

INDUSTRIAL STORMWATER GENERAL PERMIT – FACT SHEET

May 7, 2014 Public Comment Draft

The Washington State Department of Ecology is proposing to reissue the Industrial Stormwater General Permit (ISGP). The permit will replace the permit that expires on January 1, 2015. The permit authorizes stormwater discharges associated with industrial activities and a limited number of non-stormwater discharges. The permit limits the *discharge* of pollutants to surface waters under the authority of the Federal Water Pollution Control Act (U.S.C.S. 1251) and limits the discharge of pollutants to surface and ground water under the authority of Chapter 90.48 RCW. Ecology anticipates that Permittees' diligent implementation of the requirements of this permit will result in discharges that do not cause or contribute to violations of state water quality standards.

This fact sheet is a companion document to the draft National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Industrial Activities (Industrial Stormwater General Permit, or ISGP). The draft permit authorizes the discharge of stormwater, and certain conditionally authorized “non-stormwater” discharges. Discharges of process wastewater are not authorized by this permit and require a separate permit. This fact sheet explains the nature of authorized discharges, Ecology's decisions on limiting the pollutants in stormwater and non-stormwater discharges, and the regulatory and technical bases for those decisions.

The draft permit retains the existing concept of stormwater sampling, benchmarks, and escalating levels of adaptive management contained in the 2005 and 2010 ISGPs. However, certain permit conditions have been revised. The primary changes proposed in the draft are summarized in Table 1.

Table 1: Summary of Primary Changes in the Draft ISGP

Section(s)	Previous Permit	Draft Permit
S1. Permit Coverage		
S1.A Facilities required to seek permit coverage	SIC 4953: Active landfills, including, but not limited to, wood waste and inert landfills, transfer stations, open dumps, compost facilities, and land application sites, except as described in S1.C.6 or C.7.	SIC 4953: Refuse Systems, including, but not limited to, landfills, transfer stations, open dumps, and land application sites, except as described in S1.C.6 or C.7. Compost Facilities moved from SIC 4953 to SIC 38xx
S1.D Facilities excluded from permit coverage	N/A	Added: 40 CFR 449.11(a) Airports with more than 10,000 annual jet departures.
S1.D Facilities excluded from permit coverage	Facilities located on Tribal lands or facilities that discharge stormwater to receiving waters subject to water quality standards of Indian Tribes, including portions of the Puyallup River and other waters on trust or restricted lands within the 1873 Survey Area of the Puyallup Tribe of Indians Reservation.	Facilities located on “Indian Country” as defined in 18 U.S.C. §1151, except portions of the Puyallup Reservation as noted below. Indian Country includes: a. All land within any Indian Reservation notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation. This includes all federal, tribal, and Indian and non-Indian privately owned land within the reservation. b. All off-reservation Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. c. All off-reservation federal trust lands held for Native American Tribes. Puyallup Exception: Following the <u>Puyallup Tribes of Indians Land Settlement Act of 1989</u> , 25 U.S.C. §1773; the permit does apply to land within the Puyallup Reservation except for discharges to surface water on land held in trust by the federal government.
S3. Stormwater Pollution Prevention Plan		
S3.A.3 Proper Selection and Use of Stormwater Management Manuals	<i>Stormwater Management Manual</i> for Western Washington (2005 edition), for sites west of the crest of the Cascade Mountains.	<i>Stormwater Management Manual</i> for Western Washington (2012 edition), for sites west of the crest of the Cascade Mountains.

S3.B Specific SWPPP requirements; Operational Source Control; Preventative Maintenance	N/A	<p>New Language:</p> <p>Maintain ponds, tanks/vaults, catch basins, swales, filters, oil/water separators, drains, and other stormwater drainage/treatment facilities in accordance with the Maintenance Standards set forth in the applicable Stormwater Management Manual (SWMM) or other guidance documents or manuals approved in accordance with S3.A.3.c.</p>
S4. Sampling and S5. Benchmarks and Effluent Limitations		
S4.B.2 Sample Location(s)	<p>c. The Permittee shall sample each distinct point of <i>discharge</i> off-site except as otherwise exempt from monitoring as a “substantially identical outfall” per S3.B.5.b. The Permittee is required to monitor only one of the “substantially identical outfalls” if two or more outfalls discharge substantially identical effluents (based on similar industrial activities and site conditions).</p> <p>d. The exception to sampling each point of <i>discharge</i> in S4.B.2.c does not apply to any point of discharge subject to numeric effluent limitations (Conditions S5.C, S6.C & S6.D).</p>	<p>Clarification:</p> <p>c. The Permittee shall sample each distinct point of <i>discharge</i> off-site except as otherwise exempt from monitoring as a “<i>substantially identical outfall</i>” per S3.B.5.b. If applicable, the Permittee is only required to monitor benchmark parameters at one of the “substantially identical outfalls”.</p> <p>d. However, Permittees subject to numeric effluent limits must sample those parameters at each distinct point of discharge off-site.</p> <p>Definition Added: <u><i>Substantially Identical Outfall</i></u> means an outfall that shares the following characteristics with another outfall: 1) the same general industrial activities conducted in the drainage area of the <i>discharge</i> point, 2) the same <i>Best Management Practices</i> conducted in the drainage area of the outfall, 3) the same type of exposed materials located in the drainage area of the <i>discharge</i> point that are likely to be significant contributors of <i>pollutants</i> to <i>stormwater discharges</i>, and 4) the same type of impervious surfaces in the drainage area that could affect the percolation of <i>stormwater runoff</i> into the ground (e.g., asphalt, crushed rock, grass).</p>
<p>S4.B.6.c. Consistent Attainment</p> <p>S5.A.3. Benchmark and Sampling Requirements</p>	<p>Permittees monitoring more than once per quarter shall average all of the monitoring results for each parameter (except pH and “visible oil sheen”) and compare the</p>	<p>Permittees monitoring more than once per quarter shall average all of the monitoring results for each parameter (except pH and “visible oil sheen”) and compare the average value to the <i>benchmark</i> value.</p>

S5.B.2. Additional Sampling Requirements for Specific Industrial Groups	average value to the <i>benchmark</i> value.	[Clarifying Language Added:] However, if Permittees collect more than one sample during a 24-hour period, they must first calculate the <i>daily average</i> of the individual grab sample results collected during that 24-hour period; then use the <i>daily average</i> to calculate a quarterly average.
S5.B. Table 3: Additional Benchmarks and Sampling Requirements Applicable to Specific Industries	N/A	Add: Petroleum Hydrocarbons (Diesel Fraction); 10 mg/L Benchmark; NWTPH-Dx Affected Facilities: Air Transportation (SIC 45xx), and Transportation (40xx – 44xx, except 4221-25), Petroleum Bulk Stations and Terminals (5171)
S5.C Landfills and Airports Subject to Effluent Limitation Guidelines	N/A	Add: Ammonia (Total as N); 14.7 mg/L Maximum Daily Limit Affected Facilities: Airports with 1,000+ annual jet departures that use urea-containing deicing products
S6. Discharges to Impaired Waterbodies		
S6.C. Additional Sampling Requirements and Effluent Limits for Discharges to Certain Impaired Waterbodies and Puget Sound Sediment Cleanup Sites	N/A	[Clarifying Language Added:] If an outfall is subject to an impaired waterbody effluent limit (Condition S6.C) for a parameter that also has a benchmark (Condition S5), the effluent limit supersedes the benchmark
S6.C. Additional Sampling Requirements and Effluent Limits for Discharges to Certain Impaired Waterbodies and Puget Sound Sediment Cleanup Sites	N/A	Add: Total Suspended Solids (TSS); 30 mg/L Maximum Daily Limit Also subject to additional storm drain line cleaning BMPs, solids sampling, and reporting. (See ISGP Condition S6.C) Affected Facilities: Facilities discharging to Puget Sound Sediment Cleanup Sites: Bellingham Bay, Budd Inlet (Inner), Commencement Bay (Inner), Commencement Bay (Outer), Dalco Passage and East Passage, Duwamish Waterway, Eagle Harbor, Elliot Bay, Everett/Port Gardner, Hood

		Canal (North), Liberty Bay, Port Angeles Harbor, Rosario Strait, Sinclair Inlet, and Thea Foss Waterway.
S6.D. Requirements for Discharges to Waters with Applicable TMDLs	N/A	[Clarifying Language Added:] If an outfall is subject to a TMDL-related effluent limit (Condition S6.D) for a parameter that also has a benchmark (Condition S5), the effluent limit supersedes the benchmark
S8. Corrective Actions		
S8. C. Level Two Corrective Actions – Structural Source Control BMPs	N/A	[Clarifying Language Added:] While a time extension is in effect, benchmark exceedances (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions.
S8.D. Level Three Corrective Actions – Treatment BMPs	(See ISGP Condition S8.D)	[Summary:] Deleted requirement for professional engineer, etc. to design/stamp SWPPP from S8.D.2; New engineering report and O&M Manual language added to S8.D.3. <u>(See ISGP Condition S8.D)</u> [Clarifying Language Added:] While a time extension is in effect, benchmark exceedances (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions.
S9. Reporting and Recordkeeping		
S9.A Discharge Monitoring Reports	N/A	[Summary:] DMRs and other ISGP reports must be submitted electronically (Water Quality Permitting Portal), unless waiver granted.
S9.B. Annual Reports	N/A	[Clarifying Language Added:] Annual Reports are not required if the permittee didn't have permit coverage during the previous calendar year.
S9.B. Annual Reports	N/A	[Clarifying Language Added:] Primary airport permittees with at least 1,000 annual jet departures shall include a certification statement in each annual report that it does not use <i>airfield deicing</i> products that contain urea. Alternatively, permittees shall meet the numeric effluent limit for ammonia in Condition S5.C. Table 5.

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INTRODUCTION

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. The National Pollutant Discharge Elimination System (NPDES) permit program is one of the mechanisms for achieving the goals of the CWA. The NPDES Permit program is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the state of Washington on the basis of Chapter 90.48 RCW. Chapter 90.48 RCW defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

State regulations specify procedures for issuing general permits (Chapter 173-226 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 173-200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that Ecology issue a permit before allowing discharge of wastewater to waters of the state. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the draft permit. WAC 173-226-110 requires the preparation of a draft permit and an accompanying fact sheet before issuing a general permit under the NPDES permit program. The fact sheet and draft permit are available for review (see Appendix A—Public Involvement of the fact sheet for more detail on the Public Notice procedures).

After the public comment period has closed, The Department of Ecology (Ecology) will summarize the substantive comments and respond to each comment. The summary and response to comments will become part of the administrative record. Parties submitting comments will receive a copy of Ecology's response. Ecology will summarize comments and the resultant changes to the draft permit in Appendix D—Response to Comments.

BACKGROUND INFORMATION

DESCRIPTION OF PERMIT

History

The Washington State Department of Ecology (Ecology) first issued a baseline stormwater general permit for stormwater discharges on November 18, 1992. The general permit covered both industrial and construction activities. When reissued in 1995, Ecology separated the construction and industrial permits. Ecology issued the Industrial Stormwater General Permit (ISGP) on November 18, 1995 with an expiration date of November 18, 2000.

Ecology reissued the ISGP on October 4, 2000. The permit, which became effective on November 18, 2000, had no substantive changes from the 1995 permit. Only changes that made the permit consistent with the revised timeframe were made. The reissued permit became effective on November 18, 2000 with an expiration date of November 18, 2005. However, Ecology fully intended to revise and replace this permit before the expiration date to incorporate the newly-issued Phase II stormwater regulations. The intent was to reissue the permit before March 10, 2003.

A Notice of Appeal was filed on November 17, 2000 by a coalition of environmental groups. The Association of Washington Business (AWB) filed a motion to intervene and became party to the case. In response to the litigation, Ecology altered its approach to revising the permit. Ecology did not conduct a formal public process to examine stormwater issues associated with the reissued permit. However, Ecology examined the issues raised by the appeal, and issues and proposals made by parties to the appeal. Ecology also consulted with staff responsible for managing the coverage of facilities under the permit. Ecology made revisions to address these issues and to implement EPA's Phase II Storm Water Regulations.

On August 21, 2002, Ecology issued the next version of the ISGP. The permit was appealed to the Pollution Control Hearings Board (PCHB) by Snohomish County, the Boeing Company, and a coalition of environmental groups. The AWB later joined the appeal as an intervening party. Eight of the 11 appeal issues were settled through negotiations or dismissed by the PCHB. During the fall and early winter of 2003, Ecology, the AWB, and the environmental groups made several attempts to reach a negotiated settlement on the remaining three appeal issues.

Early in the 2004 state legislative session, the business community introduced legislation in both the Senate and the House in an attempt to resolve the ongoing appeal of the ISGP. Eventually, the Senate and the House passed Engrossed Substitute Senate Bill 6415 (ESSB 6415), and the bill was signed into law by the governor on March 31, 2004. The passage of ESSB 6415 lead directly to an agreement between the AWB, the environmental groups, and Ecology to drop the on-going permit appeal and to proceed with the modification of the ISGP which incorporated the settlement agreements reached between Ecology and the appealing parties, the PCHB's rulings, and some of the provisions of ESSB 6415. Ecology issued the modified permit on December 1, 2004 to address the settlement agreements and legislation. The 2004 ISGP was reissued without changes on August 15, 2007, and October 15, 2008.

On October 16, 2009, Ecology issued the next version of the ISGP, which went into effect January 1, 2010. The permit incorporated lessons-learned from the previous permit cycles, and new science regarding benchmarks; and streamlined monitoring and reporting requirements. Upon issuance, multiple parties (business and environmental) filed appeals of the 2010 ISGP:

The appeals were consolidated as PCHB Nos. 09-135 through 09-141. The PCHB identified seventy-one (71) legal issues which governed the proceedings. The PCHB entered seven Orders on Summary Judgment addressing many of the legal issues raised by the parties, while requiring others to proceed to hearing. After the completion of motion practice, thirty-one (31) issues remained for hearing, which was held January 24 - February 3, 2011, at the PCHB's office in Tumwater, Washington. On April 21, 2011, the PCHB issued *PCHB Nos. 09-135 through 09-141 Findings of Fact, Conclusions of Law, and Order*. The order largely affirmed the ISGP conditions, but directed Ecology to modify conditions related to sampling (consistent attainment) and corrective actions.

On May 16, 2012, Ecology modified the ISGP, which went into effect July 1, 2012 (current permit). The modification addressed PCHB Nos. 09-135 through 09-141; revised effluent limits for discharges to fecal coliform impaired waterbodies; and corrected errors. The current permit expires January 1, 2015. In this fact sheet, the terms "current permit" and "previous permit" mean the 2010 ISGP that was modified in 2012, with an expiration date of January 1, 2015.

General Permit Approach

Ecology has determined that the general permit approach to regulate industrial stormwater is appropriate for the following reasons:

- A general permit is the most efficient method to handle the large number of industrial stormwater permit applications;
- The application requirements for coverage under a general permit are far less rigorous than individual permit application requirements and more cost effective;
- A general permit is consistent with EPA's four-tier permitting strategy, the purpose of which is to use the flexibility provided by the Clean Water Act in designing a workable and reasonable permitting system; and,
- A general permit is an efficient method to establish the essential regulatory requirements that are appropriate for a broad spectrum of industrial facilities with similar pollutant-generating activities.

In most cases, the draft general permit will provide sufficient and appropriate stormwater management requirements for discharges of stormwater from industrial sites.

SOURCES OF STORMWATER POLLUTANTS

Stormwater may become contaminated by industrial activities as a result of contact with materials stored outside, spills and leaks from equipment or materials used onsite, contact with materials during loading, unloading or transfer from one location to another, and from airborne contaminants.

Many of the potential pollutants in stormwater discharges are industry specific but there are also significant commonalities among various industrial activities. Motorized equipment, cars, trucks, and heavy equipment are typically used at industrial sites. They represent a source of contamination by petroleum products and metals that are common to most facilities with coverage under this permit. Industrial activities are typically associated with impervious surfaces and the collection of dirt and other debris that stormwater may mobilize. This can result in high levels of suspended solids and turbidity in the stormwater discharge. Metals are also common contaminants at industrial sites. Sources of metals pollution include oils and lubricants from motor vehicles and equipment, tire dust, brake pad dust, raw material and products, and exposed galvanized metal surfaces on buildings, fences, and equipment.

STORMWATER CHARACTERIZATION BY INDUSTRIAL SECTOR

The US Environmental Protection Agency (EPA) has published an Industrial Stormwater Fact Sheet Series that provides a summary of the common activities, pollutant sources, and associated pollutants for the industrial sectors covered under EPA's Multisector General Permit, and Ecology's ISGP. The industrial sectors are based on the definition of "stormwater discharge associated with industrial activity" found at 40 CFR 122.26 (b)(14)(i)-(ix), (xi). Most sectors are based on a facility's [Standard Industrial Classification \(SIC\) code](#). A SIC code describes a broad sector of industries with a similar type of product or purpose. A SIC code group is denoted by a four-digit alphanumeric code. For more detailed information about SIC codes, please refer to the Standard Industrial Classification Manual, 1987. The EPA Industrial Stormwater Fact Sheets are available online: <http://cfpub2.epa.gov/npdes/stormwater/swsectors.cfm>, and are incorporated into this fact sheet by reference.

Appendix C contains statistical summaries of the DMRs submitted by ISGP facilities during the previous permit cycle. These data were initially entered into Ecology's Permit and Reporting Information System (PARIS) database. The data characterize stormwater sampling conducted by permittees over 4 years (16 quarters); the first quarter of 2010 through the 4th quarter of 2013. Appendix C – Summary of 2010-2013 DMR Data contains tables that are grouped by industrial sectors and SIC codes. The sector-specific summary tables indicate the mean (average), minimum, median and maximum concentrations for each pollutant parameter analyzed. While the mean and median values are both provided in the summary tables, Ecology considers the median to be a better measure of central tendency, because DMR data is not normally distributed.

PERMIT STATUS AND SUMMARY OF COMPLIANCE WITH THE EXISTING PERMIT

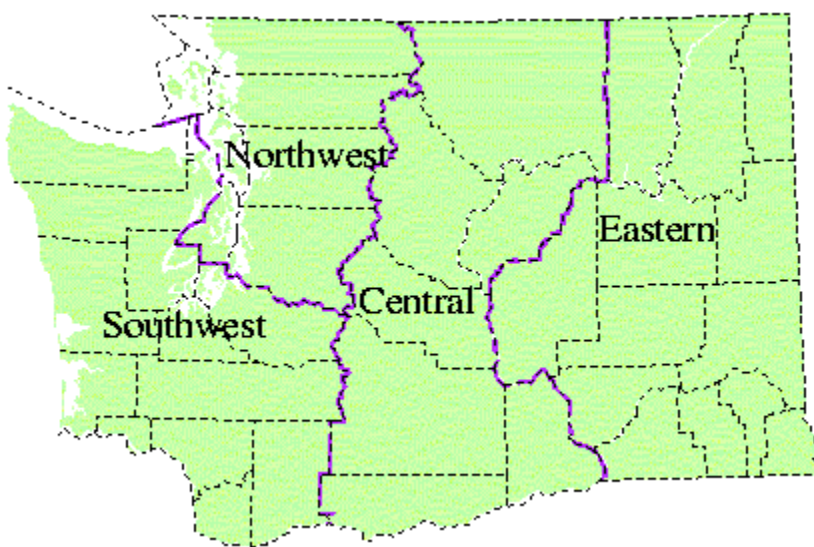
The existing ISGP became effective on January 1, 2010, and was modified on May 16, 2012 (effective July 1, 2012). The ISGP required Permittees to develop and implement a stormwater pollution prevention plan (SWPPP), in accordance with the Stormwater Management Manuals (or equivalent) and the ISGP. The ISGP required Permittees to manage stormwater through best management practices (BMPs) including, but not limited to, applicable (mandatory) BMPs. BMPs must be sufficient to assure that the discharge of stormwater does not cause or contribute to violations of water quality standards. Permittees are required to conduct stormwater sampling and analysis, and conduct corrective actions (additional BMPs) when benchmarks are exceeded. Failure to implement required corrective actions are permit violations. Certain facilities are

subject to numeric effluent limitations related to Effluent Limitation Guidelines, or discharges to impaired waterbodies; when numeric effluent limits are exceeded, they are permit violations.

As of April 23, 2014, Ecology has 1,158 facilities covered under this permit. Table 2 summarizes the number of Permittees by Ecology region.

Table 2: Distribution of Permittees by Ecology Region

Ecology Region	No. of Permittees
Northwest	520
Southwest	535
Central	70
Eastern	29



In May 2010, Ecology determined that approximately 40 percent of Permittees were not submitting discharge monitoring reports (DMRs) in a typical quarterly reporting period. Ecology has used several methods including: non-compliance letters sent via USPS and certified mail, email notifications, phone calls, and penalties to decrease the percentage of facilities not submitting DMRs to just over 10 percent.

Since 2010, Ecology has sent 1496 non-compliance notifications (both USPS and certified mail) and issued 38 penalties for failure to submit DMRs. However, DMR submittal rates without non-compliance notifications remain around 70 percent, only increasing to approximately 90 percent after non-compliance notifications are sent. In an effort to improve compliance rates, Ecology launched WQWebPortal on April 18, 2010, which allows permittees to submit monitoring data online.

Ecology inspections play an important role in assuring compliance with ISGP requirements. During the current permit cycle (January 1, 2010 through April 24, 2014), Ecology staff conducted 1,534 ISGP inspections at 891 unique facilities. Announced and unannounced

inspections have documented that many facilities are not in compliance with permit conditions. Ecology often conducts follow-up inspections to determine if documented permit violations have been corrected.

40 CFR 122.41(a) requires the Permittee to comply with all conditions of this permit, however field inspections and reviews of reporting requirements (e.g., DMRs, Annual Reports) have revealed that many facilities are not complying with permit conditions. Permittees that violate permit conditions are subject to enforcement. Enforcement actions can range from the most severe (civil penalty) to least formal (warning letter). During the current permit cycle (January 2010 - March 2014), Ecology initiated more than 3,500 formal or informal enforcement actions. The number of actions may not be conclusive because all informal enforcement actions may not be entered into Ecology's database. Table 3 summarizes enforcement actions taken by Ecology.

**Table 3: Summary of Enforcement Actions, by Type,
January 2010 – March 2014**

Type of Action	Number of Actions
Informal	3,278
Civil penalty	35
Administrative order	29
Notice of violation	8
Notice of correction	178

SEPA COMPLIANCE

New facilities must demonstrate compliance with the State Environmental Policy Act, SEPA (Chapter 43.21C RCW), before permit coverage can be authorized. Permit modification also requires SEPA compliance, and additional SEPA review may be necessary if the modification falls outside of the scope of the initial SEPA evaluation of industrial siting and activities.

