

# **CITY OF EUGENE, OREGON STORMWATER MANAGEMENT PLAN**

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## STORMWATER MANAGEMENT PLAN

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This Stormwater Management Plan (SWMP) describes the set of best management practices (BMPs) that the City of Eugene has committed to conducting to reduce pollutant discharges from the municipal stormwater system to the maximum extent practicable. This plan is incorporated by reference into the City's National Pollutant Discharge Elimination System Municipal Separate Storm Sewer Discharge Permit #101244 re-issued December 30, 2010.

Section 1 of the plan includes an explanation of the SWMP BMP identification numbers and general categories and the relationship between the BMPs and specific federal requirements that govern stormwater management plans nation-wide. Section 2 includes a set of fact sheets that provide a description of each BMP, specific tasks and timelines, measurable goals and tracking measures.

### **1 Stormwater Management Plan BMP Identification and Categories**

Eugene's SWMP includes 24 BMPs designed to reduce the discharge of stormwater pollutants to the maximum extent practicable. Each BMP is given an ID (for example, A1) for tracking and reporting purposes; the ID's are based on the City work section with lead responsibility, as follows:

A = Administration Division of Public Works Department  
B = Building Division of Planning and Development Department  
E = Engineering Division of Public Works Department  
M = Maintenance Division of Public Works Department  
P = Parks and Open Space Division of Public Works Department  
W = Wastewater Division of Public Works Department

The 24 BMPs, listed in Table 1, fall into eight general categories:

- Public Education
- Operations and Maintenance
- Illicit Discharge Controls
- Waste Management
- Construction and New Development
- Planning, Capital Improvements and Data Management
- Industrial Facilities
- Permit Management

Fact sheets describing each BMP, specific tasks conducted, prospective and numeric measurable goals where practicable, and tracking measures are provided in Section 2.

Table 2 indicates which BMPs address the specific SWMP elements required by Schedule A.4 of the MS4 permit.

**Table 1. Stormwater Management Plan Best Management Practices**

<b>BMP ID</b>	<b>BMP Title</b>	<b>BMP Category</b>
<b>A1</b>	Stormwater Education	Public Education
<b>E1</b>	Stormwater Capital Improvement Projects	Planning, Capital Improvements, Data Mgt.
<b>E2</b>	Erosion Prevention & Construction Site Management Program	Construction and New Development
<b>E3</b>	Stormwater System Mapping and Data Management	Planning, Capital Improvements, Data Mgt.
<b>E4</b>	Stormwater Development Standards	Construction and New Development
<b>E5</b>	Permit Management & Reporting	Permit Management
<b>M1</b>	Management of Illicit Discharges to the Municipal Stormwater System	Illicit Discharge Controls
<b>M2</b>	Spill Response	Illicit Discharge Controls
<b>M3</b>	Street Sweeping Program and Leaf Pick-up	Operations & Maintenance
<b>M4</b>	Prevent Leaks and Spills from Municipal Vehicles and Equipment	Operations & Maintenance
<b>M5</b>	Public Stormwater System Cleaning Program – Piped System	Operations & Maintenance
<b>M6</b>	Regulation of Inspection, Maintenance and Reporting of Private Underground Stormwater Structures	Construction and New Development
<b>M7</b>	Systematic Stormwater Field Screening and Investigation	Illicit Discharge Controls
<b>M8</b>	Winter Road Sanding and De-Icing Program	Operations & Maintenance
<b>P1</b>	Educational Volunteer Program	Public Education
<b>P2</b>	Bacteria Pilot Study	Planning, Capital Improvements, Data Mgt.
<b>P3</b>	Tree Planting and Information Programs	Operations & Maintenance
<b>P4</b>	Public Stormwater System Maintenance – Developed Parks and Rights-of-Way	Operations & Maintenance
<b>P5</b>	Public Stormwater System Maintenance – Open Waterways	Operations & Maintenance

<b>BMP ID</b>	<b>BMP Title</b>	<b>BMP Category</b>
<b>P6</b>	Compliance Program for Maintenance of Privately Owned Vegetated Stormwater Facilities	Construction and New Development
<b>P7</b>	Litter and Illegal Dumping Control	Illicit Discharge Controls
<b>B1</b>	Household Hazardous Waste Disposal	Waste Management
<b>B2</b>	Solid Waste Management	Waste Management
<b>W1</b>	Industrial Stormwater Management Program	Industrial Facilities



**Table 2. Stormwater Management Plan Requirements<sup>1</sup>**

MS4 Permit Schedule A.4	Requirement (See permit for specific language.)	Public Education		Operations & Maintenance							Illicit Discharge Controls			Waste Mgt.		Construction and New Development				Planning, Capital Improvements and Data Management			Industrial Controls	Permit Mgt.	
		Stormwater Education	Educational Volunteer Program	Street Sweeping Program and Leaf Pick-up	Prevent Leaks and Spills from Municipal Vehicles & Equip.	Public Stormwater System Cleaning – Piped System	Winter Road Sanding and De-icing Program	Tree Planting and Information Programs	Public Stormwater System Maintenance – Developed Parks and Rights-of-Way	Public Stormwater System Cleaning – Open Waterways	Management of Illicit Discharges to the Municipal Stormwater System	Spill Response	Systematic Stormwater Field Screening and Investigation	Litter and Illegal Dumping Control	Household Hazardous Waste	Solid Waste Management	Erosion Prevention & Construction Site Management	Stormwater Development Standards	Regulation of Private Underground Facilities	Compliance Program for Private Vegetated Facilities	Stormwater Capital Improvement Projects	Stormwater System Mapping and Data Management	Bacteria Pilot Study	Industrial Stormwater Management Program	Permit Management and Reporting
		A1	P1	M3	M4	M5	M8	P3	P4	P5	M1	M2	M7	P7	B1	B2	E2	E4	M6	P6	E1	E3	P2	W1	E5
<b>a. Illicit Discharge Detection and Elimination: Continue to implement a comprehensive program to detect, remove, and eliminate illicit discharges to the MS4. The program must:</b>																									
i.	Prohibit illicit discharges into the City’s MS4.										X														
ii.	Document enforcement response procedures.										X														
iii.	Develop or identify pollutant parameter action levels.										X														
iv.	Identify and map dry-weather screening priority locations. Conduct and document annual dry-weather screening inspections.										X	X										X			
v.	Identify response procedures to investigate portions of MS4 with likely presence of an illicit discharge										X														
vi.	Maintain system for documenting illicit discharge complaints or referrals.										X								X					X	
vii.	Once identified, eliminate illicit discharge [within timeframes outlines in permit].										X														
viii.	Describe and implement procedures to prevent, contain, respond to and mitigate spills into the MS4.				X						X	X													
ix.	Notify [downstream] municipality of illicit discharges from Eugene’s MS4 area.										X														
x.	Notify contributing [upstream] municipality of illicit discharges to Eugene’s MS4.										X														
xi.	Maintain maps of MS4 outfalls. Identify dry weather screening locations (see iv). Updated maps (permit timeline).										X	X										X			
xii.	Unless a significant source of pollutants, certain non stormwater discharges are allowed. If any of them become significant sources of pollutants, implement BMPs to address.										X	X													X
<b>b. Industrial and Commercial Facilities: Continue to implement a program to reduce pollutants in stormwater discharges to the MS4 from [industrial and commercial facilities].</b>																									
i.	Screen existing and new industrial facilities.																								X
ii.	Notify facilities potentially subject to industrial SW permit.																								X
iii.	Implement updated industrial and commercial facility inspection and stormwater control program.										X														X
<b>c. Construction Site Runoff Control: Continue to implement a program to reduce pollutants in stormwater runoff to the MS4 from construction activities.</b>																									
i.	Include ordinances and other enforceable regulatory mechanisms for land disturbances of 1,000 sq ft or greater.																			X					
ii.	Require erosion prevention and sediment control BMPs.																			X					
iii.	Require control of non-stormwater construction waste.																			X					

<sup>1</sup> Table 2 updated December 2012 to reflect December 2010 MS4 Permit SWMP requirements (Schedule A.4.); replaces previous Table 2 which referenced 40 CFR 122.26(d)(iv).

