

City of Salem

Pollution Prevention for Municipal Operations

National Pollutant Discharge Elimination System (NPDES) Municipal Separate
Storm Sewer System (MS4)

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Attachment A. Summary of Municipal Activities and Pollutant Reduction Strategies

1.0 Purpose

This document addresses the pollution prevention requirements for municipal operations described in Schedule A.4.g of the City of Salem's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit. A summary of these requirements is provided in Table 1. Municipal activities applicable to these permit requirements are discussed in the sections that follow (and are also summarized in Attachment A). Some of the pollution prevention measures utilized are Best Management Practices (BMPs) referenced from the City's 2010 Stormwater Management Plan (SWMP). These BMPs are reported on annually to the Oregon Department of Environmental Quality (DEQ) in the City's NPDES MS4 Annual Report. Additional pollution prevention measures are identified and prioritized for each activity based upon the pollutants involved, frequency of activity, and the potential impact.

Table 1. Summary of MS4 Permit Requirements Addressed by this Document

MS4 Permit	Requirement	Section
Schedule A.4.g	The permittee must continue to implement a program to reduce the discharge of pollutants to the MS4 from properties owned or operated by the permittee for which the permittee has authority, including, but not limited to, parks and open spaces, fleet and building maintenance facilities, transportation systems and fire-fighting training facilities. The permittee must conduct, at a minimum, the following program activities:	Section 2.0
Schedule A.4.g.i	Operate and maintain public streets, roads and highways over which the permittee has authority in a manner designed to minimize the discharge of stormwater pollutants to the MS4, including pollutants discharged as a result of deicing activities;	Section 2.3
Schedule A.4.g.ii	Implement a management program to control and minimize the use and application of pesticides, herbicides and fertilizers on permittee-owned properties;	Section 2.2 and 2.3
Schedule A.4.g.iii	By January 1, 2013, inventory, assess, and implement a strategy to reduce the impact of stormwater runoff from municipal facilities that treat, store or transport municipal waste, such as yard waste or other municipal waste and are not already covered under a 1200 series NPDES, a DEQ solid waste, or other permit designed to reduce the discharge of pollutants;	Section 2.1, 2.2 and 2.5
Schedule A.4.g.iv	Limit infiltration of seepage from the municipal sanitary sewer system to the MS4;	Section 2.5
Schedule A.4.g.v	Implement a program to prevent or control the release of materials related to fire-fighting training activities; and,	Section 2.4
Schedule A.4.g.vi	Assess permittee flood control projects to identify potential impacts on the water quality of receiving water bodies and determine the feasibility of retrofitting structural flood control devices for additional stormwater pollutant removal. The results of this assessment must be incorporated and considered along with the results of the Stormwater Retrofit Assessment required by this permit;	Section 2.9

2.0 Municipal Activities

2.1 Storage and Stockpile Sites

2.1.1 Salem Airport Disposal Facility

The Salem Airport Disposal Facility operates under the conditions of a DEQ Solid Waste Site Permit (Permit Number 136). This disposal facility is authorized to accept earth, concrete, brush, catch basin cleanings, and truck wash dirt. Water quality samples are collected from three wells on the property in April of each year. This data is included in a report that is submitted to the DEQ annually. The current permit will expire on March 31, 2016.

2.1.2 Temporary Street Construction Materials Storage Facility

The temporary storage facility is located on Airport Road, near the intersection of Turner Road SE. Street sweeping debris, crushed rock, broken concrete, and leaves are collected at this location. All materials temporarily stored at the facility are either recycled or transported to a permanent disposal site outside of the city. As of December 2012, efforts are underway to design and construct a new "Construction Waste Processing and Transfer Facility" at this location that is anticipated to operate under a DEQ Solid Waste Site Permit. Construction of the new facility, which will incorporate onsite stormwater treatment and controls, is expected to begin in 2013.

2.1.3 City Shops Complex

Utility maintenance vehicles and equipment, construction supplies, road sanding and de-icing supplies, and pesticides/herbicides are stored at the 21-acre City of Salem Shops Complex located at 20th Street SE and Oxford SE. The Shops Complex also includes a fueling station, septic dump tank, vehicle/equipment wash racks, a temporary storage area for hazardous waste, and general office space for several different City Divisions. The *City of Salem Shops Complex Stormwater Pollution Prevention Plan* (draft, September 2011) and an accompanying Public Works Departmental Policy & Procedure have been developed for the Shops Complex to prevent stormwater pollution.

2.1.4 Temporary Snow, Leaf, and Sand Storage

The City uses space at the Oregon State Fairgrounds and at two City parks (Wallace Marine and Woodmansee Park) to temporarily store excess leaves during the winter months. Temporary storage sites for snow have been established at the East Yard of the City Shops Complex and Temporary Street Construction Materials Storage Facility. Emergency sandbag stations are located at designated sites across the city for the public's use during high water events. There are no known stormwater quality issues associated these temporary storage sites. The City may implement pollution prevention measures on a site-by-site basis if the need is identified.

