

COMMON SOURCES OF STORMWATER POLLUTANTS

ZINC

- Galvanized metal surfaces (e.g., roof, siding)
- Most outdoor paint
- Roof gutters and downspouts
- Motor oil
- Hydraulic fluid
- Tire wear and brake pad wear/dust
- Chain link fences
- Galvanized railings and stairs
- Galvanized steel storm pipes
- Scrap metal
- Landscaping fertilizers and pesticides
- Moss-control chemicals
- Wood preservatives
- Wood ash

COPPER

- Brake pad wear/dust
- Architectural copper fixtures
- Scrap metal
- Roofing materials
- Marine paint/coatings
- Landscaping pesticides
- Soil erosion
- Domestic water (copper piping)
- Air emissions (gas/diesel combustion)

IRON

- Steel equipment and materials
- Rust
- Steel tanks
- Cast iron piping, catch basins and grates
- Steel dumpsters
- Scrap metal

CHEMICAL OXYGEN DEMAND (COD)

- Hydraulic fluids
- Antifreeze/deicing chemicals
- Emulsified oils
- Sugars
- Residual food waste
- Wood tannins and lignins

TOTAL SUSPENDED SOLIDS/TURBIDITY

- Soil erosion
- Gravel surfaces
- Broken pavement
- Trash and debris
- Baghouse dust
- Industrial solids, e.g., glass, metal powder/particles, sand, blasting grit, slag
- Color (turbidity), e.g., wood tannins



WASHINGTON INDUSTRIAL STORMWATER GENERAL PERMIT GUIDE

BEST MANAGEMENT PRACTICES

Select applicable operational, structural and/or treatment BMPs from the Western/Eastern Washington Stormwater Management Manual and the following mandatory BMPs.

OPERATIONAL SOURCE CONTROL BMPs (PERMIT S3.B.4.B.I)

- Good housekeeping
 - Quarterly pavement vacuum sweeping
 - Dust control and baghouse inspections/maintenance
 - Cover dumpsters / waste storage
- Preventative maintenance
 - Clean out catch basins when sediment reaches 60% of sump depth
 - Equipment/vehicle inspections & spill/leak cleanup
- Spill prevention and emergency cleanup plan
 - Chemical/fluid secondary storage: enclose with berm capable of containing 10% of total tank volume or 110% of the largest tank volume
 - Cover containment area or manage accumulated water
 - Spill kits within 25 FEET of fueling areas
 - No lock fueling nozzles; no topping off
 - Drain blocks or shut-off valves during fueling
 - Drip pans or containment during fuel transfer
 - Leak-prone equipment storage/containment
 - Spill log
- Annual employee training
- Monthly inspections

STRUCTURAL SOURCE CONTROL BMPs (PERMIT S3.B.4.B.II)

- Minimize exposure of manufacturing, processing, loading/unloading, material storage, fueling, maintenance, cleaning and disposal activities to stormwater
 - Divert runoff from contaminants using grading, curbs, berms
 - Conduct cleaning operations indoors or under cover
 - Divert washwater to sanitary sewer

TREATMENT BMPs (PERMIT S3.B.4.B.III)

PEAK RUNOFF/VOLUME CONTROL

EROSION AND SEDIMENT CONTROL

INSPECTIONS

MONTHLY SITE STORMWATER SYSTEM INSPECTIONS

Inspect monthly, during facility operations for:

- Effectiveness and proper functioning of BMPs
- Need and schedule for BMP maintenance
- Industrial materials or wastes that may have or could come into contact with stormwater
- Leaks or spills from industrial equipment, vehicles, drums, tanks, and other containers
- Evidence of pollutants, or the potential for pollutants entering the stormwater system or discharging to receiving waters

MONTHLY VISUAL OBSERVATIONS OF DISCHARGE

Conduct visual observations of the effluent when stormwater discharge is occurring during regular business hours and safe conditions for:

- Presence of floating solids (associated with industrial activity), visible oil sheen, turbidity and/or odor of the stormwater discharge at all outfall(s)
- Illicit discharges (e.g., cooling water, sanitary wastewater, process wastewater)

INSPECTION REPORTS

Document all inspections in an inspection report and include:

- Inspection date and time
- BMPs needing cleaning, replacement, maintenance, or repair
- Stormwater discharge observations and whether a corrective action was or will be taken to remedy the problem
- Corrective action implementation schedule
- Name, signature and certification of inspector

ANNUAL REPORTS

- Due May 15th of the following year
- Use Ecology's Water Quality Permitting Portal
- Summarize benchmark exceedances and causes
- Summarize status of Level 1, 2 or 3 corrective actions

RECORDKEEPING

- Retain all permit-related records for a period of at least 5 years (monitoring, inspection and maintenance records, corrective actions, calibration, correspondence)

BENCHMARKS EXCEEDANCE CORRECTIVE ACTIONS (PERMIT S8)

LEVEL 1 CORRECTIVE ACTION

If monitoring results exceed any benchmark, within 14 days of results receipt:

- Investigate the cause and review SWPPP
- Implement **additional operational source control BMPs**
- Revise SWPPP, if necessary
- Summarize corrective action in Annual Report
- Deadline: implement as soon as practicable, but no later than DMR due date

LEVEL 2 CORRECTIVE ACTION

If 2 quarterly monitoring results exceed a benchmark during a calendar year:

- Investigate the cause and review SWPPP
- Implement **additional structural source control BMPs**
- Revise SWPPP, if necessary
- Summarize corrective action in Annual Report
- Deadline: implement as soon as practicable, but no later than August 31st of the following year

LEVEL 3 CORRECTIVE ACTION

If 3 quarterly monitoring results exceed a benchmark during a calendar year.