MS4 Permit Schedule	Requirement (See permit for specific language.)	Public Education		Operations & Maintenance							Illicit Discharge Controls				Waste Mgt.		Construction and New Development				Planning, Capital Improvements and Data Management			Industrial Controls	Permit Mgt.
		Stormwater Education	Educational Volunteer Program	Street Sweeping Program and Leaf Pick-up	Prevent Leaks and Spills from Municipal Vehicles & Equip.	Public Stormwater System Cleaning – Piped System	Winter Road Sanding and De-icing Program	Tree Planting and Information Programs	Public Stormwater System Maintenance – Developed Parks and Rights-of-Way	Public Stormwater System Cleaning – Open Waterways	Management of Illicit Discharges to the Municipal Stormwater System	Spill Response	Systematic Stormwater Field Screening and Investigation	Litter and Illegal Dumping Control	Household Hazardous Waste	Solid Waste Management	Erosion Prevention & Construction Site Management	Stormwater Development Standards	Regulation of Private Underground Facilities	Compliance Program for Private Vegetated Facilities	Stormwater Capital Improvement Projects	Stormwater System Mapping and Data Management	Bacteria Pilot Study	Industrial Stormwater Management Program	Permit Management and Reporting
		A1	P1	M3	M4	M5	M8	P3	P4	P5	M1	M2	M7	P7	B1	B2	E2	E4	M6	P6	E1	E3	P2	W1	E5
iv.	Ensure that BMPs are appropriate and address the construction activities being proposed.															X									
v.	Conduct and document on-site inspections.															X									
vi.	Describe enforcement response procedures.									X						X									
<b>d. Education and Outreach: Implement an education and outreach program designed to achieve measurable goals based on target audiences, specific water quality issues, or identified pollutants of concern.</b>																									
i.	Continue to implement a documented public education and outreach strategy.	X	X																						
ii.	Provide educational materials or conduct outreach re: impacts of SW to water quality and actions public can take.	X	X					X																	
iii.	Provide public education on proper use and disposal of pesticides, herbicides, fertilizers, household chemicals.	X	X					X	X					X											
iv.	Provide education on proper operation and maintenance of privately owned or operated water quality facilities	X															X	X	X						
v.	Provide notice to construction site operators re: where erosion program education and training can be obtained.	X															X								
vi.	Conduct or participate in effectiveness evaluation to measure the success of public education activities.	X																							
vii.	Training for City employees involved in MS4-related activities, as appropriate including municipal operations (e.g. parks maintenance, fleet and building maintenance, design and construction of storm drain systems, emergency firefighting activities, etc).	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
viii.	Promote, publicize, and facilitate public reporting of illicit discharges.	X								X															
<b>e. Public Involvement and Participation: Implement a public participation approach that provides opportunities for the public to effectively participate in the development, implementation and modification of the permittee's stormwater management program.<sup>2</sup></b>																									
<b>f. Post-Construction Site Runoff: Continue to implement post-construction stormwater pollutant and runoff control program.</b>																									
i.	Update post-construction runoff control program to incorporate site specific practices that mimic predevelopment hydrology, optimize retention, reduce post-development runoff volumes, duration and rates, prioritize LID and green infrastructure approaches, and capture/treat 80% annual average runoff volume.					X			X	X							X	X	X						
ii.	Identify and minimize or eliminate barriers to implementing LID and green infrastructure approaches.					X			X	X							X	X	X						
iii.	Identify applicable LID, GI approaches, conditions where implementing these approaches may be impracticable, BMP design requirements, and pollutant removal efficiency performance goals.					X			X	X							X	X	X						

<sup>2</sup> Public involvement and participation applicable to most BMPs, variously, as appropriate.



MS4 Permit Schedule	Requirement (See permit for specific language.)	Public Education		Operations & Maintenance							Illicit Discharge Controls				Waste Mgt.		Construction and New Development				Planning, Capital Improvements and Data Management			Industrial Controls	Permit Mgt.
		Stormwater Education	Educational Volunteer Program	Street Sweeping Program and Leaf Pick-up	Prevent Leaks and Spills from Municipal Vehicles & Equip.	Public Stormwater System Cleaning – Piped System	Winter Road Sanding and De-icing Program	Tree Planting and Information Programs	Public Stormwater System Maintenance – Developed Parks and Rights-of-Way	Public Stormwater System Cleaning – Open Waterways	Management of Illicit Discharges to the Municipal Stormwater System	Spill Response	Systematic Stormwater Field Screening and Investigation	Litter and Illegal Dumping Control	Household Hazardous Waste	Solid Waste Management	Erosion Prevention & Construction Site Management	Stormwater Development Standards	Regulation of Private Underground Facilities	Compliance Program for Private Vegetated Facilities	Stormwater Capital Improvement Projects	Stormwater System Mapping and Data Management	Bacteria Pilot Study	Industrial Stormwater Management Program	Permit Management and Reporting
		A1	P1	M3	M4	M5	M8	P3	P4	P5	M1	M2	M7	P7	B1	B2	E2	E4	M6	P6	E1	E3	P2	W1	E5
iv.	Review, approve, and verify proper implementation of plans applicable to updated post-construction requirements.																X	X	X						
v.	Establish off-site stormwater quality management alternative(s) for where project sites limit ability to achieve post-construction runoff program requirements (e.g. may include off-site mitigation or payment-in-lieu program).					X			X	X							X	X	X	X					
vi.	Describe inspection/enforcement response procedures for post-construction runoff program.																X	X	X						
<b>g. Pollution Prevention for Municipal Operations</b>																									
i.	Operate and maintain City streets to minimize the discharge of stormwater pollutants to the MS4.			X	X		X																		
ii.	Implement program to control and minimize the use of pesticides, herbicides and fertilizers on city property.		X					X	X	X															
iii.	Implement a strategy to reduce the impact of municipal facilities that treat, store and transport solid waste.			X	X	X				X			X	X	X										
iv.	Limit infiltration of seepage from the municipal sanitary sewer system to the MS4.										X											X			
v.	Implement a program to prevent or control the release of materials related to fire-fighting training activities.										X														
vi.	Identify impact of public flood control projects on water quality and determine feasibility of retrofitting structural flood control devices for stormwater pollutant removal.																			X					
<b>h. Structural Stormwater Controls O&amp;M Activities</b>																									
i.	Inventory and map stormwater structural facilities and controls and implement a program to verify that they are inspected, operated and maintained for effective pollutant removal, infiltration and/or flow control.					X			X	X							X	X	X	X	X				
ii.	Develop and implement a strategy that guides the long-term maintenance and management of all City-owned and identified privately owned stormwater structural facilities.					X			X	X							X	X	X						

## **2 Best Management Practices Fact Sheets**

This section includes the set of 24 fact sheets that provide descriptions of each BMP, associated tasks and timelines, measurable goals and tracking measures. A brief description of the purpose of each general BMP category is included, followed by the list of BMPs representing the category and the BMP fact sheets themselves.