Any existing facility planning a significant process change must submit a new application for coverage to modify their permit. With this submittal they must also demonstrate that the proposed change has complied with SEPA review. A significant process change for industries covered under this permit may cause a change in the nature of pollutants in the stormwater or an increase in the volume of stormwater. Therefore, any change in facility activities or procedures that would alter the types or concentration of pollutants in the stormwater discharge such as by adding a new industrial activity (SIC) that was not previously covered will require modification of permit coverage. Any change that would add additional impervious surface or acreage increasing stormwater discharge by 25 percent or more requires modification of permit coverage. Facilities must demonstrate compliance with SEPA and must apply for modification of coverage at least 60 days before implementing any significant process change.

DRAFT PERMIT LIMITATIONS

Introduction to Legal Requirements For Limitations to Control Pollutants in Discharges

Section 502(11) of the CWA defines “effluent limitation” as *any restriction on the quantity, rate, and concentration of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance*. Effluent limitations are among the permit conditions and limitations prescribed in NPDES permits issued under Section 402(a) of the Act, 33 U.S.C. §1342(a).

Types of Effluent Limitations: Technology-Based & Water-Quality Based

The CWA requires that discharges from existing facilities, at a minimum, meet technology-based effluent limitations reflecting, among other things, the technological capability of permittees to control pollutants in their discharges which are economically achievable. State laws (RCW 90.48.010, 90.52.040 and 90.54.020) require the use of “all known, available and reasonable methods of prevention, control and treatment” (AKART).

Water quality-based effluent limitations (WQBELs) are required by CWA Section 301(b)(1)(C) and, in Washington State, are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (40 CFR 131.36). The more stringent of these two limits (technology or water quality-based) must be chosen for each of the parameters of concern, and implemented through NPDES permits. [CWA sections 301(a) and (b)].

Effluent limitations in NPDES permits may be expressed as numeric or non-numeric standards. Under EPA’s regulations, non-numeric effluent limits are authorized in lieu of numeric limits, where “[n]umeric effluent limitations are infeasible.” [40 CFR 122.44(k)(3).] Courts have recognized that there are circumstances when numeric effluent limitations are infeasible and have held that EPA may issue permits with conditions (e.g., Best Management Practices or “BMPs”) designed to reduce the level of effluent discharges to acceptable levels:

Natural Res. Def. Council, Inc. v. EPA, 673 F.2d 400, 403 (D.C. Cir. 1982) (noting that “section 502(11) defines ‘effluent limitation’ as ‘any restriction’ on the amounts of pollutants discharged, not just a numerical restriction”; holding that section of CWA authorizing courts of appeals to review promulgation of “any effluent limitation or other limitation” did not confine the court’s review to the EPA’s establishment of numerical limitations on pollutant discharges, but instead authorized review of other limitations under the definition) (emphasis added).

In *Natural Res. Def. Council, Inc. v. Costle*, 568 F.2d 1369 (D.C. Cir. 1977), the D.C. Circuit stressed that when numerical effluent limitations are infeasible, EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels.

TECHNOLOGY-BASED LIMITATIONS

Types of Technology-Based Effluent Limitations

Technology-based effluent limitations are in many cases established by EPA in regulations known as effluent limitations guidelines, or “ELGs.” EPA establishes these regulations for specific industry categories or subcategories after conducting an in-depth analysis of that industry.¹

The Act sets forth different standards for the effluent limitations based upon the type of pollutant or the type of permittee involved.

The CWA establishes two levels of pollution control for existing sources. In the first stage, existing sources that discharge pollutants directly to receiving waters were initially subject to effluent limitations based on the “best practicable control technology currently available” or “BPT.” 33 U.S.C. § 1314(b)(1)(B). BPT applies to all pollutants. In the second stage, existing sources that discharge conventional pollutants are subject to effluent limitations based on the “best conventional pollutant control technology,” or “BCT.” 33 U.S.C. §1314(b)(4)(A); see also 40 C.F.R. §401.16 (list of conventional pollutants) while existing sources that discharge toxic pollutants or “nonconventional” pollutants (*i.e.*, pollutants that are neither “toxic” nor “conventional”) are subject to effluent limitations based on “best available technology economically achievable,” or “BAT.” 33 U.S.C. §1311(b)(2)(A); see also 40 C.F.R. §401.15 (list of toxic pollutants).

The factors to be considered in establishing the levels of these control technologies are specified in section 304(b) of the CWA and EPA’s regulations at 40 CFR §125.3.

All NPDES permits are required to consider technology-based limitations (water quality-based effluent limitations may be more stringent). 40 CFR §§122.44(a)(1) and 125.3. CWA sections 301(b)(1)(A) for (BPT); 301(b)(2)(A) for (BAT); and 301(b)(2)(E) for (BCT). Technology-based limits in this permit represent the BPT (for conventional, toxic, and non-conventional pollutants), BCT (for conventional pollutants), and BAT (for toxic pollutants and non-conventional) levels of control for the applicable pollutants. When EPA has not promulgated effluent limitation guidelines for an industry, or if an operator is discharging a pollutant not covered by the effluent guideline, permit limitations may be based on the best professional judgment (BPJ, sometimes also referred to as “best engineering judgment”) of the permit writer. 33 U.S.C. § 1342(a)(1); 40 CFR 125.3(c). See *Student Public Interest Group v. Fritzsche, Dodge & Olcott*, 759 F.2d 1131, 1134 (3d Cir. 1985); *American Petroleum Inst. v. EPA*, 787 F.2d 965, 971 (5th Cir. 1986). For this permit, most of the technology-based limits are based on BPJ decision-making because no ELG applies. However, the permit also includes technology-based limits based on the stormwater-specific ELGs, where applicable (*i.e.*, certain landfills and airports).

¹ Where EPA has not issued effluent guidelines for an industry, EPA and State permitting authorities establish effluent limitations for NPDES permits on a case-by-case basis based on their best professional judgment. See 33 U.S.C. § 1342(a)(1); 40 C.F.R. § 125.3(c)(2).

Authority to Include Non-Numeric Technology-Based Limits in NPDES Permits

Under EPA's regulations, non-numeric effluent limits are authorized in lieu of numeric limits, where "[n]umeric effluent limitations are infeasible." 40 CFR 122.44(k)(3). As far back as 1977, courts have recognized that there are circumstances when numeric effluent limitations are infeasible and have held that EPA may issue permits with conditions (e.g., Best Management Practices or "BMPs") designed to reduce the level of effluent discharges to acceptable levels. *Natural Res. Def. Council, Inc. v. Costle*, 568 F.2d 1369 (D.C.Cir.1977).

Through the Agency's NPDES permit regulations, EPA interpreted the CWA to allow BMPs to take the place of numeric effluent limitations under certain circumstances. 40 C.F.R. §122.44(k), entitled "Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs ...)," provides that permits may include BMPs to control or abate the discharge of pollutants when: (1) "[a]uthorized under section 402(p) of the CWA for the control of stormwater discharges"; or (2) "[n]umeric effluent limitations are infeasible." 40 C.F.R. § 122.44(k).

As recently as 2006, The U.S. Court of Appeals for the Sixth Circuit has once again held that the CWA does not require the EPA to set numeric limits where such limits are infeasible. *Citizens Coal Council v. United States Environmental Protection Agency*, 447 F.3d 879, 895-96 (6th Cir. 2006). The *Citizens Coal* court cited to *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486, 502 (2d Cir. 2005), stating "site-specific BMPs are effluent limitations under the CWA." "In sum, the EPA's inclusion of numeric and non-numeric limitations in the guideline for the coal remining subcategory was a reasonable exercise of its authority under the CWA."

Additionally, the Sixth Circuit cited to *Natural Res. Def. Council, Inc. v. EPA*, 673 F.2d 400, 403 (D.C.Cir.1982) noting that "section 502(11) [of the CWA] defines 'effluent limitation' as 'any restriction' on the amounts of pollutants discharged, not just a numerical restriction." EPA has substantial discretion to impose non-quantitative permit requirements pursuant to Section 402(a)(1)), especially when the use of numeric limits is infeasible. See *NRDC v. EPA*, 822 F.2d 104, 122-24 (D.C. Cir. 1987) and 40 CFR 122.44(k)(3).

Rationale for Non-Numeric Technology-Based Effluent Limits in This Permit

Numeric effluent limitations are not always feasible for industrial stormwater discharges as such discharges pose challenges not presented by the vast majority of NPDES-regulated discharges. Stormwater discharges can be highly intermittent, they are usually characterized by very high flows occurring over relatively short time intervals, and they carry a variety of pollutants whose source, nature and extent varies. See 55 FR at 48,038; 53 FR at 49,443. This is in contrast to process wastewater discharges from a particular industrial or commercial facility where the effluent is more predictable and can be more effectively analyzed to develop numeric effluent limitations.

To develop numeric technology-based effluent limitations, EPA generally obtains efficacy data concerning removals achieved from representative facilities employing the technology viewed as

representing the BAT level of control. Even in this situation, there is some variability in performance at facilities properly using the BAT levels of control and EPA is often subject to challenge that it did not sufficiently take into account the variability that occurs even in a well-controlled discharge. In other words, facilities argue that the numeric effluent limits cannot be met even when they are properly operating BAT levels of control.

The variability of effluent and efficacy of appropriate control measures makes setting uniform effluent limits for stormwater extremely difficult. There is a high level of variability among stormwater discharges, in terms of both flow rates and volumes and levels of pollutants, since the volume and quality of stormwater discharges associated with industrial activity depend on a number of factors. These factors include:

- the industrial activities occurring at the facility,
- the nature of precipitation, and
- the degree of surface imperviousness.

Due to the dissimilarity among the different industrial sectors covered by this permit, and among the individual facilities within the different industrial sectors, the sources of pollutants in stormwater discharges differ with the type of industry operation and specific facility features. For example, material storage operations may be a significant source of pollutants at some facilities, shipping and receiving areas at others, while runoff from such areas at other facilities may result in insignificant levels of pollutants. Additionally, because it is often not reasonable to use traditional wastewater treatment technologies to control industrial stormwater discharges due to the absence of a steady flow of wastewater, control measures for such discharges tend to focus on pollution prevention measures, called Best Management Practices (BMPs). In addition, the same set of pollution prevention measures or BMPs typically is not appropriate for all the different types of facilities and discharges covered by this permit. The pollutant removal/reduction efficacies of these pollution prevention and BMP-based control measures are not amenable to the type of comparative analyses conducted for non-stormwater treatment technologies and used to set numeric effluent limits.

While EPA and Ecology continue to study the efficacy of various types of pollution prevention BMPs, including emerging stormwater treatment systems, neither EPA nor Ecology has a basis for developing numeric limits that would reasonably represent a well-run application of BMPs. Because the flow and concentration of stormwater is so variable, if EPA or Ecology were to try to base numeric limits on a few sites, it is likely that any number it would develop would not to be technologically available and economically achievable by all well-run facilities.

These factors create a situation where, at this time, it is generally not feasible for EPA or Ecology to calculate numeric, technology-based effluent limitations, with the limited exception of certain effluent limitations guidelines that have already been established through EPA rulemaking. For example, covering exposed areas where feasible and cleaning them regularly where they are not covered may be an effective way of significantly reducing stormwater pollutant discharges, but the degree of pollutant reduction will be highly site-specific and cannot be generally quantified. Therefore, EPA and Ecology have determined that it is not feasible to calculate numeric, technology-based limitations for many of the discharges covered under this

general permit and, based on the authority of 40 CFR 122.44(k), has chosen to adopt non-numeric technology-based effluent limitations.

The AKART/BAT/BPT/BCT (technology-based) effluent limitations in this permit are expressed as specific pollution prevention requirements for minimizing the pollutant levels in stormwater discharges. In the context of this general permit, these requirements represent AKART and the best technologically available and economically practicable and achievable controls. Ecology has determined that the combination of pollution prevention approaches and structural management practices required by these limits are the most practical and environmentally sound way to control the discharge of pollutants in stormwater runoff. Pollution prevention (source control of pollutants) continues to be the cornerstone of the NPDES stormwater program.

Ecology has determined that permittees in full compliance with the Industrial Stormwater General Permit meet the state AKART requirements in Chapter 90.48 RCW.

Rationale for Numeric Technology-Based Effluent Limitations in this Permit

Technology-based effluent limitations are in many cases established by EPA in regulations known as effluent limitations guidelines, or “ELGs.” EPA establishes these regulations for specific industry categories or subcategories after conducting an in-depth analysis of that industry.

Ecology has determined that several categories of facilities subject to ELG or New Source Performance Standards (NSPS) Under *40 CFR* Subchapter N, or Toxic Pollutant Effluent Standards under *40 CFR* Subchapter D Part 129 should not be covered under the ISGP, as individual permits are more appropriate to address the legal and technical NPDES requirements.

In the draft ISGP, Condition S1.D., Ecology proposes to expand upon the existing list of ISGP-excluded facilities by adding “airports with more than 10,000 annual jet departures” (40 CFR 449.11.a.). However, airports with less than 10,000 annual jet departures will be considered for coverage under the ISGP, and those with 1,000 or more annual jet departures will subject to ammonia limits based on BAT and the ELG (40 CFR Parts 9 and 449).

The following categories of facilities must apply for an individual NPDES permit, or seeks coverage under an industry-specific *general permit*, if available:

40 CFR 411 Cement manufacturing	40 CFR 423 Steam electric power generating
40 CFR 412 Feedlots	40 CFR 434 Coal mining
40 CFR 418 Fertilizer manufacturing	40 CFR 436 Mineral mining and processing
40 CFR 419 Petroleum refining	40 CFR 440 Ore mining and dressing
40 CFR 422 Phosphate manufacturing	40 CFR 443 Paving and roofing materials
40 CFR 449.11(a) Airports with more than 10,000 annual jet departures.	

Non-hazardous waste landfills subject to the provisions of 40 CFR Part 445 Subpart B must comply with the applicable EPA technology-based limits. These limits are contained in Condition S5.C of the permit and are as follows:

Non-hazardous Waste Landfills

Table 4: Effluent Limitations Applicable to Non-Hazardous Waste Landfills

Parameter	Units	Average Monthly ^a	Maximum Daily ^b	Analytical Method ^c	Laboratory Quantitation Level ^d	Minimum Sampling Frequency ^e
BOD ₅	mg/L	37	140	EPA 405.1 or SM 5210B	2	1/quarter
TSS	mg/L	27	88	SM2540-D	5	1/quarter
Total Ammonia (as N)	mg/L	4.9	10	SM4500-NH3-GH.	0.3	1/quarter
Alpha Terpineol	µg/L	16	33	EPA 625	5	1/quarter
Benzoic Acid	µg/L	71	120	EPA 625	50	1/quarter
p-Cresol	µg/L	14	25	EPA 8270D	Not established	1/quarter
Phenol	µg/L	15	26	EPA 625	4.0	1/quarter
Zinc, Total	µg/L	110	200	EPA 200.8	2.5	1/quarter
pH	SU	Between 6.0 and 9.0		Meter/Paper ^e	±0.1	1/quarter

^a The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. If only one sample is taken during the calendar month, the average monthly effluent limitation applies to that sample. If only one sample is taken during the reporting period, the average monthly effluent limitation applies to that sample.

^b The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day; this does not apply to pH.

^c Or other equivalent EPA-approved method with the same or lower quantitation level.

^d The Permittee shall ensure laboratory results comply with the quantitation level specified in the table.

^e 1/quarter means 1 sample taken each quarter, year-round.

Airports with 1,000 or more annual jet departures are subject to new EPA technology-based numeric effluent limits for ammonia based on BAT and ELGs (40 CFR Parts 9 and 449).²

Condition S5.C requires permittees operating airlines and airports subject to provisions of 40 CFR Parts 9 and 449 shall comply with the following:

- a. *Airfield Pavement Deicing*. Existing and new primary airports with 1,000 or more annual jet departures (*annual non-propeller aircraft departures*) that discharge wastewater associated with *airfield pavement deicing* commingled with stormwater must either use non-urea-containing deicers³, or meet the effluent limit in Table 5 at every discharge point, prior to any dilution or any commingling with any non-*deicing* discharge.

² Effluent Limitations Guidelines and New Source Performance Standards for the Airport Deicing Category; Final Rule. Federal Register / Vol. 77 , No. 95 / Wednesday, May 16, 2012 / Rules and Regulations

³ Affected permittees must certify in its annual report that it does not use *airfield deicing* products that contain urea, or meet the numeric limit in Table 5 (Condition S9.B.4).

Table 5: Effluent Limit Applicable to Airports Subject to 40 CFR Parts 9 and 449

Parameter	Units	Maximum Daily^a	Analytical Method^b	Laboratory Quantitation Level^c	Minimum Sampling Frequency^d
Total Ammonia (as N)	mg/L	14.7	SM4500- NH3-GH.	0.3	1/quarter

^{a.} Maximum daily effluent limit means the highest allowable daily discharge. The daily *discharge* means the *discharge of a pollutant* measured during a calendar day. The daily discharge is the average measurement of the *pollutant* over the day.

^{b.} Or other equivalent EPA-approved method with the same or lower *quantitation level*.

^{c.} The Permittee shall ensure laboratory results comply with the *quantitation level* (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method it must report the test method and QL on the discharge monitoring report.

^{d.} 1/quarter means one sample taken each quarter, year-round.

SURFACE WATER QUALITY LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-510 states that waste discharge permits shall be conditioned such that the discharges authorized will meet the water quality standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin-wide total maximum daily loading study (TMDL).

Numerical Criteria for the Protection of Aquatic Life

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the maximum levels of pollutants allowed in receiving waters to be protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in a discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a discharge permit.

Numerical Criteria for the Protection of Human Health

The EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (40 CFR 131.36). These criteria are designed to protect humans from cancer and other diseases, primarily from fish and shellfish consumption and drinking water from surface waters. Because most human health-based criteria are based on lifetime exposures, direct comparisons of receiving water criteria with pollutant concentrations in intermittent stormwater discharges are not appropriate. This and the high variation in stormwater pollutant concentrations and discharge volumes, both between storms and during a single storm, make the application of human health criteria to stormwater particularly problematic.

Based on the authority of 40 CFR 122.44(k)(3), Ecology is requiring the implementation of best management practices to control or abate pollutants because it is infeasible to derive appropriate numeric effluent limits for the human health criteria.

Narrative Criteria

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-260) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh water (WAC 173-201A-200) and marine water (WAC 173-201A-210) in the state of Washington.

Ecology must consider the narrative criteria described in WAC 173-201A-260 when it determines permit limits and conditions. Narrative water quality criteria limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge which have the potential to adversely affect designated uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health.

Ecology considers narrative criteria when it evaluates the characteristics of the wastewater and when it implements all known, available, and reasonable methods of treatment and prevention (AKART) as described above in the technology-based limits section. When Ecology determines if a facility is meeting AKART it considers the pollutants in the wastewater and the adequacy of the treatment to prevent the violation of narrative criteria.

Antidegradation

The purpose of Washington's Antidegradation Policy (WAC 173-201A-300-330) is to:

- Restore and maintain the highest possible quality of the surface waters of Washington.
- Describe situations under which water quality may be lowered from its current condition.
- Apply to human activities that are likely to have an impact on the water quality of surface water.
- Ensure that all human activities likely to contribute to a lowering of water quality, at a minimum, apply all known, available, and reasonable methods of prevention, control, and treatment (AKART).
- Apply three tiers of protection (described below) for surface waters of the state.

Tier I ensures existing and designated uses are maintained and protected and applies to all waters and all sources of pollutions. Tier II ensures that waters of a higher quality than the criteria assigned are not degraded unless such lowering of water quality is necessary and in the overriding public interest. Tier II applies only to a specific list of polluting activities. Tier III prevents the degradation of waters formally listed as "outstanding resource waters," and applies to all sources of pollution.

Tier I and Tier II are considered in this permit. Ecology has determined that no ISGP-covered facilities discharge to Tier III waters.

Tier I – Protection and Maintenance of Existing and Designated Uses (WAC 173-301A-310) states:

(1) Existing and designated uses must be maintained and protected. No degradation may be allowed that would interfere with, or become injurious to, existing or designated uses, except as provided for in this chapter.

(2) For waters that do not meet assigned criteria, or protect existing or designated uses, the department will take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards.

(3) Whenever the natural conditions of a water body are of a lower quality than the assigned criteria, the natural conditions constitute the water quality criteria. Where water quality criteria are not met because of natural conditions, human actions are not allowed to further lower the water quality, except where explicitly allowed in this chapter.

[Statutory Authority: Chapters [90.48](#) and [90.54](#) RCW. WSR 03-14-129 (Order 02-14), § 173-201A-310, filed 7/1/03, effective 8/1/03.]

To comply with Tier I, the draft ISGP applies water quality-based limitations to industrial stormwater discharges, as discussed later in this section.

To comply with Tier II, the draft ISGP proposes to continue implementing the Tier II Antidegradation Plan that was reviewed by the Pollution Control Hearings Board and affirmed in on April 25, 2011 in *Findings of Fact, Conclusions of Law, and Order PCHB Nos. 09-135 through 09-141*, excerpted below:

“After hearing on the merits, the Board concludes that Ecology has complied with the Tier II antidegradation requirements, and that the previously issued Stay should be dissolved. In 2009, after discontinuance of the TAPE program, the Legislature directed Ecology to create a Stormwater Technical Resource Center to provide tools for stormwater management, as funding becomes available. RCW 90.48.545. Initial funding has allowed this effort to proceed through TAPE, and the process described in the original Fact Sheet and public notice has resumed after an initial delay. We also give deference to Ecology’s interpretation of WAC 173-201A-320(6) and how it should be applied in the context of general permits. It is reasonable and valid for Ecology to conclude that this rule allows the adaptive management scheme of the permit, combined with regular updates of the SWMM which capture new and emerging technologies, to stand as the method to comply with antidegradation requirements in the general permit context.”

Tier II Antidegradation Plan

Background: Federal regulations and the Water Quality Standards for Surface Waters of the State of Washington establish a water quality antidegradation program. WAC 173-201A-320 contains the Tier II antidegradation provisions for the state’s surface water quality standards: <http://apps.leg.wa.gov/WAC/default.aspx?dispo=true&cite=173-201A-320>

A Tier II analysis is required when new or expanded actions are expected to cause a measurable change in the quality of a receiving water that is of a higher quality than the criterion designated for that waterbody in the water quality standards. WAC 173-201A-320(1). WAC 173-201A-320(3) defines a measureable change as specific reductions in water quality, and defines “new or expanded actions” as “human actions that occur or are regulated for the first time, or human actions expanded such that they result in an increase in pollution, after July 1, 2003[.]” This definition includes facilities that first began to discharge pollutants, or increased the discharge of pollutants after July 1, 2003. The definition also applies to those facilities that discharged pollutants prior to July 1, 2003, but were regulated by Ecology for the first time after July 1, 2003. This Antidegradation Plan applies to those applicants for coverage under the ISGP that are subject to a Tier II antidegradation analysis.

