented in Section 4 of this Appendix.

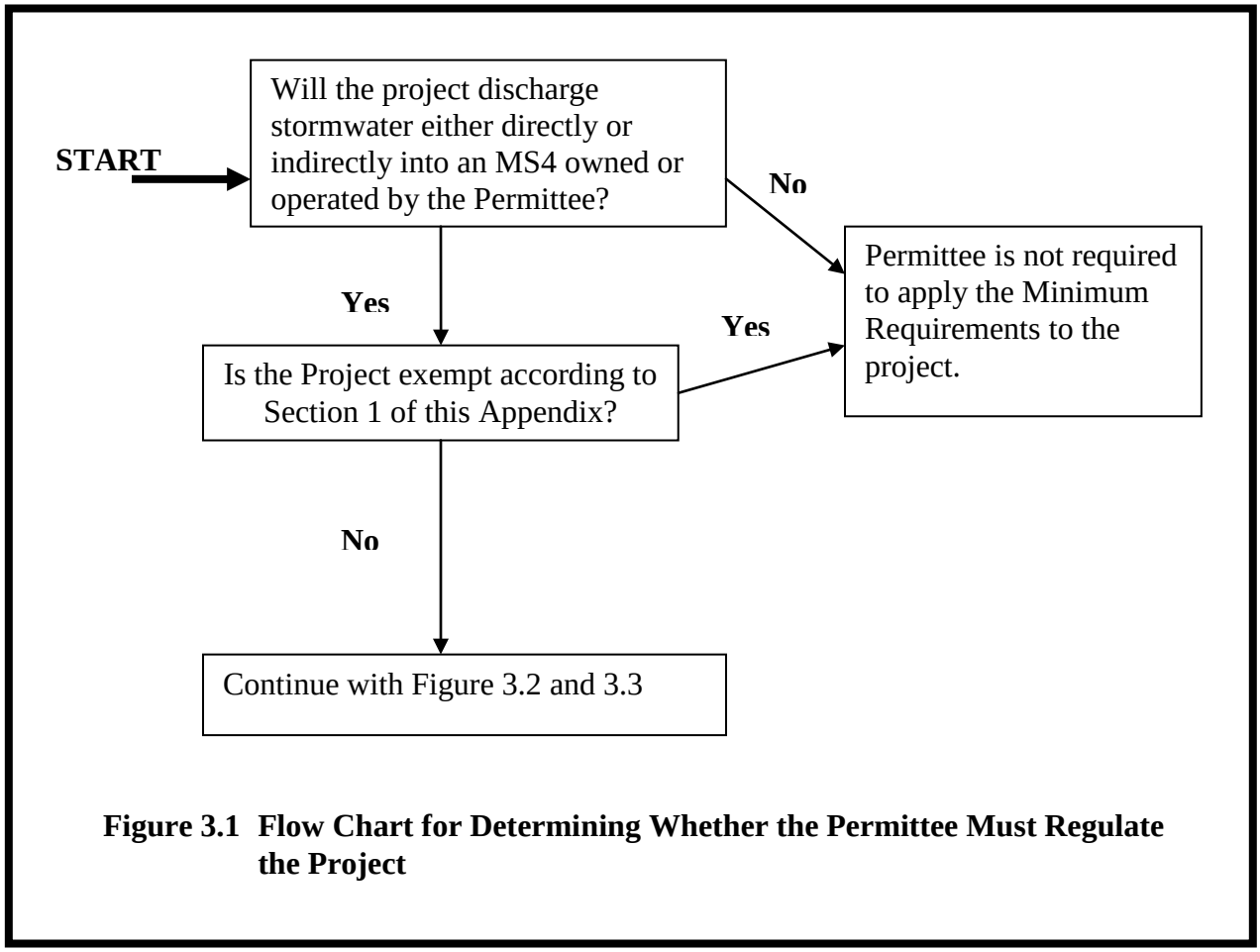

Figure 3.1 Flow Chart for Determining Whether the Permittee Must Regulate the Project