### **2.1 Public Education**

The purpose of public education BMPs is to inform the public, the commercial/industrial sector, and in-house personnel about the sources and causes of stormwater pollution, its effect on the local receiving waters, and to encourage active involvement (e.g. behavioral changes, volunteerism, etc.) in the effort to reduce pollution. The following BMPs represent the public education elements of the SWMP:

- A1 Stormwater Education
- P1 Educational Volunteer Program

<b>A1</b>	<b>Stormwater Education</b>
<b>Responsible Department/Division</b>	Public Works / Administration Division
<b>Description</b>	<p>Plan, develop, implement and revise as necessary a program to provide stormwater information and education to homeowners, school children, City and other agency staff and the general public about the impacts to stormwater quality and natural resource values from both point and non-point sources of pollution.</p> <p>In addition, educate professional, commercial, and industrial businesses about best management practices that can help prevent and reduce stormwater quality impacts to the public stormwater system and local receiving waters.</p>
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Update and improve upon educational materials through assorted print material, videos, web, audio and visual media.</li> <li>2. Prepare and staff booths at special events to reach community members.</li> <li>3. Develop on-going campaigns as appropriate to support projects, programs, special opportunities and targeted pollutants.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Conduct surveys every two years with Eugene residents to determine attitudes and opinions of residents about the stormwater management program.</li> <li>• Provide SPLASH educational curriculum to teachers and administrators in local school districts.</li> <li>• Develop and implement internal stormwater education to city staff through new employee orientation, “green team” presentations, work group presentations and audio/visual presentation.</li> <li>• Increase catch basin markers with “dump no waste” messages and storm drain covers installed on public improvement projects.</li> <li>• Work collaboratively on education campaigns with other local agencies.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Number of information materials (all media) prepared and distributed to the public.</li> <li>• Number of students and teachers who use SPLASH curriculum annually.</li> <li>• Number of attendees at public outreach events.</li> <li>• Number of employees attending stormwater education sessions.</li> <li>• Track quantity of installed catch basin markers and storm drain covers.</li> <li>• Identify collaborative campaigns, target audience and summary of campaign.</li> <li>• Documentation of stormwater survey responses.</li> </ul>

<b>P1</b>	<b>Educational Volunteer Program<sup>3</sup></b>
<b>Responsible Department/Division</b>	Public Works / Parks & Open Space Division
<b>Description</b>	Manage and support the City’s Eugene Park Stewards volunteer program that promotes stormwater education. Provide opportunities to involve citizens of all ages and socio-economic backgrounds in meaningful, hands-on and educationally oriented stormwater related projects. Such projects are aimed at providing both physical benefits and participant awareness related to protecting stormwater quality, fostering citizen stewardship of the City’s water resources, promoting the use of native-vegetation, and enhancing fish and wildlife habitat within the local urban watershed.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Recruit, support, and coordinate activities for groups or organizations to adopt portions of the City’s stormwater system, such as creeks, ponds, and drainage channels.</li> <li>2. Investigate inclusion of publicly owned vegetated stormwater facilities within developed parks and right of way into the volunteer program.</li> <li>3. Advertise, coordinate and conduct periodic work parties for regular and drop-in volunteers aimed at waterway clean-up, invasive species removal, native vegetation salvage and native vegetation planting in riparian areas.</li> <li>4. Partner with local agencies, organizations, businesses and/or corporate sponsors to plan, promote, coordinate and implement annual large scale waterway clean-up volunteer events.</li> <li>5. Inform the public about the purpose of the volunteer program through public presentations, distribution of program information materials, event related press releases and news media articles and news stories. Include in the communication the challenges and benefits of managing stormwater properly.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• As attrition occurs continue to recruit replacement adoption groups to maintain current levels of participation.</li> <li>• Conduct one volunteer work party annually that will address maintenance needs at publicly owned vegetated stormwater facilities with developed parks or the right of way.</li> <li>• On average, conduct 12 volunteer work parties per year.</li> <li>• Conduct at least one partnership based large-scale water resource clean-up or enhancement volunteer project per year.</li> <li>• Correspond with the city’s stormwater education program coordinator on a regular basis to determine if there are opportunities to better inform the public regarding the challenges and benefits of stormwater management.</li> </ul>

<sup>3</sup> Description for BMP P1 updated December 2012 to reference consolidated volunteer program “Eugene Park Stewards,” which incorporates the program previously called “Neighborwoods.” No substantive changes to BMP tasks, measurable goals, or tracking measures.

<p><b>Tracking Measures</b></p>	<ul style="list-style-type: none"> <li>• Number of adoption groups that are retained and continue to participate in the volunteer program. Track number of new adoption groups brought into the program.</li> <li>• Number of volunteer work parties conducted that involve maintenance of publicly owned vegetated stormwater facilities and number of volunteer participants.</li> <li>• Number of work parties conducted and number of volunteer participants.</li> <li>• Document annual large-scale project(s), participating partners and number of volunteer participants.</li> <li>• Document annually efforts to educate the public about the city’s volunteer programs and the protection of water quality as it relates to stormwater.</li> </ul>
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## 2.2 Operations and Maintenance

The purpose of operations and maintenance BMPs is to maintain the publicly managed stormwater system (e.g. pipes, culverts, open waterways, water quality facilities), balancing flood control, drainage services, water quality, and natural resource protection needs, and to adaptively manage for continuous improvement of current operations and maintenance practices. Operations and maintenance BMPs are also focused on planning and performing other City services, such as landscape maintenance or road repair projects for example, in a manner that minimizes the potential for stormwater pollution from these activities. The following BMPs represent the operations and maintenance element of the SWMP:

- M3 Street Sweeping Program and Leaf Pick-up
- M4 Prevent Leaks and Spills from Municipal Vehicles and Equipment
- M5 Public Stormwater System Cleaning Program – Piped System
- M8 Winter Road Sanding and De-Icing Program
- P3 Tree Planting and Information Programs
- P4 Public Stormwater System Maintenance – Developed Parks and Right-of-Ways
- P5 Public Stormwater System Maintenance – Open Waterways

<b>M3</b>	<b>Street Sweeping Program and Leaf Pick-up</b>
<b>Responsible Department/Division</b>	Public Works /Maintenance Division
<b>Description</b>	Undertake both mechanical brush and vacuum sweeping of publicly maintained roads, bike paths, and parking lots in accordance with the Stormwater Operations and Maintenance Manual. Monitor and evaluate new technology and methods related to street sweeping, and make appropriate adjustments to the current sweeping program when feasible to maximize water quality benefits.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Follow sweeping frequencies as outlined in the Stormwater Operation and Maintenance Manual.</li> <li>2. Collect sweeping data such as amount of debris swept, curb miles swept, streets and/or areas swept.</li> <li>3. Conduct annual curbside pickup of leaves on City streets.</li> </ol>
<b>Measurable Goals</b>	<p>Follow sweeping frequencies as outlined in the Stormwater Operation and Maintenance Manual, more specifically described as follows:</p> <ul style="list-style-type: none"> <li>• Sweep downtown core twice per week.</li> <li>• Sweep university and industrial areas once per week.</li> <li>• Sweep arterial streets every 2 weeks.</li> <li>• Sweep residential streets every 6-8 weeks.</li> <li>• Sweep bike paths and improved alleys twice per year.</li> <li>• Coordinate and manage two seasonal opportunities for the citizen's leaves to be picked up and managed by the SW operations crew.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Lane miles swept.</li> <li>• Amount of debris collected.</li> <li>• Amount of leaves picked up.</li> </ul>

<b>M4</b>	<b>Prevent Leaks and Spills from Municipal Vehicles and Equipment</b>
<b>Responsible Department/Division</b>	Public Works / Maintenance Division
<b>Description</b>	Undertake preventive maintenance program for all municipal vehicles and equipment in order to prevent or correct sources of vehicle fluid leaks. Implement employee education practices and field operations procedures to detect and report leaks and to prevent incidences of fluid and material spills from municipal vehicles. Equip municipal trucks and large mechanized equipment with renewable spill response kits.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Maintain training competencies for Fleet Services employees.</li> <li>2. Maintain a preventative maintenance schedule for all vehicles and equipment.</li> <li>3. Maintain a supply of spill kit materials for designated vehicles and equipment.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Include a spill procedure card in all City vehicles and equipment by December 1, 2011.</li> <li>• Perform preventative maintenance service on all City vehicles and equipment annually, at a minimum.</li> <li>• During the repair/clean-up process, analyze the type and cause of the spills associated with the repairs conducted by Fleet staff, and evaluate whether operator training maybe helpful with spill minimization.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Track the number of spill procedure cards issued annually.</li> <li>• Track the number of vehicle related leaks repaired annually.</li> <li>• Track the percentage of vehicles which receive preventative maintenance service annually.</li> </ul>



