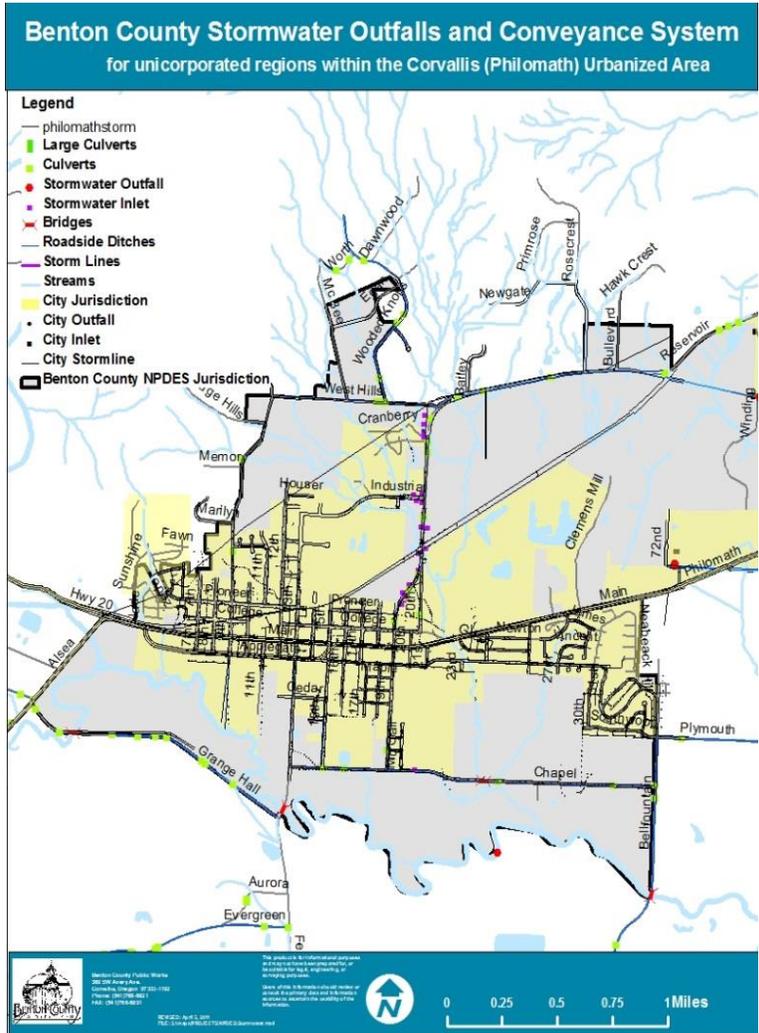


BENTON COUNTY, OREGON NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PHASE II ANNUAL REPORT

Submitted 9/30/ 2014



The OSU-Benton County Green Infrastructure Research Facility will treat over 3 million gallons of stormwater runoff from the Benton County Public Works yard (see Section 6 Water Quality Retrofits)



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Partnering with existing outreach and education events to share and learn with the public has been a goal for Benton County and will continue to be during the next NPDES permit cycle.

Each year Benton County hosts the Annual Environmental forum and presents an environmental award to honor those community volunteers that support enhancement of water quality.



Roof To Rivers

Thursday, October 10, 2013 at 7:00 PM
Corvallis Public Library
645 NW Monroe Avenue

featuring:

2012 Benton County Sustainability Award
2013 Benton County Environmental Award

Healthy Streets & Stormwater Systems
Iris Benson, City of Corvallis

Biochar Water Filtration Products
John Miedema

Benton County Stormwater Management

Permit Renewal Application

Section 1. Non-stormwater Discharges-

Benton County staff passed an Illicit (non-stormwater) Discharges ordinance in 2011 to identify, investigate, and enforce cleanup of applicable discharges within its NPDES MS4 permit boundary. The Stormwater Management Program (2012-2017) submitted to DEQ in 2012 provides for additional control measure actions that applicable county departments and divisions will take to effectively implement non-stormwater discharges code requirements and take corrective actions.

Section 2. Evaluation of Stormwater Management Plan Implementation

Benton County has provided several documents that provide details regarding the current implementation status of the Stormwater Management Plan.

