# Fact Sheet

**Fact Sheet for National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Discharges from Large and Medium Municipal Separate Storm Sewers**

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

**March 22, 2006**

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A. List of potential Secondary Permittees in Western Washington
B. Complete list of applicable TMDLs in Western Washington
C. Monitoring program cost estimate
D. Response to Comments (will be added to Final Fact Sheet)

## I. INTRODUCTION

This Fact Sheet accompanies the final draft *NPDES and State Waste Discharge Permit for Discharges from Large and Medium Municipal Separate Storm Sewers* (the Phase I Permit). The Fact Sheet serves as the documentation of the legal, technical, and administrative decisions the Department of Ecology (Ecology) has made in the process of developing and issuing this permit.

When issued, this permit will authorize the discharge of stormwater to waters of the State of Washington from municipal separate storm sewers that are owned or operated by the Permittees. As required by paragraph 402(p)(3) of the Clean Water Act, discharges covered under this permit must effectively prohibit non-stormwater discharges into storm sewers that discharge to surface waters and must apply controls to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP). As authorized by RCW 90.48.030 and RCW 90.48.162, Ecology is also taking action through the issuance of this permit to control impacts of stormwater discharges to all waters of Washington State, including ground waters, unless the discharges are authorized by another regulatory program.

Discharges from agricultural runoff, irrigation return flows, process and non-process wastewaters from industrial activities, and stormwater runoff from areas served by combined sewer systems are not regulated directly by this permit. These types of discharges may be regulated by local or other state requirements if they discharge to municipal separate storm sewers. This permit authorizes the municipal separate storm sewer to discharges stormwater that comes from construction sites or industrial activities under certain conditions.

## II. PUBLIC INVOLVEMENT OPPORTUNITIES

### PUBLIC COMMENT PERIOD

Ecology is soliciting public comment on the Draft Permit, Fact Sheet, and Notice of Intent until 5:00 p.m. on May 19, 2006. Ecology welcomes all comments on these formal draft documents. If possible, the following information should be included with your comments:

- The specific language in the permit that is the subject of the comment. Please include the page number and, where indicated, the line number.
- The basis for the comment, and in particular the legal, technical, administrative, or other basis for the concern.
- A suggested alternative to address the concern.

Ecology will issue the final permit after it considers all public comments and makes final changes to the draft permit.

Written comments should be sent to Phase1Comments@ecy.wa.gov or to:

Municipal Stormwater Phase I Comment
WA Department of Ecology
Water Quality Program

PO Box 47696
Olympia, WA 98504-7696

Oral comments can be made by attending and testifying at the public hearing:

**Tuesday, May 2, 2006 1pm**
**Tacoma**
Pierce County Library Administrative Center
3005 112th Street East

The hearing will provide the public with an opportunity to give formal comments on the proposed permit. A short workshop with a question and answer session will precede the hearing.

Ecology will host four general public workshops on the Draft Permit during the public comment period. The purpose of the workshops is to explain the permit, to inform participants of how this draft of the permit has changed from the previous draft of the permit, and to answer questions. Ecology will not accept formal oral testimony or comments on the Draft Permit, Fact Sheet, or Notice of Intent at the public workshops. The public workshops on the Draft Permit will be held at the following locations, dates and times:

| **Phase I and Phase II Western Washington General Workshops** | |
|---|---|
| **Date & Time:** | **Location:** |
| Friday, March 31, 2006<br>10 am – 4 pm | **Mount Vernon**<br>Skagit PUD #1<br>1415 Freeway Drive |
| Tuesday, April 4, 2006<br>10 am – 4 pm | **Tacoma**<br>Pierce County Library Admin. Center<br>3005 112 Street E |
| Tuesday, April 11, 2006<br>10 am – 4 pm | **Vancouver**<br>Water Resources Education Center<br>Bruce Hagensen Community Room<br>4600 SE Columbia Way |
| Tuesday, April 18, 2006<br>10 am – 3:30 pm | **Bellevue**<br>Lewis Creek Park Visitor Center<br>5808 Lakemont Blvd |

Ecology will also hold two public workshops specifically for the public entities who are not cities, towns, or counties that may also be required to obtain coverage under this permit. The list of Secondary Permittees who were sent notice of the availability of the draft permit and the workshops are listed in Appendix A to this Fact sheet. Ecology will not accept formal oral testimony or comments on the Draft Permit, Fact Sheet, or Notice

of Intent at these workshops. The purpose of the workshops is to explain the general permit, to go through the stormwater management program requirements for these entities, and to answer questions. The public workshops for these entities will be held at the following locations, dates, and times:

| **Secondary Permittee Workshops** | |
|---|---|
| **Date & Time** | **Location** |
| Tuesday, March 14, 2006<br>1 pm – 5 pm | **Ellensburg**<br>Hal Holmes Community Center<br>209 North Ruby Street |
| Tuesday, March 28, 2006<br>1 pm – 5 pm | **Lacey**<br>Lacey Community Center<br>6729 Pacific Ave SE |

Ecology will issue the final permit after receiving and considering all public comments. If public comments cause a substantial change in the permit conditions from the final draft permit, another public notice of draft and comment period may ensue. Ecology expects to issue the final permits in the fall of 2006 and they will become effective 30 days after issuance. A copy of the Notice of Issuance will be sent to all persons who submitted written comment or gave public testimony at the public hearings.

When Ecology issues the final permit, the summary and response to comments will become part of the file on the permit and parties submitting comments will receive a notice on how to obtain copies of the final permit and Ecology's response to comments. Comments and the resultant changes to the proposed permit will be summarized in an Appendix D to this Fact Sheet - Response to Comments.

You may download copies of the draft permit documents and submit comments online at: http://www.ecy.wa.gov/programs/wq/stormwater/municipal/issue_permits.html.

Direct questions about the **workshops** and requests for printed copies of the Draft Permit, Fact Sheet, and Notice of Intent to section secretaries Melinda Wilson at mewi461@ecy.wa.gov or Julie Robertson at jrob461@ecy.wa.gov or telephone either of them at (360) 407-6401.

Questions about the **Notice of Intent,** the **Draft Permit** or **Fact Sheet** should be directed to Ann Wessel at (360) 407-6457 or awes461@ecy.wa.gov.

Public Involvement Opportunities Prior to February 15, 2006

On January 19, 1999 Ecology filed a Notice of Intent to reissue the NPDES and State Waster discharge general permits for discharges from large and medium MS4s. An advisory committee including representatives from Phase I and Phase II cities and

counties, state and federal agencies, environmental groups, and the public was formed to assist Ecology with developing the revised permit. The advisory committee met 7 times from June 1999 until June 2001 to provide input and discuss draft permit language.

Concurrent with the advisory committee process for developing the draft Phase I permit, Ecology participated in the stormwater portion of the Tri-County Endangered Species Act (ESA) response process. The Tri-County Model Conservation Program began in 1998 and brought together local governments, environmental groups, and businesses in Snohomish, King, and Pierce Counties to address the habitat-related factors of salmon decline. Recognizing the significant overlap between the CWA and ESA requirements to protect water quality, participants in the Tri-County process worked to develop consistent stormwater management requirements where possible.

Substantial progress was made in developing a revised Phase I permit through the early advisory committee and Tri-County processes, however, in 2002 Ecology decided to postpone reissuance of the Phase I permit. Resources were shifted towards a state wide permit for WSDOT, and the new EPA requirements for Phase II municipal stormwater permits.

In response to legislative interest in the Phase II municipal stormwater permits, Ecology convened the Eastside and Westside stormwater advisory groups during the summer of 2003 to advise and assist the development of the municipal stormwater permits. Phase I permittees participated in the Westside Stormwater group.

The Westside Stormwater Group (WSG) included representatives from local governments, state agencies, the environmental community, business, agriculture and the shellfish industry. The WSG met seven times from August to November 2003 and submitted a report on its findings to Ecology in early December, 2003. The WSG did not reach consensus on any specific issue but recommended a variety of administrative, legal, financial, and environmental considerations associated with alternative approaches to permitting. The recommendations of the WSG, the Eastside stormwater advisory group, and recommendations from Ecology were all jointly published in a report to the State Legislature dated January 2004. The report is available at: http://www.ecy.wa.gov/biblio/0410010.html.

Ecology filed a Notice of Intent to issue the Phase I and Western Washington Phase II and the Washington Department of Transportation (WSDOT) municipal stormwater general NPDES permits in the State Register on June 22, 2004 (WSR 04-13-126). In accordance with Washington's Waste Discharge General Permit regulation, WAC 173-226-130, the announcement:

1. Provided notice of a preliminary determination to develop general permits,
2. Requested comments as to whether a general permit or individual permits would be more appropriate for such discharges, and
3. Provided an opportunity for interested or potentially affected parties to submit information on dischargers and discharges proposed to be covered under the permit as well as any other relevant information.

Ecology posted preliminary drafts of the Phase I and Phase II Municipal Stormwater Permits for Western Washington for public comment from May 16, 2005 through August 19, 2005, and the preliminary draft of the WSDOT permit from December 19, 2005 through February 21, 2006 The Phase I and II preliminary drafts invited comment on several topics in anticipation that the drafts would change. Ecology provided workshops in Tacoma, Everett, Bothell and Vancouver during this period to explain and compare the permits and answer questions. Ecology reviewed and considered comments received as late as November 14, 2005 nearly three months after the close of the comment period in the development of the Draft Permits.

Ecology received over a thousand pages of comments on the Western Washington Phase I and Phase II Stormwater Preliminary Draft Permits from associations, cities, counties, private organizations, ports, drainage districts and state, federal and tribal governments. All public comments received by Ecology on the Preliminary Drafts have been made available online. Ecology has considered those comments and made multiple changes to the Final Draft Permit.

## III. BACKGROUND

### The Stormwater Problem

Stormwater is the leading contributor to water quality pollution in our urban waterways. As urban areas grow, stormwater is also Washington's fastest growing water quality problem. Pollutants in or resulting from stormwater can cause a wide range of impacts. Some pollutants such as metals, oil and grease, and organic toxins are toxic to aquatic organisms if concentrations are high enough. Sediments cause tissue abrasion and gill clogging in fish, they reduce light and impair algal growth, they smother fish spawning habitat and are transporters of other pollutants. Nutrients accelerate eutrophication of lakes and ponds resulting in nuisance algal blooms, reduced clarity, odors and reduced drinking water quality. Temperature sensitive fish and invertebrates cannot survive in overly warm water bodies.

In addition, the large impervious surfaces in urban areas increase the quantity and peak flows of runoff, which in turn cause hydrologic impacts such as scoured streambed channels, in-stream sedimentation and loss of habitat. Furthermore, because of the volume of runoff discharges, mass loads of pollutants in stormwater can be significant.

Impacts from stormwater are highly site-specific and vary geographically due to differences in local land use conditions, hydrologic conditions, and the type of receiving water. The following is a list of typical impacts caused by stormwater discharges:

- **Human Health:** In general, untreated stormwater is unsafe. It contains toxic metals, organic compounds, and bacteria. Untreated stormwater is not safe for people to drink, and is not recommended for swimming.

- **Salmon Habitat:** In western Washington urban stormwater impairs streams that provide salmon habitat. Paved surfaces cause higher winter stormwater flows that erode stream channels, destroying spawning beds. Also, because more water flows away during the wet season, streams can lose summertime base flows, drying out habitat needed for salmon rearing. Over the past few years surveys of spawning adult Coho salmon in Seattle and Bellevue found that very high percentages of adult females (up to 90 percent) are dying before they spawn. Coho rely on runoff from the first significant rainfall events in the fall to move upstream. Although the precise causes of these acute die-offs are not yet known, stormwater pollution is likely to be involved. The problem is under active scientific investigation, and it appears to be widespread throughout urban streams in Puget Sound.[1]
- **Drinking Water:** In some areas of Washington, notably Spokane County, and parts of Pierce and Clark counties, gravelly soils allow rapid infiltration of stormwater. Untreated stormwater discharging to the ground could contaminate aquifers that are used for drinking water.
- **Shellfish Industry:** The State's multimillion shellfish industry is increasingly threatened by closures due to stormwater.
- **Degraded Water Bodies:** Across Washington State, probably without exception, stream channels in urban and urbanizing areas have been drastically altered by changes in land cover resulting from residential, commercial and industrial land development. Fish resources, and other beneficial uses, have been and will continue to be severely degraded, and in many cases permanently lost, due to the impacts of urban land development.

There are many pollution sources that contaminate stormwater, including land use activities, operation and maintenance activities, illicit discharges and spills, atmospheric deposition, and vehicular traffic conditions. Many of these sources are not under the direct control of the permittees that own or operate the storm sewers.

Common Pollutants in Stormwater and Some Potential Sources[2]

| Pollutant | Potential Sources |
|---|---|
| Lead | Motor Oil, Transmission Bearings, Gasoline[3] |
| Zinc | Motor Oil, Galvanized Roofing, Tire Wear, Down Spouts |

[1] Personal communication: Jamie Glasgow, Washington Trout, and Nathaniel Scholz, NOAA Fisheries, 2003.

[2] Adapted from a number of sources: Novotny, V. and G. Chesters, 1981. *Handbook of Nonpoint Pollution.* Van Nostrand Reinhold Company, New York, p. 322. Galvin D. and R. Moore, 1982. *Toxicants in Urban Runoff,* METRO Toxicant Program, Report #2. METRO, Seattle, pp 3-89 - 3-92. PTI Environmental Services, 1991. *Pollutants of concern in Puget Sound*. Puget Sound Estuary Program, U.S. EPA, Seattle, pp 47-51. URS et al, 1988. City of Puyallup, Stormwater Management Program. *Technical Memorandum WQ-1: Stormwater Quality Issues*. Table 1.

[3] Although lead is no longer an additive to gasoline, it is still present in trace amounts and remaining lead on the ground is picked up by stormwater runoff.

| | |
|---|---|
| Cadmium | Tire Wear, Metal Plating, Batteries |
| Copper | Brake Linings, Thrust Bearings, Bushings |
| Chromium | Metal Plating, Rocker Arms, Crank Shafts, Brake Linings, Yellow Lane Strip Paint |
| Arsenic | ASARCO Smelter, Fossil Fuel Combustion |
| Bacterial/Viral Agents | Domestic Animals, Septic Systems, Animal & Manure Transport |
| Oil & Grease | Motor Vehicles, Illegal Disposal of Used Oil |
| Organic Toxins | Pesticides, Combustion Products, Petroleum Products, Paints & Preservatives, Plasticizers, Solvents |
| Sediments | Construction Sites, Stream Channel Erosion, Poorly Vegetated Lands, Slope Failure, Vehicular Deposition |
| Nutrients | Sediments, Fertilizers, Domestic Animals, Septic Systems, Vegetative Matter |
| Heat | Pavement Runoff, Loss of Shading Along Streams |
| Oxygen Demanding Organics | Vegetative Matter, Petroleum Products |

Characterization of Stormwater

Hydraulic impacts and the characterization of pollutants vary but can be generalized by land uses such as residential, commercial, industrial and open space.[4] In general, the wet season's first flush rains carry the most pollutants to receiving waters and the wettest months are October through May. For the geographic areas covered by the permit, data taken from 1948 to 1986 show an average range between 80 and 100 storm events per year with storm events defined as precipitation greater than .1 inches/day[5]. In addition, the following 18-year (1980 – 1997) average annual precipitation rates are noted:

**Table 3: Average annual precipitation for permitted areas in western Washington**

| Urban Area of Coverage | Average Annual Precipitation* |
|---|---|
| Bellingham Urban Area | 36 inches |
| Bremerton Urban Area | 52 inches |
| Longview/Kelso Urban Area | 46 inches |
| Marysville Urban Area (Everett data used) | 37 inches |
| Mount Vernon Urban Area | 32 inches |
| Olympia/Lacey Urban Area | 51 inches |
| Seattle Urban Area | 35 – 39 inches |
| Everett Urban Area | 37 inches |
| Tacoma Urban Area | 37 – 39 inches |

[4] Pitt et al 2004, *The National Stormwater Quality Database*, http://www.cwp.org
[5] Perrich, Jerry P.E. 1992. *ESE National Precipitation Databook*, Cahners Pub.

| | |
|---|---|
| Vancouver Urban Area | 39 inches |

*Source: Western Regional Climate Center, wrcc@dri.edu

Data characterizing the quality of stormwater discharges has been collected and analyzed in Oregon. The rainfall patterns and land cover characteristics in Oregon are sufficiently similar to Washington to provide an indication of the general quality of stormwater discharges in Washington. The following table shows the mean of the "event mean concentrations" (EMCs) of common stormwater pollutants for different land use categories.[6] The EMC is defined as the total constituent mass discharge divided by the total runoff volume. EMCs are typically based on flow weighted composite samples. Total phosphorus is presented for comparative purposes only, since phosphorous concentrations were not found to be consistent among similar land use stations. Total phosphorous concentrations may be more affected by soil type than by land use.