<b>M5</b>	<b>Public Stormwater System Cleaning Program – Piped System</b>
<b>Responsible Department/Division</b>	Public Works / Maintenance Division
<b>Description</b>	Undertake frequent, systematic cleaning of the components of the public stormwater system such as catch basins, pipes, culverts, inlets, and stormwater quality devices in accordance with the adopted Stormwater Operations and Maintenance (O&M) Manual. Document quantities of material removed from each structure. Using the maintenance management system, refine the regular cleaning schedule for pipes, catch basins and stormwater quality devices. Research and monitor developments in maintenance technology and operations and maintenance methods for the closed systems which will further increase the effectiveness of our cleaning practices and water quality improvement practices.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Follow cleaning procedures as outlined in the Stormwater O&amp;M Manual.</li> <li>2. Collect loading information for individual structures and facilities.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Clean 50% of the all of the public catch basins and inlet structures annually unless increased efficiencies are shown through adaptive management.</li> <li>• Clean all of the public underground stormwater quality structures as outlined in the Stormwater O&amp;M Manual.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Track the number of structures cleaned.</li> <li>• Track the amount of debris recovered.</li> <li>• Track the lineal footage of stormwater lines cleaned.</li> </ul>

<b>M8</b>	<b>Winter Road Sanding and De-icing Program</b>
<b>Responsible Department/Division</b>	Public Works / Maintenance Division
<b>Description</b>	Apply and clean up winter traction sand on publicly maintained roads and parking areas in conjunction with the application of a pre-wetting agent designed to reduce the need for repeat sanding. Conduct research efforts to identify and evaluate new technology and strategies for application of environmentally friendly chemical anti-icing and de-icing agents. Conduct research into new methods, practices, and efficiencies which may further limit the runoff of sanding related pollutants to the storm system. Conduct pre-season staff training on the proper application methods of sand and chemical agents.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Apply sand to roadways in accordance with the Public Works Snow and Ice Plan.</li> <li>2. Apply chemical agents in accordance to Guidelines for Anti-icing/Deicing included in the Public Works Snow and Ice Plan.</li> <li>3. Respond to priority routes as outlined in Public Works Snow and Ice Plan.</li> <li>4. Collect data such as streets plowed and sanded, material used, and other data related to snow/ice events.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Minimize the use of abrasive materials for snow and ice control through adaptive management practices.</li> <li>• Begin clean up of abrasive materials when streets become free of ice and snow, and the forecast does not call for more ice and snow within the next 24 hours.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Document the quantities of sanding materials applied and collected during each storm event.</li> <li>• Document the volume used for deicing/anti-icing operations.</li> </ul>

<b>P3</b>	<b>Tree Planting and Information Programs<sup>4</sup></b>
<b>Responsible Department/Division</b>	Public Works / Parks & Open Space Division
<b>Description</b>	Manage and support both governmental and community tree planting programs. Provide information to the public about the multiple benefits that trees provide for protecting and enhancing stormwater quality.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Manage and support the City’s community focused Eugene Park Stewards volunteer program.</li> <li>2. Manage and support the City’s internally focused tree planting programs that regulate new development so they are fully planted with street trees and that ensure City-engineered street improvement projects include street trees in appropriate plantable areas.</li> <li>3. Seek opportunities to provide and/or present information to the community regarding stormwater related benefits of trees.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• On average, conduct 12 Eugene Park Stewards volunteer program tree planting projects per year.</li> <li>• Include the planting of street trees with all new private developments and with all new public street improvement projects as opportunities arise.</li> <li>• Plant 600 trees per year through the Eugene Park Stewards program and the City’s regulatory tree planting program.</li> <li>• Provide information about the stormwater benefits of trees at major publicly attended events at least 4 times per year.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Track the number of Eugene Park Stewards volunteer program planting projects and the resulting number of trees planted.</li> <li>• Track the number of trees planted through new development tree planting requirements and through City-engineered street improvements.</li> <li>• Track the number and type of publicly attended events where stormwater related tree information was provided or where a presentation was made.</li> </ul>

<sup>4</sup> Tasks, Measurable Goals and Tracking Measures for BMP P3 updated in December 2012 to reference consolidated volunteer program “Eugene Park Stewards,” which incorporates the program previously called “Neighborwoods.” No substantive changes to BMP tasks, measurable goals, or tracking measures.

<b>P4</b>	<b>Public Stormwater System Maintenance – Developed Parks and Rights-of-Way</b>
<b>Responsible Department/Division</b>	Public Works / Parks & Open Space Division
<b>Description</b>	<p>Evaluate and, as necessary, adapt or revise turf, landscape and natural area vegetation management programs for public lands under the City’s jurisdiction. Such areas include developed parkland and public right-of-way.</p> <p>The focus of this BMP is to minimize and further limit the discharge of pollutant laden runoff from these areas.</p>
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Update and refine the Integrated Pest Management (IPM) policy document and operations manual as new techniques are researched and the results of implementation of these techniques are uncovered.</li> <li>2. Research, evaluate and implement park and landscaped area design practices and new vegetation management techniques to minimize impervious surfaces; reduce pesticide and fertilizer use; and maximize the use of native vegetation, where appropriate.</li> <li>3. Complete stormwater inspections utilizing inspection checklist for all publicly-maintained vegetated stormwater facilities within the right-of-way and developed parks. Update the new stormwater facility tracking system database with information gathered in field.</li> <li>4. Evaluate the Pesticide Free Parks Program. Revise, adapt, and expand program as appropriate.</li> <li>5. Utilize the IPM policy document to continue adding Pesticide Free Zones within Eugene’s seven stormwater basins.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Review IPM manual at least once during the permit term, and update and refine the IPM policy document and operations manual in accordance with integrated pest management principles.</li> <li>• Conduct periodic inspection of each publicly maintained vegetated stormwater management facility within the right-of-way and developed parks. Populate the stormwater facility tracking system database with current information for each facility that is inspected.</li> <li>• Continue to provide services to existing Pesticide Free Parks.</li> <li>• All newly developed playgrounds, pools, sprayplay features, recreational areas and other park areas will be evaluated during design or within one year of initial public use for addition into the Pesticide Free Zone program.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Document updates of IPM policy document and operations manual.</li> <li>• Document new techniques and practices that are incorporated into park and landscape design.</li> <li>• Document the number of publicly maintained vegetated stormwater facilities inspected and information entered into the stormwater facility</li> </ul>