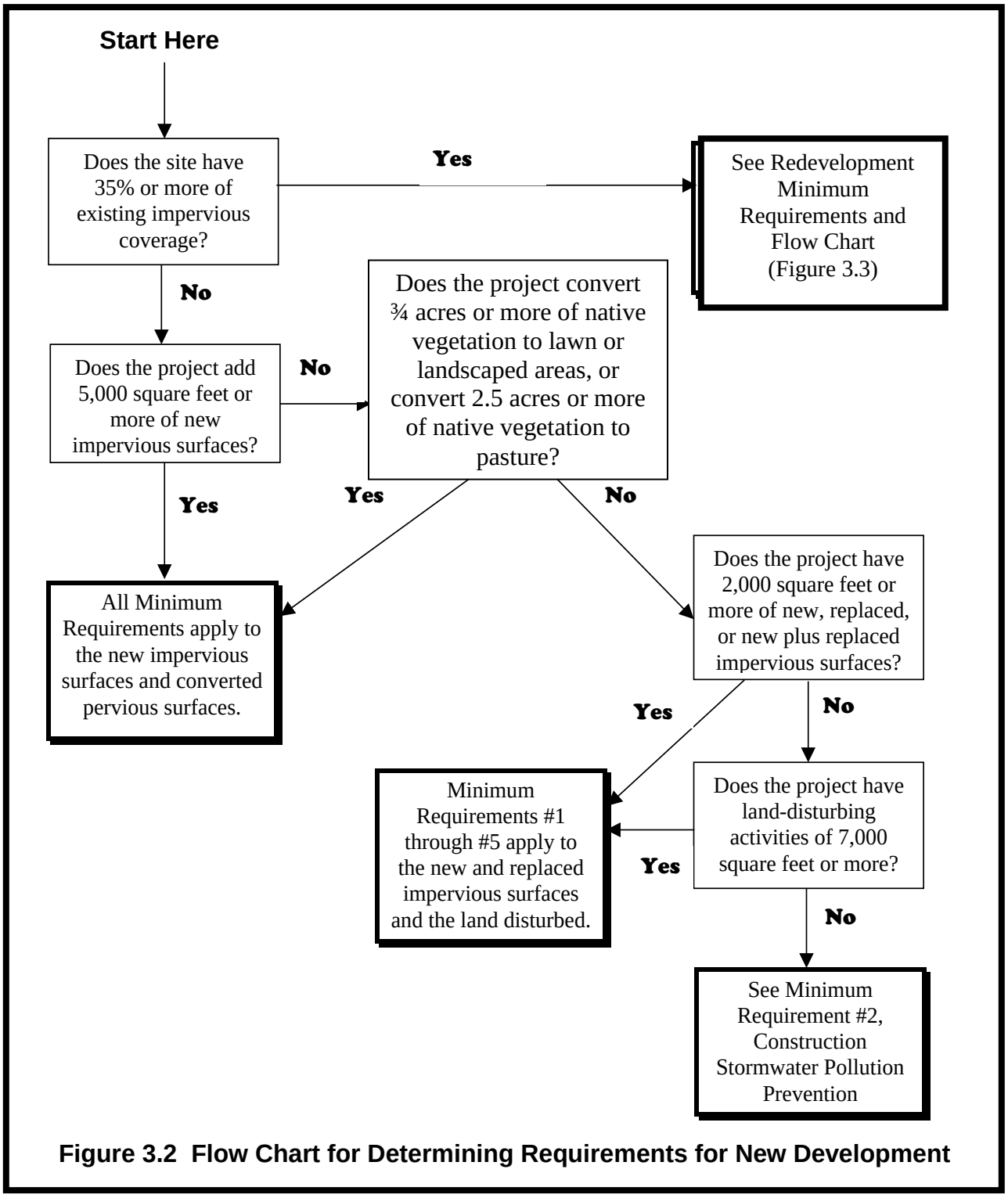

Figure 3.2 Flow Chart for Determining Requirements for New Development

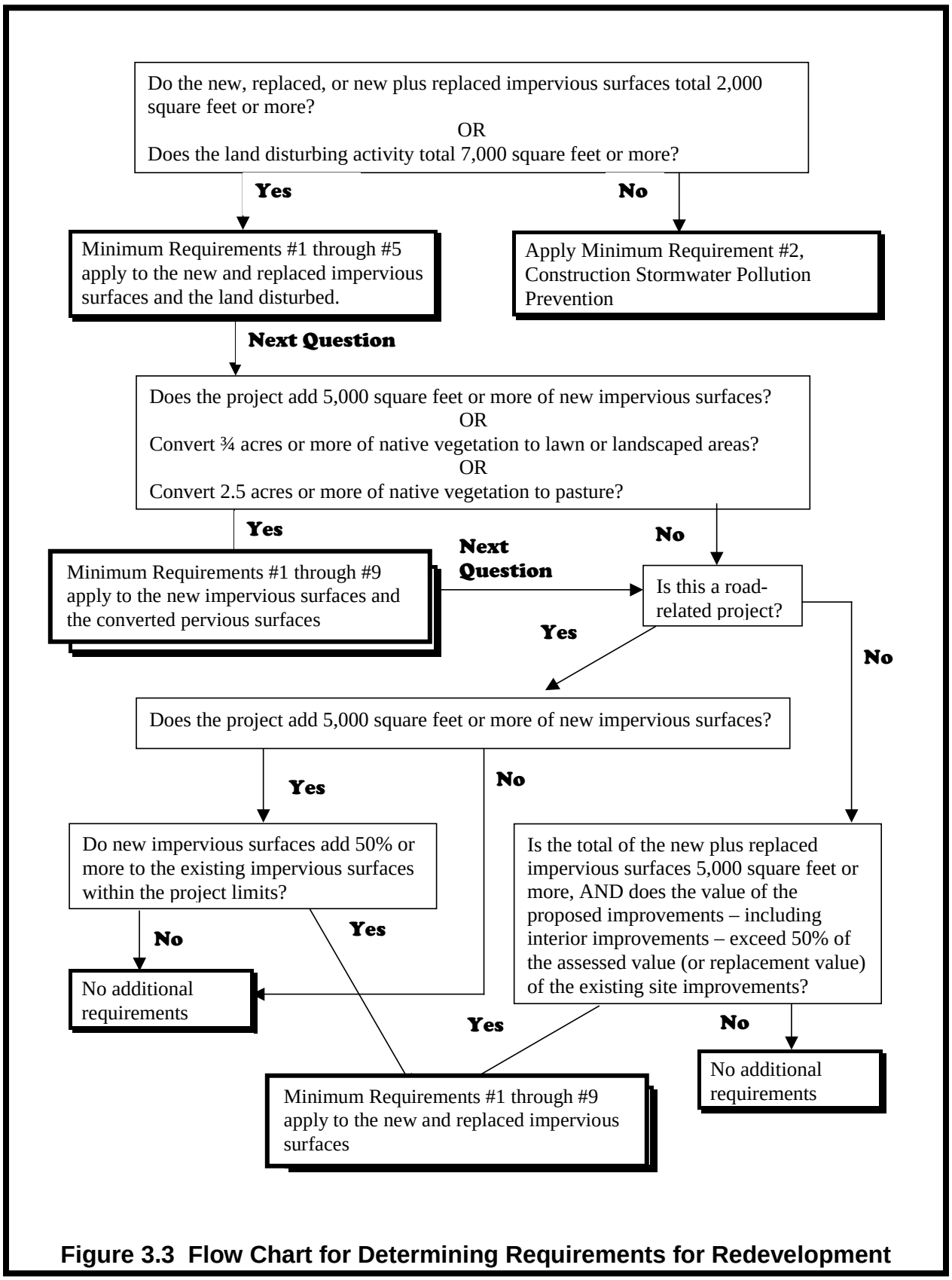

Figure 3.3 Flow Chart for Determining Requirements for Redevelopment

3.2 New Development

All new development shall be required to comply with Minimum Requirement #2.