Formal Adaptive Process to comply with WAC 173-201A-320(6):

WAC 173-201A-320(6) states that “the antidegradation requirements of this section can be considered met for general permits and programs that have a formal process to select, develop, adopt, and refine control practices for protecting water quality and meeting the intent of this section. This adaptive process must:

- (i) Ensure that information is developed and used expeditiously to revise permit or program requirements.

- (ii) Review and refine management and control programs in cycles not to exceed five years or the period of permit reissuance,
- (iii) Include a plan that describes how information will be obtained and used to ensure full compliance with this chapter. The plan must be developed and documented in advance of permit or program approval under this section.”

Permit Development Process

Ecology uses a formal process to develop and reissue the ISGP every five years. The process includes selecting, developing, adopting, and refining control practices to protect water quality and meet the intent of WAC 173-201A-320. All NPDES permits, including the ISGP, are effective for a fixed term not to exceed five years (40 CFR 122.25). Each time Ecology reissues the ISGP, it evaluates the effluent limits and permit conditions to determine if it should incorporate additional or more stringent requirements.

Ecology's evaluation includes a review of information on new stormwater pollution prevention and treatment practices. Ecology may incorporate these practices into the ISGP as permit conditions or in support of effluent limits. This approach works to reduce the discharge of pollutants incrementally during each successive new five-year permit cycle. Sources of such information include, but are not limited to:

- **Public comments and testimony** provided during the public comment period on the draft permit. Ecology encourages the public to share what is working and what is not. Ecology uses this formal public process to review and refine stormwater management and control requirements in each successive permit.
- **Ecology's Stormwater Management Manuals (SWMMs).** Ecology updates the SWMMs periodically based on new information and science. The updates include a public involvement process. The ISGP requires Permittees to select BMPs from the most recent edition of the SWMMs (or approved equivalent SWMMs). Therefore, the BMPs contained in the updated SWMMs are adopted and used expeditiously to refine and improve the effectiveness of these stormwater controls to protect water quality and meet the intent of the anti-degradation provisions in the water quality standards.
- **Technology Assessment Protocol – Ecology (TAPE) process.** This formal process involves reviewing and testing treatment technologies for eventual adoption into Ecology's Stormwater Management Manuals. The TAPE – Emerging Technologies Program of the Washington Stormwater Center [\[http://www.wastormwatercenter.org/tape/\]](http://www.wastormwatercenter.org/tape/) provides assistance to Ecology's TAPE Program by:
 - Coordinating and reviewing applications, sampling plans, and technical reports submitted to Ecology
 - Coordinating and compiling reviews by the [Board of External Reviewers \(BER\)](#)
 - Working with the [Stakeholder Advisory Group \(SAG\)](#) to revise guidance documents and provide direction and input

The TAPE process stimulates the development and use of innovative stormwater technologies, used at facilities covered under the ISGP.

- **US EPA Effluent Limitation Guidelines (ELGs)** Ecology and other NPDES permitting authorities are required to incorporate ELGs developed by the US Environmental Protection Agency (US EPA) into each general permit as it is renewed. For the draft ISGP, Ecology proposes to add new numeric effluent limits for ammonia, based on EPA's 2013 airfield pavement deicing ELG (40 CFR Parts 9 and 449). Although Ecology's NPDES permit requirements are typically more stringent than US EPA ELGs, this is another formal process used to develop, adopt, select and refine control practices for protecting water quality and meeting the anti-degradation provisions in the WQ standards.
- **Ecology stormwater staff** (inspectors, enforcement staff, permit writers and engineers) attend training and conferences, confer with regulatory agency staff nationally and locally; and review professional journals and scientific literature. Ecology conducts research on stormwater management practices and the effect of stormwater discharges on water quality. Ecology uses its expertise in the field of stormwater management to adopt and refine stormwater controls and management practices in the SWMMs and ISGP.
- **ISGP requires adaptive management.** In addition to the formal programmatic improvements to the SWMM and ISGP described above, the ISGP contains an adaptive management process. The process requires Permittees to implement timely revisions to their Stormwater Pollution Prevention Plans (SWPPPs) when stormwater discharges exceed benchmarks. As such, stormwater controls on individual projects are subject to ongoing refinement (i.e., addition of new BMPs and/or enhancement of existing BMPs) that reduces the amount of pollutants that would otherwise be discharged to receiving waterbodies.

Public Notice of the General Permit Antidegradation Plan and Individual Actions

Since Ecology has chosen to address Tier II anti-degradation in accordance with WAC 173-201A-320(6), Ecology will not perform site-specific analyses of each "new or expanded action" proposed for coverage under the permit. However, it is important that the public be able to weigh in on whether individual actions are "necessary and in the overriding public interest". The antidegradation rule establishes a refutable presumption that they do, but only through a public notice process does the general public have an opportunity to question individual actions

Ecology will require the general permit applicant's public notice to include language regarding Tier II antidegradation. Specifically, when an applicant runs the public notice per WAC 173-226-130(5), the notice will include:

- All public notice information currently required on the ISGP application form including name/location of the facility and the receiving water. For more information, refer to ISGP Application Form, Section VI: <http://www.ecy.wa.gov/pubs/ecy02084.pdf>.
- The following new statement: "Ecology will review all public comments regarding Tier II antidegradation and consider whether discharges from this facility are expected to cause a measurable change in the quality of the receiving water and, if so, whether such change is necessary and in the overriding public interest."

Critical Conditions

Surface water quality-based limits are derived for the water body's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses. The factors include the flow and background level of toxic substances in the receiving water and the flow and concentration of toxic substances in the discharge. The inherent variability of storm events and stormwater discharges add complexity to defining critical conditions. Storm events are naturally occurring and affect the characteristics of both the stormwater discharge and the receiving water body. They vary in intensity and duration; they can be isolated events or part of storm event pattern. All these factors affect flows and water quality.

Acute conditions are changes in the physical, chemical, or biological environment which are expected or demonstrated to result in injury or death to an organism as a result of short-term exposure to the substance or detrimental environmental condition. The acute criteria for metals are one-hour concentrations not to be exceeded more than once every three years. The most likely critical stormwater conditions for acute toxicity would be a high intensity short duration storm event that occurs after a long period of no rain. Under this scenario, the receiving water experiences low flows and the stormwater has a high potential to mobilize pollutants. The critical condition for acute toxicity is most likely to occur during a summer-time or early fall storm event.

Chronic conditions are changes in the physical, chemical, or biological environment which are expected or demonstrated to result in injury or death to an organism as a result of repeated or constant exposure over an extended period of time to a substance or detrimental environmental condition. The chronic criteria for metals are four-day averages not to be exceeded more than once every three years. Since chronic exposure is over several days, the “first flush” effect that occurs after a dry period is not as likely to be significant. Chronic exposure also requires storm events that result in stormwater discharge over a four-day period. However, the critical condition is still most likely to occur after the summer drought when water body flows are low. Much of the stormwater that falls in a drainage basin at the beginning of the wet season will be absorbed reducing the impact on flow in the receiving water body. During the same time the stormwater discharge off a developed site is likely to be in direct proportion to the storm event.

Due to the variability of storm events and the characteristics of stormwater discharges, the critical condition of a receiving water body is difficult to quantify. For example, after the beginning of a storm event the hardness of a stream typically decreases, depending on the intensity and duration of the storm. As the hardness of the stream decreases, the water quality criteria of some metals change and the toxicity of these metals increases. The variability of storm events makes the determination of critical conditions very difficult. Ecology believes that with the infrequent occurrence of summer storms in Washington, the critical period for stormwater discharge is in the early fall when storms are more frequent and runoff becomes more consistent. This period is approximately October 1-31.

Mixing Zones

The Water Quality Standards allow Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Ecology may authorize both "acute" and "chronic" mixing zones for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving AKART and in accordance with other mixing zone requirements of WAC 173-201A-400.

RCW 90.48.555(12) applies to this permit and addresses mixing zones. It states: "The department may authorize mixing zones only in compliance with and after making determinations mandated by the procedural and substantive requirements of applicable laws and regulations."

The applicable laws and regulations include federal Clean Water Act, RCW 90.48, WAC 173-200, WAC 173-201A, WAC 173-204, and human health based criteria in the National Toxics Rule (40 CFR 131.36).

No mixing zones are authorized in this permit. Since a general permit must apply to a number of different sites, precise mixing zones and the resultant dilution are not applicable to facilities covered under a general permit.

Any discharger may request a mixing zone through an application for an individual permit in accordance with WAC 173-220-040 or WAC 173-216-070.

Description of the Receiving Water

This draft general permit applies to facilities across the state that may discharge to many different receiving waters. Stormwater may be discharged to a municipal separate stormwater sewer system, a stormwater conveyance system such as a roadside ditch, or directly to a creek, lake, pond or other surface water body. The discharge will enter waters assigned designated uses intended to protect aquatic life and human health.

In highly urbanized areas, the discharge likely enters a collection system and commingles with other sources of stormwater before discharging to a water body. In these urbanized locations, the receiving water is likely to be more than a small creek in size but also likely to be subject to a significant number of municipal and industrial stormwater discharges. In a more suburban setting, the receiving water is not as likely to be subject to multiple municipal and industrial stormwater discharges, but is more likely to be a small creek or intermittent stream. In both cases, the potential impact of stormwater can be significant. Ecology anticipates that the diligent implementation and maintenance of BMPs identified in the Permittee's SWPPP will result in stormwater discharges that do not cause or contribute to violations of the state's Surface Water Quality Standards (Chapter 173-201A WAC).

Surface Water Quality Criteria

WACs 173-201A-200 through -260 define applicable surface water quality criteria for aquatic biota. These criteria were established to protect existing and potential uses of the surface waters of the state. Consideration was also given to both the natural water quality and its limitations. The surface water quality criteria are an important component of the state's Surface Water Quality Standards (Chapter 173-201A WAC).

Application of the surface water quality criteria to a discharge requires site-specific analysis of the discharge and the receiving water. Such analysis is not possible in a statewide general permit that covers more than 1,100 facilities. However, the criteria influenced calculation of the benchmarks for turbidity, copper, lead and zinc. See section S5. Benchmarks and Effluent Limitations of this fact sheet for a discussion of this issue.

Consideration of Surface Water Quality-Based Limits for Numeric Criteria

40 CFR Part 122.44 and RCW 90.48.555 require the permit to contain effluent limitations to control all pollutants or pollutant parameters which are, or may be, discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any water quality standard.

Based upon EPA's Nationwide Urban Runoff Program (NURP), *Evaluation of Washington's Industrial Stormwater General Permit* (2006 Herrera Evaluation), and best professional judgment, Ecology has determined that stormwater discharges may cause a violation of water quality standards for a variety of pollutant parameters. Therefore, the draft permit includes water quality-based effluent limits (WQBELs) to control discharges as necessary to meet applicable water quality standards. The provisions of Conditions S6.C & D (303(d) and TMDLs), S8 (Corrective Actions), S10.A (Compliance with Standards) and S12 (Solid Waste Management) constitute the WQBELs of this permit. These WQBELs supplement the permit's technology-based effluent limits in S3 (SWPPP), S5.C (ELGs), S5.E (Prohibited Discharges), S5.F (General Prohibitions), and S10.B (AKART).

The following is a list of the permit's WQBELs:

- Condition S6.C requires facilities that discharge to certain waterbodies listed as impaired according to Section 303(d) of the Clean Water Act to comply with water quality-based numeric and narrative effluent limitations in accordance with RCW 90.48.555(7). The draft permit also proposes numeric and narrative effluent limitations for dischargers to sediment impaired waterbodies defined as a ***Puget Sound Sediment Cleanup Site***⁴. These sites are, or will be, undergoing cleanup under the authority of the Model Toxics Control Act (MTCA) and/or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund.

⁴ ***Puget Sound Sediment Cleanup Site*** means Bellingham Bay, Budd Inlet (Inner), Commencement Bay (Inner), Commencement Bay (Outer), Dalco Passage and East Passage, Duwamish Waterway, Eagle Harbor, Elliot Bay, Everett/Port Gardner, Hood Canal (North), Liberty Bay, Port Angeles Harbor, Rosario Strait, Sinclair Inlet, and Thea Foss Waterway.

- Condition S6.D requires facilities to comply with TMDLs, including any applicable wasteload allocations.
- Conditions S5 A & B, and S8 requires facilities that exceed (water quality-based) benchmark values to implement escalating levels of source control and treatment BMPs to ensure that future discharges do not cause or contribute to violations of water quality standards.
- Condition S10.A prohibits discharges that cause or contribute to violations of Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Quality Standards (Chapter 173-200 WAC), and Sediment Management Standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR 131.36).
- Condition S12 requires facilities to prevent solid waste material or leachate from causing violations of the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Quality Standards (Chapter 173-200 WAC), and Sediment Management Standards (Chapter 173-204 WAC).

The rationale for water quality based effluent limitations in the draft permit are discussed below.

Condition S6.C. Water Quality-Based Effluent Limitations for Certain Discharges to Impaired Waters

The Washington State Water Pollution Control Act RCW 90.48.555 requires the Department of Ecology (Ecology) to develop appropriately derived water quality-based numeric effluent limitations for discharges regulated by the Industrial Stormwater General Permit (ISGP).

Specifically, RCW 90.48.555(7) states:

- (a) By November 1, 2009, except for discharges identified in (b) of this subsection, the department shall modify or reissue the industrial storm water general permit to require compliance with appropriately derived numeric water quality-based effluent limitations for existing discharges to water bodies listed as impaired according to 33 U.S.C. Sec. 1313(d) (Sec. 303(d) of the federal clean water act, 33 U.S.C. Sec. 1251 et seq.).
- (b) For pollutants other than bacteria, the industrial storm water general permit must require permittees to comply with appropriately derived numeric water quality-based effluent limitations in the permit, as described in (a) of this subsection, by no later than six months after the effective date of the modified or reissued industrial storm water general permit. By July 1, 2012, the industrial storm water general permit must require permittees with discharges to water bodies listed as impaired for bacteria to comply with nonnumeric, narrative effluent limitations.

To meet RCW 90.48.555(7)(a), Ecology applied the basic assumption that numeric effluent limitations would only be applied to facilities discharging to impaired waterbodies that were “listed” due to pollutants that are typically present in industrial stormwater discharges.

Under this assumption, water quality-based numeric effluent limitations would not be required for discharges to the following types of 303(d)-listed waterbodies:

- *Temperature.* Numeric effluent limits would not apply to dischargers to waterbodies

listed for temperature. The rationale is that temperature is a seasonal water quality problem, and considering weather patterns in Washington State, stormwater discharges typically do not occur during the late summer months when temperature impaired waterbodies are relatively warm and more susceptible to thermal loading (discharges of heated water). *Low Dissolved Oxygen*. Numeric effluent limits would not apply to waterbodies listed for low dissolved oxygen (D.O.). Low D.O. impairments are seasonal (summer) problems, while stormwater discharges in Washington commonly occur from October through April. Low D.O. impairments are typically attributed to:

- Heavy loading of nutrients (e.g., nitrogen or phosphorus) that cause excessive algae and plant growth, the decay of which depletes oxygen levels in the summer-time (eutrophication), or
- Excessive discharges of wastewater or other substances with a high biochemical oxygen demand, expressed as BOD₅ - a test to see how fast biological organisms use up oxygen in a waterbody. These kinds of pollutants have a “far field” effect – which means the demand for oxygen doesn’t occur directly where the effluent or runoff water is discharged; it occurs somewhere downstream where decomposition finally occurs. This can make it difficult to show a direct relationship between the discharge of oxygen demanding substance and a low D.O. problem without site-specific water quality modeling.
- *Fish Tissue/Bioassessment*. Numeric effluent limits would not apply to waterbodies 303(d)-listed due contaminated fish tissue (e.g., PCBs, DDT) or bioassessment (surveys of benthic invertebrate communities). It would be extremely difficult to show a direct relationship between stormwater discharges and impairments due to contaminated fish tissue or bioassessment.

As described above, discharges to waterbodies listed for temperature, low dissolved oxygen, or fecal coliform bacteria would not trigger a numeric effluent limitation. In addition, 303(d) listings related to contaminated fish tissue (e.g., PCBs, DDT) or bioassessment (surveys of benthic invertebrate communities), would not trigger numeric effluent limitations. In addition, discharges to waterbodies impaired for total dissolved gas, debris, habitat, invasive species and/or instream flow do not trigger numeric effluent limitations; Ecology has determined that industrial stormwater does not cause or contribute to these types of impairments. However, facilities discharging to any other waterbodies with 303(d)-listings (Category 5) would be subject to numeric effluent limitations for the 303(d)-listed parameter (e.g., if receiving waterbody listed for total zinc, the facility would be subject to a numeric effluent limitation for total zinc), or in the case of a sediment quality impairment (Category 5 and/ or Puget Sound Sediment Cleanup Site), a numeric effluent limitation for Total Suspended Solids (30 mg/L). The technical basis for these limitations is described below.

- *pH*. Facilities with outfalls to freshwater on the 303(d) list for pH are subject to a water quality based numeric effluent limitation, applied end-of-pipe, as follows:
 - Between 6.0 and 8.5 if the 303(d) listing was for high pH only;
 - Between 6.5 and 9.0 if the 303(d) listing was for low pH only; and
 - Between 6.5 and 8.5 if the 303(d) listing was for both low and high pH.

These limitations are based upon the aquatic life criteria in WAC 173-201A-200(1)(g).

Facilities with outfalls to marine waters on the 303(d) list for pH are subject to a water quality based numeric effluent limitation of between 7.0 and 8.5, applied end-of-pipe. This effluent limitation is based on the aquatic life criteria in WAC 173-201A-210(1)(f).

- *Total Phosphorus.* Facilities with outfalls to waterbodies on the 303(d) list for Total Phosphorus are subject to a water quality based numeric effluent limitation. This effluent limitation will be derived and assigned at the time of permit coverage based upon the receiving water-specific ecoregion and trophic-state in accordance with the lake nutrient criteria in the state surface water quality standards (WAC 173-201A-230).
- *Total Copper.* Facilities with outfalls to waterbodies on the 303(d) list for Total Copper are subject to a water quality based numeric effluent limitation. This effluent limitation will be derived as the dissolved copper criteria at the time of permit coverage, based upon receiving water type (freshwater or marine) and hardness, and a total/dissolved translator factor, in accordance with WAC 173-201A-240(3), applied end-of-pipe as a “daily maximum” limit.
- *Total Zinc.* Facilities with outfalls to waterbodies on the 303(d) list for Total Zinc are subject to a water quality based numeric effluent limitation. This effluent limitation will be derived and assigned at the time of permit coverage based upon receiving water type (freshwater or marine) and hardness, and total/dissolved conversion factor, in accordance with WAC 173-201A-240(3), applied end-of-pipe as a “daily maximum” limit..
- *Total Mercury.* Facilities with outfalls to waterbodies on the 303(d) list for Total Mercury are subject to a water quality based numeric effluent limitation. This effluent limitation will be derived and assigned at the time of permit coverage based upon receiving water type (freshwater or marine), applied end-of-pipe as a “daily maximum” limit.
- *Total Ammonia.* There are currently no marine waters on the 303(d) list for total ammonia. Facilities with outfalls to fresh waters on the 303(d) list for total ammonia will be assigned a water quality based numeric effluent limitation based on the toxic substances criteria in WAC 173-201A-240 and the table below, applied end-of-pipe as a “daily maximum” limit:

ACUTE, FRESH WATER AMMONIA CRITERIA BASED ON pH. ⁵		
pH	Total Ammonia Nitrogen in mg-N/L	
	Acute Criteria with Salmonids Present	Acute Criteria with Salmonids Absent
6.5	32.6	48.8
6.6	31.3	46.8

⁵ The reference for this table is EPA, 1999, *1999 Update of Ambient Water Quality Criteria for Ammonia*, EPA 822-R-99-014.

ACUTE, FRESH WATER AMMONIA CRITERIA BASED ON pH. ⁵		
pH	Total Ammonia Nitrogen in mg-N/L	
	Acute Criteria with Salmonids Present	Acute Criteria with Salmonids Absent
6.7	29.8	44.6
6.8	28.1	42.0
6.9	26.2	39.1
7.0	24.1	36.1
7.1	22.0	32.8
7.2	19.7	29.5
7.3	17.5	26.2
7.4	15.4	23.0
7.5	13.3	19.9
7.6	11.4	17.0
7.7	9.65	14.4
7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.885	1.32

- *Pentachlorophenol*. Facilities with outfalls to waterbodies on the 303(d) list for Pentachlorophenol are subject to a water quality based numeric effluent limitation. The effluent limitation will be derived and assigned at the time of permit coverage, based upon the toxic substances criteria in WAC 173-201A-240, applied end-of-pipe as a “daily maximum” limit.
- *Sediment Quality Impairment* . Facilities with outfalls to Category 5 sediment impaired waterbodies (Sediment Management Standards, Chapter 173-204 WAC are subject to a water quality based numeric effluent limitation of 30 mg/L Total Suspended Solids (TSS). This limitation is based upon a best professional judgment determination that stormwater discharges with less than 30 mg/L TSS will not cause or contribute to a violation of sediment management standards.

The draft permit also proposes numeric and narrative effluent limitations for dischargers to sediment impaired waterbodies defined as a Puget Sound Sediment Cleanup Sites. These sites are, or will be, undergoing cleanup under the authority of the Model Toxics

Control Act (MTCA) and/or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund.

In addition to meeting the 30 mg/L TSS numeric effluent limit, permittees discharging to a Puget Sound Sediment Cleanup Site must also implement additional storm drain line cleaning BMPs, solids sampling, and reporting, per Condition S6.C.2.

The new requirements for discharges to Puget Sound Sediment Cleanup Sites will: 1) reduce concentrations of sediment and other pollutants in stormwater discharges, and reduce the potential of discharges to cause or contribute to contamination or recontamination of Puget Sound Sediment Cleanup Sites; 2) Allow Ecology to screen for site-specific issues not adequately addressed by the ISGP, and determine if additional sampling, source control, and/or treatment is necessary; and 3) Gather baseline information that will inform the next (2020) version of the ISGP.

- *Fecal Coliform*. Based on 90.48.555(7)(b), numeric effluent limits do not apply to dischargers to waterbodies listed for fecal coliform bacteria; however, these dischargers must comply with non-numeric, narrative effluent limits. When Ecology modified the ISGP on May 16, 2012 (effective July 1, 2012), the numeric effluent limits for fecal coliform bacteria were replaced with narrative effluent limits (i.e., monitoring and mandatory BMPs). For the draft ISGP, Ecology proposes to continue imposing the current narrative effluent limits for discharges to fecal coliform bacteria impaired waters, without change.