- Investigate the cause and review SWPPP
- Implement **additional treatment BMPs**
 - Designed and stamped by a professional engineer
 - Engineering report
 - Operation and maintenance manual
 - SWPPP revisions, signed by Qualified Industrial Stormwater Professional
- Summarize corrective action(s) in Annual Report
- Deadline:
 - Engineering report: May 15th of the following year
 - Time extension or waiver request: May 15th of the following year
 - Implementation: September 30th of the following year
 - Operation and Maintenance Manual, no later than 30 days after construction/installation

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) (PERMIT S3.B)

SITE DESCRIPTION

- Site Map
 - Stormwater system; drainage patterns; drainage areas; impervious surfaces; industrial activities (vehicle/equipment maintenance areas, material storage/handling areas, hazardous waste, outdoor equipment); surface water bodies (rivers, streams, wetlands, ditches); authorized non-stormwater discharges; spill kits; monitoring location(s)
- Site Assessment and Industrial Activities
 - Industrial activities conducted outside and materials exposed to stormwater
 - Outdoor storage of materials/products
 - Outdoor processing/manufacturing
 - Dust/particulate generating processes
 - Vehicle/equipment fueling, maintenance and/or cleaning
 - Roofs/surfaces exposed to air emissions from manufacturing/processing
 - Materials that may be mobilized by stormwater (galvanized roofs, siding, equipment, fences)
 - Bulk material loading/unloading
 - Inventory of materials handled at the site that may be potentially exposed to stormwater
 - Narrative description of potential pollutants
 - Regular business hours
 - Stormwater collection, conveyance and/or treatment
- BMPs
 - Operational source control BMPs
 - Good housekeeping
 - Preventative maintenance
 - Spill prevention and emergency cleanup plan
 - Employee training
 - Inspections
 - Recordkeeping
 - Illicit discharges
 - Structural source control BMPs
 - Cover, grading, berms, curbs to minimize exposure of manufacturing, processing and material waste/storage areas to stormwater
 - Treatment BMPs
- Sampling Plan
 - Points of off-site discharge to surface water, storm sewer or infiltration features
 - Monitoring locations and demonstration of substantially identical discharges, if applicable
 - Monitoring parameters, frequency, procedures and analytical methods

BENCHMARKS AND MONITORING

BENCHMARKS FOR ALL FACILITIES (PERMIT S5, TABLE 2)	
PARAMETER	BENCHMARK
Total Copper Western WA)	14 µg/L
Total Copper Eastern WA)	32 µg/L
Total Zinc	117 µg/L
Trubidity	25 NTU
pH	5.0 - 9.0 s.u.
Oil Sheen	No Visible Sheen

CONSISTENT BENCHMARK ATTAINMENT

Permittee may suspend sampling for one or more parameters (except visible oil sheen) when 8 or more consecutive quarterly samples are equal to or below the benchmark or within the pH range.

- Reset count if a sample was not collected during a quarter, but a discharge occurred (missed sample).
- Do not count quarters in which a discharge did not occur.

SECTOR-SPECIFIC BENCHMARKS (PERMIT S5, TABLE 3)	
INDUSTRY SECTOR	PARAMETER AND BENCHMARK
Primary Metals Metals Fabricating Metals Mining Auto Salvage Yard Scrap Recycling	Total Lead = 81.6 µg/L Petroleum Hydrocarbons (Diesel) = 10 mg/L
Timber Products	COD = 120 mg/L TSS = 100 mg/L
Chemical and Allied Products Food Products	BODs = 30 mg/L Nitrate + Nitrite = 0.68 mg/L Total Phosphorus = 2.0 mg/L
Air Transportation	Ammonia = 2.1 mg/L BODs = 30 mg/L COD = 120 mg/L Nitrate + Nitrite = 0.68 mg/L Petroleum Hydrocarbons (Diesel) = 10 mg/L
Transportation	Petroleum Hydrocarbons (Diesel) = 10 mg/L

MONITORING AND REPORTING SCHEDULE (PERMIT S4 & S9)

MONITORING FREQUENCY	MONITORING FREQUENCY	DMR DUE DATE
1ST QUARTER January, February, March	1 sample (min.)* from each sampling location. Collected within regular business hours and within the first 12 hours of discharge, if possible	May 15th (Annual Report also due May 15th)
2nd QUARTER April, May, June	1 sample (min.)* from each sampling location. Collected within regular business hours and within the first 12 hours of discharge, if possible	August 15th
3RD QUARTER July, August, September	1 sample (min.)* from each sampling location. Collected within regular business hours and within the first 12 hours of discharge, if possible	November 15th
4TH QUARTER October, November, December	1 sample (min.)* from each sampling location from 1st fall storm event (after October 1st). Collected within regular business hours and within the first 12 hours of discharge, if possible	February 15th

* If more than one sample is collected during a quarter, average of the results should be reported on DMR.

PERMIT S6, TABLE 6

For effluent limits applicable to 303(d)-lister (impaired) waters

PERMIT S6, TABLE 7

Discharges to Puget Sound Sediment Cleanup sites TSS = 30 mg/L

PERMIT S6, TABLE 8

Sample and analyze stormwater system solids by October 1, 2016 and analyze for parameters in Table 8