The following new development shall comply with Minimum Requirements #1 through #5 for the new and replaced impervious surfaces and the land disturbed:

- Creates or adds 2,000 square feet, or greater, of new, replaced, or new plus replaced impervious surface area, or
- Has land disturbing activity of 7,000 square feet or greater,

The following new development shall comply with Minimum Requirements #1 through #10 for the new impervious surfaces and the converted pervious surfaces:

- Creates or adds 5,000 square feet, or more, of new impervious surface area, or
- Converts ¾ acres, or more, of native vegetation to lawn or landscaped areas, or
- Converts 2.5 acres, or more, of native vegetation to pasture.

3.3 Redevelopment

All redevelopment shall be required to comply with Minimum Requirement #2. In addition, all redevelopment that exceeds certain thresholds shall be required to comply with additional Minimum Requirements as follows.

The following redevelopment shall comply with Minimum Requirements #1 through #5 for the new and replaced impervious surfaces and the land disturbed:

- The new, replaced, or total of *new plus rep*laced impervious surfaces is 2,000 square feet or more, or
- 7,000 square feet or more of land disturbing activities.

The following redevelopment shall comply with Minimum Requirements #1 through #10 for the new impervious surfaces and converted pervious areas:

- Adds 5,000 square feet or more of *new* impervious surfaces or,
- Converts ¾ acres, or more, of native vegetation to lawn or landscaped areas, or
- Converts 2.5 acres, or more, of native vegetation to pasture.

If the runoff from the new impervious surfaces and converted pervious surfaces is not separated from runoff from other surfaces on the project site, the stormwater treatment facilities must be sized for the entire flow that is directed to them.

The local government may allow the Minimum Requirements to be met for an equivalent (flow and pollution characteristics) area within the same site. For public roads' projects, the equivalent area does not have to be within the project limits, but must drain to the same receiving water.

3.4 Additional Requirements for Re-development Project Sites

For road-related projects, runoff from the replaced and new impervious surfaces (including pavement, shoulders, curbs, and sidewalks) shall meet all the Minimum Requirements if the new impervious surfaces total 5,000 square feet or more and total 50% or more of the existing impervious surfaces within the project limits. The project limits shall be defined by the length of the project and the width of the right–of-way.

Other types of redevelopment projects shall comply with all the Minimum Requirements for the new and replaced impervious surfaces if the total of new plus replaced impervious surfaces is 5,000 square feet or more, and the valuation of proposed improvements – including interior improvements – exceeds 50% of the assessed value of the existing site improvements.

The Permittee may exempt or institute a stop-loss provision for redevelopment projects from compliance with Minimum Requirements for treatment, flow control, and wetlands protection as applied to the replaced impervious surfaces if the Permittee has adopted a plan and a schedule that fulfills those requirements in regional facilities. See also Sections 5, 6 and 7 of this Appendix.

The Permittee may grant a variance/exception to the application of the flow control requirements to replaced impervious surfaces if such application imposes a severe economic hardship. See Section 6 of this Appendix.

3.5 Modification of the Minimum Requirements

Basin Planning is encouraged and may be used to tailor Minimum Requirement #6 Runoff Treatment, Minimum Requirement #7 Flow Control, and/or Minimum Requirement #8 Wetlands Protection. Basin planning may be used to support alternative treatment, flow control, and/or wetland protection requirements to those contained in Section 4 of this Appendix. Basin planning may also be used to demonstrate an equivalent level of treatment, flow control, and/or wetland protection through the construction and use of regional stormwater facilities. See Section 7 of this Appendix for details on Basin Planning and how basin planning may be used to modify the Minimum Requirements is Section 4.

Section 4. Minimum Requirements

This Section describes the Minimum Requirements for stormwater management at development and redevelopment sites. Section 3 of this Appendix should be consulted to determine which of the minimum requirements below apply to any given project. Figures 3.2 and 3.3 should be consulted to determine whether the minimum requirements apply to new surfaces, replaced surfaces or new and replaced surfaces.

4.1 Minimum Requirement #1: Preparation of Stormwater Site Plans

The permittee shall require a Stormwater Site Plan from all projects meeting the thresholds in Section 3.1 of this Appendix. Stormwater Site Plans shall be prepared in accordance with Chapter 3 of Volume 1 of the *Stormwater Management Manual for Western Washington* (2005).

4.2 Minimum Requirement #2: Construction Stormwater Pollution Prevention Plan (SWPPP)

Permittees may choose to allow compliance with this Minimum Requirement to be achieved for an individual site if the site is covered under Ecology's *General NPDES Permit for Stormwater Discharges Associated with Construction Activities* and fully implementing the requirements of that permit.

The Permittee may develop an abbreviated SWPPP format to meet the SWPPP requirement under this permit for sites that are less than 1 acre.

General Requirements

All new development and redevelopment projects are responsible for preventing erosion and discharge of sediment and other pollutants into receiving waters. Permittees must require a Construction Stormwater Pollution Prevention Plan (SWPPP) as part of the Stormwater Site Plan (see Minimum Requirement #1 above) for all projects which meet the thresholds in Section 3 of this Appendix. The SWPPP shall be implemented beginning with initial soil disturbance and until final stabilization.

Sediment and Erosion control BMPs shall be consistent with the BMPs contained in chapters 3 and 4 of Volume II of the *Stormwater Management Manual for Western Washington* (2005), and/or other equivalent BMPs contained in technical stormwater manuals approved by the Department.