2.2 Parks and Open Spaces

2.2.1 Undeveloped and Developed Parks

A Pest Management Plan was developed in 2004 to guide invasive species control and pesticide application activities in City parks. The plan includes provisions for employee training, applications by outside contractors, the storage/transport/disposal of pesticides, and spill

response. The plan will be reviewed and revised by December 2015 (as stated in BMP RC 4-5). All trash is collected from City parks based upon a set schedule. This trash is then stored in covered dumpsters at City Shops prior to being disposed of at the Marion County Recycling and Transfer Station.

2.3 Public Streets and Right-Of-Way

Salem's residential and collector streets are routinely swept by regenerative air sweepers at a frequency that is based upon street debris accumulation. The heaviest debris accumulation zone is swept 13 times per year; the lightest zone is swept six times per year. The City's street sweeping program is discussed in BMP RC 4-1 of the City's SWMP. Additional activities in the Right-of-Way include the following:

- An annual Fall Leaf Haul (BMP ILL3-5) helps to keep leaves out of streets and the storm system by allowing Salem residents one day of free yard debris disposal at designated collection sites each year.
- The Adopt-a Street Program (BMP ILL3-1) solicits volunteers to help keep street right-of-ways free of trash and debris.
- Salem's Deicing Procedures (BMP RC 4-2) minimize water quality impacts by utilizing application rates that are 1/3 to 1/2 the industry standard. Sanding rock is only applied to Salem streets if snow and/or ice have accumulated on the surface. Regenerative air sweepers pick up any spilled deicer aggregate immediately after the conclusion of each event.
- An Intergovernmental Agreement (IGA) between the City and Marion County for the exchange of public works maintenance services documents that roadside spraying for the control of noxious vegetation will be performed by Marion County. The County utilizes BMPs for vegetation management that have been approved by the National Marine Fisheries Service and operates under the principles of Integrated Vegetation Management.
- All other right-of-way pesticide application is performed by licensed applicators within the Parks Division according to the procedures outlined in the City's Pest Management Plan.

2.4 Fire

Salem Fire Departments' Standard Operation Guideline (SOG) #2.6.3 includes procedures designed to control the release of materials to the MS4 from fire-fighting training activities. Additional procedures have been documented in SOG #2.1.21 that are designed to protect the MS4 from general maintenance and cleaning activities at the fire stations. All but two of the ten fire stations within city limits have interior drains tied to the sanitary sewer system. All of the newer stations (#5, 7, 10, and 11) have sanitary diversions for the exterior storm drains. Additional pollution prevention measures may be employed at the fire stations if the need is identified.

2.5 Municipal Sanitary Sewer System

2.5.1 City of Salem Willow Lake Water Pollution Control Facility

The City's Municipal Wastewater Treatment Facility is located near the City of Keizer in Marion County and operates under the conditions of an NPDES Wastewater Discharge Permit (Permit Number 101145). All stormwater runoff at this facility is directed to the treatment plant or to onsite drainage control facilities.

2.5.2 River Road Wet Weather Treatment Facility

The River Road Wet Weather Treatment Facility (RRWWTF) was commissioned in response to a Mutual Agreement and Order with the DEQ that required the City to eliminate Sanitary Sewer Overflows (SSOs) for storm events equal to or less than the "winter" 5-year, 24 hour storm, and the "summer" 10-year, 24 hour storm. The facility is located in River Road Park at one of the City's permitted Sanitary Sewer Overflow discharge points. This treatment facility was constructed in 2008 and is listed on the City's NPDES Waste Discharge Permit. Drainage control facilities provide onsite treatment for stormwater runoff at the RRWWTF.

2.5.3 Sanitary Sewer Collection System

Cross-connections between the sanitary and storm sewer system are primarily identified through TV inspections (BMP RC4-6), stormwater and ambient stream monitoring data (BMP ILL2-3), dry-weather outfall inspections, or follow-up to public complaints.

Fuel for onsite generators is stored at each of the sanitary sewer pump stations in Salem. Bioxide, a product used for corrosion and odor control is also stored at 5 of the sanitary pump stations. The tanks that store fuel or bioxide are either housed in containment areas or double walled tanks. A Sanitary Sewer Overflow (SSO) Response Plan identifies procedures for public notification and discharge containment during sanitary overflow events.

2.6 Municipal Drinking Water System

2.6.1 Geren Island Drinking Water Treatment Facility

Salem's drinking water treatment facility at Geren Island on the North Santiam River is located outside Salem city limits and the MS4 Permit area.