**Oregon Urban Runoff Water Quality Data**
**Land Uses Mean Concentrations for Selected Pollutants**

| Land Use | TSS mg/l | Total Cu mg/l | Total Zn mg/l | Dissolved Cu mg/l | Total P mg/l |
|---|---|---|---|---|---|
| **In-pipe Industrial** | 194 | 0.053 | 0.629 | 0.009 | 0.633 |
| **Instream Industrial** | 102 | 0.024 | 0.274 | 0.007 | 0.509 |
| **Transportation** | 169 | 0.035 | 0.236 | 0.008 | 0.376 |
| **Commercial** | 92 | 0.032 | 0.168 | 0.009 | 0.391 |
| **Residential** | 64 | 0.014 | 0.108 | 0.006 | 0.365 |
| **Open** | 58 | 0.004 | 0.025 | 0.004 | 0.166 |

Another important source of information about stormwater quality is the National Stormwater Quality Database (NSQD).[7] The NSQD collected and evaluated data from a representative number of municipal stormwater permit holders. To date it is the largest urban stormwater database ever developed.

Notable observations from the NSQD include the following:
• Preliminary statistical analyses found significant differences among land use categories for all pollutants. This is notable because National Urban Runoff Program (NURP) findings showed no significant differences in urban runoff concentrations as a function of common urban land uses (EPA, 1983).
• Freeway locations generally had the highest median values, except for phosphorus, nitrates, fecal coliforms, and zinc.
• The industrial sites had the highest reported zinc concentrations.

[6] Strecker et al. 1997. A*nalysis of Oregon Urban Runoff Water Quality Monitoring Data Collected from 1990 to 1996*, prepared for the Oregon Association of Clean Water Agencies, Table 3-2.
[7] Pitt et al 2004, *The National Stormwater Quality Database*, http://www.cwp.org/NPDES_research_report.pdf

• The Total Kjeldahl Nitrogen (TKN), copper, lead, and zinc observations are lowest for open space areas.
• Lead concentrations, as expected, have dropped by an order of magnitude over the last 20 years, largely assumed to be the result of instituting unleaded gasoline regulations.
• Sediment and heavy metal concentrations appear to have declined across all land uses. Further analysisis required to determine whether the decline is statistically significant. Reasons for the decline maybe related to sample collection locations.
• Nutrient concentrations are relatively similar between the two data sets (NSQD and NURP).

The following tables from the NSQD are provided to give an indication of the general quality of stormwater discharges for a broader range of parameters than the Oregon data set.

| **MEDIAN Values and EMCs for Selected Parameters in the NSQD, Version 1.0** | | | | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Overall** | **Residential** | **Commercial** | **Industrial** | **Freeways** | **Open Space** |
| **Area (acres)** | 56 | 57.3 | 38.8 | 39 | 1.6 | 73.5 |
| **% Imperv.** | 54.3 | 37 | 83 | 75 | 80 | 2 |
| **Precip. Depth (in)** | 0.47 | 0.46 | 0.39 | 0.49 | 0.54 | 0.48 |
| **TSS (mg/L)** | 58 | 48 | 43 | 77 | 99 | 51 |
| **BOD5 (mg/L)** | 8.6 | 9 | 11.9 | 9 | 8 | 4.2 |
| **COD (mg/L)** | 53 | 55 | 63 | 60 | 100 | 21 |
| **Fecal Coliform (mpn/100 mL)** | 5081 | 7750 | 4500 | 2500 | 1700 | 3100 |
| **NH3 (mg/L)** | 0.44 | 0.31 | 0.5 | 0.5 | 1.07 | 0.3 |
| **N02+NO3 (mg/L)** | 0.6 | 0.6 | 0.6 | 0.7 | 0.3 | 0.6 |
| **Nitrogen, Total Kjeldahl (mg/L)** | 1.4 | 1.4 | 1.6 | 1.4 | 2 | 0.6 |
| **Phos., filtered (mg/L)** | 0.12 | 0.17 | 0.11 | 0.11 | 0.2 | 0.08 |
| **Phos., total (mg/L)** | 0.27 | 0.3 | 0.22 | 0.26 | 0.25 | 0.25 |
| **Cd, total (ug/L)** | 1 | 0.5 | 0.9 | 2 | 1 | 0.5 |
| **Cd, filtered (ug/L)** | 0.5 | ND | 0.3 | 0.6 | 0.68 | ND |
| **Cu, total (ug/L)** | 16 | 12 | 17 | 22 | 35 | 5.3 |
| **Cu, filtered (ug/L)** | 8 | 7 | 7.6 | 8 | 10.9 | ND |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Pb, total (ug/L)** | 16 | 12 | 18 | 25 | 25 | 5 |
| **Pb, filtered (ug/L)** | 3 | 3 | 5 | 5 | 1.8 | ND |
| **Ni, total (ug/l)** | 8 | 5.4 | 7 | 16 | 9 | ND |
| **Ni, filtered (ug/L)** | 4 | 2 | 3 | 5 | 4 | ND |
| **Zn, total (ug/L)** | 116 | 73 | 150 | 210 | 200 | 39 |
| **Zn, filtered (ug/L)** | 52 | 33 | 59 | 112 | 51 | ND |
| *ND = not detected, or insufficient data to present as a median value.* | | | | | | |

| **Summary of Selected Organic Information** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Methylene - chloride (ug/L)** | **Bis (2-ethylhexyl) phthalate (ug/L)** | **Di-n-butyl phthalate (ug/L)** | **Fluor-anthene (ug/L)** | **Phen-anthrene (ug/L)** | **Pyrene (ug/L)** | **Diazinon (ug/L)** | **2, 4-D (ug/L)** |
| **Number of observations** | 251 | 250 | 93 | 259 | 233 | 249 | 79 | 101 |
| **% of samples above detection** | 36 | 30 | 16 | 19 | 13 | 14 | 22 | 35 |
| **Median of detected values** | 11.2 | 9.5 | 0.8 | 6 | 3.95 | 5.2 | 0.06 | 3 |
| **Coefficient of variation** | 0.77 | 1.13 | 1.03 | 1.31 | 1.00 | 1.24 | 1.9 | 0.86 |

Controlling Stormwater Discharges

Stormwater quality is difficult to manage because discharges are not continuous, highly predictable events. Rather, discharges are intermittent and weather-dependent in nature (i.e., rainfall and snowmelt). There is a wide range of pollutants in stormwater, and concentrations vary depending on storm events. Further difficulty in controlling municipal stormwater discharges comes from the large number of outfalls where stormwater is being discharged (hundreds or even thousands of outfalls within a city are typical). These features of stormwater runoff make it difficult to apply conventional end-of-pipe treatment options to existing discharges.

Three basic control strategies exist for stormwater. First, prevent pollutants from coming into contact with stormwater by using source control best management practices (BMPs). Second apply treatment BMPs prior to discharge to surface or ground waters to reduce pollutants in the discharge. Third, control the flow rate of stormwater through flow control BMPs.

Source control BMPs include activities as diverse as changing vehicle and equipment maintenance activities to prevent the leaking of oil or other fluids; landscape design, installation, and maintenance to minimize stormwater runoff; product replacement or substitution (e.g., replace galvanized downspouts that are sources of zinc contamination with downspouts that are coated with non-polluting materials); land use zoning to reduce the intensity or character of urbanization in sensitive watersheds; minimizing the removal of forests and native vegetation; covering up materials that are stored outside and exposed to rainfall and runoff; and prohibiting or restricting the use of certain chemicals that are causing a pollution problem (e.g., pesticides or phosphorus in watersheds that drain to lakes). Source control BMPs can be very effective in preventing stormwater contamination.

Treatment BMPs include ponds, swales, filtration, and infiltration devices that are designed to capture runoff and treat it using physical, biological, and/or chemical processes. The effectiveness and feasibility of treatment BMPs is variable, subject to some debate, and much remains to be learned.

Flow control BMPs are usually detention (controlled release rates) or retention (infiltration to the ground) ponds. Flow control is necessary to prevent accelerated stream channel erosion or to protect wetlands from changes in water elevations.

In summary, the complexity inherent in stormwater discharges and the difficulty of controlling such discharges means that it will take many years to fully implement a program which adequately mitigates or prevents their adverse environmental impacts.

Limitations of the Permit in Protecting Water Quality

In developing this permit, Ecology recognizes that permits alone cannot prevent all stormwater impacts and preserve natural resources and their associated beneficial uses. For multiple reasons, the cumulative impact of unregulated stormwater will continue to contribute to water quality degradation.

Ecology is required to implement the federal Clean Water Act and state Water Pollution Control Act. Ecology has developed this draft permit within the framework created by these statutes and has described a Stormwater Management Program designed to meet state and federal requirements. In this Fact Sheet, Ecology has documented the rationale for many of the proposed permit requirements. The permit does not address all urban stormwater management needs and will not prevent all stormwater impacts. Citizens and state and local governments will need to work together to implement other actions to protect our water bodies.

Laws and Regulations

Federal Clean Water Act

The federal Clean Water Act (CWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the CWA is the National Pollutant Discharge Elimination System (NPDES) permitting program. In Washington, the department of Ecology has been delegated authority to administer the NPDES permit program for most dischargers including most municipal stormwater discharges. Chapter 90.48 RCW defines Ecology's authority and obligations in administering the NPDES permit program.

Amendments to the Clean Water Act in 1987 established new statutory requirements to control industrial and municipal stormwater discharges to waters of the United States. Waters of the United States include most surface water bodies and ground waters that are hydrologically connected to surface waters (See discussion in this Fact Sheet under Special Condition S2 - Authorized Discharges). Municipalities with separate storm sewers serving populations of 100,000 or greater are required to have a National Pollutant Discharge Elimination System (NPDES) permit to discharge stormwater. Municipalities with populations of 250,000 or more are defined as "large" while those with populations between 100,000 and 250,000 are defined as "medium" municipalities. Under the Act the permit requirements for discharges from municipal separate storm sewer systems are:

> "Municipal Discharge. – Permits for discharges from municipal storm sewers -
> (i) may be issued on a system- or jurisdiction-wide basis;
> (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and
> (iii) 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 such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." (33 U.S.C. §1342 (p)(3)(B))

For municipal stormwater discharges, Congress phased in the NPDES permitting requirements. Phase I included medium and large municipalities. Municipalities with populations of 250,000 or more are defined as "large" while those with populations between 100,000 and 250,000 are defined as "medium" municipalities. In 1990 the EPA promulgated the phase I regulations.

In the 1987 CWA amendments Congress directed EPA to study remaining sources of stormwater discharges and propose regulations, based on the study, to designate and control other stormwater sources. These regulations which are commonly known as the phase II stormwater regulations were adopted by the EPA in December 1999. The Phase

II rule extends coverage of the (NPDES) program to certain “small” municipal separate stormwater sewer systems (MS4s).

EPA Rules

U.S. EPA implementing regulations define the term "municipality" to mean incorporated cities and unincorporated counties that have sufficient population in a Census Bureau designated urbanized area to meet the population thresholds. In addition, other public entities (excluding incorporated cities) regardless of their size, that own and operate storm sewer systems located within the municipalities that meet the population thresholds are also required to be covered under the permit program. Examples of other publicly-owned storm sewer systems include state highway systems, ports, drainage districts, and flood control districts located within named municipalities.

Recognizing the complexity of controlling stormwater, Congress and the U.S. EPA have established a regulatory framework for municipal stormwater discharges that is very different from traditional NPDES permit programs. Some of the key provisions of the stormwater rule that reflect these differences are:

- Permits are to require the implementation of stormwater management programs rather than establishing numeric effluent standards for stormwater discharges (40 CFR 122.26(d)(2)(iv)).
- Permits are to cover a large geographic area rather than individual "facilities." Within a permit coverage area there will be hundreds or even thousands of individual outfalls discharging stormwater (40 CFR 122.26(a)(3)).
- Flexibility that allows permittees to first focus their resources on the highest priority problems (40 CFR 122.26(d)(2)(iv)).
- A watershed approach is allowed, even encouraged, to comprehensively manage stormwater (40 CFR 122.26(a)(3) & (d)(2)(iv)).
- Pollution prevention is emphasized with some provisions requiring eliminating or controlling pollutants at their source and by requiring permittees to assess potential future impacts due to population growth and other factors (40 CFR 122.26(d)(2)(iv)(B) & (d)(1)(iii)).

EPA rules for discharges from large and medium MS4s establish a two part application process, but did not establish actual permit requirements. EPA deliberately allowed the permitting authority flexibility to establish permit requirements that are appropriate for the local area under regulation.

Chapter 90.48 Revised Code of Washington (RCW) - The Water Pollution Control Act and Implementing Regulations

Along with requirements in federal law, there are state law requirements for the control of pollution. RCW 90.48.010 establishes “the public policy of the state of Washington (is) to maintain the highest possible standards to insure the purity of all waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial

development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of the waters of the state of Washington."

Both the terms "pollution" and "waters of the state" are defined in RCW 90.48.020. The term "all known available and reasonable methods" is not defined in state law and has been left up to Ecology to define.

Under State Law, a permit is required to discharge pollutants or waste materials to waters of the state (RCW 90.48.162). An application is required to obtain a discharge permit, and Ecology has an obligation to investigate the application and determine whether the use of public waters for the waste disposal will pollute state waters in violation of the public policy of the state (RCW 90.48.170). A discharge permit must be issued unless Ecology finds the disposal of waste materials will pollute the waters of the state in violation of the public policy (RCW 90.48.180).

In 1987 the State Legislature passed into law RCW 90.48.520. When issuing or renewing state and federal wastewater discharge permits Ecology is required to review the applicant's operations and incorporate permit conditions which require all known, available, and reasonable methods to control toxicants in the applicant's wastewater. The discharge of toxicants which would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria shall not be allowed. (RCW 90.48.520)

RCW 90.48.035 grants Ecology authority to adopt standards for the quality of waters of the state. Ecology has adopted the following standards: Ch. 173-200 WAC Ground Water Quality Standards; Ch. 173-201A WAC Water Quality Standards for Surface Waters; and Ch. 173-204 WAC Sediment Management Standards. These standards generally require that permits issued by Ecology ensure standards are not violated, or a compliance schedule be in place to bring discharges into compliance.