The SWPPP shall include a narrative and drawings. All BMPs shall be clearly referenced in the narrative and marked on the drawings. The SWPPP narrative shall include documentation to explain and justify the pollution prevention decisions made for the project. Clearing and grading activities for developments shall be permitted only if conducted pursuant to an approved site development plan (e.g., subdivision approval) that establishes permitted areas of clearing, grading, cutting, and filling. When establishing these permitted clearing and grading areas, consideration should be given to minimizing removal of existing trees and minimizing disturbance/compaction of native soils except as needed for building purposes. These permitted clearing and grading areas and any

other areas required to preserve critical or sensitive areas, buffers, native growth protection easements, or tree retention areas as may be required by local jurisdictions, shall be delineated on the site plans and the development site.

Seasonal Work Limitations - From October 1 through April 30, clearing, grading, and other soil disturbing activities may only be authorized by the Permittee if silt-laden runoff will be prevented from leaving the site through a combination of the following:

1. Site conditions including existing vegetative coverage, slope, soil type and proximity to receiving waters; and

2. Limitations on activities and the extent of disturbed areas; and

3. Proposed erosion and sediment control measures.

Based on the information provided and/or local weather conditions, the Permittee may expand or restrict the seasonal limitation on site disturbance. The following activities are exempt from the seasonal clearing and grading limitations:

1. Routine maintenance and necessary repair of erosion and sediment control BMPs,

2. Routine maintenance of public facilities or existing utility structures that do not expose the soil or result in the removal of the vegetative cover to soil, and

3. Activities where there is one hundred percent infiltration of surface water runoff within the site in approved and installed erosion and sediment control facilities.

Construction Stormwater Pollution Prevention Plan (SWPPP) Elements

The construction site operator shall include each of the twelve elements below in the SWPPP and ensure that they are implemented unless site conditions render the element unnecessary and the exemption from that element is clearly justified in the SWPPP. The SWPPP shall include both narrative and drawings. All BMPs shall be clearly referenced in the narrative and marked on the drawings. The SWPPP narrative shall include documentation to explain and justify the pollution prevention decisions made for the project.

1. Preserve Vegetation/Mark Clearing Limits:

   a Prior to beginning land disturbing activities, including clearing and grading, clearly mark all clearing limits, sensitive areas and their buffers, and trees that are to be preserved within the construction area.

   b. The duff layer, native top soil, and natural vegetation shall be retained in an undisturbed state to the maximum degree practicable.

2. Establish Construction Access:

a. Construction vehicle access and exit shall be limited to one route, if possible.

b. Access points shall be stabilized with quarry spalls, crushed rock or other equivalent BMP to minimize the tracking of sediment onto public roads.

c. Wheel wash or tire baths shall be located on site, if the stabilized constructions entrance is not effective in preventing sediment from being tracked onto public roads.

d. If sediment is tracked off site, roads shall be cleaned thoroughly at the end of each day, or more frequently during wet weather. Sediment shall be removed from roads by shoveling or pickup sweeping and shall be transported to a controlled sediment disposal area.

e. Street washing is allowed only after sediment is removed in accordance with 2.d, above. Street wash wastewater shall be controlled by pumping back on site or otherwise be prevented from discharging into systems tributary to waters of the state.

3. Control Flow Rates:

a. Properties and waterways downstream from development sites shall be protected from erosion due to increases in the velocity and peak volumetric flow rate of stormwater runoff from the project site.

b. Where necessary to comply with 3.a, above, stormwater retention or detention facilities shall be constructed as one of the first steps in grading. Detention facilities shall be functional prior to construction of site improvements (e.g., impervious surfaces).

c. If permanent infiltration ponds are used for flow control during construction, these facilities should be protected from siltation during the construction phase.

4. Install Sediment Controls:

a. Stormwater runoff from disturbed areas shall pass through a sediment pond, or other appropriate sediment removal BMP, prior to leaving a construction site or prior to discharge to an infiltration facility. Runoff from fully stabilized areas may be discharged without a sediment removal BMP, but shall meet the flow control performance standard of 3.a, above.

b. Sediment control BMPs (sediment ponds, traps, filters, etc.) shall be constructed as one of the first steps in grading. These BMPs shall be functional before other land disturbing activities take place.

c. BMPs intended to trap sediment on site shall be located in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages.

5. Stabilize Soils:

   a. Exposed and unworked soils shall be stabilized by application of effective BMPs that prevent erosion.

   b. No soils should remain exposed and unworked for more than the time periods set forth below to prevent erosion:

      - During the dry season (May 1 – September 30): 7 days
      - During the wet season (October 1 – April 30): 2 days

   c. The time period may be adjusted by the Permittee, if the Permittee can show that local precipitation data justify a different standard.

   d. Soils shall be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast.

   e. Soil stockpiles must be stabilized from erosion, protected with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways and drainage channels.

6. Protect Slopes:

   a. Design and construct cut and fill slopes in a manner that will minimize erosion.

   b. Off-site stormwater (run-on) or groundwater shall be diverted away from slopes and undisturbed areas with interceptor dikes, pipes and/or swales. Off-site stormwater should be managed separately from stormwater generated on the site.

   c. At the top of slopes, collect drainage in pipe slope drains or protected channels to prevent erosion. Temporary pipe slope drains shall handle the expected peak 10-minute flow velocity from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis shall use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis shall use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the Western Washington Hydrology Model to predict flows, bare soil areas should be modeled as “landscaped area.”

d. Excavated material shall be placed on the uphill side of trenches, consistent with safety and space considerations.

e. Check dams shall be placed at regular intervals within constructed channels that are cut down a slope.

7. Protect Drain Inlets:

a. Storm drain inlets made operable during construction shall be protected so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment.

b. Inlet protection devices shall be cleaned or removed and replaced when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).