Section 3. Adaptive Management

Benton County has developed an interdepartmental (Community Development, Public Works, Environmental Health) adaptive management assessment and proposed changes to meet the NPDES permit requirements. All proposed adaptive management implementation is included in the proposed SWMP. As new data, technologies and practices become available, Benton County will evaluate these and assess the feasibility and ramifications of implementing them into the new permit and will make an effort to implement them into its program if it appears to be beneficial in helping to reduce stormwater impacts to the MS4. As of 10/11/13 Oregon DEQ has not provided a permit renewal package describing requested changes to the current program. Benton County is dedicated to improving the Stormwater Management Plan (SWMP) and program within existing staffing resource levels; including funding proposals for specific SWMP implementation requirements, which are provided for review and incorporating requested permit renewal package changes as requested by Oregon DEQ.

Section 4. Proposed Modifications or Additions to SWMP

Several modifications and additions to the current Benton County SWMP are proposed based on past work and current staff requirements

Section 5. Total Maximum Daily Load Evaluation and Benchmark Development-

Review this section for TMDL proposal.

Section 6. Benton County Stormwater Pollution Prevention Plan

See Pollution Prevention Plan for Benton County Public Works (including Roads, Facilities), and Natural Areas and Parks Departments. Benton County has also completed construction of the 'OSU-Benton County Green Infrastructure Research Facility' treating over 3 million gallons of stormwater runoff from the Public Works industrial yard.

Section 1.

Summary of Non-Stormwater Discharges Management Plan

The following table summarizes each applicable non-stormwater discharges elements required under the current Benton County Stormwater Management Program

BMPs	Implementation Tasks	Measurable Goals	Goal(s) Achieved	Proposed non-stormwater discharges Updates 2012-2017
Identify affected elements of the stormwater system.	1. Develop Storm Sewer System Map with outfalls, roads, receiving streams.	Completed map and GIS database	Achieved	Improve mapping database of new and historic outfalls in coordination with City of Philomath and City of Corvallis
Establish illicit discharge ordinance and enforcement program.	1. Illicit discharge ordinance and enforcement program.	Adopt Benton County Code standards and procedures for eliminating illicit discharges into the stormwater system	Achieved-October 2011	Implementation of the Illicit Discharge Code requirements to prohibit non-stormwater discharges.
Detection and Enforcement	1. Develop plan and procedures for detecting illicit discharges and conducting inspections. 2. Train appropriate staff in the identification and remediation of illicit discharges made to the stormwater system.	Written procedure and staff training for documenting complaints. Staff who will be monitoring for illicit discharges or investigating suspected illicit discharges will have received adequate training within 6 months of the adoption of the illicit discharge program by the Board of County Commissioners.	Achieved-October 2011	Continued training for pertinent staff on identifying and investigating illicit discharges. Coordination with City of Philomath and City of Corvallis to investigate potential illicit discharges as necessary.
Public Education	Inform general public of code requirements, best management practices	Distribute handout to businesses and customers, update website and information to pertinent businesses and staff	Ongoing starting 2011	Complete ongoing priority outreach and education regarding adopted IDDE program requirements.

Benton County Illicit Non-Stormwater Discharges Code

The following code chapter was adopted by the Benton County Commissioners and added as Chapter 36 to the Benton County Code on 10/11/11. The code requirements became effective on 11/11/11.

CHAPTER 36

ILLICIT (NON-STORMWATER) DISCHARGES

I. GENERAL PROVISIONS

36.005 Purpose and Intent

The purpose of this chapter is to protect the public health, safety, general welfare, environment, water quality and waterways through the regulation of non-stormwater discharges to the Benton County municipal separate storm sewer system to the maximum extent practicable consistent with the Federal Clean Water Act (33 U.S.C. §1251 et seq. (1972)).

This chapter establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) and Stormwater Discharge Permit issued to Benton County by the Oregon Department of Environmental Quality. The purpose of this chapter is to meet the following objectives to the maximum extent practicable:

- (a) Prevent non-stormwater discharges, generated as a result of spills, inappropriate dumping, excessive erosion or disposal of pollutants that degrade the natural environment; and
- (b) To establish legal authority to carry out inspection, investigation, monitoring and enforcement procedures necessary to ensure compliance with this chapter. [Ord. 2011-0243]

36.010 Applicability

- (1) The provisions of this Chapter 36 shall apply within the Corvallis Federal Urbanized Area boundary, as regulated by the Environmental Protection Agency and Oregon Department of Environmental Quality.
- (2) The Benton County Health Administrator shall administer, implement, interpret, and enforce the provisions of this Chapter 36 with assistance from the Public Works Director and Community Development Director.