	<p>tracking system database annually.</p> <ul style="list-style-type: none"><li>• Track the condition of existing parks that are currently maintained using the Pesticide Free Parks protocol.</li><li>• Calculate the total acreage that has been placed in the Pesticide Free Zone Program per year. Utilize Chem Track program to track how much chemical (pound per acre) were used each year and determine total reduction of chemicals used annually.</li></ul>
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<b>P5</b>	<b>Public Stormwater System Maintenance – Open Waterways</b>
<b>Responsible Department/Division</b>	Public Works / Parks and Open Space Division
<b>Description</b>	Maintain and manage open waterways consistent with adopted Open Waterway Maintenance Plans. These plans are intended to protect and enhance stormwater quality and natural resources values while continuing to maintain sufficient conveyance capacity in the waterways.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Follow written procedures for on-going maintenance of open waterways: Open Waterway Maintenance Plans (for all open waterways) and U.S. Army Corps of Engineers Levee Owner’s Manual (for portions of Amazon Creek).</li> <li>2. Establish native trees and shrubs along portions of open waterways that are lacking shade.</li> <li>3. Repair channel banks as erosion or slumping issues occur.</li> <li>4. Revise Open Waterways Maintenance Plans to incorporate new information and techniques to further advance the goal of maximizing water quality and habitat benefits while also maintaining sufficient conveyance.</li> <li>5. Implement storm event monitoring at potential choke points in the open waterway system.</li> <li>6. Complete stormwater inspections utilizing inspection checklist for all publicly-maintained vegetated stormwater facilities (e.g., detention ponds, wetlands, bioswales). Update the stormwater facility tracking system database with information gathered during inspection.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Implement “green piping” (i.e., pruning woody vegetation within active channel zone) on 5 miles of open waterway annually to maintain conveyance.</li> <li>• Establish native trees and shrubs on 5000 lineal feet of waterway annually to help shade streams, lower water temperatures, and increase slope stability.</li> <li>• Revise all Open Waterway Maintenance Plans by December,2012.</li> <li>• Conduct periodic inspections for publicly-maintained vegetated stormwater facilities (e.g., detention ponds, wetlands, bioswales). Populate the stormwater facility tracking system database with current information for each facility.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Miles of open waterways that are green-piped each year.</li> <li>• Track the number of riparian vegetation planting projects, including the number of lineal feet planted, and the number and general type of native species planted (i.e. trees, shrubs, grasses, etc.).Number of channel bank repair projects (e.g., to reduce erosion or slumping) completed each year.</li> <li>• Number of times each year that the storm event monitoring program for open waterways is activated.</li> <li>• Number of publicly maintained vegetated stormwater facilities inspected and information entered into the stormwater facility tracking system database annually.</li> </ul>

### **2.3 Illicit Discharge Controls**

The purpose of illicit discharge control BMPs is to become aware of, investigate, detect, mitigate, and enforce the elimination of illicit (non-stormwater) discharges and illegal dumping to the stormwater system. The following BMPs represent the illicit discharge control element of the SWMP:

M1 Management of Illicit Discharges to the Municipal Stormwater System

M2 Spill Response

M7 Systematic Stormwater Field Screening and Investigation

P7 Litter and Illegal Dumping Control

<b>M1</b>	<b>Management of Illicit Discharges to the Municipal Stormwater System</b>
<b>Responsible Department/Division</b>	Public Works / Maintenance Division
<b>Description</b>	Discourage and reduce improper discharges into the stormwater system through operation of a stormwater discharge compliance enforcement program. The primary goals of this program are to protect the quality of the receiving waters of the City's stormwater system and to ensure that discharges to the City's stormwater system are in compliance with local, state, and federal regulations to the maximum extent practicable. The City will conduct periodic review of enforcement program practices and procedures and make revisions as deemed necessary.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Use CCTV inspection, dye testing, smoke testing and field investigation to identify illegal connections, cross connections with the wastewater system and failures in the pipe system.</li> <li>2. Inspect stormwater outfalls to identify illicit discharges, as well as track outfalls added or removed from the stormwater system.</li> <li>3. Implement the City's Stormwater System Administrative Rule, 58-02-01-F, with the intent to prohibit improper connections and illegal discharges to the City's stormwater system utilizing an effective enforcement program .</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Work to reduce the number of improper discharges into the municipal stormwater system through public outreach and a reasonable enforcement of regulations.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Track the number of stormwater pollution complaints received by the City.</li> <li>• Track the number of outfalls inspected annually.</li> <li>• Track the number of requests-for-service (RFS) related to illicit discharges to the municipal stormwater system which required enforcement.</li> </ul>



<b>M2</b>	<b>Spill Response</b>
<b>Responsible Department/Division</b>	Public Works / Maintenance Division
<b>Description</b>	Maintain an on-call team trained in spill response procedures involving environmentally hazardous materials and a vehicle equipped for such spill mitigation. Coordinate efforts with other local response teams such as the City of Eugene Fire and Police Departments, Lane County, and state agencies.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Maintain an on-call list of personnel trained in spill response procedures.</li> <li>2. Maintain an inventory of equipment and supplies necessary to mitigate improper discharges to the municipal stormwater system.</li> <li>3. Coordinate in conjunction with Fire Department / Hazmat Team on mitigation efforts including hazardous material clean-up and disposal.</li> <li>4. Update the City of Eugene's Public Works Maintenance Spill Response and Illicit Discharge Operations Plan.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Maintain a list of HAZWOPER trained personnel that are available for 24-hour emergency response.</li> <li>• Maintain and update, as necessary, the City's On-Call Emergency Roster for Environmental Spills.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Up-to-date list of employees trained for spill response.</li> <li>• Track number of spills and follow-up details.</li> </ul>

<b>M7</b>	<b>Systematic Stormwater Field Screening and Investigation</b>
<b>Responsible Department/Division</b>	Public Works / Maintenance Division
<b>Description</b>	The Stormwater Field Screening and Investigation program inspects the public stormwater system for condition assessment and the private stormwater system to assess water quality impacts to the municipal stormwater system. Where illicit discharges are found, attempt to identify the source and eliminate the discharge.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Work with the Sub Surface Maintenance Crew to assess, inspect and map the details of the public and private stormwater system.</li> <li>2. Conduct annual dry-weather field screening inspections per the City of Eugene Field Screening manual.</li> <li>3. Work with the inspection and enforcement staff to continue to educate and regulate the users on the proper use of the stormwater system.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Improve accuracy of the Stormwater System layer in our Geographic Information Systems (GIS) through map update requests.</li> <li>• Identify and remove illicit discharges to the municipal stormwater system through the dry-weather field screening process.</li> <li>• Utilize interaction with the public as an educational opportunity to increase stormwater user awareness.</li> <li>• Develop “map update” requests based on field inspections and forward this information to the GIS manager for inclusion into the citywide GIS system.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Track the number of map update requests forwarded to the GIS team.</li> <li>• Track and create work orders for the system repairs discovered through the inspection process.</li> <li>• Track the number of dry-weather field screening inspections and follow-up details.</li> </ul>

<b>P7</b>	<b>Litter and Illegal Dumping Control</b>
<b>Responsible Department/Division</b>	Public Works / Parks & Open Space Division and Maintenance Division
<b>Description</b>	<p>Manage and support efforts to reduce impacts to stormwater runoff and local receiving waters by controlling litter and debris in public spaces and by removing illegally dumped refuse and debris as well as garbage and trash from illegal camp sites.</p> <p>There are two primary focal points of this BMP. The first is to provide opportunities for proper disposal of litter and trash at strategic publicly owned sites to prevent it from being washed into the public stormwater system. The second is to clean-up illegal dump sites and illegal camp sites prior to pollutants from the trash and debris being washed into the public storm system or the local receiving waters.</p>
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Place trash receptacles in parks, public areas and at venues for public events which are likely to generate garbage, litter and other throw-away items. Provide frequent collection service to prevent over filling.</li> <li>2. Require up-front clean-up deposits for large events in City parks, for rental of City park shelters, and for rental of other City owned and operated recreation or outdoor cultural facilities.</li> <li>3. Conduct routine debris inspections of significant waterways under the City's jurisdiction and remove illegally dumped or discarded debris and other items as appropriate.</li> <li>4. Conduct routine inspections along riverbanks and in other undeveloped lands under the City's jurisdiction to locate, dismantle, and clean-up illegal camp sites and their associated trash, garbage, debris and bio-hazardous materials.</li> <li>5. Identify and monitor known historic dump sites in remote areas of the public right-of-way (such as undeveloped cul-de-sacs, dead-end streets, etc.), attempt to identify a responsible party for significant piles of dumped debris, and remove the dumped material as soon as possible to discourage additional dumping by others.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Ensure all parks, all public space areas managed by the City and all venues for outdoor public events on City lands have adequate trash receptacles. Empty trash receptacles frequently enough to prevent spillage due to being over filled.</li> <li>• Ensure at least 75% of all rentals of parks, park shelters, and other City operated outdoor facilities will result in no loose litter and debris left behind.</li> <li>• Inspect all major waterways and riverbanks weekly for dumped or discarded debris and illegal campsites. When found, remove dumped materials within two working days. When found, dismantle illegal campsites and clean-up as soon as is physically and legally possible.</li> </ul>