2.6.2 Pump Stations, Reservoirs, ASR Wells

There are no known stormwater quality issues associated with Salem's drinking water pump stations or reservoirs. Drinking water from the four operational Aquifer Storage and Recovery (ASR) Wells is routinely flushed in the summer to remove turbid water from the distribution system. Flushed water is directed to a detention pond at Woodmansee Park to control flows into Pringle Creek. ASR well water does not contain measurable levels of chlorine during the summer months when flushing occurs. The City may implement additional pollution prevention measures on a site-by-site basis if the need is identified.

2.7 Municipal Airport

Salem's McNary Field Airport operates under the conditions of a NPDES 1200-Z Industrial Stormwater Permit (Permit File Number 106923) and associated Stormwater Pollution Control Plan. Stormwater discharges from the Airport's drainage system are regularly monitored in accordance with conditions of the 1200-Z Permit. In addition, the Airport maintains proactive geese control and Pocket Gopher eradication programs. These efforts help to reduce aviation hazards, and as a secondary effect may also reduce bacteria levels in the Airport's stormwater runoff.

2.8 General Office/Parking

Elements of the SWPCP developed for the City Shops Complex may be expanded to apply to other general office, parking, or other municipal facilities. See Attachment A for a list of these facilities. In particular, employee training and education materials developed as a result of the Shops Complex SWPCP may later be used for City staff in other work sections or departments.

Municipal parking structures are currently swept clean by machine or by hand. These facilities are not pressure washed. Efforts to develop additional stormwater pollution prevention measures are being considered that would provide guidance to City crews and contracted labor associated with facility maintenance activities. Activities that have the potential to contribute stormwater pollutants will be evaluated and prevention measures documented through this process as needed.

2.9 Flood Control

The City acquired the former Battle Creek Golf Course property with the intent to mediate recurring flood concerns in this area of Salem. A Master Plan will eventually be developed to address both flood control and stormwater quality. In 2012, portions of Waln Creek and Battle Creek were restored by laying back the streambank, adding large woody debris, constructing meanders, and installing plants. The City has completed two 'retrofit' projects where existing detention basins were modified to provide stormwater treatment (located at Lone Oak/Kuebler and Saddle Club). Efforts are underway to develop a Retrofit Strategy (Schedule A.6 and BMP RC1-7) that will prioritize future retrofit opportunities to address both stormwater flow and quality.

Attachment A. Summary of Municipal Activities and Pollutant Reduction Strategies

<u>Activity</u>	<u>Description</u>	<u>Location</u>	<u>Strategy</u>
Storage/Stockpile Sites	Salem Airport Disposal Site	2990 25th St. SE Salem, OR 97302 (City of Salem McNary Field Airport)	DEQ Solid Waste Site Permit #136
	Temporary Street Construction Materials Storage Facility	Airport Rd. near intersection of Turner Rd. SE	New Construction Waste Processing and Transfer Facility
	City Shops Complex	1400-1500 Block 20th and 22nd St. SE Salem, OR 97302	Stormwater Pollution Control Plan, Policy & Procedure (ILL 1-4)
	Temporary Snow, Leaf, Sand Storage	Woodmansee Park, Oregon State Fairgrounds, Musgrave St. ROW at Wallace Marine Park, City of Salem Shops Complex, Citywide	As needed
Parks/Open Spaces	Undeveloped and Developed Parks: Neighborhood, Community, Urban, and Special Use	Citywide	Pest Management Plan (RC 4-5)
Public Streets/ROW	Streets, bridges, sidewalks, ROW	Citywide	Deicer Facility Operating Procedures (RC 4-2), Street Sweeping (RC 4-1), Adopt-a Street Program (ILL 3-1), Annual Yard Debris Cleanup (ILL 3-5)
Fire	Fire Stations	Citywide	Standard Operating Guidelines
Municipal Sanitary Sewer System	City of Salem Willow Lake Water Pollution Control Facility - Municipal Wastewater Treatment	5915 Windsor Island Rd. Keizer, OR 97303	NPDES Wastewater Discharge Permit #101145 - Outside Salem City Limits
	River Road Wet Weather Treatment Facility	3000 North River Rd. Keizer, OR 97303	NPDES Wastewater Discharge Permit #101145, Sanitary Sewer Overflow Response Plan
	Sanitary Sewer Pump/Lift Stations	Citywide	NPDES Wastewater Discharge Permit #101145, (RC 4-6, Ill 2-3), Sanitary Sewer Overflow Response Plan
Municipal Drinking Water System	Geren Island Drinking Water Treatment Facility	Stayton, OR	Outside Salem City Limits
	Pump Stations, Reservoirs, ASR Wells	Citywide	As needed
Municipal Airport	McNary Field Airport Operations	2990 25th St. SE Salem, OR 97302	1200-Z Industrial Stormwater Permit File #106923
General Office/Parking	City Hall, Police Station, Senior Center, Conference Center, Parkades, Library, Office Space, Storage, Radio Towers	Citywide	Future Stormwater Pollution Control Plan, MS4 Training
Flood Control	Multiple Projects	Citywide	(NPDES MS4 Permit A.6, RC 1-7)