Condition S6.D. Effluent Limitations for Discharges to Waterbodies with Approved TMDLs

Ecology plans to continue implementing a permit application review process to identify discharges to impaired waters with an approved or established Total Maximum Daily Load (TMDL). Where an operator indicates on its application for coverage form that the discharge is to one of these waters, Ecology will review the applicable TMDL to determine as a threshold matter whether the TMDL includes requirements that apply to the individual discharger or its industrial sector. Ecology will determine whether any more stringent requirements are necessary to comply with the WLA, whether compliance with the existing permit limits is sufficient, or, alternatively, whether an individual permit application is necessary. If Ecology determines that additional requirements are necessary, Ecology will incorporate the final limits as site-specific terms to the facilities general permit coverage.

Condition S6.D is intended to implement the requirements of 40 CFR 122.44(d)(1)(vii)(B), which requires that water quality based effluent limits “are consistent with the assumptions and requirements of any available wasteload allocation for the discharge” Because WLAs for stormwater discharges may be specified in many different formats, Ecology plans to ensure that these requirements are properly interpreted and communicated to the permittee in way that can be implemented.

Condition S5.A&B and S8. Benchmarks and Corrective Actions

Special Condition S8 includes a non-numeric effluent limitation that requires facilities that exceed water quality-based numeric benchmark values (Special Condition S5.A&B) trigger incremental revisions to the facilities Stormwater Pollution Prevention Plan (SWPPP) to include additional Best Management Practices (BMPs). In accordance with RCW 90.48.555(8), the adaptive management mechanism requires monitoring, evaluation, and reporting requirements to ensure that stormwater discharges are controlled by adequate best management practices (BMPs) that prevent violations of water quality standards.

RCW 90.48.555(8)(a) states that "...the adaptive management mechanism shall include elements designed to result in permit compliance and shall include, at a minimum, the following elements:

- (i) An adaptive management indicator, such as monitoring benchmarks;
- (ii) Monitoring;
- (iii) Review and revisions to the storm water pollution prevention plan;
- (iv) Documentation of remedial actions taken; and
- (v) Reporting to the department."

RCW 90.48.555(8)(b) requires the permit to include the "timing and mechanisms for implementation of treatment best management practices".

To comply with these statutory requirements, the permit continues the previous permits' adaptive management approach that requires facilities to monitor stormwater quality against several water quality-based benchmarks (indicator values). The rationale for the selection and derivation of benchmark values for specific pollutant parameters is described in Special Condition S5 of this fact sheet.

If the benchmark for a particular pollutant parameter is met, the discharge is presumed to not cause or contribute to a violation of water quality standards for that parameter. If a (water quality-based) benchmark is exceeded numerous times, the potential for a violation of water quality standards increases, and the facility is required to implement escalating levels of SWPPP review and the implementation of additional BMPs.

Since benchmark values are not numeric effluent limitations, discharges that exceed a benchmark value are not necessarily considered a permit violation or a violation of water quality standards. However, if a permittee exceeds benchmarks that trigger a corrective action, but does not comply with the specific corrective action requirements in Special Condition S8, it would be a permit violation.

The rationale for the benchmark values is provided in Special Condition S5, and the rationale for the adaptive management (corrective action) mechanism is provided in Special Condition S8.

Condition S10.A. Water Quality Standards

Condition S10.A prohibits discharges that cause or contribute to violations of Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Quality Standards (Chapter 173-200 WAC), and Sediment Management Standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR 131.36).

Each permittee is required to control its discharge as necessary to meet applicable water quality standards. Ecology expects that compliance with the other conditions in this permit (e.g., the technology-based limits, Stormwater Pollution Prevention Plan (SWPPP), monitoring, corrective actions) will result in discharges that are controlled as necessary to meet applicable water quality standards. This “presumptive approach” is consistent with RCW 90.48.555(6), which states:

(6) Compliance with water quality standards shall be presumed, unless discharge monitoring data or other site specific information demonstrates that a discharge causes or contributes to violation of water quality standards, when the permittee is:

(a) In full compliance with all permit conditions, including planning, sampling, monitoring, reporting, and recordkeeping conditions; and

(b)(i) Fully implementing storm water best management practices contained in storm water technical manuals approved by the department, or practices that are demonstrably equivalent to practices contained in storm water technical manuals approved by the department, including the proper selection, implementation, and maintenance of all applicable and appropriate best management practices for on-site pollution control.

(ii) For the purposes of this section, "demonstrably equivalent" means that the technical basis for the selection of all storm water best management practices are documented within a storm water pollution prevention plan. The storm water pollution prevention plan must document:

(A) The method and reasons for choosing the storm water best management practices selected;

(B) The pollutant removal performance expected from the practices selected;

(C) The technical basis supporting the performance claims for the practices selected, including any available existing data concerning field performance of the practices selected;

(D) An assessment of how the selected practices will comply with state water quality standards; and

(E) An assessment of how the selected practices will satisfy both applicable federal technology-based treatment requirements and state requirements to use all known, available, and reasonable methods of prevention, control, and treatment.

In addition, if the permittee becomes aware, or Ecology determines, that the discharge causes or contributes to a water quality standards exceedance, corrective actions and Ecology non-compliance notification is required. In addition, at any time Ecology may require additional monitoring or an individual permit, if information suggests that the discharge is not controlled as necessary to meet applicable water quality standards.

Ecology has determined that, in general, the effluent limits contained in this permit, combined with the other requirements concerning corrective actions, inspections, and monitoring, will control discharges as necessary to meet applicable water quality standards. Condition S8 requires each facility to implement an enforceable adaptive management program with monitoring and benchmarks that may trigger escalating levels of corrective actions (SWPPP revisions), to ensure that best management practices (BMPs) are adequate to prevent violations of water quality standards.

The permit also requires that permittees modify their SWPPP, if during inspections or investigations by the permittee (Condition S7) or Ecology (Condition G3), it is determined that the SWPPP is, or would be, ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the facility. In this way, the permittee may improve upon the initial selection, design, installation, or implementation of BMPs to further ensure that its discharges are controlled as necessary to meet applicable water quality standards.

Other information that may identify discharges that may cause or contribute to a violation of water quality standards and trigger a need for corrective actions include:

- Monthly visual inspections of the facility (Condition S7);
- Additional water quality sampling (Condition G12);
- Required monitoring for numeric effluent limitations guidelines for sectors subject to effluent limitation guidelines, or for discharges to 303(d) listed waters; or
- Information provided to Ecology or the operator by the public (including State or local authorities) suggestive that the control measures are not stringent enough meet the water quality standards.

Sediment Quality

Ecology has promulgated Sediment Management Standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that Ecology may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400). The permit requires BMPs to limit contamination of stormwater. Source control BMPs can reduce or eliminate contamination of stormwater and help comply with the sediment management standards. However, if Ecology determines that BMPs are ineffective in protecting sediment quality, Ecology may require the Permittee to implement additional measures to assure compliance with the sediment standards or to apply for an individual permit.

The draft permit also proposes numeric and narrative effluent limitations for dischargers to sediment impaired waterbodies defined as a Puget Sound Sediment Cleanup Sites. These sites are, or will be, undergoing cleanup under the authority of the Model Toxics Control Act (MTCA) and/or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund. The new requirements will reduce concentrations of sediment and other pollutants in stormwater discharges; and reduce the potential of discharges to cause or contribute to contamination or recontamination of Puget Sound Sediment Cleanup Sites.

GROUND WATER QUALITY LIMITATIONS

Ecology has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by Ecology prohibit violations of those standards (WAC 173-200-100). The permit requires BMPs to limit contamination of stormwater. Source control BMPs can eliminate/minimize the potential contamination of stormwater and protect ground water quality. However, if Ecology determines that BMPs are ineffective in protecting ground water quality, Ecology may require the Permittee to implement additional measures to protect ground water quality or to apply for an individual permit.

Condition S1.E of the ISGP states:

Discharges to Ground

1. For sites that discharge to both surface water and ground water, the terms and conditions of this permit shall apply to all ground water discharges.
2. Facilities that discharge to ground water through an underground injection control well shall comply with any applicable requirements of the Underground Injection Control (UIC) regulations, Chapter 173-218 WAC.

DISCUSSION OF SPECIAL CONDITIONS

Ecology has edited the ISGP to streamline it, remove repetitive language, and make it more easily understandable. Italicized words are defined in APPENDIX 2 - DEFINITIONS. The draft permit is in an outline format so that specific permit requirements can be more easily found. In addition, Ecology's revisions in the draft permit comply with the governor's "Plain Talk" policy for clearly written documents.

The following narrative describes the main requirements in the draft permit and the rationale behind the requirements.

S1. Permit Coverage

Facilities Required to Seek Coverage Under the Permit

The draft ISGP is a statewide permit that provides coverage for discharges of stormwater associated with 29 categories of industrial activities within the State of Washington. Condition S1.A defines which industrial sectors are required to seek coverage under the general permit. ISGP Condition S1. Table 1 provides a list of industrial activities and Standard Industrial Classification (SIC) codes that are categorically required to apply for coverage, if there is a discharge of stormwater from industrial activity to surface waters of the state, or a conveyance system that discharges to surface waters of the state. The sector descriptions are based on Standard Industrial Classification (SIC) Codes and Industrial Activity Codes consistent with the definition of stormwater discharge associated with industrial activity at 40 CFR 122.26(b)(14)(i-ix, xi) and Chapter 90.48 RCW, including RCW 90.48.160.

The draft ISGP clarifies that Compost Facilities are covered within the Chemical and Allied Products category (SIC 28xx).

The draft ISGP corrects a typographic error in the description of Mineral Products categories within SIC 32xx that are covered under Ecology's Sand and Gravel General Permit, rather than the ISGP.

The draft ISGP contains clarifying edits to the description of Refuse Systems (landfills, transfer stations, etc.) covered under SICs 5015 and 5093; including the deletion of compost facilities from this category, which was moved to SIC 28xx.

Significant Contributors of Pollutants

Condition S1.B of the draft permit retains ability for Ecology to require permit coverage for certain facilities that would otherwise be categorically exempt. The federal Clean Water Act at

Section 402(p)(2)(E) gives the state of Washington this authority, as does the state mandate in Chapter 90.48 RCW to protect waters of the state.

Specifically, Ecology may require any facility to obtain permit coverage if the facility:

1. Is a "significant contributors of pollutants" to waters of the state, which includes surface water and groundwater; or
2. May reasonably be expected to cause a violation of any water quality standard; or
3. Conducts industrial activity, or has a SIC code, with stormwater characteristics similar to any industrial activity or SIC code listed in S1.A.

Facilities Not Required to Obtain Coverage

Condition S1.C contains an annotated list of industries not required to apply for coverage under this permit. Generally, facilities are exempted by federal regulation. For example, 40 CFR 122.26(a)(2) provides broad exemptions from permit coverage for the mining and oil and gas exploration industries. 40 CFR 122.26(a)(14) exempts "office buildings and accompanying parking lots." Land application sites used for the beneficial use of municipal or industrial sludge (or biosolids) are exempt under subsection 122.26(a)(14)(ix).

Facilities discharging stormwater to combined sewers are not required to obtain coverage under this permit. Combined sewers convey both sanitary wastewater and stormwater to sewage treatment plants. Combined sewers are owned and operated by municipalities. These wastewaters receive some treatment by the municipality and combined sewer discharges are regulated by the NPDES permit held by the municipality. If a facility is required by Condition S1.A of the permit to apply for coverage, Ecology may require a facility to provide documentation that it discharges to a combined sewer.

Facilities Excluded from Coverage under this Permit

Condition S1.D. Identifies categories of facilities and activities that are excluded (precluded) from coverage under the draft general permit and may require coverage under an individual permit.

The exclusion in S1.D.1 applies to 11 categories of industrial facilities subject to stormwater effluent limitation guidelines or new source performance standards, as specified by the code of federal regulations at 40 CFR Subchapter N or Toxic Pollutant Effluent Standards at 40 CFR Subchapter D Part 129:

40 CFR 411 Cement manufacturing	40 CFR 423 Steam electric power generating
40 CFR 412 Feedlots	40 CFR 434 Coal mining
40 CFR 418 Fertilizer manufacturing	40 CFR 436 Mineral mining and processing
40 CFR 419 Petroleum refining	40 CFR 440 Ore mining and dressing
40 CFR 422 Phosphate manufacturing	40 CFR 443 Paving and roofing materials (tars & asphalt)
40 CFR 449.11(a) Airports with more than 10,000 annual jet departures ⁶	

⁶ Category added to Draft ISGP in 2014

The exclusion in S1.D.2 for nonpoint source silvicultural activities is based on 40 CFR Subpart 122.27.

S1.D.3 excludes facilities located on federal land or are federally owned or operated, based on Ecology's NPDES delegation agreement with the US Environmental Protection Agency.

S1.D.4 excludes facilities located on "Indian Country" as defined in 18 U.S.C. §1151, except portions of the Puyallup Reservation as noted in the permit. The draft ISGP clarifies which tribal facilities are excluded from coverage under the ISGP, and thereby covered under EPA's Multi-Sector General Permit (MSGP).

S1.D.5 excludes facilities authorized to discharge stormwater associated with industrial activity under an existing NPDES individual or other general permit. This exclusion does not apply to stormwater discharged under the authority of a Phase I or Phase I municipal stormwater permit, except the Washington State Department of Transportation (WSDOT) municipal stormwater permit, which authorizes the discharge of stormwater associated with industrial activity from WSDOT vehicle maintenance facilities.

S1.D.6 excludes coverage for stormwater discharges associated with construction activity. Permittees planning construction activities with a disturbed area greater than or equal to 1 acre must apply for the Construction Stormwater General Permit (CSWGP). Ecology determined that the requirements of the construction permit are more specific and extensive than what can be accommodated in the ISGP. These more specific requirements formed the rationale for creating a separate permit for construction activity in the mid-1990s. For example, the SWPPP requirements in the CSWGP are more extensive than those in the ISGP. In addition, the sampling frequency for turbidity in the CSWGP is weekly compared to the four samples per year in the draft ISGP.

Conditions S1.D.7 excludes coverage of facilities where the general permit is not sufficient to assure compliance with other regulations governing water quality protection. This could include special protections for ground water recharge zones or limitations established through watershed management agreements.

Conditions S1.D.8 excludes coverage for new discharges to a waterbody listed pursuant to Section 303(d) of the Clean Water Act, unless the permittee meets the requirements of Condition S6.B. This exclusion is based on 40 CFR 122.4(i) (prohibiting the issuance of permits to new dischargers that will cause or contribute to the violation of water quality standards) prior to coverage under the permit. To satisfy the requirements of 40 CFR 122.4(i), an operator must (a) eliminate all exposure to stormwater of the pollutant(s) for which the waterbody is impaired, and document no exposure and retain such documentation with the SWPPP; or (b) demonstrate that the pollutant for which the waterbody is impaired is not present at the site, and retain documentation of this finding with the SWPPP; or (c) submit data to Ecology documenting that the pollutant discharge will not cause or contribute to an excursion of water quality standards because the discharge will meet in-stream water quality standards at the point of discharge or because there are sufficient remaining wasteload allocations in an approved TMDL and the discharge is controlled at least as stringently as similar discharges subject to that TMDL.

Discharges to Groundwater

Special Condition S1.E is intended to protect groundwater from stormwater discharged or infiltrated to ground water, under the authority of Chapter 90.48 RCW. In RCW 90.48.020, the definition of “waters of the state” includes “underground waters”, i.e., ground water. For sites that discharge to both surface water and ground water, the terms and conditions of this permit shall apply to all ground water discharges. *However, this does not mean that discharges to ground are subject to stormwater sampling and monitoring.* Only point source discharges from the facility to surface water of the state are subject to sampling and benchmarks, unless Ecology specifically requires additional sampling for discharges to ground water (General Condition G12).

Facilities that discharge or infiltrate stormwater to ground water shall ensure that the state AKART requirements are met to ensure that polluting matter is not discharged to ground water (RCW 90.48.080).

Facilities that discharge to ground water through an *underground injection control well* shall comply with any applicable requirements of the Underground Injection Control (UIC) regulations, Chapter 173-218 WAC.

Certificate of No Exposure

Condition S1.F allows the Permittee to apply for a conditional “no exposure” certificate, as provided for in the federal regulation (40 CFR 122.26(g)). Any facility that qualifies may submit a request for “no exposure” exemption from permit coverage. “No exposure” means that all industrial activities are conducted under cover so that there is no reasonable probability that pollutants from industrial activities will come in contact with stormwater.

Some facilities that are subject to permit coverage may be able to apply for and receive a “no exposure” exemption. Ecology posts a listing of facilities receiving “no exposure” exemption on an Ecology web page for public review. The “no exposure” certificate conveys to Ecology the right to enter and inspect the facility and, according to EPA Rules, facilities must re-apply every five years.

S2. Application Requirements

40 CFR 122.21(a)(1) requires any facility that “discharges or proposes to discharge pollutants” to surface waters to apply for permit coverage. 40 CFR 122.22 specifies the person or persons within the applicant's organization who may sign the application. WAC 173-226-200 describes the application process to obtain coverage, as required in Condition S2, Coverage Requirements. The regulation explains public notice requirements, SEPA compliance, and the effective date of coverage. There are some differences in application requirements for new facilities versus existing facilities. WAC 173-226-130 requires facilities under permit that are increasing or altering their discharge, to notify the public of this intent in a newspaper of general circulation within the geographical area of the draft discharge or change in discharge. Existing facilities (except those modifying their permit coverage) are not subject to that requirement. Chapter 173-226 WAC defines “new operation” as one that begins activities on or after the effective date of the permit. For purposes of this permit, “new operation” and “new facility” have the same meaning⁷. The draft permit defines existing facilities as those that were in operation prior to the

⁷ *New Facility* means a facility that begins activities that result in a discharge or a potential discharge to waters of the state on or after the effective date of this general permit.

permit effective date so, under the draft permit, these facilities would not be subject to public notice requirements.

Timing of Application

Condition S2.A.1 of the draft permit requires new facilities to submit their application for coverage at least 60 days before beginning operation or implementing a significant process change. In addition, a new facility must complete the SEPA process, in accordance with Chapter 197-11 WAC. Since the applicant is required to have permit coverage before they are authorized to discharge stormwater from an operating site, applicants should allow more time than 60 days prior to discharging stormwater from the facility. Issues such as discharging to impaired waters may require additional time to process the application for coverage.

S3. Stormwater Pollution Prevention Plan (SWPPP)

SWPPP Requirement

In accordance with 40 CFR 122.44(k) and 40 CFR 122.44 (s), the draft general permit includes requirements for the development and implementation of SWPPPs along with BMPs to minimize or prevent the discharge of pollutants to waters of the state. BMPs constitute Best Conventional Pollutant Control Technology (BCT) and Best Available Technology Economically Achievable (BAT) for stormwater discharges. Ecology has determined that development of a SWPPP and implementation of adequate BMPs in accordance with this permit constitutes “all known, available, and reasonable methods of prevention, control, and treatment” (AKART).

The SWPPP is a vital element of the ISGP. A site-specific SWPPP requires implementation of actions necessary to manage stormwater to comply with the state’s requirement under Chapter 90.48 RCW to protect the beneficial uses of waters of the state. The permit identifies a few situations such as existing facilities coming under permit for the first time, where time is allowed to fully develop and implement the SWPPP. For those facilities currently under permit coverage and for all new facilities, the permit requires a fully developed and implemented SWPPP prior to application for coverage.

The SWPPP must identify potential sources of stormwater contamination from industrial activities and how those sources of contamination are managed to prevent or minimize contamination of stormwater. If contamination of stormwater is unavoidable, the SWPPP will quantify the environmental risk and determine if treatment of the stormwater is necessary to prevent a violation of water quality standards and loss of beneficial uses in waters of the state. The SWPPP must be a “living” document that the Permittee continuously reviews and revises as necessary to assure that stormwater discharges do not degrade water quality. Pollution prevention requires constant vigilance and full participation if it is to be effective. Like maintaining safety at the site, the SWPPP will only be successful when it becomes part of the way all employees at the site perform activities that could affect stormwater quality. The SWPPP must be retained on-site or within reasonable access to the site and available for review by Ecology.

Ecology does not review SWPPPs for formal approval or denial for several reasons. The development and implementation of the SWPPP are the responsibility of the Permittee. Ecology feels the existing and draft permits clearly specify the required minimum elements of the SWPPP. With the aid of Ecology-approved stormwater management manuals, the permit allows

the Permittee the flexibility to select and implement those BMPs that fit the characteristics of the site, stormwater pollutant concentrations, and the Permittee's resources. The ISGP requires SWPPP updates based on inspections, corrective actions, or direction from Ecology or other regulatory authority. Ecology intends the SWPPP to be used together with sampling results and the corrective action program to allow the Permittee to design the most effective stormwater management plan for the site.

SWPPP Signature and Certification Requirements

The draft permit requires the permittee to sign and date the SWPPP consistent with procedures detailed in General Condition G2 (Signatory Requirements). Specifically, S3.A.6 states:

The Permittee shall sign and certify all SWPPPs, inspection reports, and Level 1, 2, and 3 SWPPP Certification Forms in accordance with General Condition G2.

This requirement is consistent with standard NPDES permit conditions described in 40 CFR 122.22 and is intended to ensure that the permittee understands its responsibility to create and maintain a complete and accurate SWPPP. Permittees are allowed to appoint delegate an authorized representative consistent with the regulations. Therefore, if a facility feels it is more appropriate for a member of the stormwater pollution prevention plan team to sign the documentation, that option is available under the permit. The signature requirement includes an acknowledgment that there are significant penalties for submitting false information.

Best Management Practices (BMPs)

BMPs are the actions identified in the SWPPP to manage, prevent contamination of, and treat stormwater. BMPs include schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment systems, operating procedures, and practices used to control plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage. In Condition S3.B.3, BMPs are categorized as *operational source control*, *structural source control*, and *treatment BMPs*. Under each category, specific (mandatory) BMPs are required to be included in the SWPPP and implemented, unless site conditions render the BMP unnecessary, and the exception is clearly justified in the SWPPP. In addition to the specific BMPs listed in S3.B.3, (e.g., vacuum sweep paved surfaces), the permittee must ensure that their SWPPP includes the operational and structural source control BMPs listed as “applicable” in Ecology’s stormwater management manuals. Many of these “applicable” BMPs are sector-specific or activity-specific, and are not required at facilities engaged in other industrial sectors or activities.

