

2008 Stormwater Management Program (SWMP)

Welcome to the City of Spokane’s 2008 Stormwater Management Program (SWMP). In 2007 the City was issued an Eastern Washington Phase II Municipal Stormwater Permit by the Department of Ecology. The permit requires managing stormwater in urbanizing areas to protect water quality in streams, lakes and groundwater. For the City, that means enhancing our existing stormwater management within the City to better protect the Spokane River, Latah Creek and Spokane Valley-Rathdrum Prairie Aquifer. The Permit’s eight minimum stormwater and surface water elements are addressed in the SWMP. Wastewater Management, in conjunction with affected City departments, is currently updating the [2004 Stormwater Management Plan](#) for 2008 to incorporate the new permit requirements. Continued implementation and updating of the SWMP is necessary to fulfill permit requirements. What you are reading is an outline of the 2008 SWMP.

Impervious areas, such as pavement and roofs, cause a major increase in volume of stormwater runoff. Where natural conditions may have allowed 15-20% of rainfall to runoff, intense development can result in 75-80% impervious area. The City has employed several different strategies over the years to manage this runoff increase including:

1. Combined sewers that collect stormwater such that it mostly receives full treatment;
2. Separated storm sewers that discharge to the river with catch basin treatment;
3. Underground injection facilities which includes drywells, absorption trenches, and infiltration galleries;
4. Development of bioinfiltration swales for treatment, with drywells for overflow; and
5. Detention ponds and vaults to mitigate peak flows

Wastewater Management conducts many activities in maintaining storm water quality. Activities include:

1. Training internal staff about stormwater management;
2. Responding to storm water complaints;
3. If an illicit discharge is detected staff responds accordingly;
4. Additional street sweeping to control pollutants and debris;
5. Clean curb inlets to ensure bioinfiltration swales function properly;
6. Clean and replace drywells on an as needed basis;
7. Maintaining and retrofitting bioinfiltration swales;
8. Participate in public venues to educate the public, and businesses, about stormwater; and
9. Developing and distributing stormwater brochures Continuously improving design standards

Table 1- An acronym table to help you decipher the language throughout the outline

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| Stormwater Management Plan | SMP |
| Stormwater Management Program | SWMP |
| Municipal Separate Storm Sewer Systems | MS4 |
| Best Management Practices | BMP |
| Maximum Extent Practicable | MEP |
| All Known, Available, and Reasonable methods of prevention, control and treatments | AKART |
| Stormwater Pollution Prevention Plans | SWPPP |
| Low Impact Development | LID |
| Operation and Maintenance | O&M |
| National Pollutant Discharge Elimination System | NPDES |
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Below are the eight minimum stormwater and surface water requirements reflecting the permit and Ecology's Eastern Washington Model Stormwater Program.

1. Public Education and Outreach

- a. Objective: To develop and implement a public education and outreach program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges to water bodies and the steps the public can take to reduce pollutants in stormwater.
 - i. Develop and implement a public education and outreach program. Identify and characterize target audiences within the City's jurisdiction to meet education and outreach goals.
 - ii. Distribute information to the general public about the importance of improving water quality and protecting beneficial uses of waters of the state; potential impacts from stormwater discharges; methods of avoiding, minimizing, reducing and/or eliminating the adverse impacts of stormwater discharges; and actions individuals can take to improve water quality.
 - iii. Distribute information to engineers, construction contractors, developers, development review staff, and land use planners about technical standards, the development of stormwater site plans and erosion control plans. Also include stormwater Best Management Practices (BMPs) for reducing adverse impacts from stormwater runoff from development sites.

2. Public Involvement and Participation

- a. Objective: To include ongoing opportunities for public involvement and participation such as advisory panels, public hearings, watershed committees, participation in developing rate-structures, stewardship programs, environmental activities, other volunteer opportunities, or other similar activities.
 - i. Provide opportunities for the public to provide input during decision making processes involving the development, implementation and updates to the SMP. Include development and adoption of all required ordinances and regulatory mechanisms. Develop and implement a strategy for consideration of public comments regarding the SWMP, including required ordinances and regulatory mechanisms.
 - ii. No later than May 31, each year beginning in 2008, make the latest updated version of the SWMP available to the public. Post the SWMP that was submitted with the latest annual report or a more current version on the City's website.