The Waste Discharge General Permit Program regulation, Chapter 173-226 WAC, establishes a general permit program applicable to the discharge of pollutants, wastes, and other materials to waters of the state. One of the requirements (WAC 173-226-110) for issuing a general permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet.

## IV. DIFFERENCES BETWEEN THE 1995 PERMITS AND THIS PERMIT

The first permits issued to cover discharges from large and medium municipal separate storm sewer systems were issued on a watershed basis. Ecology's intention was to set up a permitting framework that would encourage coordinated stormwater management throughout a watershed, and could be integrated into Ecology's watershed approach to water quality management. Ecology has not reissued watershed based permits. Ecology has found that we did not have resources to support watershed based stormwater

permitting, and that watershed based priorities and actions can be integrated into a single general permit for large and medium municipal separate stormwater discharges.

The EPA stormwater rules for Phase I envisioned a process where municipal stormwater management programs are reviewed and approved by the permitting agency before permits are issued. The previously issued permits established a definition of a stormwater management program, and set deadlines and compliance schedules for stormwater management program approvals during the term of the permits. This general permit does not follow either the EPA approach or the approach followed in the 1995 permits. Instead, the stormwater management program requirements are established in the permit. This approach defines up front, as part of the permit development and issuance process, the minimum acceptable elements of a stormwater program. The advantages of this approach are that it satisfies the public involvement requirements of both the federal and state clean water acts and ensures that the federal requirement to control pollutants to the maximum extent practicable is met. It also requires considerably fewer staff resources for Ecology to administer. An advantage for permittees and the public of this approach is the permit requirements are known at the time of permit issuance and not left to be determined later through iterative review and approval of individual stormwater management programs. A disadvantage to this approach is that it provides less flexibility to tailor local stormwater programs to reflect local priorities and needs.

## V. RELATIONSHIP TO OTHER STORMWATER PERMITS

In addition to requiring permits for discharges from large and medium municipal separate storm sewers, EPA stormwater regulations establish permit requirements for industrial stormwater, construction sites, and small municipal separate storm sewers (Phase II).

### Industrial Stormwater General Permit

The federal stormwater regulations envision that Ecology and the municipal permittees will cooperate to develop programs to monitor and control pollutants in stormwater discharges to municipal storm sewers from industrial facilities. A wide range of industrial facilities listed at 40 CFR 122.26(b)(14) must obtain an NPDES permit from Ecology if they discharge to surface waters or to municipal separate storm sewers which drain to surface waters. Under 40 CFR 122.26(d)(2)(iv)(C), municipal permittees are to establish a program to monitor and control discharges from industrial facilities that the permittees determine are contributing a substantial pollutant loading to municipal separate storm sewers. In the preamble to the federal phase I stormwater regulations U.S. EPA clearly states its position on the dual responsibility for controlling stormwater discharges associated with industrial activity:

> "Although today's rule will require industrial discharges through municipal separate storm sewers to be covered by separate permit, EPA still believes that municipal operators of large and medium municipal

systems have an important role in source identification, and the development of pollution controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA *(Clean Water Act)*, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because stormwater from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for stormwater discharges associated with industrial activity through their system in their stormwater management program."[8]

Construction Stormwater General Permit

Under this permit, permittees must adopt and implement control discharges from construction sites into their MS4, including sites regulated under the construction stormwater general permit.

WSDOT Permit

Instead of separate coverages under this permit and the Small Municipal (Phase II) NPDES permit, WSDOT and Ecology decided to cover discharges from state highways and other WSDOT facilities under a single stormwater permit.

The proposed WSDOT permit includes provisions requiring control of runoff from new development, redevelopment and construction sites that are consistent with the requirement in this permit, although tailored to highway construction. Ecology has worked with WSDOT during the development of the Highway Runoff Manual (HRM) to ensure that the HRM, together with conditions in the WSDOT permit, will provide a level of control equivalent to the Ecology Stormwater Management Manual for Western Washington.

WSDOT stormwater conveyances frequently interconnect with municipal MS4s covered under this permit. It will be necessary for WSDOT and permittees covered under this permit to work together to control illicit discharges, and respond to spills and dumping.

Small Municipal Stormwater (Phase II) Permit

The Western Washington NPDES permit for small municipal separate storm sewer systems (MS4s) is being issued at the same time as this permit. Small MS4s are part of EPA Phase II stormwater regulatory program. Many of the Phase II municipalities are located in the counties regulated under this permit. They share basins with the permittees covered under this permit, have

[8] U.S. EPA, Federal Register, Vol.55, No. 222; November 16, 1990; p. 48090.

interconnected conveyance systems and discharge into many of the same water bodies.

Wherever possible, the requirements of this permit have been coordinated with the requirements of the Western Washington and Eastern Washington Phase II permits. All permits include similar approaches to compliance with standards, TMDL implementation, and implementation of Ecology's applicable regional Stormwater Management Manual. Some elements of the stormwater management programs for the permits are similar. Successful implementation of stormwater management programs in areas where conveyance systems are interconnected or discharges go to the same water body will require coordination. Ecology has established expectations in this permit and the Phase II permit for future coordination of monitoring efforts. Ecology recommends that all municipal stormwater permittees, large, medium and small municipalities, jointly engage in basin planning in shared basins.

## VI. EXPLANATION OF PERMIT CONDITIONS

### Summary

This municipal stormwater NPDES permit requires the development and implementation of a stormwater management program for municipal separate storm sewers owned or operated by the permittees. Implementation of the stormwater management program required under this permit constitutes reduction of pollutants to the maximum extent practicable (MEP) during the life of the permit, as required in section 402(p)(3)(B) of the federal Clean Water Act.

The conditions defining the stormwater management program requirements are based on U.S. EPA regulations for the municipal stormwater permit program (CFR title 40, §122.26), the stormwater elements of the Puget Sound Water Quality Management Plan, the State Water Pollution Control Act, Chapter 90.48 RCW and the annual reports submitted by the permittees under the previous municipal stormwater permit.

### S1 - Permit Coverage and Permittees

This section defines the area covered under this permit, defines entities that are to be covered under the permit, and explains how to obtain permit coverage.

The permit covers discharges from large and medium Municipal Separate Storm Sewer Systems (MS4s), as defined by EPA at 40 CFR 122.26(b)(4) and (7). Large MS4s are defined as all Municipal Separate Storm Sewers (MS3s) located in either: an incorporated city with a population over 250,000 in the 1990 census; or a county with a population over 250,000 in the unincorporated portion of the county that falls within an urbanized area, as defined in the 1990 census. The definition of a Medium MS4s is basically the same, with a population threshold of more than 100,000 and up to 250,000 people.

MS3s are defined at 40 CFR 122.26(b)(8). Essentially, MS3s are all publicly owned or operated conveyances, located in a place that meets the criteria for a Large or Medium MS4. This includes conveyances owned or operated by public entities such as flood control or drainage districts, ports, universities, and other special districts established under state law. Conveyances are broadly defined to include roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains.

MS3s owned or operated by Washington State Department of Transportation (WSDOT) are not covered under this permit because they will be covered under a separate permit.

The permittees listed in Special Condition S1.B. are the municipalities and that are required to obtain a permit in accordance with 40 CFR 122.26(b)(4) and (b)(7). The municipalities named as permittees for this general permit are Seattle, Tacoma, King County, Snohomish County, Pierce County and Clark County. In accordance with special condition S10 of the previous Municipal Stormwater permits, and WAC 173-226-220, all permittees named in S2.A reapplied and therefore continue coverage under this permit.

King County Department of Metropolitan Services (METRO) co-applied for permit coverage in the City of Seattle and is covered as a co-permittee with the City of Seattle. King County owns and operates stormwater conveyances in the City of Seattle that were constructed to separate stormwater flows from sanitary sewer lines. King County Department of Metropolitan Services (METRO) reapplied in accordance with Special Condition S10 and WAC 173-226-220.

EPA stormwater regulations issued in 1999 limit the Phase I municipal stormwater permit requirement to municipalities that met the population trigger for large and medium municipalities in the 1990 census (40 CFR 122.26.(b)(4)(i) and (b)(7)(i)). All other municipalities that require permit coverage shall be covered under the Phase II municipal stormwater permit program.

Discharges from publicly owned or operated Municipal Separate Storm Sewers (MS3s), located within the cities and counties named as permittees under this permit, are also required to have permit coverage. This requirement applies to special districts such as ports, universities, drainage districts and flood control districts. Ecology recognizes that there are special districts which need a permit but did not submit application materials, or participate with another permittee as a co-applicant (see permit definitions). Paragraph S1.D identifies this group of permittees and calls them secondary permittees. The Secondary Permitee class is designed to capture all those entities that own or operate a Municipal Separate Storm Sewer System (MS4) subject to permit requirements as defined at 40CFR122.26(a) that are not Cities or Counties. This term is used because this category of permittees generally lacks the legal authority to fully comply with the requirements applicable to the named municipal permittees. For example, secondary permittees generally do not have the authority to regulate new development, or to enforce

against illicit discharges. This permit establishes an application process and stormwater management program for secondary permittees.

To comply with the requirements of Ch. 173-226 WAC, the General Permit Rule, it is necessary for entities to submit an application that contains the information specified in WAC 173-226-200. The Notice of Intent (NOI) is the official permit application document required to request coverage under these general permits and is included in this permit.

S2 - Authorized Discharges

This section of the permit authorizes the discharge of stormwater from municipal separate storm sewers, owned or operated by the permittees, to waters of the state, subject to certain limitations. Consistent with the federal rules, direct discharges to surface waters from privately owned or operated storm drains are not regulated by this permit.

S2.A.1 - Discharges into and from municipal separate storm sewers owned or operated by permittees must be in compliance with the terms and conditions of the permit.

S2.A.2. - Discharges from new municipal separate storm sewers, constructed by the permittee after the issuance date of this permit, are authorized, provided those discharges have received all applicable state and local permits, including compliance with the State Environmental Policy Act (SEPA). The control measures required under the permits are area-wide and will apply to any future discharges from the municipal storm sewer systems regulated under this permit.

S2.A.3. - Ecology is issuing this permit under joint federal and state authorities. Under the federal Clean Water Act permits are required for point source discharges of pollutants to waters of the United States. Under that State Water Pollution Control Act (Chapter 90.48 RCW) permits are required for the disposal of waste materials into waters of the State. Under chapter 90.48 RCW the definition of 'waters of the state' includes underground waters whereas the definition of waters of the United States does not.

In accordance with state law Ecology is regulating both discharges to surface waters and discharges to ground waters. Discharges to ground water are covered under the permit because portions of the areas regulated under these permits may include discharges of stormwater to the ground from municipal separate storm sewers. It is appropriate that the stormwater management programs that are required under these permits should apply area-wide, regardless of where water is discharged, and that measures are taken to reduce the discharge of pollutants to ground waters as well as surface waters. However, as stated in paragraph S2.A.3 of the permit, discharges to ground water that are covered under the Underground Injection Control (UIC) program are not covered under this permit to avoid overlapping regulation of these discharges.

Stormwater may be discharged to ground water via infiltration or injection techniques. Injection facilities such as drywells that are classified as UIC facilities are covered under the UIC program (Chapter 173-218 WAC); these discharges are not covered by this permit, however stormwater management programs developed to comply with this permit may be used to satisfy some of the requirements of the UIC program. Many infiltration facilities, including infiltration basins and trenches and dispersion techniques, are not classified as UIC wells; they are covered under this permit because State law requires that they be addressed.

S2.A.4. - Clarifies that stormwater discharges to ground waters that are not subject to federal regulation are regulated only by state authority. It is U.S. EPA policy and supported by case law, that where hydrologic connectivity exists between a discharge to ground water and a surface water body, the discharges to ground water may be regulated under the federal NPDES permit program. Stormwater discharges to ground waters may be subject to this Permit under federal regulations if site-specific information demonstrates that they are in hydraulic continuity with a nearby surface water. (See e.q., Exxon Corp. v. Train, 554 F.2d 1310, 1312, n.1 (5th Cir. 1977); McClellan Ecological Seepage Situation v. Weinberger, 707 F.Supp. 1182, 1195-96 (E.D. Cal. 1988); and Washington Wilderness Coalition v. Hecla Mining, case # CS 94-233 FVS). Ecology believes the best guidance on this issue comes from the United States District Court Eastern District of Washington (Washington Wilderness Coalition v. Hecla Mining, 870 F. Supp 983, 990). The court held that "since the goal of the CWA is to protect the quality of surface waters, any pollutant which enters such waters, whether directly or through groundwater, is subject to regulation by NPDES permit." The court went on to hold, "[I]t is not sufficient to allege groundwater pollution, and then to assert a general hydrological connection between all waters. Rather, pollutants must be traced from their source to surface waters, in order to come within the purview of the CWA." The decision on hydraulic continuity is dependent upon the pollutant (type and mobility in soils), the pollutant loading, the soils at the site, and the hydrology of the site.

S2.B. - The discharge of stormwater associated with industrial activities through municipal separate storm sewers is authorized by this permit, but is required to have a separate NPDES permit under U.S. EPA regulations. For further explanation of the reasons for the separate stormwater permit requirement, see the preamble to the amendments to 40 CFR parts 122, 123, and 124 published in the Federal Register, Friday, November 16, 1990.

Since municipal separate storm sewers carry stormwater and other flows, this permit authorizes the discharge of stormwater commingled with other flows, under certain circumstances. Section 402(p)(3)(B)(ii) of the federal Clean Water Act clearly states that municipal permits are to effectively prohibit non-stormwater discharges to the municipal separate storm sewer system. However, such discharges to municipal separate storm sewers can be authorized if they receive a NPDES permit (other than this municipal stormwater permit). Industrial process wastewater and non-process wastewater are non-stormwater discharges and cannot be authorized under this permit without a separate NPDES permit.

All other non-stormwater discharges are to be addressed through the program to detect and remove illicit discharges and improper disposal as required by the illicit discharge detection and elimination requirements of the stormwater management program required under S5 and S6 of this permit.

S2.C. - accordance with 40 CFR 122.26(d)(2(iv)(B)(1) this permit authorizes discharges from emergency fire fighting activities, in accordance with 40CFR122.26(d)(2)(iv)(B)(1). Training is not considered an emergency fire fighting activity. Training is not considered an emergency fire fighting activity and discharges from fire fighting training activities into the permittees MS4 are not authorized by this permit.

S2.D – Illicit discharges and other non-stormwater discharges are not authorized by this permit except as allowed under the illicit discharge detection and elimination requirements of the stormwater management program required under S5 and S6 of this permit. Coverage under and compliance with this permit does not relieve permittees from compliance with other state and federal laws including but not limited to CERCLA (Superfund), and OPA (Oil Pollution Act).

S3 - Responsibilities of Permittees

Not all parts of the permit apply to all permittees. This section is included to explain the responsibilities of each.

This section also allows a permittee to rely on another entity to meet permit requirements. EPA Phase II regulations for small MS4s explicitly allow such an arrangement. Ecology felt that the Phase I municipalities should also be allowed to rely on other entities such as Health Districts or Conservation Districts to implement their stormwater management programs and have included this provision. However, each permittee retains ultimate responsibility for meeting all applicable permit conditions.

S4 - Compliance with Standards

Ecology's permitting strategy for municipal stormwater discharges covered under this permit is to:

- Require the adoption and implementation of stormwater management programs as described in this permit.
- Assess the effectiveness of those programs through monitoring and/or other evaluation efforts.
- Require in subsequent permits, implementation of more effective and/or more targeted stormwater best management practices if necessary to protect or restore water quality.
- Evolve towards eventual compliance with water quality standards through successive permit cycles.