	<ul style="list-style-type: none"> <li>• Monitor all identified historic dumping sites in the public right-of-way and clean-up as necessary at least twice per month.</li> </ul>
<p><b>Tracking Measures</b></p>	<ul style="list-style-type: none"> <li>• Track the collection frequency for trash receptacles in City parks and other public space areas managed by the City.</li> <li>• Document the number or percentage of rentals of parks, park shelters, and other outdoor venues held on City managed land that forfeit all or part of their clean-up deposit due to excessive litter left behind.</li> <li>• Track the number of illegal campsites cleaned-up along riverbanks, waterways, or other public space areas managed by the City.</li> <li>• Track the frequency of collection and the amount of debris collected from waterways and from the public right-of-way.</li> </ul>

## **2.4 Waste Management**

The purpose of the waste management BMPs is to educate the public, regulate waste management services, and to ensure that proper facilities are available in order to minimize the potential of negative stormwater impacts from solid waste collection, improper disposal of toxic materials, and illegal dumping of garbage and debris. The following BMPs represent the waste management element of the SWMP:

- B1 Household Hazardous Waste Program
- B2 Solid Waste Management Program

<b>B1</b>	<b>Household Hazardous Waste Disposal</b>
<b>Responsible Department/Division</b>	Planning and Development / Building and Permit Services Division
<b>Description</b>	<p>Support existing efforts and programs within the Eugene metro area to inform citizens of local opportunities for the proper discard and disposal of their household hazardous waste materials. Support and promote facilities and programs that provide such opportunities.</p> <p>The improper disposal of household hazardous waste poses a serious threat to local stormwater quality. Old paint, solvents and thinners, pesticides, bleach, drain cleaners, antifreeze, gasoline, used motor oil and other motor vehicle fluids can easily be flushed into the stormwater system if disposed of in yards, left uncovered in the rain, or poured down driveways or into the street. Supporting efforts to inform homeowners and tenants about where they can properly dispose of these products as well as supporting local household hazardous waste management facilities and efforts is an effective way to reduce the amount of these products that inadvertently make their way into the stormwater system and local receiving waters.</p>
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Collaborate with Lane County Waste Management Division staff on educational outreach via the development and distribution of brochures, fact sheets, and community outreach events.</li> <li>2. Require solid waste haulers to notify their customers of the Special Wastes Program offered through the Lane County Waste Management Division.</li> <li>3. Develop information on a City website page that provides education on household hazardous waste and explains how to set up an appointment with Lane County Solid Waste to dispose of materials properly.</li> <li>4. Collaborate with local metro area partners to publish information in local phone books regarding waste prevention, recycling, composting, and disposal of household hazardous waste.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Work with Lane County and City of Springfield to annually update “Brown Pages” in the US Dex directory to include new electronics requirements.</li> <li>• Update the City’s web site periodically to direct residents to the latest information about recycling and waste prevention news, resources, and local events.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Document completion of “Brown Pages” update.</li> <li>• Document materials disbursed about household hazardous materials</li> </ul>

<b>B2</b>	<b>Solid Waste Management</b>
<b>Responsible Department/Division</b>	Planning and Development / Building and Permit Services Division
<b>Description</b>	<p>Evaluate and revise, as necessary, existing solid waste and recycling collection rules to address stormwater quality.</p> <p>Improper and/or unregulated collection and recycling of solid waste has a serious potential for creating negative impacts to stormwater quality. High collection fees, infrequent or spotty collection service may lead to illegal dumping activity. Unregulated waste containers may be prone to leaking or spilling allowing pollutants to wash into the storm system. By continuing to monitor and evaluate local solid waste management collection efforts, the City will be better able to improve local regulations so that stormwater quality is taken into account.</p>
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Regulate solid waste and recycling collection activities within the city limits to curb possible impacts to the stormwater systems from leachate of garbage, yard debris, and recycling materials.</li> <li>2. Support a minimum of biweekly collection service for organic materials and provide backyard composting classes for residents with or without collection service.</li> <li>3. Implement the nuisance abatement enforcement program that provides rapid response to illegal dumping of garbage, yard debris, or other solid waste materials.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Review Administrative Rule to ensure regulations are up to date and include requirements to support appropriate waste management and prevention.</li> <li>• Contract with Oregon DEQ for a waste composition study.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Document total tons of yard debris collected through the curbside program.</li> <li>• Document the number of compost demonstration workshops and participants.</li> <li>• Document number of enforcement cases related to inappropriate garbage handling.</li> <li>• Compare waste composition study with the prior one.</li> </ul>

## **2.5 Construction and New Development**

The purpose of the construction and new development BMPs is to ensure that appropriate control measures are considered, implemented, and maintained during and after the planning, design, and construction phases for new public and private development and significant re-development projects. The following BMPs represent the new construction and new development related elements of the SWMP:

- E2 Erosion Prevention and Construction Site Management Program
- E4 Stormwater Development Standards
- P6 Compliance Program for Maintenance of Privately Owned Vegetated Stormwater Facilities
- M6 Regulation of Inspection, Maintenance and Reporting of Private Underground Stormwater Structures



<b>E2</b>	<b>Erosion Prevention and Construction Site Management Program</b>
<b>Responsible Department/Division</b>	Public Works / Engineering Division
<b>Description</b>	Administer and monitor an Erosion Prevention and Construction Site Management Program in compliance with Eugene Code 6.625-6.645, preventing and mitigating pollutant and sediment discharges into the city's stormwater system due to construction activities and land disturbance.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Screen all development permits for sensitive area status, conduct plan reviews, issue erosion permits, conduct erosion inspections, and provide compliance enforcement as appropriate.</li> <li>2. Issue Erosion Permits for activities which disturb an area one acre or greater in size or disturb an area 500 square feet or greater within a sensitive area (i.e. adjacent to a water feature or its buffer, ground slopes greater than 10%, having highly erodible soils).</li> <li>3. Conduct education and outreach related to new erosion techniques/practices.</li> <li>4. Act as 1200-C Agent for DEQ.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Conduct one inspection prior to the commencement of work for all erosion permitted sites.</li> <li>• Inspect non-erosion-permitted sites at least twice during the life of the building/construction permit or as necessary to assure compliance with the program.</li> <li>• Inspect permitted sites monthly or as necessary to assure compliance with the program.</li> <li>• Conduct one annual erosion prevention training event.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Number of compliance orders issued.</li> <li>• Number of permits issued.</li> <li>• Number of inspections.</li> <li>• Number of training/outreach events.</li> </ul>

<b>E4</b>	<b>Stormwater Development Standards</b>
<b>Responsible Department/Division</b>	Public Works / Engineering Division
<b>Description</b>	Administer and monitor a program that implements the city’s Stormwater Development Standards, Eugene Code 9.6790-9.6796, Eugene Code 7.143 (3), and associated Stormwater Management Manual. The Stormwater Development Standards regulate the location, design, construction and maintenance of private and public stormwater facilities for flood control, water quality, and natural resource protection.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Screen development permits for post-construction stormwater management, conduct plan reviews, approve stormwater facilities, conduct inspections, and provide compliance enforcement as appropriate.</li> <li>2. Maintain an up-to-date Stormwater Management Manual for new development.</li> <li>3. Track, evaluate, and develop new technologies and practices for post-construction stormwater management.</li> <li>4. Provide training and technical assistance on water quality facilities to city staff and the public.</li> <li>5. Conduct a review of policies, practices and regulations to identify potential barriers to implementing low impact development techniques.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Review stormwater management proposals at the land use and/or development permit stage (i.e. earliest level of review).</li> <li>• Review and approve construction plans for stormwater management facilities for all development sites which create 1000 square feet or more impervious surface.</li> <li>• Update Eugene’s Stormwater Management Manual every two years or as needed to provide new information or practices for post-construction stormwater management.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Number of private water quality facilities permitted with building permits.</li> <li>• Number of land use applications reviewed.</li> <li>• Number and type of public water quality facilities constructed.</li> <li>• Number of training/outreach events held.</li> </ul>