3. Illicit Discharge Detection and Elimination

- a. Objective: To develop, implement and enforce a program to detect and eliminate illicit discharges into the MS4.
 - i. Develop a map of the MS4, showing the location of all known and new connections to the MS4 authorized or approved by the City, all known outfalls; the names and locations of all waters of the state that receive discharges from those outfalls; and areas served by discharges to ground.
 - ii. Adopt an ordinance to effectively prohibit non-stormwater discharges into the MS4. This ordinance must authorize enforcement actions, including on private property. This ordinance must include escalating enforcement procedures and actions.

- iii. Develop and implement an ongoing program to detect and address non-stormwater discharges of spills, illicit connections and illegal dumping into the MS4.
- iv. Prioritize receiving waters for visual inspection to identify previously unknown outfalls. Conduct field assessments for at least three high priority water bodies or other priority areas to verify outfall locations and detect illicit discharges no later than February 16, 2011. Each year after continue to conduct field assessments at least one high priority water body or other high priority area.
- v. Publicly list and publicize a hotline for citizens to report spills and other illicit discharges. Keep records of all calls received and follow-up actions. A summary of all calls must be added to the annual report.
- vi. Adopt and implement procedures for program evaluation and assessment. Include tracking the number and type of spills or illicit discharges identified, inspections made and any feedback received from public education efforts. A summary of this information must be included in the annual reports.
- vii. Provide adequate training to all staff responsible for identification, investigation, termination, cleanup and reporting of illicit discharges including spills, improper disposal and illicit connections.

4. Construction Site Stormwater Runoff Control

- a. Objective: To develop, implement and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that disturb one acre or more, and from construction projects of less than one acre that are part of a common plan of development or sale.
 - i. Develop and adopt an ordinance to require erosion and sediment controls, and other construction-phase stormwater pollution controls at new development and redevelopment projects. The ordinance must include sanctions to ensure compliance. The ordinance must also include appropriate escalating enforcement procedures and actions.
 - ii. Adopt requirements for construction site operators to implement appropriate erosion and sediment control BMPs.
 - iii. Adopt requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste at the construction site that may cause adverse impacts to water quality.
 - iv. Document how the requirements of the ordinance protect water quality, reduce the discharge of pollutants to the MEP and satisfy state AKART requirements. Documentation must include:
 - 1. How stormwater BMPs were selected;
 - 2. The pollutant removal expected from the selected BMPs;
 - 3. The technical basis which supports the performance claims for the selected BMPs; and
 - 4. How the selected BMPs will comply with applicable state water quality standards and satisfy the state requirement to apply AKART prior to discharge
 - v. Develop and enforcement strategy and implement the enforcement provisions of the ordinance.
 - vi. Adopt and implement procedures for site plan review which incorporate consideration of potential water quality impacts.
 - vii. Prior to construction, review Construction SWPPP for all construction sites that disturb one acre or more, or are less than one acre and are part of a common plan of development or sale, to ensure that the plans are complete pursuant to the requirements of Appendix 1,

Core Element #2. The Construction SWPPP review must be performed by qualified personnel.