8. Stabilize Channels and Outlets:

a. All temporary on-site conveyance channels shall be designed, constructed, and stabilized to prevent erosion from the following expected peak flows. Channels shall handle the expected peak 10-minute flow velocity from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis shall use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis shall use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the Western Washington Hydrology Model to predict flows, bare soil areas should be modeled as "landscaped area."

b. Stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches shall be provided at the outlets of all conveyance systems.

9. Control Pollutants:

a. All pollutants, including waste materials and demolition debris, that occur onsite shall be handled and disposed of in a manner that does not cause contamination of stormwater.

b. Cover, containment, and protection from vandalism shall be provided for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment. On-site fueling tanks shall include secondary containment.

c. Maintenance, fueling and repair of heavy equipment and vehicles shall be conducted using spill prevention and control measures. Contaminated surfaces shall be cleaned immediately following any spill incident.

d. Wheel wash or tire bath wastewater shall be discharged to a separate on-site treatment system or to the sanitary sewer with local sewer district approval.

e. Application of fertilizers and pesticides shall be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Manufacturers' label requirements for application rates and procedures shall be followed.

f. BMPs shall be used to prevent or treat contamination of stormwater runoff by pH modifying sources. These sources include, but are not limited to: bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, dewatering concrete vaults, concrete pumping and mixer washout waters. Permittees shall require construction site operators to adjust the pH of stormwater if necessary to prevent violations of water quality standards.

g. Permittees shall require construction site operators obtain written approval from the Department prior to using chemical treatment other than CO2 or dry ice to adjust pH.

10. Control De-Watering:

a. Foundation, vault, and trench de-watering water, which have similar characteristics to stormwater runoff at the site, shall be discharged into a controlled conveyance system prior to discharge to a sediment trap or sediment pond.

b. Clean, non-turbid de-watering water, such as well-point ground water, can be discharged to systems tributary to, or directly into surface waters of the state, as specified in 8, above, provided the de-watering flow does not cause erosion or flooding of receiving waters. Clean de-watering water should not be routed through stormwater sediment ponds.

c. Other de-watering disposal options may include: (i) infiltration; (ii) transport offsite in vehicle, such as a vacuum flush truck, for legal disposal in a manner that does not pollute state waters; (iii) on-site chemical treatment or other suitable treatment technologies approved by the Permittee; (iv) sanitary sewer discharge with local sewer district approval, if there is no other option; or (v) use of a sedimentation bag with outfall to a ditch or swale for small volumes of localized de-watering.

d. Highly turbid or contaminated dewatering water shall be handled separately from stormwater.

11. Maintain BMPs:

    a. All temporary and permanent erosion and sediment control BMPs shall be inspected, maintained and repaired as needed to assure continued performance of their intended function in accordance with BMP specifications.

    b. All temporary erosion and sediment control BMPs shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed.

12. Manage the Project:

    a. Development projects shall be phased to the maximum degree practicable and shall take into account seasonal work limitations.

    b. The Permittee must require construction site operators to maintain, and repair as needed, all sediment and erosion control BMPs to assure continued performance of their intended function.

    c. The Permittee must require construction site operators to periodically inspect their sites. For projects that disturb one or more acres, site inspections shall be conducted by a Certified Erosion and Sediment Control Lead who shall be identified in the SWPPP and shall be present on-site or on-call at all times.

    d. Permittee must require construction site operators to maintain, update and implement their SWPPP. Permittees shall require construction site operators to modify their SWPPP whenever there is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the state.

4.3 Minimum Requirement #3: Source Control of Pollution

All known, available and reasonable source control BMPs must be required for to all projects approved by the Permittee. Source control BMPs must be selected, designed, and maintained in accordance with Volume IV of the *Stormwater Management Manual for Western Washington* (2005) or an approved equivalent manual approved by the Department.

4.4 Minimum Requirement #4: Preservation of Natural Drainage Systems and Outfalls

Natural drainage patterns shall be maintained, and discharges from the project site shall occur at the natural location, to the maximum extent practicable. The manner by which runoff is discharged from the project site must not cause a significant adverse impact to downstream receiving waters and down gradient properties. All outfalls require energy dissipation.

4.5 Minimum Requirement #5: On-site Stormwater Management

The Permittee must require On-site Stormwater Management BMPs to infiltrate, disperse, and retain stormwater runoff onsite to the maximum extent feasible without causing flooding or erosion impacts. Roof Downspout Control BMPs, functionally equivalent to those described in Chapter 3 of Volume III of the *Stormwater Management Manual for Western Washington* (2005), and Dispersion and Soil Quality BMPs, functionally equivalent to those in Chapter 5 of Volume V, of the *Stormwater Management Manual for Western Washington* (2005) shall be required to reduce the hydrologic disruption of developed sites.

4.6 Minimum Requirement #6: Runoff Treatment

Project Thresholds

The following require construction of stormwater treatment facilities (see Table 4.1 below):

- Projects in which the total of effective, pollution-generating impervious surface (PGIS) is 5,000 square feet or more in a threshold discharge area of the project, or

- Projects in which the total of pollution-generating pervious surfaces (PGPS) is three-quarters (3/4) of an acre or more in a threshold discharge area, and from which there is a surface discharge in a natural or man-made conveyance system from the site.