This section of the permit has been significantly revised from the preliminary draft version of the permit. Ecology received numerous comments regarding this section of the permit during the public comment period on the preliminary draft permit, in which this section made a distinction between compliance requirements for new and existing discharges. Consistent with Ecology's priority of preventing future impacts to water quality from municipal stormwater discharges, the preliminary draft permit held new discharges to a higher standard than for existing discharges: existing discharges were to meet the MEP standard by implementing the SWMP in S5 or S6 plus any TMDL requirements, and new discharges were not to cause or contribute to a violation of water quality standards. Some jurisdictions complained that the distinction between new and existing municipal stormwater discharges is often difficult to make, and the requirements might make otherwise beneficial projects impossible to implement. Ecology agreed with the comments and removed the distinction between new and existing discharges in this formal draft permit. Another change from the preliminary draft permit is that explicit references to state law are included in this revised section. The revised section clarifies that compliance with all of the permit conditions meets MEP and AKART requirements. Condition S4.A of the permit prohibits 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. The basis for this permit condition is RCW 90.48.520 which states:

> "In order to improve water quality by controlling toxicants in wastewater, the department of ecology shall in issuing and renewing state and federal wastewater discharge permits review the applicant's operations and incorporate permit conditions which require all known, available, and reasonable methods to control toxicants in the applicant's wastewater. Such conditions may include, but are not limited to: (1) Limits on the discharge of specific chemicals, and (2) limits on the overall toxicity of the effluent. The toxicity of the effluent shall be determined by techniques such as chronic or acute bioassays. Such conditions shall be required regardless of the quality of receiving water and regardless of the minimum water quality standards. *In no event shall the discharge of toxicants be allowed that would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria.*" (Emphasis added)

The term "toxicants" is not defined in chapter 90.48 RCW and there is no readily available legislative history which would help define which specific pollutants would be considered toxicants. The state water quality standards in existence at the time RCW 90.48.520 was adopted also did not include a definition for either toxicant or toxic pollutant.

At the time that RCW 90.48.520 was adopted, the federal Clean Water Act did contain a definition for toxic pollutant:

> "The term "toxic pollutant" means those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral

> abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring." (33 U.S.C. § 1362(13))

The federal Clean Water Act at that time also included a list of toxic pollutants. (33 U.S.C. § 1317(a)(1)) The list of toxic pollutants is also known as the priority pollutant list. Based on the absence of legislative history, for this permit the term 'toxicant' is assumed to have the same meaning as 'toxic pollutant' as defined by the federal Clean Water Act and EPA's implementing regulations. This is similar to the term "toxic substance" which is used in the Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A WAC.

Condition S4.B of the permit does not authorize 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).

Strict compliance with water quality standards for municipal stormwater discharges is not required by § 1342(p)(3)(B) of the federal Clean Water Act. The maximum extent practicable permitting standard for municipal stormwater permits is separate and distinct from the requirement under 33 U.S.C. § 1311(b)(1)(C) that permits include any more stringent limitation, including those necessary to meet water quality standards. In Defenders of Wildlife v. Browner, the ninth circuit court determined:

> "…the text of 33 U.S.C. § 1342(p)(3)(B), the structure of the Water Quality Act as a whole, and this court's precedent all demonstrate that Congress did not require municipal storm-sewer discharges to comply strictly with 33 U.S.C. § 1311(b)(1)(C)."
>
> *(Note to readers: 33 U.S.C. § 1311(b)(1)(C) is the part of the federal Clean Water Act requiring any more stringent effluent limitations necessary to meet water quality standards.)*

Although the Clean Water Act does not require municipal storm sewer discharges to comply strictly with U.S.C. § 1311(b)(1)(C), U.S.C. § 1342(p)(3)(B)(iii) states: "[p]ermits for discharges from municipal storm sewers . . . shall require . . . such other provisions as the Administrator . . . determines appropriate for the control of such pollutants." (Emphasis added.)

This provision gives the Ecology discretion to determine whether strict compliance with U.S.C. § 1311(b)(1)(C) is appropriate. In these permits Ecology has adopted an interim BMP based approach towards meeting the goals of the Clean Water Act and eventual compliance with water quality standards.

Consistent with the EPA permitting approach for municipal stormwater discharges, Ecology has not established numeric end-of-pipe effluent limits for the discharges

covered under this permit. EPA policy, transmitted in 1996, explains an alternative approach to effluent limits that is appropriate for storm water permits:

> "Due to the nature of storm water discharges, and the typical lack of information on which to base numeric water quality-based effluent limitations (expressed as concentration and mass), EPA will use an interim permitting approach for NPDES storm water permits.
>
> The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate." (EPA policy, Interim Permitting Approach for Water-Quality Based Effluent limits in Storm Water Permits, 9/01/96)

While the permit does not require strict compliance with state water quality standards for municipal stormwater discharges (except where compliance may be required by RCW 90.48.520), neither does Ecology intend the permit provide a categorical exemption from compliance with state water quality standards for municipal stormwater discharges. Because compliance with the water quality standards is an eventual goal of this permit, it is appropriate to use the water quality standards as a measure of the effectiveness of the SWMP, and to help the permittees identify priorities

Ecology acknowledges that it may take decades or longer to address the water quality impacts of existing municipal stormwater discharges. In part, this is because of the difficulty and challenges associated with reversing the water quality impacts of existing stormwater discharges. The focus of this permit is to prevent further water quality impairment due to new stormwater discharges and make reasonable progress in addressing existing sources of water quality impairment.

Condition S4.C requires the permittee to reduce the discharge of pollutants to the maximum extent practicable. This requirement is based on U.S.C § 1342(p)(3)(B)(iii). Neither Congress nor EPA has defined "maximum extent practicable" (MEP) and have instead left the determination of what constitutes MEP up to the individual permitting authorities. As a result, permit requirements established by Ecology must be tempered and limited by State law. For example, the application of post construction stormwater controls on new development and re-development required by this permit must be done within the context of state vesting laws. Similarly, the inspection requirements of this permit must be carried out in a manner that is consistent with the State Constitution and State law.

In adopting both the phase I and the phase II rules the EPA recognized that state law and at times local law may limit or restrict the scope of permit requirements (FR Vol. 55, No. 222, pg 48041) and (FR Vol. 64, No. 235, pg 68766).

Ecology has determined the development, implementation and enforcement of stormwater management programs required under this permit constitute the controls necessary to reduce the discharge of pollutants to the maximum extent practicable.

Condition S4.D requires the use of all known, available and reasonable methods of prevention control and treatment to prevent and control pollution of waters of the state of Washington. This permit requirement is based on RCW 90.48.170 and RCW 90.48.520. Ecology has determined compliance with this permit including the development, implementation and enforcement of stormwater management programs required under this permit constitute the use of all known, available and reasonable methods of prevention control and treatment to prevent and control pollution of waters of the state of Washington.

S5 – Stormwater Management Program for Permittees

S5.A. – This section of the permit establishes the requirement for the cities and counties that are named as permittees in Special Condition S1.B. to implement a stormwater management program (SWMP). The stormwater management program forms the core requirement of this permit. The minimum requirements for the stormwater management program are established in the permit. Permittees wishing to implement programs different from the SWMP in this permit may apply for an individual permit or submit modifications to Ecology for inclusion in this permit.

Each permittee must submit written documentation of their SWMP with the first annual report. The purpose of this requirement is to have a complete written record of the local programs, planning documents, and ordinances or other regulatory documents that the permittees will implement to meet the permit requirements. Ecology does not require that this documentation to be submitted every year, only updates are required after the first year.

Each permittee is required to track the cost of development and implementation of the SWMP. This is based on the EPA requirements at 40 CFR 122.26 calling for a fiscal analysis of the necessary capital and operations and maintenance expenditures to implement the SWMP, and at 40 CFR 122.42(c) for reporting of annual expenditures and proposed budgets. Ecology has deviated from the EPA requirement by requiring tracking of expenditures, but not requiring the forward looking fiscal analysis and budgets. The reason for the change is that Ecology is not following EPA's permitting strategy where each permittee was to propose a SWMP for the term of the permit. Instead Ecology is prescribing the SWMP requirements in this permit. The anticipated cost and resources available to implement the program are not part of the basis for deciding whether individual SWMPs meet the MEP standard for this permit. Tracking of expenditures is still necessary, however, to evaluate the MEP standard established in future permits. Ecology's expectation for cost tracking are listed in the annual report instruction forms in Appendix 3 of the permit.

The requirement to track inspections, official enforcement actions and public education activities is based on EPA regulations at 40 CFR 122.42(c).

S5.B. – Consistent with state and federal law this section requires that the SWMP be designed to reduce the discharge of pollutants to the MEP, and meet state AKART requirements. Where appropriate, Permittees should continue implementation of existing stormwater management program components that go beyond what is required in this permit where they are necessary to reduce the discharge of pollutants to the MEP. In addition, this section calls for continued implementation of existing programs as permittees phase in implementation of the requirements in this permit.

S5.C. – Stormwater Management Program Components

This section of the permit defines the stormwater management program for the term of this permit. Each component of the SWMP is described, and minimum performance measures are specified. The SWMP includes administrative and legal components that must be in place to ensure program implementation, as well as components which should directly effect pollutant reductions and reduction of impacts.

S5.C.1. Legal Authority

This requirement is drawn directly from EPA regulations (40 CFR 122.26). The requirement for interagency agreements to control the contribution of pollutants from one portion of the MS4 to another applies only to co-applicants. So far under this permit only Seattle and King County are co-applicants. However, the language requiring legal authority to prohibit illicit discharges, and carry out inspections and enforcement (within the limitations of state law) applies to discharges coming into the MS4 from another jurisdiction. As operators of MS4s, the permittees which receive, convey and discharge pollutants from third parties, become responsible for those pollutants. By accepting discharges, whether passively or not the operator of the MS4 is accepting responsibility for those discharges, and the consequences of those discharges. These discharges may cause or contribute to a condition of contamination or exceedances of receiving water quality standards. Controlling the contribution of pollutants into the MS4 can be undertaken through a broad range of actions – source control inspections and follow-up; enforcement of local water quality ordinances; technical assistance programs; targeted inspection and maintenance programs; and cooperative agreements with adjoining municipalities or other public entities.

Ecology recognizes controlling the contribution of pollutants from adjoining municipalities or co-permittees whose storm sewers interconnect with those of the permittee is may be difficult, particularly if the adjoining municipality is not covered under a municipal stormwater NPDES permit. However, as explained above, the permittee cannot passively accept pollutants into their MS4 from outside sources. Adequate control in these circumstances means, at minimum, having an established process and point of contact for working with the adjoining municipality or co-permittee to try to resolve problems.

S5.C.2. Municipal Separate Storm Sewer System Mapping and Documentation
This condition is a continuation of the requirement in the existing permits to gather and maintain adequate information to conduct planning, priority setting and program evaluation activities.

S5.C.2.b.ii - Under the previous permit, tributary areas from *major municipal separate storm sewer outfalls* were required to be mapped. Except for land areas zoned industrial, major municipal storm sewer outfalls were defined as single pipes with an inside diameter of 36 inches or greater. For pipes serving industrial areas a major municipal storm sewer outfall was defined as single pipe with an inside diameter of 12 inches or greater. Reducing the outfall size which triggers the requirement for mapping is intended to incrementally expand the portions of the permittees MS4 that are mapped.

S5.C.2.b.iii and iv - A second new requirement is the initiation of a program to map connections to municipal separate storm sewers. New connections must be mapped starting from the effective date of the permit. There is an implementation schedule for mapping existing connections over 8 inches. Again the intent is to expand our knowledge of the system regulated under this permit.

S5.C.2.b.v – The requirement to map areas that do not discharge to surface waters calls for mapping geographic areas such as city blocks, potholes, parts of sub-basins, etc, that do not drain to surface waters, and instead drain to the ground. This provision does not require mapping individual drainage systems that discharge to ground.

S5.C.3. Coordination
This permit requirement calls for establishment of coordination mechanisms both internally and externally to aid in the implementation of the SWMP.

S5.C.3.i. - Internal Coordination. The permit applies to the entire local government, not just the stormwater utility (or similar department). It is up to the permittee to establish communication and coordination mechanisms necessary to comply with the permit. The permit does not specify how the coordination will take place, allowing permittees the flexibility to design coordination systems to meet their needs.

S5.C.3.ii - External Coordination – Intergovernmental coordination is a necessary part of a SWMP since drainage basins seldom follow jurisdictional boundaries. This requirement is based on EPA regulations (40 CFR 122.26(d)(2)(iv)) calling for intergovernmental coordination, where necessary, to reduce the discharge of pollutants to the MEP. Coordination through watershed councils is acceptable to Ecology. Note that coordination with Tribes, and others, is encouraged, but not mandated under this permit, because they aren't covered under a permit issued by Ecology.

S5.C.4. Public Involvement and Participation
The EPA Phase II regulations require public involvement and participation as part of the SWMP. Ecology felt this was a reasonable expectation for Phase I permittees as well.

Ecology expects that exisiting public involvement and participation opportunities conducted by the permittees are likely sufficient to satisfy this requirement.

This section also requires each permittee to make documents and all submittals available electronically either on the local webpage or through Ecology's webpage. Ecology feels this is a reasonable requirement given the common use and proliferation of public information on the internet.

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

Federal Rules and the Existing (1995) Permit Requirement:

The USEPA regulations require Phase I municipal stormwater permittees to "develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment." (40 CFR Part 122.26(d)(2)(iv)(A)(2)). The rules also require a program "to reduce pollutants in storm water runoff from construction sites." (40 CFR Part 122.26(d)(2)(iv)(D)).

In the permit issued in 1995, Ecology required Phase I permittees' programs to include: "ordinances (except WSDOT's program), minimum requirements and best management practices (BMP's) equivalent to those found in Volumes I – IV of Ecology's Stormwater Management Manual for the Puget Sound Basin (1992 edition, and as amended by its replacement), permits, inspections, and enforcement capability." The inclusion of the manual as a permit condition was consistent with the direction given by the Puget Sound Water Quality Management Plan of that time.

Though the 1995 permit directs permittees to implement requirements of updated stormwater manuals, Ecology chose not to enforce that provision when the updated stormwater manuals were published in 2001 and 2005. At the time of the 2001 and 2005 Stormwater Manual updates, Ecology informed Phase I permittees that it intended to require the permittees to update their local stormwater requirements to be consistent with Ecology's updated stormwater manuals.

In developing the content for this section of the reissued permit, Ecology also was able to consider the requirements in more recently issued federal rules for the Phase II municipal stormwater permittees (40 CFR 122.34.(b)(4) and (5)).

The USEPA phase II regulations require permit holders to develop, implement and enforce a program to reduce pollutants in stormwater runoff from construction activities. Phase II permit holders are also required to develop, implement and enforce a program to reduce pollutants in stormwater runoff from new development and redevelopment projects.

The local program for construction site control in Phase II municipalities must include the following features:

- An ordinance to require erosion and sediment control and sanctions;

- Requirements to use appropriate best management practices;
- Requirements to control waste, concrete truck washout, chemicals, litter, and sanitary wastes;
- Procedures for site plan review which consider potential water quality impacts;
- Procedures for receipt and consideration of information submitted by the public;
- Procedures for site inspection and enforcement of control measures.