- viii. Keep records of all projects disturbing more than one acre, and all projects of any size that are part of a common plan of development or sale that is greater than one acre that are approved after February 16, 2007. These records must be kept for five years or until the construction is completed, whichever is longer. Provide adequate training for all staff involved in permitting, plan review, field inspections and enforcements to carry out provisions. Records of all training must be kept. Records must include dates, activities or course descriptions, names and positions of staff who attended. Keep records of inspections and enforcement actions. Include inspection reports, warning letters, notices of violations and other enforcement records.
- ix. Adopt and implement procedures for site inspection and enforcement of construction stormwater pollution control measures.
- x. All new construction sites that disturb one acre or more, or are part of a common plan of development or sale shall be inspected at least once by qualified personnel.
- xi. Keep all records of projects disturbing more than one acre, and all projects of any size that are part of a common plan or development or sale that is greater than one acre, that are approved after February 16, 2007. These records must be kept for five years or until construction is completed, which ever is longer. Compliance with the inspection requirement will be determined by the City having and maintaining records of an inspection program that is designed to inspect all sites, and by the City achieving an inspection rate of at least 95% of the sites.
- xii. Provide information to construction site operators about training available on how to install and maintain effective erosion and sediment controls and to comply with the Spokane Regional Stormwater Manual. The City must keep documentation of information provided to construction site operators; and, if information is distributed to a large number of design professionals at once, the dates of the mailings and lists of recipients.
- xiii. Adopt and implement procedures for receipt and consideration of information submitted by the public.
- xiv. If the City allows construction sites to apply the “Erosivity Waiver” than records of all construction sites that provide notice to the City of their intention to apply the waiver must be kept. The City must investigate complaints about these sites in the same manner as investigating complaints about sites that have submitted Construction SWPPPs for review.

5. Post Construction Stormwater Management for New and Redevelopment

- a. Objective: To develop, implement and enforce a program to address post-construction stormwater runoff to the MS4 from new and redevelopment projects that disturb one acre or more, and from projects of less than one acre that are part of a common plan of development or sale. This program must ensure that controls to prevent or minimize water quality impacts are in place. Public and private projects, including projects proposed by the City’s own departments and agencies must comply with these requirements. The City shall determine a process for ensuring proper project review, inspection and compliance by our own departments and agencies.
 - i. Develop and adopt an ordinance that requires post-construction stormwater controls at new development and redevelopment projects. This ordinance shall include sanctions to ensure compliance. This ordinance must have an effective date of February 16, 2010.

- ii. Adopt a policy of encouraging project proponents to maintain natural drainages to the maximum extent possible, including reducing the total amount of impervious surfaces created by the projects.
- iii. Consider including provisions to allow non-structural preventive actions and source reduction approaches such as LID techniques, measures to minimize the creation of impervious surfaces and measures to minimize the disturbance of native soils and vegetation. Provisions for LID should take into account site conditions, access and long term maintenance.
- iv. Adopt requirements for project proponents and property owners to implement appropriate runoff treatment, flow control, and source control BMPs considering the proposed land use at the site to minimize adverse impacts to water quality.
- v. Define a specific hydrologic method or methods for calculating runoff volumes and flow rates to ensure consistent sizing of structural BMPs in their jurisdiction and to facilitate plan review. The City may allow proponents of unique or complex projects to use other methodologies.
- vi. Adopt requirements to ensure adequate ongoing long-term operation and maintenance of the BMPs approved by the City.
- vii. Document how the requirements of the ordinance protect water quality, reduce the discharge of pollutants to the MEP and satisfy state AKART requirements.
Documentation must include:
 - 1. How stormwater BMPs were selected;
 - 2. The pollutant removal expected from the selected BMPs;
 - 3. The technical basis which supports the performance claims for the selected BMPs; and
 - 4. How the selected BMPs will comply with applicable state water quality standards and satisfy the state requirement to apply AKART prior to discharge
- viii. Develop and enforcement strategy and implement the enforcement provisions of the ordinance.
- ix. Adopt and implement procedures for site plan review which incorporate consideration of potential water quality impacts.
- x. Prior to construction, the City must review Stormwater Site Plans for all new development and redevelopment that sites that discharge to the MS4 and disturbs one acre or more or are less than one acre and are part of a common plan of development or sale; to ensure that the plans include stormwater pollution prevention measures the requirements in the ordinance. Keep records of all projects disturbing an acre or more and all projects of any size that are part of a common plan of development or sale that is greater than one acre, that are approved after February 16, 2007. Records must be kept for five years or until construction is completed, whichever is longer.
- xi. Site plan review shall be performed by qualified personnel and shall include review of Construction SWPPP.
- xii. Adopt and implement procedures for site inspection and enforcement of post-construction stormwater control measures.
- xiii. Adopt procedures for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations and other enforcement actions. At minimum inspection and enforcement procedures shall be applied to all new development and redevelopment.
- xiv. Structural BMPs shall be inspected at least once during installation by qualified personnel.
- xv. Structural BMPs shall be inspected at least once every five years after final installation, or more frequently as determined by the City to be necessary to prevent adverse water