<b>P6</b>	<b>Compliance Program for Maintenance of Privately Owned Vegetated Stormwater Facilities</b>
<b>Responsible Department/Division</b>	Public Works / Parks & Open Space Division
<b>Description</b>	Develop, implement and manage a program to ensure that privately owned and operated vegetated stormwater treatment facilities are maintained so that they function as designed and constructed. The program will employ a combination of rules, protocols and procedures to require: that each private vegetated facility is routinely inspected; that routine and corrective maintenance actions are performed in a timely manner; and that completion of both such activities are regularly reported to City staff. Based on Eugene Municipal Code requirements, penalties and/or other legal remedies will be employed to enforce compliance with these requirements when necessary.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Continue to document pertinent information for new privately owned and operated vegetated stormwater facilities. This includes photo documentation of newly constructed facilities and populating the stormwater facility tracking system database with all new facility information.</li> <li>2. Develop an administrative rule that details the policy guidelines, practices, procedures, specific authorities, permitted actions, and penalties to be used by City staff in managing the program.</li> <li>3. Establish criteria for when maintenance audits, corrective actions, and/or enforcement actions are warranted.</li> <li>4. Maintain mechanisms, processes and procedures to track BMP ownership, maintenance inspections, required reports, corrective maintenance activity and enforcement actions.</li> <li>5. Develop templates for written correspondence to BMP owners, such as inspection notification, reporting reminder, notice of non-compliance, notice of violation, and enforcement documents.</li> <li>6. Review required inspection and maintenance logs submitted by BMP owners</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Inspect all new vegetated private stormwater facilities at the time of construction and log pertinent information into the stormwater facility tracking database system. Adopt and implement an administrative rule to enforce the maintenance of private stormwater facilities by February 2011.</li> <li>• Ensure the inspection of each vegetated private stormwater facility is conducted at least once per year by the owner/operator and an inspection and maintenance log documenting the necessary corrective actions is submitted to City staff annually.</li> <li>• Review annual reports for privately-owned vegetated stormwater facilities.</li> </ul>

<b>Tracking Measures</b>	<ul style="list-style-type: none"><li>• Number of private vegetated stormwater facility inspections completed at time of construction.</li><li>• Number of owner/operator inspection and maintenance logs received and reviewed annually.</li><li>• Number of notices of non-compliance and subsequent enforcement.</li></ul>
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<b>M6</b>	<b>Regulation of Inspection, Maintenance and Reporting of Private Underground Stormwater Structures</b>
<b>Responsible Department/Division</b>	Public Works / Maintenance Division
<b>Description</b>	<p>Develop, implement and manage a program to ensure that privately owned and operated underground stormwater treatment structures are properly maintained.</p> <p>The program will employ the guidance provided by the required individual Operations and Maintenance (O&amp;M) plan for each structure.</p>
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Develop templates for written correspondence to the private operator, such as inspection notifications, reporting reminders, notices of non-compliance, notices of violation, and enforcement documents.</li> <li>2. Establish criteria for when maintenance audits, corrective actions, and/or enforcement actions are warranted.</li> <li>3. Develop and maintain mechanisms, processes and procedures to track structure type, ownership, maintenance inspections, required reports, corrective maintenance activity and enforcement actions.</li> <li>4. Collect and file the required annual reports as provided by the private operator.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Inspect all new private underground stormwater structures at the time of construction and log pertinent information into a database.</li> <li>• Establish a correspondence file for each structure/operator.</li> <li>• Ensure that each private underground stormwater structure is inspected, maintained and reported on as required by the O&amp;M plan for the specific device.</li> <li>• Review annual reports for privately-owned underground stormwater facilities.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Track the number of O&amp;M plans obtained.</li> <li>• Track the number of private inspection, maintenance and reporting activities conducted.</li> <li>• Track any enforcement activities related to the individual structures.</li> </ul>

## **2.6 Planning, Capital Improvements and Data Management**

The purpose of planning, capital improvements and data management is to develop and implement comprehensive stormwater basin plans, evaluate potential sources of specific pollutants and related BMPs to address them, and maintain up to date data on the stormwater system. The following BMPs represent the planning, capital improvements and data management elements of the SWMP:

- E1 Stormwater Capital Improvement Projects
- E3 Stormwater System Mapping and Data Management
- P2 Bacteria Pilot Study

<b>E1</b>	<b>Stormwater Capital Improvement Projects</b>
<b>Responsible Department/Division</b>	Public Works / Engineering Division
<b>Description</b>	<p>Implement the Stormwater capital improvement program (CIP), including projects identified in the City’s <i>Stormwater Basin Master Plans</i> (Basin Plans) for Amazon, Willow Creek, Bethel-Danebo, Willakenzie, Laurel Hill, and Willamette River and the River Road – Santa Clara basins.</p> <p>The Basin Plans describe a multiple-objective strategy for managing stormwater that addresses water quality protection and improvement, conveyance and flood control, and waterway protection and restoration. The basin strategies reflect the unique characteristics, problems and opportunities in each basin. Volume I contains a prioritized city-wide capital projects list including: water quality facilities in high pollutant source areas, streambank stabilization, stream restoration, and capacity enhancement projects.</p> <p>The Basin Plan capital projects are one of the main sources of capital projects that comprise the City’s CIP. In addition to the Basin Plans, CIP projects also originate from a list of maintenance and rehabilitation needs, from focused planning studies such as the Metro Waterways Restoration Study, and other partnership opportunities. The prioritized Basin Plan capital projects are combined with projects from these other sources, re-ranked, and incorporated into the CIP in a timeframe in-line with available budget.</p>
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Incorporate projects from the Basin Plans into the City’s bi-annual Capital Improvement Program and annual budget processes.</li> <li>2. Include water quality criteria in the ranking of capital projects from multiple sources for the CIP.</li> <li>3. Maintain a GIS coverage of capital improvement projects including such attributes as location, project or facility type, drainage area and cost.</li> <li>4. Maintain up-to-date Basin Plans web site, make hard copies available to the public in key locations (Library, Public Works offices).</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Incorporate into the CIP projects list the projects identified in the recently completed 2010 River Road-Santa Clara Basin Plan, by September 2010.</li> <li>• Implement Stormwater CIP projects including at least one “water quality facilities in high source areas” project over the five-year permit term, and other retrofits as opportunities arise.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Document completion of River Road-Santa Clara Basin Plan.</li> <li>• Track the number, type, watershed location and total drainage area of capital improvement projects constructed for water quality.</li> </ul>

<b>E3</b>	<b>Stormwater System Mapping and Data Management</b>
<b>Responsible Department/Division</b>	Public Works / Engineering Division
<b>Description</b>	Keep up-to-date inventories and maps of the public and private, natural and constructed, stormwater system. Include mapping of public and private water quality and flow control facilities such as grassy swales and detention basins. Develop and integrate asset inventory data and geographic information system (GIS) systems which describe the conveyance system, water quality attributes and related natural resource information. Integrate information generated through BMPs such as E1 (Capital Improvement Projects) and E4 (Development Standards) which create or modify system components and/or change the attributes of the stormwater system.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Update stormwater system inventory and GIS on a weekly and monthly basis.</li> <li>2. Develop, upgrade and maintain software applications which make system information available to staff.</li> <li>3. Update stormwater infrastructure paper map sets annually.</li> <li>4. Along with adoption of Stormwater Development Standards (E4), help to ensure that data management needs are identified and protocols established for documenting appropriate information to ensure that operations and maintenance, inspection and enforcement, and BMP effectiveness objectives are met.</li> <li>5. In implementing the capital improvement projects outlined in the 2002 Stormwater Basin Master Plans, help to ensure documentation of location, type and other attributes of stormwater capital projects for purposes of evaluating their effectiveness and reporting progress under our permit.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Enter 95% of all newly constructed stormwater system features into inventory databases and GIS within six months of final construction approval.</li> <li>• Ensure that 90% of GIS and data application users surveyed rate the GIS/data systems as satisfactory or better.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Report on map and database update activities annually.</li> <li>• Survey map and data system users bi-annually.</li> </ul>