Table 4.1 Treatment Requirements by Threshold Discharge Area

	< ¾ acres of PGPS	**≥ ¾ acres PGPS**	**< 5,000 sf PGIS**	**≥ 5,000 sf PGIS**
Treatment Facilities		✔		✔
Onsite Stormwater BMPs	✔	✔	✔	✔

PGPS = pollution-generating pervious surfaces
PGIS = pollution-generating impervious surfaces
sf = square feet

Treatment-Type Thresholds

1. Oil Control:

   Treatment to achieve Oil Control applies to projects that have "high-use sites." High-use sites are those that typically generate high concentrations of oil due to high traffic turnover or the frequent transfer of oil. High-use sites include:

   a. An area of a commercial or industrial site subject to an expected average daily traffic (ADT) count equal to or greater than 100 vehicles per 1,000 square feet of gross building area;

b. An area of a commercial or industrial site subject to petroleum storage and transfer in excess of 1,500 gallons per year, not including routinely delivered heating oil;

c. An area of a commercial or industrial site subject to parking, storage or maintenance of 25 or more vehicles that are over 10 tons gross weight (trucks, buses, trains, heavy equipment, etc.);

d. A road intersection with a measured ADT count of 25,000 vehicles or more on the main roadway and 15,000 vehicles or more on any intersecting roadway, excluding projects proposing primarily pedestrian or bicycle use improvements.

2. Phosphorus Treatment:

The requirement to provide phosphorous control is determined by the local government with jurisdiction (e.g., through a lake management plan), or the Department of Ecology (e.g, through a waste load allocation). The local government may have developed a management plan and implementing ordinances or regulations for control of phosphorus from new/redevelopment for the receiving water(s) of the stormwater drainage. The local government can use the following sources of information for pursuing plans and implementing ordinances and/or regulations:

a. Those waterbodies reported under section 305(b) of the Clean Water Act, and designated as not supporting beneficial uses due to phosphorous;

b. Those listed in Washington State's Nonpoint Source Assessment required under section 319(a) of the Clean Water Act due to nutrients.

3. Enhanced Treatment:

Enhanced treatment for reduction in dissolved metals is required for the following project sites that discharge to fish-bearing streams, lakes, or to waters or conveyance systems tributary to fish-bearing streams or lakes:

Industrial project sites,
Commercial project sites,
Multi-family project sites, and
High AADT roads as follows:

Within Urban Growth Management Areas:

- Fully controlled and partially controlled limited access highways with Annual Average Daily Traffic (AADT) counts of 15,000 or more
- All other roads with an AADT of 7,500 or greater

Outside of Urban Growth Management Areas:

- Roads with an AADT of 15,000 or greater unless discharging to a 4th Strahler order stream or larger;
- Roads with an AADT of 30,000 or greater if discharging to a 4th Strahler order stream or larger (as determined using 1:24,000 scale maps to delineate stream order).

However, such sites listed above that discharge directly (or, indirectly through a municipal storm sewer system) to Basic Treatment Receiving Waters (Appendix I-C of the *Stormwater Management Manual for Western Washington* (2005)), and areas of the above-listed project sites that are identified as subject to Basic Treatment requirements, are also not subject to Enhanced Treatment requirements. For developments with a mix of land use types, the Enhanced Treatment requirement shall apply when the runoff from the areas subject to the Enhanced Treatment requirement comprise 50% or more of the total runoff within a threshold discharge area.

4. Basic Treatment:

Basic Treatment generally applies to:

- Project sites that discharge to the ground, UNLESS:
  1) The soil suitability criteria for infiltration treatment are met; (see Chapter 3 of Volume III of the *Stormwater Management Manual for Western Washington* (2005) for soil suitability criteria) or
  2) The project uses infiltration strictly for flow control – not treatment - and the discharge is within ¼-mile of a phosphorus sensitive lake (use a Phosphorus Treatment facility), or within ¼ mile of a fish-bearing stream, or a lake (use an Enhanced Treatment facility).

- Residential projects not otherwise needing phosphorus control as designated by USEPA, the Department of Ecology, or by the Permittee; and
- Project sites discharging directly to salt waters, river segments, and lakes listed in Appendix I-C of the *Stormwater Management Manual for Western Washington* (2005); and
- Project sites that drain to streams that are not fish-bearing, or to waters not tributary to fish-bearing streams;
- Landscaped areas of industrial, commercial, and multi-family project sites, and parking lots of industrial and commercial project sites that do not involve pollution-generating sources (e.g., industrial activities, customer parking, storage of erodible or leachable material, wastes or chemicals) other than parking of employees' private vehicles. For developments with a mix of land use types, the Basic Treatment requirement shall apply when the runoff from the areas subject to the Basic Treatment requirement comprise 50% or more of the total runoff within a threshold discharge area.

Treatment Facility Sizing

Water Quality Design Storm Volume: The volume of runoff predicted from a 24-hour storm with a 6-month return frequency (a.k.a., 6-month, 24-hour storm). Wetpool facilities are sized based upon the volume of runoff predicted through use of the Natural Resource Conservation Service curve number equations in Chapter 2 of Volume III of the *Stormwater Management Manual for Western Washington* (2005), for the 6-month, 24-hour storm. Alternatively, the 91st percentile, 24-hour runoff volume indicated by an approved continuous runoff model may be used.

Water Quality Design Flow Rate

1. Preceding Detention Facilities or when Detention Facilities are not required:

   The flow rate at or below which 91% of the runoff volume, as estimated by an approved continuous runoff model, will be treated. Design criteria for treatment facilities are assigned to achieve the applicable performance goal at the water quality design flow rate (e.g., 80% TSS removal).

2. Downstream of Detention Facilities:

   The water quality design flow rate must be the full 2-year release rate from the detention facility.

   Alternative methods may be used if they identify volumes and flow rates that are at least equivalent.

   That portion of any development project in which the above PGIS or PGPS thresholds are not exceeded in a threshold discharge area shall apply On-site Stormwater Management BMPs in accordance with Minimum Requirement #5.

Treatment Facility Selection, Design, and Maintenance

Stormwater treatment facilities shall be:

- Selected in accordance with the process identified in Chapter 4 of Volume I of the *Stormwater Management Manual for Western Washington* (2005),
- Designed in accordance with the design criteria in Volume V of the *Stormwater Management Manual for Western Washington* (2005), and
- Maintained in accordance with the maintenance schedule in Volume V of the *Stormwater Management Manual for Western Washington* (2005).