Ecology-Approved Stormwater Management Manuals

Consistent with RCW 90.48.555 (5) and (6), the permit contains a narrative effluent limitation which requires the implementation of BMPs that are contained in stormwater technical manuals approved by Ecology, or practices that are demonstrably equivalent to practices contained in stormwater technical manuals approved by Ecology. This is intended to ensure that BMPs will prevent violations of state water quality standards, and satisfy the state AKART requirements and the federal technology-based treatment requirements under 40 CFR part 125.3. Specifically, Condition S.3.A.3 states that BMPs shall be consistent with:

- a. Stormwater Management Manual for Western Washington (2012 edition), for sites west of the crest of the Cascade Mountains; or

- b. Stormwater Management Manual for Eastern Washington (2004 edition), for sites east of the crest of the Cascade Mountains; or
- c. Revisions to the manuals in S3.A.3. a & b., or other stormwater management guidance documents or manuals which provide an equivalent level of pollution prevention, that are approved by Ecology and incorporated into this permit in accordance with the permit modification requirements of WAC 173-220-190; or
- d. Documentation in the SWPPP that the BMPs selected provide an equivalent level of pollution prevention, compared to the applicable Stormwater Management Manuals, including:
 - i. The technical basis for the selection for all stormwater BMPs (scientific, technical studies, and/or modeling) which support the performance claims for the BMPs selected; and
 - ii. An assessment of how the BMPs will satisfy AKART requirements and the applicable technology-based treatment requirements under 40 CFR part 125.3.

Western Washington

The *Stormwater Management Manual for Western Washington* (SWMM) is the current standard for minimum technical requirements addressing water quality of stormwater through treatment BMPs for facilities in western Washington. Ecology released the original *Western Washington* SWMM in September 2001. The *Western Washington* SWMM was revised in February 2005 and August 2012. Under the SWMM for western Washington, the design basis for volume-based treatment systems is the 6-month, 24-hour storm event. For flow rate-based treatment systems, the design basis is the flow rate at, or below which, 91% of the runoff volume, as estimated by an approved continuous runoff model, will be effectively treated. This design storm was derived to assure that stormwater treatment facilities were sized to treat 91% of the stormwater.

Eastern Washington

The *Eastern Washington* SWMM is the current standard for minimum technical requirements addressing water quality of stormwater through treatment BMPs for facilities in eastern Washington. Ecology released the *Eastern Washington* SWMM in September 2004. An update of the SWMM is expected to occur during the upcoming permit cycle, but ISGP facilities do not need to incorporate applicable SWMM changes until the ISGP is modified or reissued.

The design basis for volume based treatment systems in eastern Washington is defined in several ways:

1. A six-month regional storm,
2. A six-month, 24-hour U. S. Department of Agriculture Soil Conservation Service (SCS) Type IA storm,
3. A six-month, 24-hour SCS Type II storm, or,
4. 0.5 inch of predicted runoff from the site.

Although the storm event differs from the 6-month 24-hour event defined for western Washington, it meets the same type of standard, 91% of stormwater treated, as western Washington. Treatment systems must be fully functional for all storm events that do not exceed the design storm.

Alternative Manuals and BMPs

Condition S3.A.3 has provisions for the use of BMPs other than those contained in Ecology's Stormwater Management Manuals (SWMM). Specifically, permittees may use BMPs consistent with:

- Revisions to the manuals in S3.A.3. a & b., or other stormwater management guidance documents or manuals which provide an equivalent level of pollution prevention, that are approved by Ecology and incorporated into this permit in accordance with the permit modification requirements of WAC 173-220-190; or
- Documentation in the SWPPP that the BMPs selected provide an equivalent level of pollution prevention, compared to the applicable Stormwater Management Manuals, including:
 - The technical basis for the selection for all stormwater BMPs (scientific, technical studies, and/or modeling) which support the performance claims for the BMPs selected; and
 - An assessment of how the BMPs will satisfy AKART requirements and the applicable technology-based treatment requirements under 40 CFR part 125.3.

Operational Source Control BMPs

Operational source control BMPs include a schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the pollution of waters of the state. These activities do not require construction of pollution control devices but are very important components of a successful SWPPP. Employee training, for instance, is critical to achieving timely and consistent spill response. Pollution prevention is likely to fail if the employees do not understand the importance and objectives of BMPs. Prohibitions might include eliminating outdoor repair work on equipment and certainly would include the elimination of intentional draining of crankcase oil on the ground. Good housekeeping and maintenance schedules help prevent incidents that could result in the release of pollutants. Operational BMPs represent a cost-effective way to control pollutants and protect the environment. The SWPPP must identify all the operational BMPs and how and where they are implemented. For example, the SWPPP must identify what training will consist of, when training will take place, and who is responsible to assure that employee training happens.

Chapter 2 of volume 4 in the *Western Washington SWMM* and Chapter 8 of the *Eastern Washington SWMM* provides detailed lists of operational source control measures that apply to virtually all industrial activities. These chapters provide the required BMPs for each major category listed in the permit and include "recommended additional... BMPs" for good housekeeping, preventative maintenance, and spill prevention and cleanup.

The draft permit includes new language to clarify requirements for SWPPP to include preventative maintenance of the stormwater drainage/treatment system:

Maintain ponds, tanks/vaults, catch basins, swales, filters, oil/water separators, drains, and other stormwater drainage/treatment facilities in accordance with the Maintenance Standards set forth in the applicable Stormwater Management Manual (SWMM) or other guidance documents or manuals approved in accordance with S3.A.3.c.

The draft ISGP continues the previous permit requirement for a Spill Prevention and Emergency Cleanup Plan. This section includes requirements for secondary containment, and other BMPs to minimize the potential for spills, leaks and drips that can contaminate stormwater. The draft permit requires spill kits within 25 feet of all stationary fueling stations and mobile fueling units. The draft also proposes to add the spill kit requirement to used oil storage/transfer stations based on best professional judgment (AKART). Ecology believes spill kit BMPs are a reasonable and appropriate method for Permittees to prevent and control the potential for spills and/or stormwater contamination from used oil transfer stations.

Structural Source Control BMPs

Structural source control BMPs include physical, structural, or mechanical devices or facilities intended to prevent pollutants from entering stormwater. Examples of source control BMPs include erosion control practices, maintenance of stormwater facilities (e.g., cleaning out sediment traps), construction of roofs over storage and working areas, and direction of equipment wash water and similar discharges to the sanitary sewer or a dead end sump. Structural source control BMPs likely include a capital investment but are cost effective compared to cleaning up pollutants after they have entered stormwater. Structural source control BMPs are also identified in Chapter 2 of volume 4 in the *Stormwater Management Manual for Western Washington* and Chapter 8 of the *Eastern Washington SWMM*. Some of the control measures are specific to an industrial group such as “Commercial Composting” while others apply to general industrial activities such as “Mobil Fueling of Vehicles and Heavy Equipment.”

Treatment BMPs

The previously described BMPs are designed to prevent pollutants from entering stormwater. However, even with an aggressive and successful program, stormwater may still require treatment to achieve compliance with water quality standards. Treatment BMPs are intended to remove pollutants from stormwater. Examples of treatment BMPs are detention ponds, oil/water separators, biofiltration, and constructed wetlands⁸. Volume 5 of the *Western Washington SWMM* and Chapter 5 of the *Eastern Washington SWMM* provides information on treatment BMPs including guidance on selecting appropriate treatment BMPs. All facilities are encouraged to review these *SWMM* chapters and select and implement appropriate treatment BMPs. Facilities that are unable to achieve discharge compliance through source control BMPs must implement appropriate treatment BMPs. If treatment BMPs are not required, the facility must still include in their SWPPP a description of how they arrived at that conclusion.

Volume/Flow Control BMPs

Ecology recognizes the need to include specific BMP requirements for stormwater runoff quantity control to protect beneficial water uses, including fish habitat. New facilities and existing facilities undergoing redevelopment must implement the requirements for peak runoff rate and volume control identified by volume 1 of the *Western Washington SWMM* and Chapter 2 in the *Eastern Washington SWMM* as applicable to their development. Chapter 3 of volume 3 *Western Washington SWMM* and Chapter 6 in the *Eastern Washington SWMM* lists BMPs to

⁸Developing a constructed wetland can be an effective way to treat stormwater. However, wetlands constructed for treatment of stormwater are not eligible for use as compensatory mitigation for authorized impacts to regulated wetland systems.

accomplish rate and volume control. Existing facilities in western Washington should also review the requirements of volumes 1 (Minimum Technical Requirements) and Chapter 3 of volume 3 in the *Western Washington SWMM*. Chapter 2 (Core Elements for New Development and Redevelopment) in the *Eastern Washington SWMM* contains the minimum technical requirements for facilities east of the Cascades. Although not required to implement these BMPs, controlling rate and volume of stormwater discharge maintains the health of the watershed. Existing facilities should identify control measures that they can implement over time to reduce the impact of uncontrolled release of stormwater.

S4. Sampling

WAC 173-220-210 and 40 CFR 122.41 require sampling, recording, and reporting for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

RCW 90.48.555(8), requires an enforceable adaptive management mechanism with monitoring, evaluation, and reporting requirements to ensure that stormwater discharges are controlled by adequate best management practices (BMPs) that prevent violations of water quality standards.

90.48.555(8)(a) states that "...the adaptive management mechanism shall include elements designed to result in permit compliance and shall include, at a minimum, the following elements:

- (i) An adaptive management indicator, such as monitoring benchmarks;
- (ii) Monitoring;
- (iii) Review and revisions to the storm water pollution prevention plan;
- (iv) Documentation of remedial actions taken; and
- (v) Reporting to the department."

The draft permit requires Permittees to conduct stormwater sampling and analysis as well as visual inspections of the facility. The Permittee is required to report sampling results to Ecology on a quarterly basis.

Sampling data, when compared to benchmark indicator values, provides tangible evidence of the effectiveness of the permit to control pollutants in stormwater, both at specific sites and statewide. The permit requires that all Permittees conduct sampling for a core set of pollutant parameters. The core set of parameters required in the permit should be adequate under most conditions to identify sites that are most likely to pose a risk to water quality. In addition to core sampling requirements, certain industrial sectors are subject to additional sampling parameters and benchmarks, based on the stormwater pollutants that are typically associated with the industrial activity in these sectors.

The draft permit retains the stormwater sampling framework from the previous permit, based upon:

- Sampling recommendations made by Envirovision and Herrera in "Evaluation of Washington's Industrial Stormwater General Permit" (November 2006);
- Industrial Stormwater General Permit Addendum to Fact Sheet: Appendix C – Response to Public Comments (October 21, 2009);

- *PCHB Nos. 09-135 through 09-141 Findings of Fact, Conclusions of Law, and Order* (April 25, 2011)
 - “The Board concludes that the general sampling requirements of the ISGP are valid, both with respect to the amount of required sampling, and the provisions that allow averaging of such samples. The quarterly sampling regime now requires sampling of all discharge points, unless
 they are substantially identical, an improvement over the approach of the last permit, which allowed the permittee to monitor the outfall with the highest concentration of pollutants, an uncertain endeavor when it comes to variable stormwater discharges. We also conclude that the sampling provision that allows permittees monitoring more than once per quarter to average all the monitoring results for each parameter to be valid. *Condition S4.B.6.c.*”
- Appendix D – PERMIT MODIFICATION Fact Sheet Addendum for the Industrial Stormwater General Permit National Pollutant Discharge Elimination System (NPDES) and State Waste General Permit (February 1, 2012)
- Industrial Stormwater General Permit Modification Addendum to Fact Sheet: Appendix E Response to Public Comments on the Draft Permit Modification (May 16, 2012)

Suspension of Sampling Due to Consistent Attainment

The draft permit continues to allow the suspension of sampling for one or more parameters (other than visible oil sheen”) based upon the “consistent attainment” of benchmark values. Consistent attainment means eight consecutive quarterly samples (quarterly average), collected after the effective date of the ISGP (January 1, 2015), demonstrate a reported value equal to or less than the benchmark value; or for pH, within the range of 5.0 – 9.0.

As with the previous ISGP, the draft ISGP does not allow the consistent attainment provisions to be applied to pollutant parameters subject to numeric effluent limitations, based on federal ELGs, or Section 303(d) of the Clean Water Act.

The draft ISGP retains the previous permit’s allowance for the quarterly averaging of benchmark parameters. This permit condition is based upon:

- *PCHB Nos. 09-135 through 09-141 Findings of Fact, Conclusions of Law, and Order* (April 25, 2011)
- Appendix D – PERMIT MODIFICATION Fact Sheet Addendum for the Industrial Stormwater General Permit National Pollutant Discharge Elimination System (NPDES) and State Waste General Permit (February 1, 2012)
- Industrial Stormwater General Permit Modification Addendum to Fact Sheet: Appendix E Response to Public Comments on the Draft Permit Modification (May 16, 2012)

The draft permit states: “Permittees who monitor more than once per quarter shall average all of the monitoring results for each parameter (except pH and “visible oil sheen”) and compare the average to the benchmark value.” This approach was affirmed by the PCHB in 2011: “*We also conclude that the sampling provision that allows permittees monitoring more than once per quarter to average all the monitoring results for each parameter to be valid. Condition*

S4.B.6.c.”⁹ Based on experience gained under the previous permit, Ecology is clarifying in the draft permit that, if a Permittee collects more than one sample during a 24-hour period, they must first calculate the *daily average* of the individual grab sample results collected during that 24-hour period; then use the daily average to calculate a quarterly average. *Daily Average* means the average measurement of the pollutant throughout a period of 24 consecutive hours starting at 12:01 A.M. and ending at the following 12:00 P.M. (midnight). This change reduces the possibility for sampling bias, and ensures that quarterly averages adequately represent the overall quality of stormwater discharged during the quarter.

S5. Benchmarks and Numeric Effluent Limitations

Benchmarks

The draft ISGP retains the benchmark values and numeric effluent limitations from the previous ISGP.

1. Core Benchmark Parameters and Sampling Rationale

Condition S5.A requires all Permittees with stormwater discharges to surface water to conduct base level sampling for five core pollutant parameters. Ecology does not attempt to address all the possible pollutants from each industrial facility. Instead, a basic set of parameters was selected to provide an indication of how well the facilities BMPs are functioning to prevent violations of the state surface water quality standards. The representative parameters are pH, turbidity, total zinc, copper and oil and grease. Ecology selected these parameters to reasonably indicate the overall effectiveness of each facility's BMPs to reduce and prevent stormwater discharges that could cause a violation of water quality standards. A secondary objective was to minimize the level of laboratory expenses to what is necessary to reasonably ensure compliance with permit conditions.

The draft permit retains the requirement for all facilities to conduct quarterly sampling for five core parameters. These include: turbidity, pH, zinc, copper, and “visible oil sheen”.

Turbidity of water is related to the amount of suspended and colloidal matter contained in the water. Increasing turbidity reduces the clarity and penetration of light, negatively impacting aquatic organisms. Suspended solids can settle out, covering up gravel beds and suffocating or driving off benthic organisms. Fish may be harmed by suspended particles which can irritate the gills. In addition, many of the pollutants that are found in stormwater are attached to the small particles that become suspended in the stormwater, increasing their potential toxicity. Turbidity is an indirect measure of total suspended solids. For these reasons, high turbidity is a useful indicator of stormwater contamination. Turbidity was also chosen as a core parameter, in part, because Chapter 173-201A WAC includes a turbidity standard, and Ecology studies have demonstrated a poor statistical correlation between turbidity and TSS. Turbidity sampling provides a more direct basis for determining compliance with water quality standards. Turbidity sampling can be conducted on-site if the Permittee purchases a turbidity meter. Ecology also believes turbidity is an indicator of good “housekeeping” practices.

The permit requires all Permittees to sample for **pH** to determine the acidity/alkalinity of the discharge. Extremes in pH are toxic to fish and unsuitable for ground water used as a drinking water source. Rainfall is typically slightly acidic as it hits the ground, but buffers quickly,

⁹ PCHB Nos. 09-135 through 09-141 Findings of Fact, Conclusions of Law, and Order (April 25, 2011)

achieving near neutral pH. Stormwater discharges with significantly higher or lower pH values strongly indicate that the stormwater has been contaminated. The permit authorizes the use of paper or a calibrated pH meter for measuring pH, unless the discharge is subject to a pH effluent limitation (Condition S5.C). Permittees subject to a pH effluent limitation must use a pH meter.

The Herrera Evaluation recommended that **oil and grease** sampling and analysis be eliminated from the permit, because only seven percent of the samples for oil and grease exceeded the benchmark. Furthermore, oil and grease concentrations in the majority of samples were below applicable detection limits. Ecology does not interpret these data to mean that stormwater discharges from industrial facilities have insignificant levels of petroleum contamination. The Herrera Evaluation stated “The reason there are few excursions of the oil and grease benchmark is more likely related to how and when the samples are collected, rather than providing evidence of well controlled site conditions. Oil and grease problems are more appropriately addressed with visual assessments; by the time the laboratory results are available, the event causing the problem will likely have ended.” Therefore, Ecology has decided to eliminate analytical oil and grease sampling, replacing it with a visible assessment of petroleum contamination using **visible oil sheen**. If visible oil sheen is observed by the permittee at a sampling location during a stormwater discharge event, it is considered an excursion of the benchmark.

Zinc can be toxic to aquatic organisms and is a common constituent of contaminated stormwater. Sources of zinc in stormwater include tire dust from vehicle and material handling equipment, leaks and drips of vehicle fluids, galvanized surfaces, paints containing zinc oxide, erosion of earthen materials, pesticides, and atmospheric deposition. A 2006 Survey of Zinc Concentrations Industrial Stormwater identified the two major sources of zinc at industrial sites:

- Galvanized surfaces on roofs (e.g., HVAC, ductwork, ventilator covers); and
- Motor oil, hydraulic fluid, and tire dust on parking, loading dock, and grounds surfaces. Cars, trucks, and, in some cases, forklifts are the presumed sources of these materials¹⁰.

Ecology also believes that other sources of zinc in stormwater include paints and coatings containing zinc oxide, erosion of earthen materials, and atmospheric deposition.

Copper can be toxic to aquatic organisms and is a common constituent of contaminated stormwater. Sources of copper in stormwater include vehicle brake pads, architectural copper, pesticides, marine antifouling coatings, and vehicle servicing and cleaning, domestic water sources, wood preservatives, and atmospheric deposition¹¹. Ecology considers copper from vehicle brake pads to be the most significant source of copper at industrial facilities.

¹⁰ A Survey of Zinc Concentrations in Industrial Stormwater Runoff, Washington State Department of Ecology. January 2006.

¹¹ Fact Sheet – Reducing Copper in Industrial Stormwater Runoff. Oregon Department of Environmental Quality. March, 12, 2014

2. Basis of Core Benchmark Values

The draft permit retains the previous permit's core benchmark values for discharges of conventional pollutants (i.e., Turbidity and pH) and toxic pollutants (i.e., Total Zinc and Petroleum/Oil & Grease). The technical and legal basis for these benchmarks are incorporated by reference from the previous (2009) ISGP Fact Sheet; and the PCHB Order on the appeal of the 2010 ISGP [*PCHB Nos. 09-135 through 09-141 Findings of Fact, Conclusions of Law, and Order* (April 25, 2011)], which affirmed the benchmark values.

3. Basis of Sector-Specific Benchmark Values

The draft ISGP retains the previous permit's framework of requiring certain industrial sectors to perform additional monitoring against benchmark values which, if exceeded a number of times, triggers escalating levels of adaptive management. Sectors subject to additional sampling and benchmarks fall into the 6 categories. In the draft ISGP, Ecology proposes the addition of the Transportation Sectors, and Petroleum Bulk Stations and Terminals for additional petroleum hydrocarbon (NWTPH-Dx) sampling based Ecology's best professional judgment that these transportation-related pollutants are reasonably likely to be exposed to stormwater with the potential for discharge to surface waters:

1. Chemical and Allied Products (28xx), Food and Kindred Products (20xx)
2. Primary Metals(33xx), Metals Mining (10xx), Automobile Salvage and Scrap Recycling (5015 and 5093), Metals Fabricating (34xx)
3. Hazardous Waste Treatment, Storage and Disposal Facilities and Dangerous Waste Recyclers subject to the provisions of Resource Conservation and Recovery Act (RCRA) Subtitle C
4. Air Transportation (45xx)
5. Timber Product Industry (24xx), Paper and Allied Products (26xx)
6. Transporatation (40xx – 44xx, except 4221-25), Petroleum Bulk Stations and Terminals (5171)

Special Conditions S5.B requires facilities in the categories above to sample for specific pollutants likely to be in their stormwater discharges. Ecology is not proposing changes to the industry-specific benchmark values, but has clarified/updated the names of some pollutant parameters and analytical methods based on the Ecology *Permit Writer's Manual*. The technical and legal basis for industrial sector-specific additional sampling and benchmarks are incorporated by reference from the previous ISGP Fact Sheet; and the PCHB Order on the appeal of the 2010 ISGP [*PCHB Nos. 09-135 through 09-141 Findings of Fact, Conclusions of Law, and Order* (April 25, 2011)], which affirmed some of the sector-specific benchmark values.

4. Analytical Methods and Quantitation Levels

Historically, the method detection limit (MDL) was used to determine compliance (all data at or above the MDL were considered adequate for assessing compliance and supporting enforcement actions). The MDL, however, is the level at which a chemical's presence or absence can be detected, and provides limited information with regard to actual concentration. The low concentrations of many of the aquatic life-based and human health-based criteria have made the issue of quantitation important to both the regulator and the discharger. Ecology uses the term "quantitation level" as equivalent to the term "minimum level of quantitation (ML)" which is

used by EPA. The ML is defined by EPA as the lowest concentration of an analyte that can be measured with a defined level of confidence. This may also be called the reporting level by some laboratories. Based on Ecology's *Permit Writers Manual*, the draft ISGP defines the quantitation level as the lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method-specified sample, weights, voluments, and cleanup procedures have been employed.

The draft permit updates some analytical methods and establishes quantitation levels, consistent with Ecology's *Permit Writers Manual*. If an alternate analytical method from 40 CFR Part 136 is sufficient to produce measurable results the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method it must report the test method and QL on the discharge monitoring report.

For more information on analytical methods and quantitation levels, refer to Ecology's Permit Writers Manual, Chapter VI.4 Analytical Methods:

<https://fortress.wa.gov/ecy/publications/summarypages/92109.html>.

With the exception of certain parameters, the permit requires all sampling data to be prepared by a laboratory accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. The Permittee may sample pH and turbidity and report without lab accreditation. The permit allows the use of either a pH meter or narrow range pH indicator paper, unless the Permittee is a non-hazardous waste landfill or is otherwise subject to a numeric effluent limitation for pH. Permittees using pH indicator paper must use high resolution paper that will measure pH within 0.5 SU.

5. Sampling Requirements for Permittees Subject to Federal Effluent Limitations

In addition to sampling for the core parameters required in Condition S5.A, Permittees with either non-hazardous waste landfills or Airlines/Airports with 1000+ annual jet departures to comply with the effluent limitations in Condition S5.C and sample their stormwater discharges for the specified parameters. The effluent limitations in the draft permit are based on EPA Effluent Limitation Guidelines.