<b>P2</b>	<b>Bacteria Pilot Study</b>
<b>Responsible Department/Division</b>	Public Works / Parks & Open Space Division and Wastewater Division
<b>Description</b>	<p>Amazon Creek is water quality limited for bacteria and load reductions of 84% are necessary as specified in the 2006 Willamette Basin Bacteria TMDL.</p> <p>The Bacteria Pilot Study includes three phases: Phase I focuses on efforts to identify source(s) of bacteria, followed by Phase II which focuses on the application of Bacteria Pilot Study BMPs (“BMPs”) aimed at reducing bacteria, and followed by Phase III which focuses on evaluating the effectiveness of BMPs that are implemented.</p> <p>Based on monitoring and site assessment work initiated with the 2005 Stormwater Management Plan the overall strategy for continuation of the Bacteria Pilot Study will be a more targeted approach that will narrow down the number of probable sources for investigation of the root of bacterial pollution within a selected study area. This more targeted approach will lead the City towards implementing Phase II and Phase III of the study.</p>
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Conduct storm sampling and data analysis efforts aimed at specific monitoring locations within the study area that are suspected high source areas.</li> <li>2. Continue to assess field conditions to confirm or rule out potential bacteria sources.</li> <li>3. Develop and implement appropriate strategies that will help further identify or rule out potential sources of bacteria to MS4 system. Such strategies may include, but are not limited to: strategies for reducing the use of local waterways by waterfowl and rodents, evaluating historical maintenance activities including street sweeping and catch basin cleaning at commercial properties and the public system, expanding the current study area to incorporate discrete sites outside of the sub-basin which may assist in meeting study objectives.</li> <li>4. Evaluate alternative investigative methods, techniques or methodologies including microbial source tracking and sediment analysis.</li> <li>5. Improve internal communication by creating an electronic case history file that contains all documents generated as a result of field condition assessments and data collection and analysis.</li> <li>6. When enough information is acquired to logically conclude that a particular condition or activity is a significant contributing source of bacteria, develop and implement BMPs as appropriate to target the specific source. Such BMPs, in the context of this Bacteria Pilot Study, may include, but are not limited to: door-to-door contact with residents and business owners; direct informational mailings; modifications to catch basin cleaning priorities and frequencies in specific areas; modifications to parks rules associated with wildlife feeding; and habitat</li> </ol>

	<p>management and tolerance policies for targeted wildlife species.</p> <p>7. Conduct follow up stormwater sampling and data analysis to evaluate effectiveness of selected BMPs.</p>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Collect and analyze stormwater samples within the study area during at least three (3) significant wet weather storm events per year for the duration of the permit cycle.</li> <li>• Report on all field condition assessments completed during the permit year. Show how collected field data is used to confirm or eliminate bacteria sources. Initiate at least two (2) new BMPs by December 2011 that will either identify or rule out specific sources of bacterial contributions to the MS4 within the study area.</li> <li>• Starting in July 2012, initiate at least one new BMP per year that will address identified specific sources of bacteria with the study area.</li> <li>• Develop an electronic case history file by February 2011 that contains documentation of findings and results that can be utilized by staff to evaluate overall success of study.</li> <li>• Report on results of stormwater sampling and analysis in association with implemented BMPs with emphasis on showing the effectiveness of the BMP selected.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Track the number of sampling events, samples collected, and resulting bacteria analysis results.</li> <li>• Track results of field condition assessments conducted and the corresponding outcome of the assessment. Attempt to correlate noted conditions with results of sampling analysis. Document additional strategies that will identify or rule out potential sources of bacteria. Report on any conclusions derived as a result of implementing these strategies.</li> <li>• Document the use of alternative investigative approaches such as microbial source tracking and sediment sampling.</li> <li>• Document all follow up sampling and analysis and conclusions derived regarding BMP effectiveness.</li> </ul>

## **2.7 Industrial Facilities**

The purpose of industrial controls is to provide oversight of stormwater discharges from industrial facilities, including screening, inspections, technical assistance, and response to spills at permitted facilities. The following BMP represents the industrial element of the SWMP:

W1 Industrial Stormwater Management Program

<b>W1</b>	<b>Industrial Stormwater Management Program</b>
<b>Responsible Department/Division</b>	Public Works / Wastewater Division
<b>Description</b>	Provides oversight of stormwater discharges and washing activities from industrial facilities, screening new businesses for those that may require NPDES Permits, conducting inspections and providing technical assistance to industries with NPDES Permits, and responding to spills at facilities with permits.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Manage 1200Z and 1700A NPDES permit files.</li> <li>2. Evaluate new and existing facilities for requiring NPDES permits.</li> <li>3. Determine permit compliance with existing NPDES permitted facilities.</li> <li>4. Issue Request for Corrective Action letters for permit noncompliance.</li> <li>5. Conduct periodic monitoring for compliance determination.</li> <li>6. Provide technical assistance to permitted facilities.</li> <li>7. Retain copies of Stormwater Pollution Control Plans for each permitted industry.</li> <li>8. Retain copies of facility inspections.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Conduct site inspections on 20% of permitted facilities annually.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Percentage of permitted facilities inspected.</li> <li>• Number of corrective action letters sent and follow up responses.</li> <li>• Number of Action Plans prepared by permit registrants.</li> </ul>

## **2.8 Permit Management**

The purpose of permit management is to ensure effective permit management, coordination, and reporting. The following BMP represents the administrative element of the SWMP:

E5 Permit Management and Reporting

<b>E5</b>	<b>Permit Management &amp; Reporting</b>
<b>Responsible Department/Division</b>	Public Works / Engineering
<b>Description</b>	Administration of the overall NPDES permit compliance effort, including permit renewals, annual reports, program evaluations and documentation of the City's adaptive management processes, and updates to the City's TMDL benchmark assessment.
<b>Tasks</b>	<ol style="list-style-type: none"> <li>1. Coordinate with all City divisions and groups that administer BMPs described within the SWMP to review program commitments, gather tracking data, and where appropriate, assist with program evaluation and additional goal setting or BMP enhancements.</li> <li>2. Evaluate programs and BMPs as described in the SWMP to ensure that the overall NPDES permit objectives are being met, including reduction of pollutants on the DEQ 2004/2006 303(d) list and established TMDLs as compared to the pollutant load reduction benchmarks.</li> <li>3. Conduct appropriate public involvement efforts related to various NPDES permit elements such as SWMP/Monitoring plan updates or proposed adaptive management. May include presentations to advisory groups, elected officials, and public notices.</li> </ol>
<b>Measurable Goals</b>	<ul style="list-style-type: none"> <li>• Submit Annual Reports to DEQ, that summarize implementation of the requirements as described in the City's MS4 permit, Schedule B.</li> <li>• Evaluate progress towards meeting TMDL pollution reduction benchmarks for each five year renewal submittal.</li> <li>• Conduct public involvement within an appropriate time to meet legal requirements for the five year renewal submittals, and for on-going adaptive management as appropriate.</li> </ul>
<b>Tracking Measures</b>	<ul style="list-style-type: none"> <li>• Track public involvement events and number of people reached.</li> <li>• Post Annual Reports on City's web site.</li> </ul>