The local program for post-construction stormwater management in new development and redevelopment must:

- Develop and use strategies which include a combination of structural and/or non-structural BMP's that are appropriate for the community;
- Use an ordinance to address stormwater to the extent allowable under law;
- Ensure adequate long-term operation and maintenance of BMP's.

The federal rules continue with recommendations for municipalities to consider in the development of their post-construction stormwater management program.

In light of the federal Phase II rules which apply to smaller municipalities, and the Phase I permits history, Ecology has decided to proceed with its previously stated intent to require the Phase I permittees to update their stormwater requirements to be consistent with Ecology's updated Stormwater Management Manual for Western Washington. The permittees have twelve months from the effective date of the permit to adopt equivalent provisions into ordinance or other enforceable documents. In addition, Ecology has added permit conditions in regard to implementation of the requirements through design review, inspections, and enforcement. Ecology has also tried to coordinate deadlines for achievement of permit conditions between the Phase I and Phase II permits. For instance, because some Phase II municipalities reference their county's stormwater manual in their ordinances, the deadline for Phase II municipalities to adopt stormwater requirements is after the deadline for the Phase I municipalities.

How the Permit is Consistent with Federal Rules:
The most effective way to minimize the impacts of stormwater discharges from areas of new development and redevelopment (as called for in the federal rules) is to design developments using techniques that:

1) minimize the generation of stormwater runoff (low impact development);
2) reduce exposure of pollutants to precipitation and stormwater runoff (source control BMP's);
3) remove pollutants in stormwater runoff (treatment BMP's); and
4) control either the volumetric flow rate of stormwater discharged (for discharges to streams), or control the volume of water discharged (if discharging to a wetland).

The 2005 Stormwater Management Manual for Western Washington (referred to as the western Washington manual) addresses items 2 through 4 above. Item 1 is partially addressed through the application of "on-site stormwater management BMP's" as specified by Minimum Requirement #5 in the western Washington manual. However, it

should be more fully addressed through local governments' adoption of: 1) site development standards that are far less disruptive of the natural hydrology (i.e., low impact development standards); and 2) comprehensive land use plans that consider the cumulative hydrologic and pollutant impacts of potential land development on the aquatic natural resources. This second action goes beyond the scope of this NPDES permit.

The Permit requires permittees to allow low-impact development to minimize the creation of impervious surfaces. Washington's population is projected to increase by twenty-two percent from 2000 to 2010. Urban land area in the United States has quadrupled since 1954. In most large metropolitan areas, urban land area rose more than twice as fast as population did between 1950 and 1990. Passage of the Growth Management Act in this state was spurred, in part, by this disparity between urban land area and population growth rates. Compact-style development, with a smaller footprint, reduced impervious surfaces, natural areas within the urban core, and improved water detention can help local communities meet the Growth Management Act's goals of accommodating growth while protecting the environment.

The most recent editions of the Eastern and Western Washington stormwater manuals are the latest technical guidance from the Department of Ecology on measures to control the quantity and quality of stormwater runoff from new development and redevelopment projects. The stormwater manuals, consistent with federal stormwater regulations, represent a generic, presumptive approach to meeting federal and state water quality requirements. The presumption is the procedures and best management practices outlined in the manual will generally result in compliance with the statutes.

This generic presumptive approach to meeting water pollution control laws is intended to handle the vast majority of new and redevelopment projects. There are literally thousands of those projects every year. There aren't sufficient human resources or time to do the type of site-by-site analysis that occurs with municipal sewage treatment and industrial wastewater discharges. In addition, a site-specific analysis is difficult to perform for stormwater because of its ephemeral nature and variable pollutant concentration over the course of a discharge event. So, USEPA, some state water pollution control agencies, and some local governments have each published or adopted stormwater manuals that provide an established process for identifying appropriate prevention, treatment, and flow management practices.

However, there are instances where because of the size of a project or the sensitivity of a receiving water, or because of some other regulatory need to ensure compliance with standards (e.g., a certification under section 401 of the Clean Water Act that the discharge will comply with water quality standards), a site-specific stormwater analysis is necessary. In those instances, the appropriate level of treatment identified may be different from what is identified in the western Washington stormwater manual.

The permit allows the permittees to adopt alternative minimum requirements, thresholds, definitions, adjustment and variance criteria as compared to those in Appendix 1, if they have been approved by Ecology as equivalent. A permittee must demonstrate to

Ecology's satisfaction that its alternative provides equal protection of receiving waters and equal levels of pollutant control when compared to the provisions in Appendix 1. In addition, the permittees may propose alternative site planning processes, and BMP selection and design criteria. The permittee is obligated to demonstrate to Ecology's satisfaction that their alternative approaches will protect water quality, meet the "maximum extent practicable" requirement of federal statutes, and meet the all known, available and reasonable methods of prevention, control, and treatment requirements of the state's Water Pollution Control Act. Permittees that choose to use the guidance in Ecology's 2005 stormwater manual can rely on Ecology's determinations that the manual meets the federal and state statutory requirements.

Section S5.C.5.(b)v. requires that the permittee establish legal authority to conduct inspections and enforce maintenance standards for all projects approved under the new development and redevelopment provisions of this permit. This provision is included in response to case law in this state which limits a municipality's ability to gain access to private property without permission from the owner or tenant (City of Seattle v. McCready, 123 Wash. 2d 260, 868 P.2d 134 (Wa. 02/24/1994)).

Procedures to Implement Construction Site Requirements and Post-Construction Requirements:
Within eighteen months of the permit's effective date, the local governments need to develop and demonstrate the capability to: 1) properly apply those requirements to projects through design reviews and project inspections; and 2) take proper enforcement actions to ensure compliance with those requirements.

Ecology has established minimum performance measures for the permittees to demonstrate capability to implement stormwater requirements. Those measures include: review of all stormwater site plans submitted prior to construction; records of performance of 95% of the required pre-project, active project, and completed project inspections. Pre-project inspections are required only for projects that have a high potential for sediment transport as identified by use of the criteria in Appendix 7 to the permit. That appendix was developed in conjunction with local government stormwater managers.

The permit does not include any specific minimum measures for the permitttees' enforcement strategies, however, Ecology's expectation is that permittees will establish clear thresholds for escalating levels of enforcement action in response to violations.

Provisions for Adequate Recordkeeping and Training of Stormwater Staff:
To help organize, track, and document achievement of stormwater program implementation, the permit includes a requirement for recordkeeping of reviews, inspections, enforcement actions, training, and the staff trained. These records could be used to evaluate the permittees' compliance with permit requirements.

<u>S5.C.6. Structural Stormwater Controls</u>

This provision is drawn directly from the EPA rules at 40 CFR 122.26(b)(2) which call for a stormwater management program that includes, among other things, structural and source control measures, accompanied with an estimate of the expected reduction of pollutant loads and an implementation schedule. Ecology has not set a minimum expectation for the level of effort for this requirement. Ecology understands that it is not feasible to provide structural controls to mitigate the impacts of runoff from all existing development. Permittees will set priorities and address the highest-ranked problems subject to the limitations of available resources.

Permittees are required to include a list of planned individual projects that are scheduled for implementation during the term of the permit with the first year annual report. The list must be updated with each annual report. Review and approval of the list by Ecology is not a permit requirement

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

This provision is based upon EPA rules at 40 CFR 122.26(b)(2) which call for a stormwater management program that includes, among other things, source control measures. The 2000 Puget Sound Water Quality Management Plan also calls for a source control program.

Under the existing permits, 2 permittees, King County and Clark County have adopted and implemented ordinances that are essentially the same as that called for in S5.C.7b.i of this section. Ecology has concluded that the source control requirements in this permit are both reasonable and practicable based on the observation that they are already being implemented by 2 of the phase I permittees covered by this permit.

In S5.C.7b.ii., the permit requires a program to identify sites which are potentially pollutant generating. Note that estimating the inventory of land uses and businesses that are potentially pollutant generating is acceptable, a completely accurate list is both not possible, nor expected, because of business turnover. The categories of land uses and businesses listed in Appendix 8 are based on Volume IV of the 2005 Stormwater Management Manual for Western Washington. A complaint-based response program is also required; this can be combined with the requirement for a citizen complaints/reports telephone number for the illicit discharge detection and elimination program (S5.C.8.b.v.).

S5.C.7.b.iii requires an inspection and enforcement program for identified sites. This provision is based on comments received on the preliminary draft of this permit. Note that while the permit calls for inspecting 20% of the identified sites each year, Ecology does not expect inspection of 100% of the sites over the 5 year term of the permit. Permittees are free to prioritize sites, categories of land use or geographic areas. Those sites where the property owner denies entry and there is no legal authority to inspect the site may be excluded from onsite inspection, however, the permittee is still responsible for enforcement of applicable local laws related to pollution of evidence of an illicit or contaminated discharge can be documented without entering the property.

S5.C.7.b.iv. requires implementation of a progressive enforcement policy to assure compliance with stormwater requirements within a reasonable time period. The reason for this requirement is to ensure permittees' implement the legal authority required in the EPA rules and in S5.C.1 of this permit.

Training for the source control program, required under S5.C.7.b.v, may be combined with training for the illicit discharge detection and elimination program and operation and maintenance programs.

S5.C.8 – Illicit Connections and Illicit Discharges Detection and Elimination (IDDE)
The requirement for a program to control illicit discharges and improper disposal is drawn from the U.S. EPA stormwater regulations in 40 CFR 122.26(d)(2). The U.S. EPA requirements are based on the provision in the Clean Water Act that municipal stormwater NPDES permits include a requirement to effectively prohibit non-stormwater discharges into the storm sewers.

S5.C.8.i – Since this permit is a reissuance of existing permits regulating municipal stormwater discharges, this section requires continued implementation of an IDDE program with an implementation deadline concurrent with the effective date of this permit.

S5.B.8.ii requires each permittee to evaluate and if necessary update existing ordinances or other regulatory mechanisms.

S5.C.8.ii.(1) - Ecology has determined that the following types of non-stormwater discharges are not likely significant sources of pollutants and therefore need not be addressed in any way by either the ordinances or the SWMP: diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, foundation drains, footing drains, air conditioning condensation, springs, water from crawl space pumps, footing drains, and flows from riparian habitats and wetlands. Ecology decided to also include in this list of non-stormwater discharges (that do not need to be addressed either by the ordinance or in the SWMP) irrigation water from agricultural sources that is commingled with urban stormwater, because in some areas of Washington, agricultural irrigation infrastructure has become part of the MS4 and it would be unreasonably burdensome (and not beneficial to water quality) to separate out these discharges.

S5.C.8.ii.(2) - Water line flushing and hydrant testing are common, required practices in all municipalities. Ecology met with water purveyors to better understand common practices and methods available for containment and reuse of water and for dechlorination of released water. For this permit Ecology established a required concentration of less than or equal to 0.1 ppm chlorine for these discharges and for dechlorinated swimming pool discharges. This concentration is the detection limit for simple, easy-to-use field test kits. Ecology believes that this level of dechlorination is achievable through the use of widely accepted industry practices for dechlorination.

Ecology also believes that this level of pretreatment will prevent these discharges from becoming significant contributors of pollutants.

This section specifies that as long as the municipality is reducing such discharges through public education efforts, water conservation efforts, and minimization of municipal use, the ordinances do not need to prohibit discharges from: lawn watering, landscape irrigation, and street wash water, dust control water and building wash down that does not use detergents.

S5.C.8.ii.(3) – Note that any category of discharge, including those listed in (1) and (2), must be addressed if it is identified as a significant contributor of pollutants to waters of the State.

Ecology has maintained the prohibition of individual residential car washing. Ecology believes that the prohibition is appropriate. The requirement to prohibit these discharges does not establish a local priority or define a required approach to addressing these discharges; it merely prevents individual residential car washing from being considered an insignificant discharge. Ecology generally expects municipalities to emphasize public education rather than punitive enforcement to reduce these discharges. Best management practices, such as directing runoff to vegetated areas where it can infiltrate, are easy to implement in order to reduce the environmental impact of these discharges.

The list of non-stormwater discharges in the federal stormwater rule is used differently in this permit from the way it is applied in the industrial and construction stormwater general permits issued by Ecology. The entire list is conditionally approved at construction and industrial sites (and therefore NPDES permitted).

Training for the IDDE program, required under S5.C.8.b.iii. and iv., may be combined with training for the source control and operation and maintenance programs.

S5.C.8.b.vi – The requirement to conduct screening to detect illicit connections comes directly from the EPA rules at 40 CFR 122.26(d)(2)(B). Ecology has specified the screening methods in Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assistance, published by the Center for Watershed Protection in October 2004. The manual is available at http://www.cwp.org/. Ecology has reviewed this manual and finds it provides a comprehensive, understandable and reasonable method to detect, trace, identify and fix illicit connections.

S5.C.8.b.vii. - This section of the permit specifies the timeframes for response to illicit discharges. The timeframes are based on experience of Ecology field staff in conducting similar investigation and enforcement actions. Permittees are encouraged to communicate and coordinate with Ecology regional office staff when investigating or taking enforcement on illicit discharges. However, permittees are expected make a good faith to enforce local rules and ordinances before referring a violation to Ecology.

S5.C.8.b.viii. – The requirement to prevent, respond to and clean up spills and improper disposal into the MS4 is drawn directly from EPA rules at 40 CFR 122.26(d)(2)(B). The timeframes for investigating and responding are based on the Tri-County stormwater proposal. Additional information may be available at: http://www.salmoninfo.org/TriCounty/tricounty.htm.

S5.C.9 – Operation and Maintenance Program

The permit also includes requirements to achieve adequate long-term operation and maintenance of stormwater facilities. Within one year of the permit's effective date, the permittees are to adopt an ordinance and maintenance standards that are at least as protective as those in the 2005 Western Washington Stormwater Management Manual. The maintenance schedules for stormwater facilities that are included in the permit were originally drafted with the participation of local government stormwater managers during the effort to develop the "Tri-County" stormwater proposal as part of a response to the Endangered Species Act listing of Chinook salmon. Additional information may be available at: http://www.salmoninfo.org/TriCounty/tricounty.htm.

Within one year, the permittees also must have a schedule to inspect all facilities regulated by the permittee at least once during the permit term. Within two years, permittees are to inspect new facilities every 6 months for 1 to 2 years after subdivision approval. Within four years, permittees are to develop a schedule to perform inspections annually unless sufficient data exist to justify a different frequency for ensuring compliance with the maintenance standards.

Within 2 years, the permittee must begin inspecting all facilities owned or operated by the permittee annually. Within 2 years, they are to conduct spot checks after major storms. These schedules allow the permittees time to expand their inspection and maintenance programs if they are not already at the levels required by the permit. The inspection program should be designed to inspect all sites, and achieve at least a 95% inspection ratio.

The maintenance inspection frequencies may be changed where there are records or a formal affidavit attesting to maintenance experience. Ecology recognizes that facilities require maintenance at different frequencies depending circumstances such as surrounding land use, soils, type and age of facility.

S5.C.9b.iv. – This section requires annual inspection and maintenance of catchbasins to remove accumulated sediment, trash, oily residue and other materials captured by catchbasins. Two strategies for conducting inspections are allowed in the permit. In the first a subset of catch basins are inspected and based on that information all catchbasins in that conveyance are cleaned. An alternative method of inspecting all catchbasins and then cleaning individual basins as needed is also allowed. The first strategy for catchbasin inspection and cleaning is based on the Tri-County stormwater proposal, the second is a recommendation form the City of Seattle. Inspection frequencies for catchbasins may be modified similarly to other stormwater facilities.