Non-hazardous Landfills: The draft ISGP retains the previous ISGP's additional sampling and numeric effluent limitations for non-hazardous waste landfills. The effluent limits for non-hazardous waste landfills in the draft permit are taken from 40 CFR Part 445 Subpart B. Non-hazardous waste facilities include those landfills or land application sites that receive or have received industrial waste, including sites subject to regulation under Subtitle D of RCRA. 40 CFR 445.1 lists exceptions that may apply. Landfill operations with coverage under the general permit should review the exceptions, particularly any facility where the landfill is operated by and limited to wastes generated by the permitted facility.

Airlines and Airports with 1,000 or More Annual Jet Departures: The draft ISGP proposes the addition of sampling and numeric effluent limits for certain air transportation facilities based on Airport Deicing Effluent Guidelines promulgated by the EPA May 16, 2012¹². Airports with 1,000 or more annual jet departures are subject to new EPA technology-based numeric effluent limits for ammonia based on BAT and ELGs (40 CFR Parts 9 and 449). Condition S5.C requires permittees operating airlines and airports subject to provisions of 40 CFR Parts 9 and 449 to comply with the following:

1. Permittees operating airlines and airports subject to provisions of 40 CFR Parts 9 and 449 shall comply with the following:
 - b. *Airfield Pavement Deicing*. Existing and new primary airports with 1,000 or more annual jet departures (*annual non-propeller aircraft departures*) that discharge wastewater associated with *airfield* pavement *deicing* commingled with stormwater must either use non-urea-containing deicers¹³, or meet the effluent limit in Table 5 at every discharge point, prior to any dilution or any commingling with any non-*deicing* discharge.

Table 5: Effluent Limit Applicable to Airports Subject to 40 CFR Parts 9 and 449

Parameter	Units	Maximum Daily ^a	Analytical Method ^b	Laboratory Quantitation Level ^c	Minimum Sampling Frequency ^d
Ammonia (total as N)	mg/L	14.7	SM4500-NH3-GH.	0.3	1/quarter

^a. Maximum daily effluent limit means the highest allowable daily discharge. The daily *discharge* means the *discharge of a pollutant* measured during a calendar day. The daily discharge is the average measurement of the *pollutant* over the day; this does not apply to pH.

^b. Or other equivalent EPA-approved method with the same or lower *quantitation level*.

^c. The Permittee shall ensure laboratory results comply with the *quantitation level* (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method it must report the test method and QL on the discharge monitoring report.

^d. 1/quarter means at least one sample taken each quarter, year-round.

6. Conditionally Authorized and Prohibited Discharges

The draft ISGP retains Condition S5.D authorizes the Permittee to discharge specific non-stormwater discharges, such as cooling tower mist and fire hydrant flush water, if certain conditions are met. Ecology based this permit condition on an identical condition in the MSGP.

Condition S5.E continues to prohibit the discharge of process wastewater or illicit discharges under this permit. The draft permit clarifies the definition of “process wastewater” so that it doesn’t lead to unworkable or unreasonable situations:

Process Wastewater means any non-stormwater which, during manufacturing or processing, comes into direct contact or results from the production or use of any raw

¹² Effluent Limitations Guidelines and New Source Performance Standards for the Airport Deicing Category; Final Rule. Federal Register / Vol. 77 , No. 95 / Wednesday, May 16, 2012 / Rules and Regulations

¹³ Affected permittees must certify in its annual report that it does not use *airfield deicing* products that contain urea, or meet the numeric limit in Table 5 (Condition S9.B.4).

material, intermediate product, finished product, byproduct, or waste product. If stormwater commingles with process wastewater, the commingled water is considered process wastewater.

Unless authorized by a separate NPDES or state waste discharge permit, prohibited discharges are considered violations of the ISGP.

S6. Discharges to Impaired Waters

The draft permit contains several changes from the current permit for Permittees with discharges to impaired water bodies that do not have an EPA-approved TMDL, and waterbodies. The basis for water quality based effluent limitations for certain discharges 303(d)-listed waters is discussed previously in the fact sheet: “CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA - Condition S6.C. Water Quality-Based Effluent Limitations for Certain Discharges to Impaired Waters”.

The draft ISGP clarifies in S6.B that the restrictions on covering new discharges to impaired waterbodies applies to Category 5 waterbodies, as well as impaired waterbodies with an applicable TMDL (Category 4A), or a pollution control program for sediment cleanup (i.e., Category 4B sediment-impaired waterbody).

The draft permit also proposes numeric and narrative effluent limitations for dischargers to sediment impaired waterbodies defined as a Puget Sound Sediment Cleanup Sites. These sites are, or will be, undergoing cleanup under the authority of the Model Toxics Control Act (MTCA) and/or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund.

In addition to meeting the 30 mg/L TSS numeric effluent limit, permittees discharging to a Puget Sound Sediment Cleanup Site must also implement additional storm drain line cleaning BMPs, solids sampling, and reporting, per Condition S6.C.2.

The new requirements for discharges to Puget Sound Sediment Cleanup Sites will: 1) reduce concentrations of sediment and other pollutants in stormwater discharges, and reduce the potential of discharges to cause or contribute to contamination or recontamination of Puget Sound Sediment Cleanup Sites; 2) Allow Ecology to screen for site-specific issues not adequately addressed by the ISGP, and determine if additional sampling, source control, and/or treatment is necessary; and 3) Gather baseline information that will inform the next (2020) version of the ISGP.

Discharges to Water Bodies with Applicable TMDLs

Consistent with EPA’s 2008 MSGP and the previous ISGP, Condition S6.D requires a Permittee discharging to water bodies with applicable TMDLs to comply with any additional requirements listed on the coverage sheet attached to its permit. Specifically, S6.D requires the following:

1. The Permittee shall comply with applicable TMDL determinations. Applicable TMDLs or TMDL determinations are TMDLs which have been completed by the issuance date of this permit, or which have been completed prior to the date that the Permittee's application is received by Ecology, whichever is later. The Permittee’s requirements to comply with this condition will be listed on the letter of permit coverage.

2. TMDL requirements associated with TMDLs completed after the issuance date of this permit only become effective if they are imposed through an administrative order issued by Ecology.
3. Where Ecology has established a TMDL *wasteload allocation* and sampling requirements for the Permittee's discharge, the Permittee shall comply with all requirements of the TMDL as listed in Appendix 5.
4. Where Ecology has established a TMDL general wasteload allocation for industrial stormwater discharges for a parameter present in the Permittee's discharge, but has not identified specific requirements, Ecology will assume the Permittee's compliance with the terms and conditions of the permit complies with the approved TMDL.
5. Where Ecology has not established a TMDL wasteload allocation for industrial stormwater discharges for a parameter present in the Permittee's discharge, but has not excluded these discharges, Ecology will assume the Permittee's compliance with the terms and conditions of this permit complies with the approved TMDL.
6. Where a TMDL for a parameter present in the Permittee's discharge specifically precludes or prohibits discharges of stormwater associated with industrial activity, the Permittee is not eligible for coverage under this permit.

S7. Inspections

The draft ISGP retains the previous ISGP's requirements for monthly visual inspections. The legal and technical basis for the ISGP inspection requirements are incorporated by reference from the previous (2009) ISGP Fact Sheet.

S8. Corrective Actions

The draft permit continues to utilize the previous ISGP's framework of stormwater sampling, benchmarks, and corrective actions to fulfill the adaptive management program required by RCW 90.48.555(8)(a). Facilities that exceed water quality-based numeric benchmark values (Special Condition S5.A&B) trigger incremental revisions to the facilities Stormwater Pollution Prevention Plan (SWPPP) to include additional Best Management Practices (BMPs).

In accordance with RCW 90.48.555(8), the adaptive management mechanism requires monitoring, evaluation, and reporting requirements to ensure that stormwater discharges are controlled by adequate best management practices (BMPs) that prevent violations of water quality standards.

90.48.555(8)(a) states that "...the adaptive management mechanism shall include elements designed to result in permit compliance and shall include, at a minimum, the following elements:

- (i) An adaptive management indicator, such as monitoring benchmarks;
- (ii) Monitoring;
- (iii) Review and revisions to the storm water pollution prevention plan;
- (iv) Documentation of remedial actions taken; and
- (v) Reporting to the department."

90.48.555(8)(b) states that the permit must include the “timing and mechanisms for implementation of treatment best management practices”.

To comply with these statutory requirements, the permit continues the previous permits’ adaptive management approach that requires facilities to monitor stormwater quality against several water quality-based benchmarks (indicator values). The rationale for the selection and derivation of benchmark values for specific pollutant parameters is described in Special Condition S5.

This adaptive management program constitutes a water quality-based non-numeric (narrative) effluent limitation, as provided for in WAC 173-226-070(1)(d) and 40 CFR 122.44(k).

If the benchmark for a particular pollutant parameter is met, the discharge is presumed to not cause or contribute to a violation of water quality standards for that parameter. If a (water quality-based) benchmark is exceeded numerous times, the potential for a violation of water quality standards increases, and the facility is required to implement escalating levels of SWPPP review and the implementation of additional BMPs.

Since benchmark values are not numeric effluent limitations, discharges that exceed a benchmark value are not considered a permit violation or a violation of water quality standards. However, if a permittee exceeds benchmarks that trigger a corrective action, but does not comply with the specific corrective action requirements in S8, it would be considered a permit violation. The PCHB affirmed the ISGP definition and use of benchmarks to drive corrective actions in its 2011 order on the ISGP:

“As we have repeatedly stated, while an exceedance of a benchmark is not, in and of itself, a violation of a water quality standard, the benchmarks are indicator values-- values that are predictive of potential, or actual, water quality violations. PSA v. Northwest Marine Trade Assc.; Association of General Contractors v. Ecology, supra. A failure to meet benchmarks requires a permittee to make continued efforts to improve application and performance of BMPs.”¹⁴

The rationale for the derivation of benchmark values is provided in Special Condition S5

If a benchmark is exceeded in a stormwater discharge, the draft permit requires the Permittee to take appropriate actions to identify and correct the problem(s) causing the benchmark exceedance. Compliance with these adaptive management actions ensures that:

1. Aquatic life and the other beneficial uses of state waters are likely protected by minimizing the concentrations and volumes of stormwater pollutants discharged into surface waters;
2. Permittees meet AKART; and
3. Permittees who discharge stormwater meet the intent of the Clean Water Act and Chapter 90.48 RCW.

The corrective action requirements and timelines in the draft ISGP were developed in consideration of Ecology’s best professional judgment and experience with the \previous permit cycles, 2008/2009 Industrial Stormwater Stakeholder Workgroup, and the 2011 and 2013 PCHB orders on the ISGP.

¹⁴ PCHB Nos. 09-135 through 09-141 Findings of Fact, Conclusions of Law, and Order

Implementation of Source Control and Treatment BMPs from Previous Permit

The draft permit continues the previous permit requirement to maintain forward progress towards meeting benchmarks with the implementation of corrective actions triggered during the previous permit cycles. No changes are proposed to this section:

In addition to the Corrective Action Requirements of S8.B-D, Permittees shall implement any applicable Level 1, 2 or 3 Responses required by the previous Industrial Stormwater *General Permit(s)*. Permittees shall continue to operate and/or maintain any source control or *treatment BMPs* related to Level 1, 2 or 3 Responses implemented prior to the effective date of this permit.

Level 1, 2 and 3 SWPPP Review and Certification

S8 requires permittees who trigger a Level 1, 2 or 3 corrective action to review their SWPPP and ensure it is in full compliance with S3 (SWPPP), and contains the correct BMPs from the applicable Stormwater Management Manuals. This requirement is consistent with standard NPDES permit conditions described in 40 CFR 122.22 and is intended to ensure that the permittee understands its responsibility to create and maintain a complete and accurate SWPPP. Permittees are allowed to appoint an authorized representative consistent with the regulations. Therefore, if a facility feels it is more appropriate for a member of the stormwater pollution prevention plan team to sign the documentation, that option is available under the permit. The signature requirement includes an acknowledgment that there are significant penalties for submitting false information.

Level 1

The draft permit continues the previous permit requirement for Level 1 Corrective Actions each time a benchmark is exceeded. These requirements and timelines are consistent with RCW 90.38.555(8)(a) and the 2011 PCHB Order on the appealed ISGP: "...the permit must include a reasonably short time frame within which a permittee must initiate an investigation of a benchmark exceedance and revise its SWPPP accordingly..."¹⁵ Ecology plans to retain the Level 1 deadline in the (previous) Modified ISGP that became effective July 1, 2012.

The only change proposed by Ecology at this time is a minor editorial change to clarify that Permittee must sign/certify the revised SWPPP consistent with the Level 1 deadline. Draft Condition S8.B states:

Level One Corrective Actions – Operational Source Control BMPs

Permittees that exceed any applicable *benchmark* value(s) in Table 2 or Table 3 shall complete a Level 1 Corrective Action for each parameter exceeded in accordance with the following:

1. Within 14 days of receipt of sampling results that indicate a benchmark exceedance:
 - a. Conduct an inspection to investigate the cause.
 - b. Review the SWPPP and ensure that it fully complies with Permit Condition S3, and contains the correct BMPs from the applicable *Stormwater Management Manual*.

¹⁵ PCHB Nos. 09-135 through 09-141 Findings of Fact, Conclusions of Law, and Order

- c. Make appropriate revisions to the SWPPP to include additional *Operational Source Control BMPs* with the goal of achieving the applicable *benchmark* value(s) in future discharges.
2. Summarize the Level 1 Corrective Actions in the Annual Report (Condition S9.B)

Level One Deadline: The Permittee shall sign/certify and fully implement the revised SWPPP according to Permit Condition S3 and the applicable *Stormwater Management Manual* as soon as possible, but no later than the DMR due date for the quarter the *benchmark* was exceeded.

Level 2

The draft permit continues the previous permit requirement for Level 2 Corrective Actions when Permittees exceed a (single) benchmark parameter¹⁶ during any two quarters during a calendar year. These requirements and timelines are consistent with RCW 90.38.555(8)(a) and the 2011 PCHB Order on the appealed ISGP which required Ecology to shorten the 2010 ISGP's original Level 2 Deadline:

*"We also conclude that the deadline for implementation of a Level 2 corrective action (September 30 of the following calendar year) is excessively long and must be shortened. As currently written, the timeframe provides a permittee up to one and one half years of the five year permit cycle to implement a Level 2 corrective action, depending on when during the calendar year the benchmark exceedences occur."*¹⁷

In response to the 2011 PCHB order, public comments on the 2012 draft Modified ISGP, and consideration of 1) wet-weather construction constraints, 2) environmental impacts of working during the wet season (erosion, fish windows, wet weather paving, etc.), and 3) the potential for increased workload from Level 2 extension requests, Ecology has decided to implement the PCHB ruling by shortening the Level 2 deadline from September 30th, to August 31st (beginning in 2013). This deadline may be extended on a case by case basis by submitting a Modification of Coverage request by May 15th prior to the Level 2 deadline. In the draft ISGP, Ecology proposes to retain the same language: "...as soon as possible, but no later than August 31st the following year."

Ecology is proposing two minor changes to the Level 2 language:

- A minor editorial change to clarify that Permittee must sign/certify the revised SWPPP consistent with the Level 2 deadline. This requirement is consistent with standard NPDES permit conditions described in 40 CFR 122.22 and is intended to ensure that the permittee understands its responsibility to create and maintain a complete and accurate SWPPP.
- Clarification that, when a Level 2 or 3 time extension is in effect for a parameter (based on a modification of permit coverage), benchmark exceedences (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions. This clarification ensures that the Level 2 requirements are workable and reasonable in cases where a time extension has been granted.

¹⁶ Based on the quarterly average of samples collected at the discharge point

¹⁷ PCHB Nos. 09-135 through 09-141 Findings of Fact, Conclusions of Law, and Order

Draft Condition S8.C states:

Level Two Corrective Actions – Structural Source Control BMPs

Permittees that exceed an applicable *benchmark* value (for a single parameter) for any two quarters during a calendar year shall complete a Level 2 Corrective Action in accordance with S8.C. Alternatively, the permittee may skip Level 2 and complete a Level 3 Corrective Action in accordance with Condition S8.D.

1. Review the SWPPP and ensure that it fully complies with Permit Condition S3.
2. Make appropriate revisions to the SWPPP to include additional *Structural Source Control BMPs* with the goal of achieving the applicable *benchmark* value(s) in future discharges.
3. Summarize the Level 2 Corrective Actions (planned or taken) in the Annual Report (Condition S9.B).
4. **Level 2 Deadline:** The Permittee shall sign/certify and fully implement the revised SWPPP according to Permit Condition S3 and the applicable *Stormwater Management Manual* as soon as possible, but no later than August 31st the following year.
 - a. If installation of necessary *Structural Source Control BMPs* is not feasible by August 31st the following year, *Ecology* may approve additional time, by approving a *Modification of Permit Coverage*.
 - b. If installation of *Structural Source Control BMPs* is not feasible or not necessary to prevent discharges that may cause or contribute to a violation of a water quality standard, *Ecology* may waive the requirement for additional *Structural Source Control BMPs* by approving a *Modification of Permit Coverage*.
 - c. To request a time extension or waiver, a Permittee shall submit a detailed explanation of why it is making the request (technical basis), and a *Modification of Coverage* form to *Ecology* in accordance with Condition S2.B, by May 15th prior to Level 2 Deadline. *Ecology* will approve or deny the request within 60 days of receipt of a complete *Modification of Coverage* request.
 - d. While a time extension is in effect, benchmark exceedances (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions.
 - e. For the year following the calendar year the permittee triggered a Level 2 corrective action, benchmark exceedances (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions.

Level 3

The draft permit continues the previous permit's emphasis on the installation of Treatment BMPs at Corrective Action Level 3. The draft permit requires permittees to make appropriate revisions to their SWPPP to include additional treatment BMPs with the goal of meeting the benchmarks.

RCW 90.48.555(8)(b) states that the permit must include the "timing and mechanisms for implementation of treatment best management practices". The deadline for completing Level 3 Corrective Actions is "as soon as possible, but no later than September 30th the following year." The Level 3 timeframe was based upon Ecology best professional judgment, in consideration of a wide range of site conditions and treatment scenarios. The PCHB reviewed the Level 3

engineering report and corrective action timelines in 2013 and concluded “The deadlines established by the permit are lawful and reasonable.”¹⁸ Ecology’s draft ISGP continues to recognize that in some cases, it will be infeasible for the permittee to meet the Level 3 deadline (e.g., due to local permitting delays, fish-windows, weather) so an extension of time may be requested and approved through a modification of permit coverage.

The draft permit also continues the previous permit’s mechanism for permittees to request a waiver from installing additional structural source control BMPs, if it is infeasible or not necessary to prevent violations of water quality standards. If approved, this waiver would be authorized through a modification of permit coverage.

While the basic framework of the draft Level 3 requirements are similar to the previous ISGP, Ecology is proposing minor changes to portions of this section that relate to engineering reports, consistent with the May 28, 2013 PCHB Order¹⁹ on the 2012 Modified ISGP. Specifically, Ecology is proposing to replace the previous ISGP requirement for treatment systems that require site-specific design or sizing to submit an engineering report in accordance with Chapter 173-240 WAC with a less comprehensive list of basic engineering report elements:

- Brief summary of the treatment alternatives considered and why the proposed option was selected;
- The basic design data and sizing calculations of the treatment units;
- A description of the treatment process and operation, including a flow diagram;
- The amount and kind of chemicals used in the treatment process, if any. Note: Use of stormwater treatment chemicals requires submittal of Request for Chemical Treatment Form;
- Results to be expected from the treatment process including the predicted stormwater discharge characteristics;
- A statement, expressing sound engineering justification through the use of pilot plant data, results from similar installations, and/or scientific evidence that the proposed treatment is reasonably expected to meet the permit benchmarks²⁰; and
- Certification by a licensed professional engineer.

¹⁸ PCHB No. 12-062c Order on Motions for Partial Summary Judgment

¹⁹ PCHB No. 12-062c Order on Motions for Partial Summary Judgment

²⁰ In its 2013 order on the Modified ISGP the PCHB stated “While the Board has found that chapter 173-240 does not apply to the ISGP, Ecology is free to require a statement by the engineer that is similar to the language in WAC 173-240-130(2)(q). The Board concludes that a requirement of the ISGP for a statement by the engineer that the effluent from the selected treatment BMPs will meet effluent limitations is neither unlawfully vague nor unreasonable. In the FAQ, Ecology has reasonably called out this specific provision of chapter 173-240 WAC and appropriately applied it within the context of the ISGP, and Level 3 Corrective Action in Particular.”

Ecology believes that engineering reports that contain these elements will provide appropriate professional level involvement at Level 3, and a clear and reasonable process for Ecology engineering review and approval. The proposed permit requires an Operations and Maintenance (O&M) Manual to be submitted to Ecology no later than 30 days after construction/installation; unless an alternate due date is required by order.

Ecology's proposed new engineering report requirements includes "certification by a licensed professional engineer". As such, Ecology is proposing to eliminate the separate requirement for a licensed professional engineer, geologist, hydrogeologist, or Certified Professional in Stormwater Quality (CPSWQ) to design and stamp the portion of the SWPPP that addresses stormwater treatment structures or processes.

Ecology is also proposing to clarify that the due date for the permittees signature/certification of the SWPPP is the Level implementation due date. The SWPPP certification requirement is consistent with standard NPDES permit conditions described in 40 CFR 122.22 and is intended to ensure that the permittee understands its responsibility to create and maintain a complete and accurate SWPPP that prevents violations of water quality standards.

Ecology is also clarifying that, when a Level 2 or 3 time extension is in effect for a parameter (based on a modification of permit coverage), benchmark exceedances (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions. This clarification ensures that the Level 3 requirements are workable and reasonable in cases where a time extension has been granted.

Draft Condition S8.D states:

Level Three Corrective Actions – Treatment BMPs

Permittees that exceed an applicable *benchmark* value (for a single parameter) for any three quarters during a calendar year shall complete a Level 3 Corrective Action in accordance with S8.D. A Level 2 Corrective Action is not required.