Additional Requirements

The discharge of untreated stormwater from pollution-generating impervious surfaces to ground water must not be authorized by the Permittee, except for the discharge achieved by infiltration or dispersion of runoff from residential sites through use of On-site Stormwater Management BMPs.

4.7 Minimum Requirement #7: Flow Control

Applicability

Except as provided below, the Permittee must require all projects provide flow control to reduce the impacts of stormwater runoff from impervious surfaces and land cover conversions. The requirement below applies to projects that discharge stormwater directly, or indirectly through a conveyance system, into a fresh water.

Flow control is not required for projects that discharge directly to, or indirectly through an MS4 to a water listed in Appendix I-E of the *Stormwater Management Manual for Western Washington* (2005) subject to the following restrictions:

- Direct discharge to the exempt receiving water does not result in the diversion of drainage from any perennial stream classified as Types 1, 2, 3, or 4 in the State of Washington Interim Water Typing System, or Types "S", "F", or "Np" in the Permanent Water Typing System, or from any category I, II, or III wetland; and
- Flow splitting devices or drainage BMP's are applied to route natural runoff volumes from the project site to any downstream Type 5 stream or category IV wetland:
    - Design of flow splitting devices or drainage BMP's will be based on continuous hydrologic modeling analysis. The design will assure that flows delivered to Type 5 stream reaches will approximate, but in no case exceed, durations ranging from 50% of the 2-year to the 50-year peak flow.
    - Flow splitting devices or drainage BMP's that deliver flow to category IV wetlands will also be designed using continuous hydrologic modeling to preserve pre-project wetland hydrologic conditions unless specifically waived or exempted by regulatory agencies with permitting jurisdiction; and
- The project site must be drained by a conveyance system that is comprised entirely of manmade conveyance elements (e.g., pipes, ditches, outfall protection, etc.) and extends to the ordinary high water line of the exempt receiving water; and

- The conveyance system between the project site and the exempt receiving water shall have sufficient hydraulic capacity to convey discharges from future build-out conditions (under current zoning) of the site, and the existing condition from non-project areas from which runoff is or will be collected; and
- Any erodible elements of the manmade conveyance system must be adequately stabilized to prevent erosion under the conditions noted above.

If the discharge is to a stream that leads to a wetland, or to a wetland that has an outflow to a stream, both this minimum requirement (Minimum Requirement #7) and Minimum Requirement #8 apply.

Permittees may petition Ecology to exempt projects in additional areas. A petition must justify the proposed exemption based upon a hydrologic analysis that demonstrates that the potential stormwater runoff from the exempted area will not significantly increase the erosion forces on the stream channel nor have near-field impacts (see Section 7 of this Appendix).

Thresholds

The following require construction of flow control facilities and/or land use management BMPs that will achieve the standard flow control requirement for western Washington (see Table 4.2):

- Projects in which the total of effective impervious surfaces is 10,000 square feet or more in a threshold discharge area, or
- Projects that convert ¾ acres or more of native vegetation to lawn or landscape, or convert 2.5 acres or more of native vegetation to pasture in a threshold discharge area, and from which there is a surface discharge in a natural or man-made conveyance system from the site, or
- Projects that through a combination of effective impervious surfaces and converted pervious surfaces cause a 0.1 cubic feet per second increase in the 100-year flow frequency from a threshold discharge area as estimated using the Western Washington Hydrology Model or other approved model.

That portion of any development project in which the above thresholds are not exceeded in a threshold discharge area shall apply Onsite Stormwater Management BMPs in accordance with Minimum Requirement #5.

Table 4.2 Flow Control Requirements by Threshold Discharge Area		
	Flow Control Facilities	**On-site Stormwater Management BMPs**
< ¾ acres conversion to lawn/landscape, or < 2.5 acres to pasture		✔
≥ ¾ acres conversion to lawn/landscape, or ≥ 2.5 acres to pasture	✔	✔
< 10,000 square feet of effective impervious area		✔
≥ 10,000 square feet of effective impervious area	✔	✔
≥ 0.1 cubic feet per second increase in the 100-year flood frequency	✔	✔

Standard Flow Control Requirement

Stormwater discharges shall match developed discharge durations to pre-developed durations for the range of pre-developed discharge rates from 50% of the 2-year peak flow up to the full 50-year peak flow. The pre-developed condition to be matched shall be a forested land cover unless:

- Reasonable, historic information is available that indicates the site was prairie prior to settlement (modeled as "pasture" in the Western Washington Hydrology Model); or
- The drainage area of the immediate stream and all subsequent downstream basins have had at least 40% total impervious area since 1985. In this case, the pre-developed condition to be matched shall be the existing land cover condition. Where basin-specific studies determine a stream channel to be unstable, even though the above criterion is met, the pre-developed condition assumption shall be the "historic" land cover condition, or a land cover condition commensurate with achieving a target flow regime identified by an approved basin study.

This standard requirement is waived for sites that will reliably infiltrate all the runoff from impervious surfaces and converted pervious surfaces.

Western Washington Alternative Requirement

An alternative requirement may be established through application of watershed-scale hydrological modeling and supporting field observations. Possible reasons for an alternative flow control requirement include:

- Establishment of a stream–specific threshold of significant bedload movement other than the assumed 50% of the 2-year peak flow;
- Zoning and Land Clearing Ordinance restrictions that, in combination with an alternative flow control standard, maintain or reduce the naturally occurring erosive forces on the stream channel; or
- A duration control standard is not necessary for protection, maintenance, or restoration of designated beneficial uses or Clean Water Act compliance.

See Section 7 Basin/Watershed Planning of this Appendix for details on how alternative flow control requirements may be established.

Additional Requirement

Flow Control BMPs shall be selected, designed, and maintained in accordance with Volume III of the *Stormwater Management Manual for Western Washington* (2005) or an approved equivalent.