The section also requires proper disposal of decant water in accordance with the requirements in Appendix 6. The street waste liquids or decant water is generated in the process of maintaining Stormwater BMPS. The BMPs capture settleable solids from stormwater runoff and may also minimize the discharge of oily runoff by retaining floatable oils in the BMP. The settled solids typically have high concentrations of adsorbed metals, oils and grease. The agitation involved in removing the solids from catch basins results in the resuspension of the fine fraction of the sediments. The pretreatment and treatment requirements are designed to remove the fine sediment and sheen causing oils (if any), from the decant water before it reaches the receiving water.

In previous permits a Spill Control Catch Basin was specified as a pretreatment requirement to remove oil. Ecology has determined that such devices are not sufficiently reliable to make the presumption that they will function reliably enough to prevent oily sheens in receiving waters (see Volume V, page 11-1 of the Western Washington Stormwater Manual). Therefore the permit requirement for oil treatment is only imposed if oil is discharged. Thus the permitee may use any BMP (e.g. spill control catch basin, or decant methods) that can be demonstrated to prevent the discharge of sheen causing oily discharges to eliminate the need for an approved oil water separator, as part of the treatment train.

S5.C.9b.vi. – The permit requires implementation of practices to reduce stormwater impacts associated with the permittee's parking lots, streets, roads and highways. The requirement to implement such a program is found in EPA rules at 40 CFR 122.26(d)(2)(iv)(3). The following guidance documents are the basis for this requirement and may be used to develop this program:

- Ecology guidance for street waste disposal (Appendix 6 to this permit for liquids and Volume IV of the 2005 Stormwater Management Manual for Western Washington for street waste solids).
- Regional Road Maintenance ESA Program Guidelines, developed by the Tri-County Road Maintenance Technical Working Group.
- The 2005 Stormwater Management Manual for Western Washington, Vol. II Construction Stormwater Pollution Prevention and Vol. IV Source Control.
- Recommendations on managing ditches for water quality benefit contained in the report titled <u>A survey of Ditches along County Roads for their potential to affect Storm Runoff Water Quality</u>, published by the Center for Water and Watershed Studies at the University of Washington.

S5.C.9b.vii. – As land owners, the permittees have the ability to directly control the quality of stormwater runoff from their own practices. This section of the permit requires each permittee to establish and implement policies and procedures to reduce pollutants from lands they own or maintain.

Of particular concern are the selection and application of insecticides and herbicides. Insecticides and herbicides (collectively termed pesticides) have been detected in all rivers, lakes and streams sampled across the United States by the US Geological Survey

(USGS). In King County twenty-three pesticides were detected in water from urban streams during rainstorms and the concentrations of five of these pesticides were at levels that pose danger to aquatic life. [22 20 U.S. EPA. November 2000. *Our Built and Natural Environments: A Technical Review of the Interactions between Land Use, Transportation and Environmental Quality* 21 May, Christopher W. 1996. *Assessment of Cumulative Effects of Urbanization on Small Streams in the Puget Sound Lowland Ecoregion: Implications for Salmonid Resource Management*. PhD Dissertation, University of Washington. 22 USGS Fact Sheet 097-99. April 1999.] Since it is difficult or impossible to remove pesticides from water, Ecology is focusing on the use of integrated pest management plans as a way to reduce both the need and use of pesticides.

The definition for Integrated Pest Management is given in RCW 17.15 as:

> "Integrated pest management" 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.

Reducing the use of pesticides will reduce the risk of the chemicals being carried to streams by stormwater. The methodology has been adopted by many sectors of agriculture. These are reasonable and prudent steps to use when applying chemicals designed to kill plant or animal life. Following them will minimize the risk of discharging pesticides into the MS4.

Excess nutrient entering water ways is also a large and significant urban source of pollution. An analogous plan to manage nutrients will ensure that nutrients are only added to the soils when necessary and in the amounts needed. At a minimum it is expected that permittees only apply fertilizer consistent with recommendation based on soil tests.

Landscape maintenance, trash management and building cleaning are routine practices that can affect stormwater quality. They are also practices that are relatively simple to manage such that pollutants are avoided or minimized. BMPs for these activities are included in Volume IV of the 2005 Stormwater Management Manual for Western Washington.

S5.C.9b.viii. – Training for the operation and maintenance program may be combined with the training for source control and IDDE programs.

S5.C.9b.ix. – Ecology has determined that activities at certain sites owned or operated by permittees are potentially similar to activities at sites regulated under the Industrial Stormwater General Permit. For this reason this provision of the permit calls for developing Stormwater Pollution Prevention Plans (SWPPPs) for these sites. A SWPPP is a documented plan to implement measures to identify, prevent, and control the contamination of discharges of stormwater to surface or ground water. Guidance for developing SWPPPs is available at http://www.ecy.wa.gov/programs/wq/stormwater/industrial/index.html#swppp. Generic SWPPPs for sites grouped by type of activity are encouraged.

S5.C.10 - Public Education and Outreach

The requirement to implement a public education program is based on EPA rules for both the Phase I and Phase II municipal stormwater permit programs, and the 2000 Puget Sound Water Quality Management Plan. Permittees must implement a public education program to reduce or eliminate behaviors and practices that cause or contribute to adverse impacts of stormwater discharges on water bodies. To do this they must identify the steps that the public can take to reduce pollutants in storm water runoff. Permittees are encouraged to target all audiences, however, the minimum measures require:

- Targeting all of listed audiences and actions no later than one year after the effective date of the permit.
- Measurable improvements in each target audiences's understanding of the problem and what they can do to solve it.
- Measurable improvements in the percentage of each target audience regularly carrying out the intended action or behavior change.
- Measure understanding and adoption of the targeted behaviors.

Permittees may use storm water educational materials provided by Ecology, Tribes, EPA, environmental, public interest or trade organizations, or other MS4s. Many materials are available from Ecology online at:
http://www.ecy.wa.gov/programs/wq/stormwater/index.html

The subsets are grouped by audience and targeted subject areas. Briefly, the subsets include:

| Audience | Targeted Subject Area(s) |
|---|---|
| General public | Water quality, impervious surfaces and reducing stormwater impacts though use of source control BMPs |
| Homeowners, landscapers and property managers | Yard care techniques protective of water quality |
| Homeowners, landscapers and property managers | BMPs for use and storage of pesticides and fertilizers |
| General public and businesses | BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials |
| Engineers, contractors, developers, review staff and land use planners | Technical standards for stormwater site and erosion control plans |
| Engineers, contactors, developers, architects, landscapers, realtors and home buyers | Low Impact Development techniques, including site design, pervious paving, retention of forests and mature trees. |
| General public and small businesses | Impacts of illicit discharges (this overlaps with IDD&E requirement) |
| General public | Involvement with environmental stewardship activities |
| | |

Permittees are encouraged to tailor outreach programs to address the viewpoints and concerns of the communities they serve, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

S6 – Stormwater Management Program for Co-Permittees and Secondary Permittees

This section of the permit applies to public entities other than Cities, Towns and Counties such as ports, prison complexes, parks and recreation districts, public schools including universities, irrigation districts, flood control districts, or diking and drainage districts that own or operate a regulated municipal separate storm sewer system.
With this section of the permit, Ecology is attempting to describe a Stormwater Management Program (SWMP) that makes sense for the wide range of entities that are not Cities, Towns, or Counties, but that are subject to coverage under this permit. These Permittees, referred to as Secondary Permittees, generally do not have the same legal authority as Cities, Towns and Counties. The populations served by Secondary Permittees at least partly coincide with the populations of the permitted Cities, Towns and Counties. Ecology encourages Secondary Permittees to seek cooperative agreements with their local jurisdiction(s) to assist in implementation of the complete SWMP.
Ecology believes the SWMP for Secondary Permittees should focus on:

- The non-enforcement aspects of illicit detection and elimination (and rely on the local jurisdiction for the enforcement aspects),

- Construction and post-construction stormwater management for the Secondary Permittee's projects, and
- Pollution prevention and good housekeeping for the municipal operations of the Secondary Permittee.

Permittees are required to track, evaluate and document the actions associated with the SWMP required by the permit. Pursuant to S9 this information is required to be tracked and compiled in an annual report to Ecology. Annual report forms for Secondary Permittees are located in Appendix 4 of the permit.

S6.B – Coordination
The permit encourages Secondary Permittees to include coordinate their SWMPs with other entities within or adjacent to their MS4. The permit requires coordination among departments of the Secondary Permittee to ensure compliance with the permit.

S6.C – Legal Authority
Legal authority to control discharges into a Permittee's storm sewer system is critical for compliance. To the extent allowable under state and federal law the permit requires each Secondary Permittee to operate with sufficient legal authority which authorizes the Secondary Permittee to control discharges into and from their MS4. The legal authority may be demonstrated by a combination of statutes, ordinances, permits, contracts, orders, and interagency agreements. The legal authority must be sufficient to allow the Secondary Permittee do all of the applicable activities listed in S6.D, E and F of the permit.

S6.D – SWMP for the Port of Seattle and Port of Tacoma
Ecology has determined that special consideration is needed for the Ports of Seattle and Tacoma, distinguishing them from the broader group of Secondary permittees such as diking and drainage districts and public universities. These ports are both located on urban bays with documented water quality and sediment contamination problems that may be linked to stormwater discharges. The infrastructure in both Seattle and Tacoma is fairly old and the MS4s are heavily interconnected between each port and the respective city. Also, both ports lease properties to tenants, of whom many, but not all, are required to have coverage under the Industrial Stormwater General Permit. For these reasons this permit establishes SWMP components that are specific to these town entities.

S6.D.1 Mapping and Documentation
To adequately control stormwater discharges it is important to know the location of outfalls and the conveyances that flow to those outfalls. This requirement is also intended to enable the ports to understand the extent of interconnection between the ports' and cities' systems. The mapping requirement for these ports is consistent with the parallel requirement for the cities of Seattle and Tacoma. The permit recognizes nation security concerns may limit the ports' ability to release maps to the public.

S6.D.2 Source Control in Existing Developed Areas
Ecology has determined that implementation Stormwater Pollution Prevention Plans is an effective way to reduce the discharge of pollutants to the maximum extent practicable at

existing developed sites. For this reason this provision of the permit calls for developing Stormwater Pollution Prevention Plans (SWPPPs) for sites that are potentially pollutant generating, and that do not already have coverage under the Industrial Stormwater permit.. A SWPPP is a documented plan to implement measures to identify, prevent, and control the contamination of discharges of stormwater to surface or ground water. Guidance for developing SWPPPs is available at http://www.ecy.wa.gov/programs/wq/stormwater/industrial/index.html#swppp. Generic SWPPPs for sites grouped by type of activity are encouraged.

S6.D.3 Operation and Maintenance Program

Proper maintenance and operation of stormwater BMPs is necessary for maintaining pollutant removal efficiency and hydraulic capacity of the system. Lack of maintenance can increase the pollutant load of stormwater discharges. This section of the permit requires preparation of an O&M manual that establishes maintenance standards that are consistent with standards required for the cities of Seattle and Tacoma. Inspections, maintenance actions, training and recordkeeping are required as well to ensure implementation of the maintenance standards.

S6.D.4. Education Program

Ecology believes that tenants and port employees may not be as effectively served by the local jurisdiction's public education and outreach program, therefore this condition is included.

S6.D.5 Monitoring Program

See the discussion of the monitoring program under Special Condition S8.

S6.D.6 Construction Site Stormwater Runoff Control

The purpose of this SWMP component is to prevent sediment and other pollutants from entering the MS4 during the construction phase of development projects. In general, this section relies on Secondary Permittees obtaining coverage under, and complying with, the *Construction Stormwater General Permit* administered by Ecology for their own construction projects.

S6.D.7 Post-construction stormwater management for new development and redevelopment

The purpose of this SWMP component is to prevent and reduce the amount of pollutants entering the MS4 following the construction phase of development projects. The Minimum Technical Requirements in Appendix 1 of the permit provide a basis for selecting and implementing appropriate best management practices (BMPs) to accomplish this through design approaches, structural treatment technologies, and operation and maintenance practices.

S6.E – SWMP for King County as a Co-Permittee

There are 2 places in the City of Seattle where projects to separate stormwater from sanitary sewer lines has resulted in King County assuming responsibility for stormwater discharges - the Lander and Densmore basins. King County co-applied with the city for

coverage of these discharges. A Memorandum of Agreement between the City and the County dated September 25, 1995 forms the basis for the actions the County takes to control stormwater in these basins. This section of the permit recognizes that Agreement, and calls for continued implementation of actions that are consistent with the requirements in S5 of this permit.

S6.F – SWMP for all other Secondary permittees

This section of the permit applies to public entities other than cities, towns and counties such as ports, prison complexes, parks and recreation districts, public schools including universities, irrigation districts, flood control districts, or diking and drainage districts that own or operate a regulated municipal separate storm sewer system.

This section of the permit describes a Stormwater Management Program (SWMP) for a wide range of entities that are not cities, towns, or counties, but that are subject to coverage under this permit. These Permittees, referred to as Secondary Permittees, generally do not have the same legal authority as cities, towns and counties. The populations served by Secondary Permittees at least partly coincide with the populations of the permitted cities, towns and counties. Ecology encourages Secondary Permittees to seek cooperative agreements with their local jurisdiction(s) to assist in implementation of the complete SWMP. Ecology believes the SWMP for Secondary Permittees should focus on:

- The non-enforcement aspects of illicit detection and elimination (and rely on the local jurisdiction for the enforcement aspects),
- Construction and post-construction stormwater management for the Secondary Permittee's projects, and
- Pollution prevention and good housekeeping for the municipal operations of the Secondary Permittee.

Permittees are required to track, evaluate and document the actions associated with the SWMP required by the permit. Pursuant to S9 this information is required to be tracked and compiled in an annual report to Ecology. Annual report forms for Secondary Permittees are located in Appendix 4 of the permit.

SWMP Components for all other Secondary Permittees

S6.F.1 Public education and outreach

Because the population served by most Secondary Permittees will generally be served by the public education and outreach efforts of the local jurisdiction, Ecology determined that the most useful supplement to those education and outreach efforts would be to label the Secondary Permittee's storm drain inlets. Ecology believes that ports and universities have tenants and residents that may not be as effectively served by the local jurisdiction's public education and outreach program, therefore condition S6.C.1.b is included. Where local jurisdictions' public education and outreach efforts do effectively target and reach these tenant and residential populations, ports and universities are not expected to duplicate those efforts.

S6.F.2 Public involvement and participation
Secondary Permittees have the same responsibilities as cities, towns and counties to make their SWMPs available to the public and to involve the population they serve in the development of the SWMP.

Each secondary permittee is required to publish a public notice in the local newspaper and solicit public review of their SWMP no later than 180 days prior to the expiration date of the permit. Copies of the public notice and SWMP must be provided to Ecology. A sample public notice is provided in the Notice of Intent form online from Ecology at: http://www.ecy.wa.gov/programs/wq/stormwater/municipal/secondary.html
The latest updated version of the SWMP must be made available online to the public if the Secondary Permittee maintains a website, otherwise the SWMP may be posted on the local jurisdiction's website or Ecology's.

S6.F.3 Illicit discharge detection and elimination (IDDE)
IDDE is one of the most important components of the SWMP for any Permittee to reduce pollutants in discharges from their MS4. This section describes the necessary elements of an IDDE program for Secondary Permittees. Federal regulations define an illicit discharge as "any discharge to an MS4 that is not composed entirely of stormwater runoff" . Non-stormwater discharges are illicit because MS4s are not designed to accept, process, or discharge such wastes. Illicit discharges enter the MS4 through deliberate or mistaken, direct or indirect, illicit connections or illegal dumping. Progress toward developing and implement the program must be reported in the annual report.