36.100 Definitions

- (1) **“Accidental Discharge”** means a discharge prohibited by this chapter which occurs by chance and without planning or thought prior to occurrence.
- (2) **“Best Management Practices (BMPs)”** means schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to

prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

- (3) **“Clean Water Act”** means the Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.
- (4) **“Construction Activity”** means activities subject to the Oregon Phase II Municipal Stormwater Program or NPDES General Construction Permits or Benton County Erosion and Sediment Control Permit requirements.
- (5) **“Discharge Permit”** means a permit issued by the Oregon Department of Environmental Quality under authority delegated pursuant to 33 USC § 1342(b) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.
- (6) **“Federal Urbanized Area”** is a land area determined by the US Census Bureau, one or more places, central place(s), and the adjacent densely settled surrounding area — urban fringe — that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile.
- (7) **“Groundwater Interceptor”** means any natural or artificial groundwater or surface water drainage system, including drain tile, curtain drain, foundation drain, cut banks, and ditches, that intercept and divert groundwater or surface water from the area of an onsite wastewater treatment absorption facility.
- (8) **“Hazardous Materials”** means any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed
- (9) **“Health Administrator”** means the Benton County Health Administrator or designee.
- (10) **“Illicit Discharge”** means any direct or indirect non-stormwater discharge to the county municipal separate storm sewer system, except as exempted.
- (11) **“Illegal Connection”** means either of the following :
 - (a) Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency, or
 - (b) Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.
- (12) **“Municipal Separate Storm Sewer System (MS4)”** means a conveyance or system of conveyances including but not limited to any roads with drainage systems, county streets, curbs, gutters, inlets, catch basins, piped storm drains, pumping facilities, structural stormwater controls, ditches, swales, natural and man-

made or altered drainage channels, reservoirs, and other drainage structures, and which is:

- (a) Owned or maintained by Benton County;
 - (b) Designed or used for collection or conveying stormwater;
 - (c) Not a combined sewer; and
 - (d) Not part of a publicly-owned treatment works as defined by 40 CFR §122.2.
- (13) **“Nonpoint Source”** means causes of water pollution that are not associated with point sources. Examples may include: fertilizer/pesticide runoff; sediment runoff from construction. Nonpoint sources may enter a discrete conveyance system and become a point source.
- (14) **“Non-Stormwater Discharge”** means any discharge to the storm drain system that is not composed entirely of stormwater.
- (15) **“Outfall”** means a point source as defined by 40 CFR, § 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States.
- (16) **“Person”** means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, governmental entity, any interstate body or any other legal entity, or their legal representatives, agents, or assigns. The masculine gender shall include the feminine; the singular shall include the plural where indicated by the context.
- (17) **“Pollutant”** means a contaminant(s) that enters the natural environment that causes harm and its severity is based on its chemical nature, the concentration and the persistence. Examples of pollutants may include, but are not limited to: paints, varnishes, and solvents; petroleum hydrocarbons; automotive fluids; cooking grease; detergents; degreasers; cleaning chemicals; garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; liquid and solid wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; sediment.
- (18) **“Pollution”** means the human-made or human-induced alteration of the quality of waters by waste to a degree that unreasonably affects or has the potential to unreasonably affect the waters of the state.
- (19) **“Premises”** mean any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.
- (20) **“Waters of the State”** lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters) that are located wholly or partially within or bordering the state or within its jurisdiction.
- (21) **“Waters of the U.S.”** means current definition under 40 CFR 230.3(s)
- (22) **“Stormwater”** means any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.
- (23) **“Structural Stormwater Control”** means a structural stormwater management facility or device that controls stormwater runoff and changes the characteristics of

that runoff including, but not limited to, the quantity and quality, the period of release or the velocity of flow. [Ord. 2011-0243]

II. PROHIBITIONS

36.200 Prohibition of Illicit Discharges

No person shall discharge any pollutants or waters containing any pollutants, into the Benton County municipal separate storm sewer system. To “discharge” includes any means of causing pollutants to enter the subject waters, including allowing others under the person’s control to discharge pollutants. [Ord. 2011-0243]