4.8 Minimum Requirement #8: Wetlands Protection

Applicability

The requirements below apply only to projects whose stormwater discharges into a wetland, either directly or indirectly through a conveyance system. These requirements must be met in addition to meeting Minimum Requirement #6, Runoff Treatment.

Thresholds

The thresholds identified in Minimum Requirement #6 – Runoff Treatment, and Minimum Requirement #7 – Flow Control shall also be applied for discharges to wetlands.

Standard Requirement

Discharges to wetlands shall maintain the hydrologic conditions, hydrophytic vegetation, and substrate characteristics necessary to support existing and designated uses. The hydrologic analysis shall use the existing land cover condition to determine the existing hydrologic conditions unless directed otherwise by a regulatory agency with jurisdiction. A wetland can be considered for hydrologic modification and/or stormwater treatment in accordance with Guide Sheet 1B in Appendix I-D on the *Stormwater Management Manual for Western Washington* (2005).

Additional Requirements

Stormwater treatment and flow control facilities shall not be built within a natural vegetated buffer, except for:

- necessary conveyance systems as approved by the Permittee; or
- as allowed in wetlands approved for hydrologic modification and/or treatment in accordance with Guidesheet 1B in Appendix I-D of the *Stormwater Management Manual for Western Washington* (2005).

An adopted and implemented basin plan prepared in accordance with the provisions of Section 7 of this Appendix may be used to develop requirements for wetlands that are tailored to a specific basin.

4.9 Minimum Requirement #9: Operation and Maintenance

Permittees must require an operation and maintenance manual that is consistent with the provisions in Volume V of the *Stormwater Management Manual for Western Washington* (2005) for all proposed stormwater facilities and BMPs. The party (or parties) responsible for maintenance and operation shall be identified in the operation and maintenance manual. For private facilities approved by the Permittee, a copy of the manual shall be retained onsite or within reasonable access to the site, and shall be transferred with the property to the new owner. For public facilities, a copy of the manual shall be retained in the appropriate department. A log of maintenance activity that indicates what actions were taken shall be kept and be available for inspection by the local government.

Section 5. Adjustments

Adjustments to the Minimum Requirements may be granted by the Permittee provided that a written finding of fact is prepared, that addresses the following:

- The adjustment provides substantially equivalent environmental protection.
- Based on sound Engineering practices, the objectives of safety, function, environmental protection and facility maintenance, are met.

Section 6. Exceptions/Variances

Exceptions/variances (exceptions) to the Minimum Requirements may be granted by the Permittee following legal public notice of an application for an exception or variance, legal public notice of the Permittee's decision on the application, and written findings of fact that documents the Permittees determination to grant an exception. Permittees shall keep records, including the written findings of fact, of all local exceptions to the Minimum Requirements.

Project-specific design exceptions based on site-specific conditions do not require prior approval of the Department. The Permittee must seek prior approval by the Department for any jurisdiction-wide exception.

The Permittee may grant an exception to the minimum requirements if such application imposes a severe and unexpected economic hardship. To determine whether the application imposes a severe and unexpected economic hardship on the project applicant, the Permittee must consider and document with written findings of fact the following:

- The current (pre-project) use of the site, and

- How the application of the minimum requirement(s) restricts the proposed use of the site compared to the restrictions that existed prior to the adoption of the minimum requirements; and
- The possible remaining uses of the site if the exception were not granted; and
- The uses of the site that would have been allowed prior to the adoption of the minimum requirements; and
- A comparison of the estimated amount and percentage of value loss as a result of the minimum requirements versus the estimated amount and percentage of value loss as a result of requirements that existed prior to adoption of the minimum requirements; and
- The feasibility for the owner to alter the project to apply the minimum requirements.

In addition any exception must meet the following criteria:

- The exception will not increase risk to the public health and welfare, nor injurious to other properties in the vicinity and/or downstream, and to the quality of waters of the state; and
- The exception is the least possible exception that could be granted to comply with the intent of the Minimum Requirements.

Section 7. Basin/Watershed Planning

Basin/Watershed planning may be used by the Permittee to tailor Minimum Requirement #6 Runoff Treatment, Minimum Requirement #7 Flow Control, and/or Minimum Requirement #8 Wetlands Protection. Basin planning may be used to support alternative treatment, flow control, and/or wetland protection requirements to those contained in Section 4 of this Appendix. Basin planning may also be used to demonstrate an equivalent level of treatment, flow control, and/or wetland protection through the construction and use of regional stormwater facilities.

Basin planning provides a mechanism by which the minimum requirements and implementing BMP's can be evaluated and refined based on an analysis of a basin or watershed. Basin plans are may be used to develop control strategies to address impacts from future development and to correct specific problems whose sources are known or suspected. Basin plans can be effective at addressing both long-term cumulative impacts of pollutant loads and short-term acute impacts of pollutant concentrations, as well as hydrologic impacts to streams, wetlands, and ground water resources.

Basin planning will require the use of computer models and field work to verify and support the models. The USGS has developed software called "GenScn" (Generation and Analysis of Model Simulation Scenarios) that can facilitate basin planning. The program is a Windows-based application of HSPF that predicts water quality and quantity changes for multiple scenarios of land use and water management within a basin. Permittees who are considering the use of

basin/watershed plans to modify or tailor one or more of the minimum requirements are encouraged to contact Ecology early in the planning stage.

Some examples of how Basin Planning can alter the minimum requirements are given in Appendix I-A from the *Stormwater Management Manual for Western Washington* (2005).

In order for a basin plan to serve as a means of modifying the minimum requirements the following conditions must be met:

- The plan must be formally adopted by all jurisdictions with responsibilities under the plan; and
- All ordinances or regulations called for by the plan must be in effect; and
- The basin plan must be reviewed and approved by Ecology.