1. Review the SWPPP and ensure that it fully complies with Permit Condition S3.
2. Make appropriate revisions to the SWPPP to include additional *Treatment BMPs* with the goal of achieving the applicable *benchmark* value(s) in future discharges. Revisions shall include additional operational and/or structural source control BMPs if necessary for proper performance and maintenance of *Treatment BMPs*.
3. Before installing treatment BMPs that require the site-specific design or sizing of structures, equipment, or processes to collect, convey, treat, reclaim, or dispose of industrial stormwater, the Permittee shall submit an engineering report to Ecology for review.
 - a. The engineering report must include:
 - i. Brief summary of the treatment alternatives considered and why the proposed option was selected;
 - ii. The basic design data and sizing calculations of the treatment units;
 - iii. A description of the treatment process and operation, including a flow diagram;

- iv. The amount and kind of chemicals used in the treatment process, if any. Note: Use of stormwater treatment chemicals requires submittal of Request for Chemical Treatment Form;
 - v. Results to be expected from the treatment process including the predicted stormwater discharge characteristics;
 - vi. A statement, expressing sound engineering justification through the use of pilot plant data, results from similar installations, and/or scientific evidence that the proposed treatment is reasonably expected to meet the permit benchmarks; and
 - vii. Certification by a licensed professional engineer.
- b. The engineering report shall be submitted no later than the May 15th prior to the Level 3 deadline, unless an alternate due date is specified in an order.
 - c. An Operation and Maintenance Manual (O&M Manual) shall be submitted to Ecology no later than 30 days after construction/installation is complete; unless an alternate due date is specified in an order.
4. Summarize the Level 3 Corrective Actions (planned or taken) in the Annual Report (Condition S9.B). Include information on how monitoring, assessment or evaluation information was (or will be) used to determine whether existing treatment BMPs will be modified/enhanced, or if new/additional treatment BMPs will be installed.
 5. Level 3 Deadline: The Permittee shall sign/certify and fully implement the revised SWPPP according to Permit Condition S3 and the applicable Stormwater Management Manual as soon as possible, but no later than September 30th the following year.
 - a. If installation of necessary *Treatment BMPs* is not feasible by the Level 3 Deadline; *Ecology may approve additional time by approving a Modification of Permit Coverage.*
 - b. If installation of *Treatment BMPs* is not feasible or not necessary to prevent discharges that may cause or contribute to violation of a water quality standard, *Ecology may waive the requirement for Treatment BMPs by approving a Modification of Permit Coverage.*
 - c. To request a time extension or waiver, a Permittee shall submit a detailed explanation of why it is making the request (technical basis), and a Modification of Coverage form to Ecology in accordance with Condition S2.B, by May 15th prior to the Level 3 Deadline. Ecology will approve or deny the request within 60 days of receipt of a complete Modification of Coverage request.
 - d. While a time extension is in effect, benchmark exceedances (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions.
 - e. For the year following the calendar year the Permittee triggered a Level 3 corrective action, benchmark exceedances (for the same parameter) do not count towards additional Level 2 or 3 Corrective Actions.

S9. Reporting and Recordkeeping Requirements

The reporting and recordkeeping requirements of Special Conditions S9 are based on Ecology's authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges. Reporting of monitoring results are specified in 40 CFR 122.44(i)(3 and 4) and WAC 173-226-090(3). Discharge Monitoring Reports must be submitted to Ecology even if there was no discharge or if sampling was suspended based on consistent attainment of benchmark values. Recordkeeping requirements in the draft permit are specified in 40 CFR 122.41(j)(2) and WAC 173-220-210(2)(b). The requirements of Condition S9 will assure that Ecology records are maintained and demonstrate compliance with sampling requirements by the facility.

The draft permit proposes new requirements for DMRs and other reports to be submitted electronically, using Ecology's (online) Water Quality Permitting Portal system, unless a waiver from electronic reporting has been granted (e.g., if a permittee does not have internet access). If a waiver has been granted, DMRs must be postmarked or delivered to the following address by the due date:

Department of Ecology
Water Quality Program – Industrial Stormwater
PO Box 47696
Olympia, Washington 98504-7696

This proposed electronic DMR requirement is expected to save time and resources for permittees and Ecology (e.g., eliminating paperwork, data entry workload, database errors) while improving compliance and protection of water quality. It will also enhance transparency and public accountability, and provide a more level playing field among permittees.

The electronic DMR waiver provisions are intended to allow a paper DMR option for certain small businesses that may not have the ability to use the WQWebDMR system.

The requirement for electronic DMRs makes progress with Ecology obligation to comply with EPA's proposed NPDES Electronic Reporting Rule (40 CFR Parts 122, 123, 127, 403, 501 and 503)²¹.

The draft permit also clarifies in S9.A that DMRs are required each quarter, beginning with the first full quarter following permit coverage. This is change based upon Ecology experience and is intended to solve problems with data management and Permittee confusion when permit coverage is granted mid-quarter. Ecology believes the change makes the DMR requirements more clear, enforceable, and reasonable.

The draft permit also clarifies in S9.B that annual reports are not required if the Permittee didn't have permit coverage during the previous calendar year. For example, if a permittee obtains permit coverage February 1, 2015, they don't need to submit an Annual Report May 15, 2015, since they have nothing to report for the previous calendar year (2014), prior to their permit coverage being effective.

The draft permit also clarifies S9.E with respect to notifying Ecology when Permittees are unable to comply the terms and conditions of the ISGP. Ecology clarifies in the draft that any violation

²¹ **Federal Register** Vol. 78, No. 146 Tuesday, July 30, 2013; website: <http://www.gpo.gov/fdsys/pkg/FR-2013-07-30/pdf/2013-17551.pdf>

of a numeric effluent limitation triggers reporting to Ecology (i.e., noncompliance notification). The draft also corrects an error with the “detailed written report” due date to make it consistent with 40 CFR 122.41(l)(6); the written report is now due within 5 days, rather than 30 days.

S10. Compliance with Standards

Condition S10 requires that discharges associated with industrial activity comply with all applicable state water quality and sediment management standards. Compliance with water quality standards is required in 40 CFR 122.44(d) and WAC 173-226-070(3)(a). Discharges that are not in compliance with these standards are not authorized by the permit and are subject to enforcement action.

In recognition of the difficulty stormwater presents in determining when a discharge is causing a water quality violation, the draft permit emphasizes BMPs, monitoring and corrective actions to prevent stormwater discharges from causing or contributing to violations of water quality standards. All Permittees are required to apply AKART, including the preparation and implementation of an adequate SWPPP, and the installation and maintenance of BMPs in accordance with the SWPPP and the terms and conditions of this permit.

RCW 90.48.555 directs Ecology’s determination of compliance with water quality standards in this general permit. RCW 90.48.555(6) provides:

“Compliance with water quality standards shall be presumed, unless discharge monitoring data or other site specific information demonstrates that a discharge causes or contributes to violation of water quality standards, when the Permittee is:

1. In full compliance with all permit conditions, including planning, sampling, monitoring, reporting, and recordkeeping conditions; and
2. Fully implementing stormwater BMPs contained in stormwater technical manuals approved by Ecology, or practices that are “demonstrably equivalent” to practices contained in stormwater technical manuals approved by Ecology, including the proper selection, implementation, and maintenance of all applicable and appropriate BMPs for on-site pollution control. "Demonstrably equivalent" means that the technical basis for the selection of all stormwater BMPs is documented within a SWPPP, including:
 - a. The method and reasons for choosing the stormwater BMPs selected;
 - b. The pollutant removal performance expected from the BMPs selected;
 - c. The technical basis supporting the performance claims for the BMPs selected, including any available existing data concerning field performance of the BMPs selected;
 - d. An assessment of how the selected BMPs will comply with state water quality standards; and
 - e. An assessment of how the selected BMPs will satisfy both applicable federal technology-based treatment requirements and state requirements to use AKART.

To ensure compliance with the Clean Water Act, stormwater treatment systems must be properly designed, constructed, maintained, and operated to:

1. Prevent pollution of state waters and protect water quality, including compliance with state water quality standards;
2. Satisfy state requirements for all known available and reasonable methods of prevention, control and treatment (AKART) of wastes (including construction stormwater runoff) prior to discharge to waters of the state; and
3. Satisfy the federal technology based treatment requirements under 40 CFR part 125.3.

Permittees must implement all the BMPs as identified in Special Condition S3, Stormwater Pollution Prevention Plan. Permittees must ensure that all BMPs are in place, operational, and routinely maintained. Treatment BMPs are also required for industrial activities that unavoidably lead to stormwater contamination, otherwise trigger a Level 3 Corrective Action. The SWMMs identify BMPs necessary to limit the exposure of stormwater to pollutants and in some cases to apply treatment. Ecology presumes that implementation of these BMPs will typically result in discharges of stormwater that will not violate water quality standards. If the prescribed BMPs fail to be protective, the Permittee must add additional BMPs to achieve compliance. Sampling and analysis provide an indication of when water quality violations may be a concern and additional BMPs required.

S11. Permit Fees

The Permittee must pay the permit fees assessed by Ecology, as established by Chapter 173-224 WAC and RCW 90.48.465(1), unless coverage is terminated or revoked.

S12. Solid and Liquid Waste Management

RCW 90.48.080 requires appropriate disposal of any organic or inorganic waste. This includes any wastes that are collected as a result of stormwater treatment. Maintenance of stormwater treatment facilities must include appropriate disposal of collected wastes. They must not be allowed to resuspended and discharged. The plan for appropriate collection and disposal of solid waste must be included in the stormwater pollution prevention plan.

S13. Notice of Termination (NOT)

The Permittee of record must comply with the terms and conditions of the permit unless the Permittee terminates coverage under the permit or transfers coverage to a new Permittee. A Permittee may terminate coverage by submitting the official Ecology form for termination of coverage.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all NPDES permits issued by the Ecology. Some of these conditions were developed for different types of discharges. Although Ecology is required by federal regulation to include them in the permit, they may not be strictly applicable.

Condition G1 requires discharges and activities authorized by the draft permit to be consistent with the terms and conditions of the permit in accordance with 40 CFR 122.41.

Condition G2 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).

Condition G3 requires the Permittee to allow Ecology to access the facility and conduct inspections of the facility and records related to the permit in accordance with 40 CFR 122.41(i), RCW 90.48.090, and WAC 173-220-150(1)(e).

Condition G4 identifies conditions that may result in modifying or revoking the general permit in accordance with 40 CFR 122.62, 40 CFR 124.5, and WAC 173-226-230.

Condition G5 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.

Condition G6 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-510(1).

Condition G7 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).

Condition G8 requires the Permittee to reapply for coverage 180 days 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) (Note: This would only apply to long term projects or to sites with permit coverage near the time of permit expiration).

Condition G9 identifies the requirements for transfer of permit coverage in accordance with 40 CFR 122.41(l)(3) and WAC 173-220-200.

Condition G10 prohibits the reintroduction of removed substances back into the effluent in accordance with 40 CFR 125.3(g), RCW 90.48.010, RCW 90.48.080, WAC 173-220-130, and WAC 173-201A-240.

Condition G11 requires Permittees to submit additional information or records to Ecology when necessary in accordance with 40 CFR 122.41(h).

Condition G12 incorporates all other requirements of 40 CFR 122.41 and 122.42 by reference.

Condition G13 notifies the Permittee that additional monitoring requirements may be established by Ecology in accordance with 40 CFR 122.41(h).

Condition G14 describes the penalties for violating permit conditions in accordance with 40 CFR 122.41(a)(2).

Condition G15 provides the regulatory context and definition of “Upset” in accordance with 40 CFR 122.41(n).

Condition G16 specifies that the permit does not convey property rights in accordance with 40 CFR 122.41(g).

Condition G17 requires the Permittee to comply with all conditions of the permit in accordance with 40 CFR 122.41(a).

Condition G18 requires the Permittee to comply with more stringent toxic effluent standards or prohibitions established under Section 307(a) of the Clean Water Act in accordance with 40 CFR 122.41(a)(1), WAC 173-220-120(5), and WAC 173-201A-240.

Condition G19 describes the penalties associated with falsifying or tampering with monitoring devices or methods in accordance with 40 CFR 122.41(j)(5).

Condition G20 requires Permittees to report planned changes in accordance with 40 CFR 122.41(l)(1).

Condition G21 requires Permittees to report any relevant information omitted from the permit application in accordance with 40 CFR 122.41(l)(8).

Condition G22 requires Permittees to report anticipated non-compliances in accordance with 40 CFR 122.41(l)(2).

Condition G23 specifies that Permittees may request their general permit coverage be replaced by an individual permit in accordance with 40 CFR 122.62, 40 CFR 124.5, and WAC 173-220-040.

Condition G24 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 RCW 43.21B and WAC 173-226-190.

Condition G25 invokes severability of permit provisions in accordance with RCW 90.48.904.

Condition G26 prohibits bypass unless certain conditions exist in accordance with 40 CFR 122.41(m).

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

Ecology may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent sampling, and outfall studies.

Ecology may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This draft permit meets all statutory requirements for authorizing a stormwater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. Ecology proposes that this draft permit be issued for five (5) years.

REFERENCES FOR TEXT AND APPENDICES

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APPENDIX A - PUBLIC INVOLVEMENT INFORMATION

Ecology has tentatively determined to reissue the Industrial Stormwater General Permit to provide NPDES coverage to facilities engaged in industrial activities that are identified in Special Condition S1., Permit Coverage. The proposed (draft) permit will replace the current permit.

The draft Industrial Stormwater General Permit (ISGP), fact sheet, and application are available for review and public comment from **May 7 through June 20, 2014**. Ecology will host informational workshops and a public hearing on the draft permit. Ecology will accept written comments on the draft permit, fact sheet, and application or oral comments can be given at the public hearing.

Requesting Copies of the Permit

You may download copies of the draft permit, fact sheet, and application from the website: www.ecy.wa.gov/programs/wq/stormwater/industrial/index.html.

Or you may request copies from: Kimberly Adams at kimberly.adams@ecy.wa.gov , or (360) 407-6401.

Submitting Written and Oral Comments

Ecology will accept written and oral comments on the draft Industrial Stormwater General Permit, fact sheet, and application. Comments should reference specific text when possible. Comments may address the following:

- technical issues,
- accuracy and completeness of information,
- the scope of facilities proposed for coverage,
- adequacy of environmental protection and permit conditions, or
- any other concern that would result from issuance of the revised permit.

Ecology prefers comments be submitted by email to

industrialstormwatercomments@ecy.wa.gov. Written comments must be postmarked or received via email no later than **June 20, 2014, midnight**.

Submit written, hard copy comments to:

Jeff Killelea
Department of Ecology
PO Box 47696
Olympia, WA 98504-7696

Interested parties may also provide oral comments by testifying at the public hearings.

Public Workshops

In May and June 2014, public workshops on the draft permit will be held in Tacoma, Mount Vernon, Moses Lake, Vancouver WA, and Seattle (2 dates). The purpose of the workshops is to explain the proposed changes to the permit. The date, time, and location of the six public workshops are posted on Ecology's Industrial Stormwater website:

<http://www.ecy.wa.gov/programs/wq/stormwater/industrial/index.html>.

May 19, 2014 1 p.m. Tacoma Public Workshop	La Quinta Inn 1425 East 27th St., Tacoma, WA 253-383-0146
May 20, 2014 1 p.m. Mount Vernon, WA Public Workshop	Skagit Station 105 E. Kincaid, Mount Vernon, WA 360-757-4433
May 22, 2014 1 p.m. Moses Lake Public Workshop	Moses Lake Fire Station 701 E Third St., Moses Lake, WA 509-765-2204
May 28, 2014 1 p.m. Vancouver, WA Public Workshop	Water Resources Education Center 4600 SE Columbia Way, Vancouver, WA 360-487-7111
May 29 and June 16, 2014 1 p.m. Seattle Public Workshops & Hearings	South Seattle Community College Georgetown Campus / C122 6737 Corson Ave S., Seattle, WA 206-934-5350

Public Hearings

On May 29 and June 16, 2014, Ecology will host public hearings to provide an opportunity for interested parties to give formal oral testimony and comments on the draft permit. These public hearings will immediately follow public workshops:

May 29, 2014, 1 p.m.

South Seattle Community College
Georgetown Campus / C122
6737 Corson Avenue South
Seattle WA 98108-3450
(206) 934-5350

June 16, 2014, 1 p.m.

South Seattle Community College
Georgetown Campus / C122
6737 Corson Avenue South
Seattle WA 98108-3450
(206) 934-5350

Issuing the Permit

After Ecology receives and considers all public comments, it will issue the final permit and a response to comments. Ecology expects to issue the final permit on November 19, 2014 with an effective date of January 1, 2015.

Further information may be obtained by contacting Lead Permit Writer, Jeff Killelea, at jeff.killelea@ecy.wa.gov, or (360) 407-6127, , or by writing to Ecology's Olympia address listed above.

APPENDIX B - DEFINITIONS

Air Emission means a release of air contaminants into the ambient air.

AKART is an acronym for “all known, available, and reasonable methods of prevention, control, and treatment.” AKART represents the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants and controlling pollution associated with a discharge.

Applicable TMDL means any TMDL which has been completed either before the issuance date of this permit or the date the Permittee first obtains coverage under this permit, whichever is later.

Best Management Practices (BMPs - general definition) means schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In this permit BMPs are further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

Benchmark means a pollutant concentration used by the permit as a threshold, below which a pollutant is considered unlikely to cause a water quality violation. Benchmark values are not water quality criteria and site-specific conditions must still be considered to determine if an actual water quality violation exists.

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

Clean Water Act (CWA) means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; USC 1251 et seq.

Combined Sewer means a sewer which has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinance.

Constructed Wetland means wetlands intentionally created, on sites that are not natural wetlands, for the primary purpose of wastewater or stormwater treatment and managed as such. Constructed wetlands are normally considered as part of the stormwater collection and treatment system.

Construction Activity means clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, industrial buildings, and demolition activity.

Control plan means a total maximum daily load (TMDL) determination, restrictions for the protection of endangered species, a ground water management plan, or other limitations that regulate or set limits on discharges to a specific water body or ground water recharge area.

Demonstrative approach means stormwater BMPs that must be individually reviewed and approved by Ecology before they can be used by the Permittee. The demonstrative approach requires the Permittee to provide documentation (e. g., an engineering report) that the resulting discharge will be protective of receiving water quality.

Design Storm means the precipitation event that is used to design stormwater facilities. Refer to Ecology's Stormwater Management Manual for specific information on requirements for determining design storm volume and flow rate appropriate for designing stormwater treatment systems.

Design Storm Volume means the volume of runoff predicted to occur from a specified storm event. The storm event includes a time interval (e.g. 24-hours) and frequency (e.g. 6-month). Volume-based treatment BMPs use the design storm volume as their design basis. Refer to the Ecology Stormwater Management Manual for storm event and additional information.

Design Flow Rate means the flow rate at or below which a specified amount of the runoff volume will be treated. Flow rate-based treatment BMPs use the design flow rate (e.g. as estimated using an approved continuous runoff model) as their design basis. Refer to the Ecology Stormwater Management Manual to determine the appropriate flow rate and for additional information.

Detention means the temporary storage of stormwater to improve quality and/or to reduce the mass flow rate of discharge.

Discharge [of a pollutant] means any addition of any pollutant or combination of pollutants to waters of the United States from any point source. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. [from 40 CFR 122 Definitions--not yet italicized in text]

Discharger means an owner or operator of any facility or activity subject to regulation under Chapter 90.48 RCW or the Federal Clean Water Act.

Domestic Wastewater means water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such ground water infiltration or surface waters as may be present.

Ecology means the Washington State Department of Ecology.

EPA means the United States Environmental Protection Agency.

Equivalent BMPs means operational, source control, treatment, or innovative BMPs which result in equal or better quality of stormwater discharge to surface water or to ground water than BMPs selected from the SWMM.

Equivalent Stormwater Management Manual means a manual that has been determined by Ecology as being equivalent to the SWMM.

Erosion means the wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

Erosion and Sediment Control BMPs means BMPs that are intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, filter fences, and sediment traps and ponds. Erosion and sediment control BMPs are synonymous with stabilization and structural BMPs.

Erosion and Sediment Control Plan means a document which describes the potential for erosion and sedimentation problems, and explains and illustrates the measures which are to be taken to control those problems.

Existing Facility means a facility that was in operation prior to the effective date of this permit. It also includes any facility in that is not categorically included for coverage but is in operation when identified by Ecology as a significant contributor of pollutants.

Facility means any NPDES point source or any other facility or activity (including associated land or appurtenances) subject to regulation under this permit.

Final Stabilization means the completion of all soil-disturbing activities at the site and the establishment of a permanent vegetative cover, or equivalent permanent stabilization measures (such as riprap, gabions or geotextiles) which will prevent erosion.

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

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

Ground Water means water in a saturated zone or stratum beneath the land surface or a surface water body.

Illicit Discharge means any discharge that is not composed entirely of stormwater except discharges pursuant to a separate NPDES permit and discharges resulting from fire fighting activities.

Inactive and Unstaffed Site means a facility at which no industrial activity, production, or any auxiliary operation occurs and the facility has no assigned staff. A site may be "unstaffed" even when security personnel are present, provided that pollutant generating activities are not included in their duties.

Industrial Activity means (1) the 11 categories of industrial activities identified in 40 CFR 122.26(b)(14)(i-xi) that must apply for either coverage under this permit or no exposure certification, or (2) any facility identified by Ecology as a significant contributor of pollutants. Table 1 lists the 11 categories of industrial activities identified in 40 CFR 122.26(b)(14)(i-xi) in a different format.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application site, surface impoundment, injection well, or waste pile.

Land Application Site means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

Leachate means water or other liquid that has percolated through raw material, product or waste and contains substances in solution or suspension as a result of the contact with these materials.

Listed Waters – see *Water body segments listed as Impaired - 303(d)*

Local Government means any county, city, or town having its own government for local affairs.

Municipality means a political unit such as a city, town or county; incorporated for local self-government.

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

New Facility means a facility that begins activities that result in a discharge or a potential discharge to waters of the state on or after the effective date of this general permit.

Noncontact Cooling Water means water used for cooling which does not come into direct contact with any raw material, intermediate product, waste product, or finished product.

Notice of Termination (NOT) means a request for termination of coverage under this general permit as specified by Special Condition S11 of this permit.

Operational BMPs means schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the pollution of waters of the state. Not included are BMPs that require construction of pollution control devices.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure and container from which pollutants are or may be discharged to surface waters of the state. This term does not include return flows from irrigated agriculture. (See Fact Sheet for further explanation.)

Pollutant means the discharge of any of the following to waters of the state: dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste. This term does not include sewage from vessels within the meaning of section 312 of the FWPCA nor does it include dredged or fill material discharged in accordance with a permit issued under section 404 of the FWPCA.

Pollution means contamination or other alteration of the physical, chemical, or biological properties of waters of the state; including change in temperature, taste, color, turbidity, or odor of the waters; or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare; or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish or other aquatic life.

Presumptive Approach means the use of stormwater BMPs, pre-approved by Ecology, that are based on current science and are assumed to be protective of receiving water quality. Approved BMPs may be found in the Eastern Washington SWMM and Western Washington SWMM.

Process Wastewater means any water which, during manufacturing or processing, comes into direct contact or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Puget Sound Sediment Cleanup Site means any of the following CERCLA and/or MTCA sediment cleanups: Bellingham Bay, Budd Inlet (Inner), Commencement Bay (Inner), Commencement Bay (Outer), Dalco Passage and East Passage, Duwamish Waterway, Eagle Harbor, Elliot Bay, Everett/Port Gardner, Hood Canal (North), Liberty Bay, Port Angeles Harbor, Rosario Strait, Sinclair Inlet, and Thea Foss Waterway.