- quality impacts, to ensure that adequate maintenance is being performed. The inspection shall be performed by qualified personnel.
- xvi. Recommended operation and maintenance standards for structural BMPs in the Spokane Regional Stormwater Manual shall be met. If a BMP is not inspected, the City is not in violation of this unless a violation of water quality standards occurs due to lack of operation and maintenance of the facility.
 - xvii. Provide adequate training for all staff involved in permitting, planning, review, inspection and enforcement to carry out the provisions of this SMP.
 - xviii. Provide information to design professionals about training available on how to comply with the requirements of Appendix 1 and apply the BMPs described in the Spokane Regional Stormwater Manual.

6. Pollution Prevention and Good Housekeeping

- a. Objective: To develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations
 - i. Develop and implement a schedule of municipal O&M activities. The schedule must include BMPs that, when applied to the municipal activity or facility, will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy state AKART requirements. Keep all records pertaining to the plan.
 - ii. The O&M plan shall include appropriate pollution prevention and good housekeeping procedures for all of the following types of facilities and/or activities listed in this chapter. Low impact development techniques should be considered for all new and redeveloped municipal facilities. Water conservation measures should be considered for all landscaped areas, parks and open spaces.
 - iii. Develop an O&M Plan for the Stormwater collection and conveyance system. Include catch basins, stormwater sewer pipes, open channels, culverts, structural stormwater controls, and structural runoff treatment and/or flow control facilities. Include a schedule of inspections and record keeping in the O&M plan. This plan must include, but is not limited to:
 - 1. Regular inspections;
 - 2. Cleaning;
 - 3. Proper disposal of waste removed from the system; and
 - 4. Record Keeping
 - iv. Implement catch basin cleaning, stormwater system maintenance, schedules structural BMP inspections and maintenance, and pollution prevention/good housekeeping practices.
 - v. Develop an O&M Plan for Roads, highways and parking lots. This plan must address, but is not limited to, deicing, anti-icing, and snow removal practices; snow disposal areas, material (e.g. salt, sand, or other chemical) storage areas, and all-season BMPs to reduce road and parking lot debris and other pollutants from entering the MS4. Include a schedule of inspections and record keeping in the O&M plan.
 - vi. Implement all pollution prevention/good housekeeping practices established in the O&M Plan for all roads, highways, and parking lots with more than 5,000 square feet of pollutant generating impervious surface that are owned, operated, or maintained by the City.