The Center for Watershed Protection has researched cost effective and efficient discharge detection techniques currently in use around the country. Their findings are synthesized into specific guidelines on illicit discharge identification and removal in the *Illicit Discharge Detection and Elimination Guidance Manual*, a comprehensive manual that outlines practical, low cost, and effective techniques. The final version of the manual can be downloaded for free at: Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments.

Secondary Permittees should focus their efforts on mapping their stormwater systems, developing and implementing appropriate IDDE policies and procedures, and training their staffs. Some Secondary Permittees will be able to rely on the local jurisdiction for enforcement actions; others will have to develop enforcement programs and implement appropriate enforcement actions to the extent that they have legal authority.

S6.F.4 Construction site stormwater runoff control
The purpose of this SWMP component is to prevent sediment and other pollutants from entering the MS4 during the construction phase of development projects. In general, this section relies on Secondary Permittees obtaining coverage under, and complying with, the *Construction Stormwater General Permit* administered by Ecology for their own construction projects. To the extent that they have the legal authority, Secondary Permittees must also require other entities discharging to their MS4 to obtain and comply

with the Minimum Technical Requirements in Appendix 1 (of the permit), Core Element #2 during the construction phase of their projects.

S6.F.5 Post-construction stormwater management for new development and redevelopment

The purpose of this SWMP component is to prevent and reduce the amount of pollutants entering the MS4 following the construction phase of development projects. The Minimum Technical Requirements in Appendix 1 provide a basis for selecting and implementing appropriate best management practices (BMPs) to accomplish this through design approaches, structural treatment technologies, and operation and maintenance practices.

S6.F.6 Pollution prevention and good housekeeping for municipal operations

The municipal operation and maintenance (O&M) plan required to be developed under this component of the SWMP is one of the most important programmatic activities for any Permittee to reduce pollutants in discharges from their MS4. This section of the permit requires Secondary Permittees to evaluate their day-to-day activities and evaluate what BMPs they can implement to reduce stormwater pollution from those activities. Employee training is a critical aspect of this SWMP component. Training can be done in-house or by outside consultants, depending on the size of staff, area served and expertise available. The training must be on-going as needed and reported in the annual report. Ecology and EPA both provide links to training materials and information on their websites.

## S7- Total Maximum Daily Load Allocations

Under some circumstances, when the water quality of a water body is impaired, the federal Clean Water Act requires States to set limits on the amount of pollutants that the water body receives from all sources. States may also set limits on pollutant loads when water bodies are threatened. These limits are known as Total Maximum Daily Loads (TMDLs). TMDLs differ from commonly used technology-based or water quality-based numeric limits for individual discharges. A TMDL is developed through a defined process through which the maximum amount of a pollutant that may be discharged from all sources to a water body without causing violations of water quality standards is identified. Then pollutant control strategies are developed to keep the pollutant loading below that level. The strategies include numeric Waste Load Allocations (WLAs) for NPDES permitted dischargers and Load Allocations (LAs) to control the loads from nonpoint sources.

Stormwater discharges covered under this permit are required to implement actions necessary to achieve the pollutant reductions called for in applicable TMDLs. Applicable TMDLs are TMDLs which have been approved by the EPA before the issuance date of the permit or which have been approved by the EPA prior to the date the permittees application is received by Ecology. A list of all applicable TMDLs is included in Appendix B to this Fact Sheet. Information on Ecology's TMDL program is available on Ecology's website at www.ecy.wa.gov/programs/wq/tmdl.

All TMDLs approved by EPA before February 15, 2006 were reviewed by Ecology to determine whether stormwater including municipal stormwater sources were identified in the TMDL. When most of these TMDLs were developed, municipal stormwater was considered a subset of non-point dischargers, rather than a permitted discharge. As a result, very few TMDLs statewide contain requirements for municipal stormwater sources. Only a few of the TMDLs completed to date have established load allocations or waste load allocations for municipal stormwater discharges covered under this permit. Ecology is interpreting TMDL requirements as follows:

- For TMDLs where stormwater was not identified as a source of the pollutants of concern, or if all of the sources were defined in the TMDL, Ecology considers the MS4 not to be a significant contributor of pollutants.
- Where stormwater was identified as a source of pollutants and the TMDL or implementation plans developed to support the TMDL identified control measures were less than or equivalent to the requirements of this permit, Ecology sets a narrative effluent limit: "compliance with the permit compliance constitutes compliance with the TMDL."
- If stormwater was identified as a source of pollutants and specific WLAs, LAs or control measures were established, Ecology must develop effluent limits in addition to the other requirements of the permit. These effluent limits may be narrative or numeric depending on the control measures set by the TMDL or implementation plans.

Where a TMDL or the detailed implementation plan developed for the TMDL identifies actions or activities beyond what is required by this permit, Ecology has identified the additional requirements in Appendix 2 of the permit for all TMDLs approved by EPA prior to February 15, 2006. Appendix 2 of the permit lists the cities and counties affected by the TMDL. Secondary permittees that are subject to additional TMDL related requirements will be notified at the time of permit coverage.
When TMDL related monitoring is required, permittees are required to develop a quality assurance project plan. Quality assurance project plans (QAPPs) must be submitted to Ecology for review and approval. For detailed guidance on writing QAPPs, see *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies* (ECY Pub. No. 04-03-030) available on Ecology's website at http://www.ecy.wa.gov/biblio/0403030.html.
Implementation of all TMDLs approved by EPA prior to the date of issuance of this permit, or prior to the date of application, is required by all Permittees. Appendix 2 will be updated in the final permit. For the Phase I permit, all cities and counties, and King County as a Co-Permittee, will be covered at the time of permit issuance.

Ecology did not require automatic implementation of TMDLs completed after a Permittee is covered under this permit because doing so would deny the opportunity to appeal additional permit requirements based on the new TMDL. For TMDLs that are approved by EPA after the permit is issued, Ecology may establish TMDL-related permit requirements through a formal permit modification or through the issuance of an administrative order. Ecology's decision to enforce requirements of TMDLs completed after the issuance of the permit will be based on the determination that 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 must be implemented during the term of the permit. For this reason, Permittees are encouraged to participate in development of TMDLs within their jurisdiction and to begin implementation where appropriate.

S8. Monitoring

Background

The federal stormwater rules require municipalities to propose a stormwater monitoring program for the term of the permit (40 CFR Part 122.26(d)(2)(iii)(D)). However, few specific requirements of such programs are listed. In the preamble to the federal rule (See pages 48049 - 48052 of the Federal Register, Volume 55, No. 222, November 16, 1990) U.S. EPA indicates that they favor ... " a permit scheme where the collection of representative data is primarily a task that will be accomplished through monitoring programs during the term of the permit." In the same text, they indicate that "an estimate of annual pollutant loading associated with discharges from municipal stormwater sewer systems is necessary to evaluate the magnitude and severity of the environmental impacts of such discharges and to evaluate the effectiveness of controls which are imposed at a later time."

In the first round of municipal stormwater permits issued in 1995, Ecology established four monitoring objectives:

a) Estimate concentrations and loads from representative areas or basins to be used in evaluating overall program effectiveness.
b) Evaluate the effectiveness of selected Best Management Practices.
c) Identify specific sources of pollution; and
d) Identify the degree to which stormwater discharges are impacting selected receiving waters and sediments.

At that time, it was thought that a monitoring program to adequately cover all the objectives in the first permit would be overwhelming. Therefore, Ecology allowed the permittees to propose monitoring programs intended to achieve one or more of these objectives based upon priorities that they established for their programs. Now, Ecology finds that all the above monitoring objectives remain applicable in the long run, regardless of the permittees' initial priorities, and despite the results of permittees' monitoring to date. However, for this permit term, and under this permit condition, Ecology will require monitoring programs that focus on the first two objectives. Accomplishment of the third objective is partially met by an illicit detection and removal program, which is covered by permit condition S5.C.8. Monitoring to accomplish the fourth objective will not be included in this permit. Instead, Ecology intends to rely on its own monitoring programs, as may be coordinated and supplemented by local government monitoring, to accomplish the objective.

Monitoring programs to meet the requirements of this section may include clustering such that more than one objective is met through an individual monitoring "project."

The primary objective of the monitoring program is to provide a feedback loop for adaptive management of the permittees' stormwater management programs and the municipal stormwater permit. Adaptive management will be implemented through future permits or permit modifications.

A. Stormwater monitoring:
Knowledge of pollutant loads and of average event mean concentrations from representative areas drained by the municipal storm sewer systems are necessary to gauge whether the comprehensive stormwater management programs are making progress towards the goal of reducing the amount of pollutants discharged and protecting water quality. Ecology intends this type of monitoring to continue well beyond this permit term. The number of samples per year, 75% of qualifying events, up to a maximum of 15, is intended to establish a sufficient data base from which to discern annual and seasonal loading trends over a long time period. Based upon monitoring experiences by the City of Tacoma, Ecology anticipates that collecting data from 15 events per year is readily achievable.

The permit calls for each permittee selecting 3 sites representing different land uses. The Ports are to select one site. To "represent" a particular land use, no less than 80% of the area served by the outfall or conveyance should be classified as having that land use. There is some risk in designating so few numbers and types of outfalls for this long-term monitoring. The outfalls selected may not be adequately "representative" of what is being achieved throughout the municipal storm sewer system. Results at these sites can over-estimate or under-estimate what is happening system-wide. To reduce that error, Ecology will consider extending this type of monitoring to Phase II municipal stormwater permittees in the second round of their permits. The second round is scheduled for issuance in 2011. The combination of intensive monitoring at a number of outfall locations throughout the state should provide a sufficient data set from which to draw conclusions about the effectiveness of programs on a region-wide basis.

Such data may also prove useful for establishing Water Clean-up Plans (TMDLs) for waters not achieving water quality standards. "Having statistically significant data sets at regional, seasonal, and land use levels enables modelers to use the information for more sensitive calibration of models that may be used for pollutant load allocations." (Pitt et al) Pollutants to be monitored were selected based upon their known presence in stormwater, their potential for adverse impacts, or their value in providing necessary supporting information.

TSS and turbidity are measures of particulates in the discharges. Particulates in receiving waters can change sediment habitat, disrupt breathing, feeding, and other behaviors in biota, and can be a vehicle for the entrance of toxicants into the ecosystem. TSS sources are eroding soils and organic and inorganic debris.

In western Washington, where hardness levels are often very low, metals concentrations in urban stormwater can frequently exceed water quality standards by large amounts.

Elevated metals concentrations can impact salmonid behaviors, and can have immediate lethal impacts. Vehicles are a major source of metals. Sources of copper include the wear of brake pads, bearings and bushings and other moving engine parts, and tailpipe emissions. Copper is also included in pesticide formulations. Tires, motor and hydraulic oils are major sources of zinc. Galvanized materials exposed to the weather also contribute high concentrations of zinc to stormwater runoff. Cadmium sources include tires and diesel exhaust.

There are many polycyclic aromatic hydrocarbons (PAH's) that are associated with vehicle operation and with road and parking lot construction and maintenance. A recent study by the USGS in Austin, Texas identified coal tar and asphalt emulsion sealcoats as the major source of PAH-contaminated sediment in local waterbodies. Water column concentrations of PAH's as low as 1 part per billion (or, 1 microgram per liter) have caused decreased survival of salmonid embryos. Ecology has established marine sediment standards for PAH's. Those standards have been exceeded in various urban embayments around Puget Sound. Stormwater has been implicated as a contributor. Recent surveys of PAH's in sediments throughout Puget Sound reveal that background PAH concentrations are increasing virtually everywhere, making PAH's a significant threat to ecosystem health.

The pesticides listed in the permit have all been detected with significant frequency in urban streams around King County based on a study conducted by the USGS, Ecology, and King County (1999). These results are consistent with results obtained in other areas of the country. The data collected in the King County study showed that some instream concentrations of insecticides exceed maximum recommended concentration limits for protection of aquatic life established by the National Academy of Sciences and National Academy of Engineering (1973), or the Ministers of Health Canada and Environment Canada (1995). Most instream samples of the insecticide, Diazinon, exceeded chronic aquatic life criteria recommended by USEPA (1998). Surface water runoff is the primary vehicle for transport of pesticides into these waters. Homeowner and commercial applications of these pesticides are the primary sources.

Nutrients, primarily phosphorus and nitrogen compounds, are often present in stormwater in concentrations that make significant contribution to eutrophication of streams, lakes, and estuaries. Stimulation of nuisance algae blooms and reduction in dissolved oxygen levels leading to stresses and sometimes death of sensitive organisms can occur.

Various studies throughout the country, and locally, have documented stormwater toxicity to test organisms such as daphnids, amphipods, bacteria, and fish. The causes of toxicity have included various pesticides and metals. Recently, studies confirming higher rates of pre-spawn mortality of adult salmonids returning to urban streams as compared to mortality rates in rural streams has raised awareness and concern about stormwater toxicity. Performing a toxicity test on the "seasonal first-flush storm" should give generally give us an annual worst case scenario. The build-up of pollutants on the urban landscape during the dry season (July – Sept.) can result in higher concentrations and loads from discharge sites when compared to concentrations and loads from smaller,

more frequent storms throughout the winter. Generally, receiving waters have less volume of water available for dilution of those pollutants during this time, and the water is at a warmer temperature. These receiving water conditions increase the potential for toxic conditions to the biota.

The monitoring program includes grab samples for total petroleum hydrocarbons. Grab sampling from the stormwater surface is indicated because of the volatile nature of some of the compounds in this broad class of compounds. The presence of low levels of petroleum hydrocarbons that concentrate at the surface of waters can have impacts on biota that reside in or frequent the surface.

Grab samples for fecal coliform bacteria are also indicated. Fecal coliform bacteria are present in virtually all stormwater discharges. Sources include urban wildlife (birds, rats, mice, raccoons), domestic wildlife (dogs and cats), illegal cross-connections of sanitary sewers from residences and businesses, and onsite sewage disposal system failures. Because the urban landscape is dominated by impervious surfaces and nearly impervious surfaces, defecation on those surfaces is quickly washed into the storm drainage system. Fecal coliform bacteria are the most common reason for a surface water to be listed as not attaining water quality standards.