Reasonable potential means the probability for pollutants in the discharge to exceed the applicable water quality criteria in the receiving water body.

Receiving water or water body means the water body at the point of discharge. If the discharge is to a storm sewer system, either surface or subsurface, the receiving water is the water body that the storm sewer system discharges to. Systems designed primarily for other purposes such as for ground water drainage, redirecting stream natural flows, or for conveyance of irrigation water/return flows that coincidentally convey stormwater are considered the receiving water.

Regular Business Hours means those time frames when the facility is engaged in its primary production process, but does not include additional shifts or weekends when partial staffing is at the site primarily for maintenance and incidental production activities. Regular business hours do not include periods of time that the facility is inactive and unstaffed.

Representative [sample] means a sample of the discharge that accurately characterizes stormwater runoff generated in the designated drainage area of the facility.

Runoff means that portion of rainfall not absorbed into the ground that becomes surface flow.

Sanitary Sewer means a sewer which is designed to convey domestic wastewater.

Sediment means the fragmented material that originates from the weathering and erosion of rocks or unconsolidated deposits, and is transported by, suspended in, or deposited by water.

Sedimentation means the depositing or formation of sediment.

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

Significant Amount means an amount of a pollutant in a discharge that is amenable to available and reasonable methods of prevention, control, or treatment; or an amount of a pollutant that has a reasonable potential to cause a violation of surface or ground water quality standards or sediment management standards.

Significant Contributor of Pollutant(s) means a facility determined by Ecology to be a contributor of a significant amount(s) of a pollutant(s) to waters of the state.

Significant Materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

Significant Process Change means any modification of the facility that would result in any of the following:

1. Add different pollutants in a significant amount to the discharge.
2. Increase the pollutants in the stormwater discharge by a significant amount.
3. Add a new industrial activity (SIC) that was not previously covered.
4. Add additional impervious surface or acreage such that stormwater discharge would be increased by 25% or more.

Site means the land or water area where any "facility or activity" is physically located or conducted.

Source Control BMPs means physical, structural or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater. A few examples of source control BMPs are erosion control practices, maintenance of stormwater facilities, constructing roofs over storage and working areas, and directing wash water and similar discharges to the sanitary sewer or a dead end sump.

Standard Industrial Classification (SIC) is the statistical classification standard underlying all establishment-based federal economic statistics classified by industry as reported in the 1987 SIC Manual by the Office of Management and Budget.

Stabilization means the application of appropriate BMPs to prevent the erosion of soils, such as, temporary and permanent seeding, vegetative covers, mulching and matting, plastic covering and sodding. See also the definition of Erosion and Sediment Control BMPs.

State Environmental Policy Act (SEPA) means the Washington State Law, RCW 43.21C.020, intended to prevent or eliminate damage to the environment.

Storm Sewer means a sewer that is specifically designed to carry stormwater. Also called a storm drain.

Stormwater means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface water body, or a constructed infiltration facility. (from the CSWGP)

Stormwater Discharge Associated with Industrial Activity means the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant (see 40 CFR 122(b)(14)). It may also, on a case-by-case basis, include stormwater from any portion of an industrial site subject to pollutants of a significant amount.

Stormwater Drainage System means constructed and natural features which function together as a system to collect, convey, channel, hold, inhibit, retain, detain, infiltrate or divert stormwater.

Stormwater Management Manual (SWMM) or Manual means the technical manuals prepared by Ecology for stormwater management in western and eastern Washington. (As of August 1, 2001, the Stormwater Management Manual for Western Washington replaced the 1992 Stormwater Management Manual for the Puget Sound Basin, which is no longer an approved manual.)

Stormwater Pollution Prevention Plan (SWPPP) means a documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of stormwater.

Surface Waters of the State includes lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state.

Total Maximum Daily Load (TMDL) means a calculation of the maximum amount of a *pollutant* that a water body can receive and still meet state *water quality standards*. Percentages of the total maximum daily load are allocated to the various pollutant sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The TMDL calculations include a "margin of safety" to ensure that the water body can be protected in case there are unforeseen events or unknown sources of the pollutant. The calculation also accounts for seasonable variation in water quality. (from the CSWGP)

Treatment BMPs means BMPs that are intended to remove pollutants from stormwater. A few examples of treatment BMPs are detention ponds, oil/water separators, biofiltration, media filtration, and constructed wetlands.

Turbidity means the clarity of water expressed as nephelometric turbidity units (NTU) and measured with a calibrated turbidimeter.

Uncontrolled Sanitary Landfill means a landfill or open dump, whether in operation or closed, that does not meet the requirements for runoff and runoff controls established pursuant to subtitle D of the Solid Waste Disposal Act.

Underground Injection Control Well means a well that is used to discharge fluids into the subsurface. An underground injection control well is one of the following:

1. A bored, drilled, or driven shaft,
2. An improved sinkhole, or
3. A subsurface fluid distribution system.

Unstaffed means the facility has no assigned staff. A site may be "unstaffed" even when security personnel are present, provided that pollutant generating activities are not included in their duties.

Vehicle means a motor-driven conveyance that transports people or freight, such as an automobile, truck, train or airplane.

Wasteload allocation means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality based effluent limitation (40 CFR 130.2(h)). [from the CSWGP-not yet italicized in text]

Water Quality Standards means the Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A WAC. Water quality means the chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.

Water body segments listed as Impaired - 303(d) means the specific segment or grid of a water body that was listed by the State as required under Section 303(d) of the Clean Water Act. The most current list of impaired waters is the applicable list.

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

APPENDIX C - SUMMARY OF 2010-2013 DMR DATA

Appendix C contains statistical summaries of DMRs submitted by ISGP facilities during the previous permit cycle. These data were initially entered into Ecology's Permit and Reporting Information System (PARIS) database. The data characterize stormwater sampling conducted by permittees over 4 years (16 quarters); the first quarter of 2010 through the 4th quarter of 2013. The Appendix D DMR summary tables are grouped by industrial sectors and SIC codes. The sector-specific summary tables indicate the mean (average), minimum, median and maximum concentrations for each pollutant parameter analyzed. While the mean and median values are both provided in the summary tables, Ecology considers the median to be a better measure of central tendency, because stormwater data are typically not normally distributed.

Data Clean-Up and Review Methods

The first step of this data review was to extract relevant data from the PARIS database. Ecology performed a "DMR Search by Industry Code" query of the database to obtain all monitoring data associated with industrial stormwater general permits between January 1, 2010, and December 31, 2013, for the 38 specific SIC codes (21 SIC code groups) listed in Table 1 of the ISGP. This data review focused on only those 13 parameters with numerical benchmarks and results, listed in Table 2. Data for copper were separated into those for Eastern and Western Washington because copper had two different benchmarks, one for each side of the State. The ISGP required monitoring of specific parameters by specific industries, as illustrated in Table 3.

The second step of data review entailed data cleanup: the deletion or substitution of specific records. Data cleanup actions are identified below:

- Deleted null records and other records for which existed neither sampling data nor an explanation or indication of noncompliance with the permit reporting requirements. For the years 2012 and 2013 only, Ecology deleted approximately 0.8% of the PARIS-extracted records.
- Deleted incorrectly dated records that were actually applicable to dates outside of the 2010 through 2013 review period. For the years 2012 and 2013 only, Ecology deleted fewer than 0.1% of the PARIS-extracted records.
- Deleted obviously replicated results. For the years 2012 and 2013 only, Ecology deleted approximately 2.0% of the PARIS-extracted records.
- Deleted obviously incorrect results, such as negative concentrations and pH values that did not lie within the range of 0 through 14 standard units (S.U.). For the years 2012 and 2013 only, Ecology deleted approximately 0.3% of the PARIS-extracted records.
- Merged into a single set of results the obviously and inappropriately replicated results reported by seven permittees located at the Spokane International Airport and classified as Air Transportation industries (SIC 45xx). For the years 2012 and 2013 only, Ecology merged into a single set of results fewer than 0.1% of those records.

- Deleted records that did not contain a result apparently due to “consistent attainment of the benchmark” as allowed in the ISWGP. For the years 2012 and 2013 only, Ecology deleted approximately 7.5% of the PARIS-extracted records.
- Replaced non-detect (ND) results (sometimes referred to as “censored data”) with one-half the reported reporting limit for all parameters except copper for Western Washington (copper-west). If a record did not indicate a numerical reporting limit, Ecology used one-half of an assumed reporting limit, which was based on typical recently reported reporting limits. While 5.5% of the cleaned-up results (excluding pH) for the years 2012 and 2013 only were “ND,” only 2.7% of the results required substitution with an assumed reporting limit.
- Replaced “greater than” values with a specific numerical result equal to the “greater than” value. For the years 2012 and 2013 only, Ecology made this assumption for approximately 0.1% of the PARIS-extracted results.
- Merged the two values “no discharge within normal business hours” and “no qualifying storm event,” which indicated the reason the permittee did not provide numerical results within a particular quarter, into the single value “no discharge.”

During this review, Ecology found that for the data reported in 2012 and 2013 approximately 2.3% of the results extracted from the PARIS database contained errors.

The final step of this data review was to calculate summary statistics for the reported and cleaned-up data. Ecology employed simple arithmetic calculations to determine average and median concentrations, except for copper-west data. To determine average and median concentrations for copper-west data, Ecology employed the non-parametric Kaplan-Meier Method, using a flipped survival function and accounting for censored data (Helsel, Dennis R., *Nondetects and Data Analysis, Statistics for Censored Environmental Data*, First Edition, Wiley-Interscience, Hoboken, NJ, 2012, pp. 63-68). Summary statistics are presented in Tables XXX through YYY.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Metals Mining Category (SIC Codes 10xx, 12xx, 13xx, and 14xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Western (ug/L)	51	2.96	<0.1	1.64	21.0	3.9%
Total Lead (ug/L)	4	0.14	0.0010	0.028	0.50	0.0%
TPH-Dx (mg/L)	4	0.28	0.0050	0.29	0.55	0.0%
pH (S.U.)	52	NA	6.34	7.03	8.19	0.0%
Turbidity (NTU)	52	13.1	0.9	6.7	100	11.5%
Total Zinc (ug/L)	51	12.5	0.91	2.79	46.0	3.9%

Data were provided by a total of 4 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Food, Tobacco, and Kindred Products Category (SIC Codes 20xx and 21xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
BOD ₅ (mg/L)	856	35.1	0.5	4.7	2,244	3.7%
Total Copper, Eastern (ug/L)	128	28.0	0.10	10.4	1,080	1.7%
Total Copper, Western (ug/L)	815	15.2	0.002	6.96	1,380	25.8%
Nitrate+Nitrite, as N (mg/L)	876	1.25	0.00004	0.16	435	15.5%
pH (S.U.)	884	na	2.68	6.85	11.3	2.1%
Total Phosphorus (mg/L)	845	0.73	0.003	0.13	46.5	6.0%
Turbidity (NTU)	940	45.6	0.1	12.0	3,500	22.1%
Total Zinc (ug/L)	993	182	0.01	64.0	10,800	28.4%

Data were provided by a total of 87 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for the DMR Results from 2010 through 2013 for the Textiles, Apparel, Furniture, Printing, Leather, and Others Category (SIC Codes 22xx, 23xx, 25xx, 27xx, 31xx, 39xx, et al.)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	54	15.7	0.001	7.48	148	0.0%
Total Copper, Western (ug/L)	1,970	13.7	0.001	4.60	3,190	22.3%
pH (S.U.)	1,901	na	0.56	6.84	9.70	1.4%
Turbidity (NTU)	2,094	48.1	0.2	11.0	6,370	22.3%
Total Zinc (ug/L)	2,132	150	0.003	60.6	11,000	28.9%

Data were provided by a total of 203 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Lumber and Wood Products Category (SIC Code 24xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
COD (mg/L)	1,812	111	0.01	39.0	3,300	18.4%
Total Copper, Eastern (ug/L)	26	7.50	1.00	5.05	26.6	0.0%
Total Copper, Western (ug/L)	1,862	5.93	0.001	2.00	1,070	16.0%
pH (S.U.)	1,846	na	2.23	6.57	11.2	2.2%
TSS (mg/L)	1,737	44.8	0.05	12.0	3,070	8.4%
Turbidity (NTU)	2,029	51.0	0.01	13.0	3,700	26.4%
Total Zinc (ug/L)	1,974	79.0	0.001	37.0	2,400	15.7%

Data were provided by a total of 187 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Paper and Allied Products Category (SIC Code 26xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
COD (mg/L)	183	23.5	1.0	12.0	440	1.6%
Total Copper, Eastern (ug/L)	4	17.0	12.8	15.9	23.4	0.0%
Total Copper, Western (ug/L)	229	12.3	0.003	4.20	320	17.0%
pH (S.U.)	206	na	2.57	6.80	9.01	4.4%
TSS (mg/L)	182	23.2	0.06	7.00	317	4.3%
Turbidity (NTU)	227	13.4	0.1	5.9	360	8.3%
Total Zinc (ug/L)	237	84.9	0.001	45.0	771	19.7%

Data were provided by a total of 24 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Chemicals and Allied Products Category (SIC Code 28xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
BOD5 (mg/L)	450	9.9	0.5	2.3	387	4.0%
Total Copper, Eastern (ug/L)	3	113	12.1	52.3	274	50.0%
Total Copper, Western (ug/L)	578	8.02	0.001	4.40	258	20.4%
Nitrate+Nitrite, as N (mg/L)	474	0.40	0.003	0.16	20.4	8.0%
pH (S.U.)	490	na	1.17	6.72	8.52	0.6%
Total Phosphorus (mg/L)	437	0.29	0.001	0.07	6.23	4.1%
Turbidity (NTU)	599	22.0	0.3	9.0	462	19.3%
Total Zinc (ug/L)	598	126	0.01	58.2	3,330	25.9%

Data were provided by a total of 52 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Petroleum Bulk Stations and Terminals Category (SIC Codes 29xx and 5171)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	15	3.84	0.01	2.20	20.6	0.0%
Total Copper, Western (ug/L)	437	11.8	<0.01	6.90	220	22.3%
pH (S.U.)	386	na	1.97	6.92	9.04	0.5%
Turbidity (NTU)	456	37.8	0.4	11.3	3,000	20.9%
Total Zinc (ug/L)	464	166	0.05	70.0	2,700	34.5%

Data were provided by a total of 41 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Rubber and Miscellaneous Products Category (SIC Code 30xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	16	10.3	1.00	6.65	30.6	0.0%
Total Copper, Western (ug/L)	436	8.05	<0.0041	2.90	137	17.9%
pH (S.U.)	420	na	3.41	6.50	9.60	1.7%
Turbidity (NTU)	469	19.0	0.2	6.3	740	14.8%
Total Zinc (ug/L)	471	105	0.03	51.0	3,600	16.5%

Data were provided by a total of 45 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Stone, Clay, Glass, and Concrete Products Category (SIC Code 32xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	7	15.3	2.00	7.40	39.8	28.6%
Total Copper, Western (ug/L)	358	23.5	0.002	2.90	3,970	20.1%
pH (S.U.)	360	na	4.77	6.85	10.0	2.8%
Turbidity (NTU)	378	15.5	0.05	6.5	367	14.6%
Total Zinc (ug/L)	402	171	0.02	57.6	5,000	31.6%

Data were provided by a total of 32 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Primary Metal Industries Category (SIC Code 33xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	0	na	na	na	na	na
Total Copper, Western (ug/L)	302	19.7	<0.0002	9.10	280	34.8%
Total Lead (ug/L)	240	21.9	0.004	2.00	972	6.1%
TPH-Dx (mg/L)	230	2.92	0.02	0.44	170	2.3%
pH (S.U.)	277	na	3.80	6.90	9.93	2.5%
Turbidity (NTU)	290	47.2	0.05	9.6	3,270	21.3%
Total Zinc (ug/L)	311	196	0.03	63.0	4,410	34.7%

Data were provided by a total of 28 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Fabricated Metal Products Category (SIC Code 34xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	28	17.1	0.002	6.70	140	14.3%
Total Copper, Western (ug/L)	1,199	10.6	0.001	2.20	934	22.7%
Total Lead (ug/L)	1,080	8.58	0.0001	1.00	750	1.6%
TPH-Dx (mg/L)	943	4.88	0.01	0.94	2,640	2.1%
pH (S.U.)	1,177	na	1.99	6.68	9.93	2.3%
Turbidity (NTU)	1,195	29.5	0.05	6.7	3,000	14.3%
Total Zinc (ug/L)	1,277	276	0.003	70.6	11,000	33.6%

Data were provided by a total of 124 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Industrial and Commercial Machinery and Computer and Electrical Equipment Category (SIC Codes 35xx, 36xx, and 38xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	10	8.36	0.002	4.55	22.7	0.0%
Total Copper, Western (ug/L)	612	14.8	0.002	8.00	421	24.4%
pH (S.U.)	575	na	1.17	7.00	9.60	1.6%
Turbidity (NTU)	602	22.6	0.28	7.60	1,600	14.8%
Total Zinc (ug/L)	625	158	0.01	70.0	3,600	28.5%

Data were provided by a total of 65 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Transportation Equipment Category (SIC Code 37xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	16	73.9	0.005	15.6	405	31.3%
Total Copper, Western (ug/L)	1,109	18.1	0.002	10.0	580	22.1%
pH (S.U.)	1,096	na	3.39	6.93	9.90	0.9%
Turbidity (NTU)	1,156	11.2	0.03	4.6	500	7.9%
Total Zinc (ug/L)	1,100	113	0.01	56.5	7,095	20.7%

Data were provided by a total of 78 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Railroad Transportation Category (SIC Code 40xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	11	24.1	1.00	20.4	119	10.0%
Total Copper, Western (ug/L)	269	18.7	<0.5	10.0	388	35.3%
pH (S.U.)	267	na	1.81	6.88	8.40	0.7%
Turbidity (NTU)	289	49.2	0.3	20.0	1,320	35.3%
Total Zinc (ug/L)	289	180	0.04	76.7	9,430	33.8%

Data were provided by a total of 26 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Local and Suburban Transit and Interurban Passenger Transport Category (SIC Codes 41xx and 43xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	35	11.5	0.001	4.13	56.0	11.5%
Total Copper, Western (ug/L)	447	10.8	0.000003	6.20	142	18.6%
pH (S.U.)	466	na	2.06	6.69	9.64	2.4%
Turbidity (NTU)	486	34.5	0.2	11.0	2,700	20.4%
Total Zinc (ug/L)	506	116	0.00002	58.2	3,490	20.2%

Data were provided by a total of 49 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Motor Freight Transport and Storage Category(SIC Code 42xx, excluding those in the next table)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	49	22.4	0.07	14.6	140	16.3%
Total Copper, Western (ug/L)	1,475	13.4	<0.001	10.0	2,071	25.1%
pH (S.U.)	1,429	na	0.10	6.80	10.0	1.8%
Turbidity (NTU)	1,570	57.7	0.1	14.0	4,620	31.1%
Total Zinc (ug/L)	1,559	136	0.001	62.1	9,430	27.2%

Data were provided by a total of 164 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Farm Product, Refrigerated, and General Storage Category (SIC Codes 4221, 4222, and 4225)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	43	8.82	0.002	7.10	46.2	2.4%
Total Copper, Western (ug/L)	722	14.6	0.002	5.80	1,380	21.2%
pH (S.U.)	761	na	4.60	6.80	10.3	0.7%
Turbidity (NTU)	830	27.1	0.2	10.0	1,300	21.1%
Total Zinc (ug/L)	832	145	0.01	69.1	3,000	32.9%

Data were provided by a total of 78 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for Water Transportation Category (SIC Code 44xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	1	0.50	0.50	0.50	0.50	0.0%
Total Copper, Western (ug/L)	895	25.6	<0.5	10.0	1,640	44.2%
pH (S.U.)	816	na	1.69	6.92	8.80	0.6%
Turbidity (NTU)	882	64.6	0.1	14.2	3,000	31.3%
Total Zinc (ug/L)	922	211	0.04	123	4,330	51.0%

Data were provided by a total of 49 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for Air Transportation Category (SIC Code 45xx)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
BOD5 (mg/L)	54	12.0	0.05	2.23	118	8.8%
COD (mg/L)	59	47.5	0.05	14.6	930	8.3%
Total Copper, Eastern (ug/L)	59	9.37	0.002	5.00	130	3.6%
Total Copper, Western (ug/L)	363	6.15	<0.006	2.80	110	10.4%
Ammonia, as N (mg/L)	52	0.10	0.005	0.07	0.40	0.0%
Nitrate+Nitrite, as N (mg/L)	52	0.50	0.005	0.14	4.42	21.7%
pH (S.U.)	382	na	4.60	6.80	8.99	0.8%
Turbidity (NTU)	423	12.8	0.01	6.8	309	8.7%
Total Zinc (ug/L)	420	57.8	0.002	28.1	2,400	9.2%

Data were provided by a total of 40 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Treatment Works and Landfills Category (SIC Codes 4952 and 4953)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Western (ug/L)	844	10.4	<0.001	6.00	774	17.3%
pH (S.U.)	818	na	0.10	7.00	10.1	1.1%
Turbidity (NTU)	877	26.5	0.02	8.3	1,160	15.4%
Total Zinc (ug/L)	787	68.4	0.0005	26.1	1,270	18.0%

Data were provided by a total of 63 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

Table XX. Summary Statistics for DMR Results from 2010 through 2013 for the Auto Salvage and Scrap Recycling Category (SIC Codes 5015 and 5093)

Parameter	Number of Numeric Results	Average Concentration	Minimum Concentration	Median Concentration	Maximum Concentration	Rate of Quarterly Benchmark Exceedance
Total Copper, Eastern (ug/L)	15	154	8.68	38.3	815	50.0%
Total Copper, Western (ug/L)	1,007	20.5	<0.0016	8.00	2,071	32.0%
Total Lead (ug/L)	856	23.7	0.0001	4.15	1,140	5.3%
TPH-Dx (mg/L)	758	214	0.01	0.65	160,000	3.6%
pH (S.U.)	969	na	0.1	6.81	11.0	1.8%
Turbidity (NTU)	1,036	52.6	0.02	12.0	3,450	26.7%
Total Zinc (ug/L)	999	143	0.003	45.3	12,500	25.2%

Data were provided by a total of 114 facilities.

Number of numeric results and concentrations are based upon single sample data.

Rates are based upon quarterly average numeric results.

Numeric results include both "detect" and "non-detect" results, but exclude results where there was no sample collected, no discharge, no qualifying storm event, or no DMR submission.

APPENDIX D - RESPONSE TO COMMENTS