- vii. Develop an O&M Plan for vehicle fleets to address, but is not limited to, storage, washing and maintenance of municipal vehicle fleets. Include a schedule of inspections and record keeping in the O&M plan.
- viii. Develop an O&M plan for all vehicle and equipment washing and maintenance in a self contained covered building or in designated wash and/or maintenance areas operated to separate wash water from stormwater. Include a schedule of inspections and record keeping in the O&M plan.
- ix. Develop an O&M plan for municipal buildings to address, but is not limited to, cleaning, washing, painting and other maintenance activities. Include a schedule of inspections and record keeping in the O&M plan.
- x. Implement all pollution prevention/good housekeeping practices established in the O&M plan for buildings owned, operated, or maintained by the City.
- xi. Develop an O&M plan for parks and open spaces to address, but is not limited to:
 - 1. Proper application of fertilizer;
 - 2. Pesticides, and herbicides;
 - 3. Sediment and erosion control;
 - 4. BMPs for landscape maintenance and vegetation disposal;
 - 5. Trash management;
 - 6. BMPs for building exterior cleaning and maintenance; and
 - 7. Include a schedule of inspections and record keeping in the O&M plan.
- xii. Implement park and open space maintenance pollution prevention/good housekeeping practices at all park areas and other open spaces owned or operated by the City.
- xiii. Public construction projects shall comply with the requirements applied to private projects. All construction projects owned or operated by the City that is required to have a NPDES permit shall be covered under wither the General NPDES Permit for Stormwater Discharges Associated with Construction Activities or another NPDES permit that covers stormwater discharges associated with the activity. All public projects approved after February 16, 2007 must include construction and post-construction controls selected and implemented pursuant to the requirements in Appendix 1(Eastern Washington Phase II Stormwater Municipal Permit).
- xiv. Develop an O&M plan for all facilities owned or operated by the City that are required to have NPDES permit coverage must be covered under the General NPDES Permit for Stormwater Discharge Associated with Industrial Activities or another NPDES permit that covers stormwater discharges associated with the activity. Include a schedule of inspections and record keeping in the O&M plan.
- xv. Develop and implement a SWPPP to protect water quality at each facility that is owned and operated by the City and not covered under the General NPDES Permit for Stormwater Discharges Associated with Industrial Activities or another NPDES permit that covers stormwater discharges associated with the activity. Generic Stormwater Pollution Prevention Plans that can be applied at multiple sites may be used to comply with this requirement. Include a schedule of inspections and record keeping in the SWPPP plan. The facilities include:
 - 1. Material storage areas;
 - 2. Heavy equipment storage areas; and
 - 3. Maintenance areas
- xvi. Develop an O&M plan for flood management projects. Implement provisions to assess water quality impacts in the design of all new flood management projects that are associated with the MS4 or that discharge to the MS4, including considering use of

controls that minimize impacts to site hydrology and still meet project objectives. Existing flood management projects that are associated with the MS4 or that discharge to the MS4 will be prioritized and at least five must be reviewed and evaluated to determine whether changes or additions should be made to improve water quality. Include a schedule of inspections and record keeping in the O&M plan.

- xvii. Develop an O&M plan for any other facilities that would reasonably be expected to discharge contaminated runoff. Identify these facilities, develop BMPs to protect water quality from discharges from these sites in the O&M Plan and implement the BMPs no later than August 16, 2011. Include a schedule of inspections and record keeping in the O&M plan.
- xviii. A minimum of 95% of all known stormwater treatment and flow control facilities owned, operated or maintained by the City must be inspected at least twice by the above date; and again before February 16, 2012.
- xix. Upon completion of each O&M plan provide training for all who have primary construction, operations, or maintenance job functions that are likely to impact stormwater quality. Training must address the importance of protecting water quality, the requirements of the Eastern Washington Phase II Stormwater Municipal Permit, operations and maintenance requirements, inspection procedures, ways to perform their job activities to prevent or minimize impacts to water quality and procedures for reporting water quality concerns, including potential illicit discharges. Follow up training must be provided as needed to address changes in procedures, methods or staffing.

7. Compliance with more stringent conditions

- a. Objective: Incorporate measures beyond A-F (above), into the SWMP, to achieve Total Maximum Daily Loads
 - i. Incorporate other cleanup plans to meet federal Clean Water Act requirements to restore beneficial uses of impaired water bodies.

8. Evaluation and Assessment Record Keeping and Reporting

- a. Objective: Evaluate the program's compliance with permit conditions and the effectiveness and appropriateness of the identified BMPs.
 - i. Develop a mechanism to track program implementation and progress;
 - ii. The City must submit reports annually during the first permit term;
 - iii. Keep records and report to the Department of Ecology; and
 - iv. Notify Ecology of any changes in activities as a result of the program evaluation and assessment

The City is required to submit an annual report to the Department of Ecology. Its first report was submitted in March, 2008 and demonstrated compliance with the permit requirements for 2007. The City will continue to update and implement the SMP and SWMP to accomplish the elements above.