Finally, 1 to 3 sediment samples are to be collected per year per site. The sediment is to be collected in sediment traps placed close to the discharge location, but in a place that is readily accessible. The sediment analytes are those that have a history of association with stormwater discharges, are found in urban embayments, have a marine sediment quality standard, or that provide necessary support information (e.g., total organic carbon).

| List of parameters to measure in accumulated sediment | |
|---|---|
| CHEMICAL<br>PARAMETER<br>MG/KG DRY WEIGHT<br>(PARTS PER MILLION (PPM) DRY)<br>ARSENIC 57<br>CADMIUM 5.1<br>CHROMIUM 260<br>COPPER 390<br>LEAD 450<br>MERCURY 0.41<br>SILVER 6.1<br>ZINC 410<br>CHEMICAL<br>PARAMETER<br>MG/KG ORGANIC CARBON<br>(PPM CARBON)<br>LPAH 370<br>NAPHTHALENE 99<br>ACENAPHTHYLENE 66<br>ACENAPHTHENE 16<br>FLUORENE 23<br>PHENANTHRENE 100<br>ANTHRACENE 220<br>2-METHYLNAPHTHALENE 38 | CHEMICAL<br>PARAMETER<br>UG/KG DRY WEIGHT<br>(PARTS PER BILLION (PPB) DRY)<br>PHENOL 420<br>2-METHYLPHENOL 63<br>4-METHYLPHENOL 670<br>2,4-DIMETHYL PHENOL 29<br>PENTACHLOROPHENOL 360<br>BENZYL ALCOHOL 57<br>BENZOIC ACID 650 |

| | |
|---|---|
| HPAH 960<br>FLUORANTHENE 160<br>PYRENE 1000<br>BENZ(A)ANTHRACENE 110<br>CHRYSENE 110<br>TOTAL BENZOFLUORANTHENES 230<br>BENZO(A)PYRENE 99<br>INDENO (1,2,3,-C,D) PYRENE 34<br>DIBENZO (A,H) ANTHRACENE 12<br>BENZO(G,H,I)PERYLENE 31<br>1,2-DICHLOROBENZENE 2.3<br>1,4-DICHLOROBENZENE 3.1<br>1,2,4-TRICHLOROBENZENE 0.81<br>HEXACHLOROBENZENE 0.38<br>DIMETHYL PHTHALATE 53<br>DIETHYL PHTHALATE 61<br>DI-N-BUTYL PHTHALATE 220<br>BUTYL BENZYL PHTHALATE 4.9<br>BIS (2-ETHYLHEXYL) PHTHALATE 47<br>DI-N-OCTYL PHTHALATE 58<br>DIBENZOFURAN 15<br>HEXACHLOROBUTADIENE 3.9<br>N-NITROSODIPHENYLAMINE 11<br>TOTAL PCB'S 12<br>TOC | |

Ecology has developed a cost estimate (Appendix C of this Fact Sheet) for the field and laboratory work that will be necessary to meet this monitoring requirement.

B. Stormwater Program Effectiveness Monitoring:

This part of the monitoring requirements requires the permittees to select 2 specific aspects of their stormwater management program for evaluation. They are asked to evaluate the effectiveness of a specific action; and to evaluate the effectiveness of achieving a targeted environmental outcome. In both cases, monitoring of stormwater or receiving water characteristics is necessary. Monitoring of indirect measures of success such as improvements in regulatory processes, quality or timing or programmatic actions, or changes in behavior may also be accomplished as an indirect indicator of effectiveness.

The permit lists 10 major components to a stormwater management program. To implement any single component requires an administrative structure and an implementation strategy of multiple parts. The “specific action” monitoring is aimed at having the permittees establish a feedback loop for a specific component or part of a component. The intent is to do sufficient investigation to determine if a specific action is making an effective contribution to achieving the overall stormwater program and permit goals. Examples could include: improvements in stormwater quality or quality of sediments in stormwater discharges; reduction in frequency of high flows; reduction in frequency of spills.

The “targeted outcome” monitoring is intended to establish a feedback loop concerning the effectiveness of a subset or all of the stormwater program in achieving a specific environmental outcome. Examples of an outcome include: reopening an area to commercial shellfish harvesting; preventing recontamination of receiving water

sediments; reducing discharge of certain pollutants by a targeted percentage, below a certain concentration, or below a targeted annual load amount; re-establishment of a sustaining native fish population.

In both the "actions" and "outcomes" categories, permittees are required to select an issue for study that has significance for them.

C. Treatment and Hydrologic Best Management Practices Monitoring

Treatment Monitoring:
On a smaller scale, we also need to determine the effectiveness of specific treatment BMPs in reducing pollutant discharges, and the effectiveness of various "low impact development" (LID) practices in reducing the quantity of stormwater runoff.

The state and local stormwater manuals include lists of treatment BMP's that are to be applied in new development and re-development projects. Though most of these treatment types have been recommended and in common use for many years, we have only incomplete information about their pollutant removal capabilities. We have some confidence that they are based on sound engineering concepts, but we do not know how well they perform in relation to one another. Without a feedback loop of performance, we cannot confirm which BMP's perform best for certain pollutants. This also makes it difficult to estimate pollutant loadings that are necessary to implement TMDL's. Without the feedback loop, we haven't a good basis for altering design criteria in order to improve their performance.

Not many studies have been done in the maritime Pacific Northwest Climate on facilities that have been constructed using design criteria in the stormwater manuals. General performance information on categories of treatment BMP's (e.g., wet ponds, dry ponds, biofiltration swales) from data collected around the country are available. But the collectors of that data acknowledge its limited usefulness because of the broad range of designs, including design criteria, used around the country; and because of regional variations in rainfall patterns and soil types. We are overdue to perform studies to firm-up our knowledge of the capabilities and limitations of the "best management practices" that we have been using to reduce the pollutant impacts of our developments.

The permit proposes that each Phase I permittee select 2 treatment types, that are standard technologies in their manuals, for detailed performance monitoring. With the six Phase I permittees covered by this permit, Ecology hopes to get useful performance information on twelve different BMP types. If necessary, Ecology will work with the permittees to coordinate monitoring to avoid duplication and so that the widest range of BMP types can be assessed.

The statistical goal for treatment BMP effectiveness monitoring is to determine mean effluent concentrations and mean percent removals with 95% confidence and 80% power. Those are the goals in the "Technology Assessment Protocol – Ecology" (TAPE). They are commonly used statistical goals. Based on expected coefficients of variation for

stormwater pollutant parameters, it is likely that these statistical goals can be reached with between 12 to 35 sample pairs. However, in the event of a large coefficient of variation, a maximum of 35 sample pairs will suffice, and the confidence and power will be identified. The cost estimation for this effort in Appendix C to this Fact Sheet assumed 28 sample pairs would be necessary for all parameters of interest.

The influent particle size distribution can have a significant effect on the pollutant removal performance of treatment BMP's. Prior to, or early in the sampling effort at a particular treatment BMP site, the influent particle distribution will be analyzed to see if it falls within a range that is typical for the BMP's application and meets the requirements of the TAPE.

Permittees shall prepare Quality Assurance Project Plans (QAPP's) consistent with Ecology guidance (Publication #04-03-030) and shall use appropriate sections of "Guidance for Evaluating Emerging Stormwater Treatment Technologies" (Publication Number 02-10-037) - <u>or its updated version if published before the issuance date of this permit</u> – including the "Technology Assessment Protocol-Ecology (TAPE) for preparing, implementing, and reporting on the results of the BMP evaluation program. Because these are significant monitoring efforts with significant costs, it is advisable that QAPP's be reviewed and approved before being implemented. This should help reduce time and cost wasted on monitoring activities that won't be accepted or prove useful. Ecology is exploring alternatives to "discrete flow composite sampling," as described in the TAPE, for treatment BMP's that involve long residence times. Ecology will share those alternatives and gain input from the permittees and other interested parties before publishing an update to Publication Number 02-10-037.

Ecology is also proposing that permittees collect additional data, consistent with the recommendations in the "National Stormwater BMP Data Base Requirements." Addition of that data may help the national data base improve to the point that it can provide constructive observations and recommendations to modify our designs, goals, monitoring methods, etc.

Ecology has developed a cost estimate of the field and laboratory work that will be necessary to meet this monitoring requirement. As noted above, an assumption of 28 paired samples was used to make this estimate. The estimate assumed only 1 paired sample per captured runoff event. For short detention, flow-rate based BMP's, it is possible to get more than 1 sample pair per event.

Hydrology Monitoring:
There is new interest in using various low impact development practices for new developments and for retrofitting into existing developments. We need to establish a feedback loop for documenting designs that have promise for long-term functionality, and for documenting the extent to which they can reduce surface water runoff volumes and flow rates. There are not commonly accepted field monitoring protocols for measuring LID project functionality and effectiveness. Seattle has a surface water monitoring effort for its Broadview/Green Grid project and a surface and groundwater

monitoring effort for its High Point project. The Washington State University Cooperative Extension Office in Tacoma is monitoring surface and groundwater flows at a site near the Pierce/King County line.

A one-size fits all monitoring protocol doesn't seem a likely approach. So, Ecology is open to suggestions in this draft for minimum field and statistical requirements for hydrologic monitoring. Possibilities include: paired monitoring of flow from adjacent sites; one with an LID feature and one without. Paired monitoring of adjacent subdivision sites; one with multiple LID features and one without. Monitoring the surface runoff from a developed area before and after retrofitting an LID feature. In all cases, it is likely that a long-term monitoring station is necessary in order to record flows and water surface elevations over an extended range of precipitation and soil moisture conditions. Monitoring results may be used to improve the methods by which LID features are represented in predictive runoff models for determining treatment and flow control needs.

Collaboration and Multi-purpose Monitoring Sites:
Ecology will allow municipalities to collaborate on monitoring. Different types of collaboration are possible. It could involve hiring the same third party to perform some part or all of the monitoring efforts. It could entail sharing staff and equipment, laboratory facilities or contracts, or monitoring sites. Ecology is also open to the possibility of coordinating meetings of the permittees to reach agreement on monitoring details that will affect everyone's effort.

A permittee may also seek to identify a monitoring site that can be used to meet more than one permit requirement. For instance, it may be possible to identify an influent monitoring station for a treatment BMP that could also double as a site for monitoring stormwater quality. The sampling protocol would have to be reviewed to assure both monitoring requirements are met.

Monitoring Program Reporting Requirements
This permit requires an annual report of monitoring data collected during the previous year. The permit specifies the data to be reported for each section of the monitoring program. The federal stormwater rules at 40 CFR 122.42(c) require an annual summary of monitoring data, and identification of water quality improvements or degradation. In addition, Ecology has requested a description of any other stormwater monitoring programs. This information is needed to stay aware of all available information about stormwater in the watershed

<u>S9 – Reporting Requirements</u>

A. The federal stormwater rules at 40 CFR 122.42(c) require municipal stormwater permittees to submit an annual report. Ecology included the annual reporting requirement in these permits, and modifications were made to clarify what is requested from permittees and to make the reporting requirements consistent with other provisions in the permits.

B. The items for inclusion in the annual report have been modified from the federal requirements for the following reasons:

- Additional clarification is provided on what is to be included in the portion of the report on the status of implementing the components of the stormwater management program. Compliance with the performance standards must be addressed.

- The portion of the report on annexations and incorporation has been added by Ecology. Major annexations and incorporation could have an impact on stormwater management program implementation if large areas are taken out of the municipal stormwater permit program. Ecology believes it is reasonable to be notified of these types of changes in the permit coverage area.

- The EPA rules require reporting on annual expenditures. Ecology has provided clarification on what kind of information is required in the portion of the report on annual expenditures. The instructions for the reporting form include clarification on the tracking and reporting of expenditures.

- The requirements for a summary of enforcement actions and identification of water quality improvements or degradation are drawn from the federal rules.

- The federal requirement for information on revisions to the assessment of controls has been deleted from the annual report. The purpose of the federal requirement is to predict the effectiveness of Stormwater Management Plans in reducing pollutants discharged. Except for qualitative observations, it is not possible to estimate pollutant reductions annually without extensive monitoring of discharges. Ecology prefers the broader monitoring program outlined in S8 to estimate concentrations and loads from representative areas or basins, evaluate management actions and evaluate the effectiveness of selected Best Management Practices.

- Ecology has retained the EPA requirements to provide a summary of monitoring data as a separate monitoring report under Special Condition S8. In addition, Ecology has requested a description of any other stormwater monitoring programs. We need this information to stay aware of all available information about stormwater in the watershed.

C. To reduce the administrative burden for Ecology and permittees, Ecology has developed a standardized reporting form for all permittees. Ecology does not want the annual reporting requirement to unnecessarily take resources away from program implementation. Also, Ecology does not have staff resources to respond to voluminous annual reports. However, it is necessary to have enough

information to evaluate compliance with permit requirements and prepare the next permit.

## General Conditions:

General Conditions are based directly on state and federal law and regulations have been standardized for all municipal stormwater NPDES permits issued by the Department.

G1. Prohibits discharges that violate terms and conditions of this Permit.

G2. Requires the Permittee to operate and maintain all stormwater pollution control facilities and system with terms and condition of this Permit.

G3. Requires the Permittee notify Ecology immediately of all spills that may threat human health and environment within no later than 24 hours. In addition, spills that may cause bacterial contamination of shell fish must also reported to the State, Department of Health shellfish program.

G4. This Permit prohibits bypass unless certain conditions exist in accordance with 40 CFR 122.41(m).

G5. Requires the Permittee to allow Ecology to access the facilities and conduct inspections of the facilities and records related to this Permit in accordance with 40 CFR 122.41(i), Chapter 90.48.090 RCW, and WAC 173-220-150(1)(e).

G6. For discharges with reasonable likelihood of adversely affecting human health or the environment, this Permit requires the Permittee to take all reasonable steps to minimize or prevent any discharge in violation of this Permit.

G7. Specifies that the Permit does not convey property rights in accordance with 40 CFR 122.41(g).

G8. Prohibits the Permittee from using the Permit as a basis for violating any laws, statutes or regulations in accordance with 40 CFR 122.5(c).

G9. This Permit contains certain sets of monitoring requirements to insure compliance. The monitoring shall be based on representative samples of the discharge that must also include the actual flow. The samples shall be tested by an accredited laboratory based on certain pre-prescribed procedures and the results shall be retained by the Permittee for five years, or longer in case of enforcement or other litigations.

G10. Prohibits the reintroduction of removed substances back into the storm sewer system or to waters of the state in accordance with 40 CFR 125.3(g), Chapter 90.48.010 RCW, Chapter 90.48.080 RCW, WAC 173-220-130, and WAC 173-201A-040.

G11. Invokes severability of permit provisions in accordance with Chapter 90.48.904 RCW.

G12. Identifies conditions for revoking coverage under the general permit in accordance with 40 CFR 122.62, 40 CFR 124.5, WAC 173-226-240, WAC 173-220-150(1)(d), and WAC 173-220-190.

G13. Identifies the requirements for transfer of permit coverage in accordance with 40 CFR 122.41(l)(3) and WAC 173-220-200.

G14. Identifies conditions for revoking coverage under the general permit in accordance with 40 CFR 122.62, 40 CFR 124.5, WAC 173-226-240, WAC 173-220-150(1)(d), and WAC 173-220-190.

G15. Requires the Permittee to notify Ecology when facility changes may require modification or revocation of permit coverage in accordance with 40 CFR 122.62(a), 40 CFR 122.41(l), WAC 173-220-150(1)(b), and WAC 173-201A-060(5)(b).

G16. Defines appeal options for the terms and conditions of the general permit and of coverage under the Permit by an individual discharger in accordance with Chapter 43.21B RCW and WAC 173-226-190.

G17. Any person who is found guilty of willfully violating the terms and conditions of this Permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars ($10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation. Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars ($10,000) for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation. Describes the penalties for violating permit conditions in accordance with 40 CFR 122.41(a)(2).

G18. Requires the Permittee to reapply for coverage 180 prior to the expiration date of this General Permit in accordance with 40 CFR 122.21(d), 40 CFR 122.41(b), and WAC 183-220-180(2). An expired permit continues in force and effect until a new permit is issued or until Ecology cancels the Permit. Only Permittees who have reapplied for coverage under this Permit are covered under the continued permit. This section is derived from Chapter 90.48.170 RCW.

G19. Requires responsible officials or their designated representatives to sign submittals to Ecology in accordance with 40 CFR 122.22, 40 CFR 122.22(d), WAC 173-220-210(3)(b), and WAC 173-220-040(5).

G20. Requires the Permittee to retain records of all monitoring information for a minimum of five years. Such information shall include all calibration and maintenance records. 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.

G21. Requires the permittee to notify Ecology in the event that the permittee is unable to comply with the permit or is out of compliance with the permit.