36.205 Exemptions

The following discharges are exempt from the prohibition of section 36.200 above:

- (1) Water line flushing performed by a government agency;
- (2) Dye testing necessary to protect public health and safety;
- (3) Other potable water sources;
- (4) Landscape irrigation or lawn watering;
- (5) Diverted stream flows;
- (6) Rising groundwater;
- (7) Groundwater infiltration to storm drains;
- (8) Uncontaminated pumped groundwater;
- (9) Roof drains, foundation or footing drains (including active groundwater interceptors);
- (10) Crawl space pumps;
- (11) Air conditioning condensation;
- (12) Natural springs;
- (13) Natural riparian habitat or wetland flows;
- (14) Discharges or flows from fire fighting, and other discharges necessary to protect public health and safety;
- (15) Any non-stormwater discharges permitted under an NPDES permit or order issued to the discharger and administered under the authority of the State and the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations;
- (16) Residential car washing;
- (17) Discharges resulting from forest practices performed pursuant to the Oregon Forest Practices Rules and from accepted farm practices;
- (18) Any road Maintenance activities performed by public agencies pursuant to accepted Best Management Practices.
- (19) Discharges resulting from excavations for gas or oil facilities for which the operator demonstrates compliance with 40 CFR §122.26;
- (20) Emergency measures to protect life, property, public infrastructure, or essential services, documented as soon as possible after the fact;
- (21) Mining activities performed pursuant to applicable state permit requirements;
- (22) Activities, conducted by public agencies that meet or exceed state or federal standards for erosion and sediment control;

(23) Any other water source not containing pollutants. [Ord. 2011-0243]

36.210 Connections.

The unlawful discharge of non-stormwater to illegal connections and other connections to the municipal separate storm sewer system is prohibited. In addition:

- (1) A person violates this chapter if the person connects a line or other conveyance of pollution to the municipal separate storm sewer system, or uses an existing connection to convey non-stormwater discharges.
- (2) Improper connections in violation of this chapter shall not be allowed to discharge. If necessary to appropriately treat discharge, it shall be redirected to an approved onsite wastewater treatment system or the sanitary sewer system upon approval of the sanitary sewer agency.
- (3) Any drain or conveyance that has not been documented in plans, maps or equivalent, and which might be connected to the storm sewer system, shall be located by the owner or occupant of that property upon receipt of written notice from Benton County requiring that such locating be completed. Such notice will specify a reasonable time period within which the location of the drain or conveyance is to be completed, that the drain or conveyance be identified (for example, “storm sewer” or “sanitary sewer”), and that the outfall location or point of connection to the storm sewer system, sanitary sewer system or other discharge point be identified. Results of these investigations are to be documented and provided to Benton County. [Ord. 2011-0243]

36.215 Industrial or Construction Activity Discharges.

Any person subject to an industrial or construction activity NPDES stormwater discharge permit or Benton County Erosion and Sediment Control Permit shall comply with all provisions of such permit. Proof of compliance with said industrial activity permit may be required in a form acceptable to Oregon Department of Environmental Quality, prior to allowing discharges to the municipal separate storm sewer system. Benton County Public Works and Community Development may require proof of compliance with applicable construction activity. [Ord. 2011-0243]

III. INVESTIGATION AND NOTICE

36.300 Illicit Discharge Investigation Procedure

- (1) When reported illicit discharge related incidents occur in the county road right of way, Benton County Public Works Department will lead investigation, coordination, and illicit discharge related responses. This includes identifying a responsible party to pay for the cleanup of the illicit discharge. Public Works will coordinate with local law enforcement and fire departments to receive critical information to identify the

responsible party, and determine if spills or illicit discharges occur that are in reportable quantities under the Oregon Emergency Response System.

(2) For areas outside of the road right of way on private properties, Benton County Environmental Health will lead investigation where illicit discharges have been reported and are within the authority and capability of Environmental Health. This includes identifying a responsible party to pay for the cleanup of the illicit discharge. These are currently limited to activities, facilities, and related illicit discharge issues associated with:

- (a) failing septic systems;
- (b) restaurants;
- (c) public swimming pools and spas;
- (d) private pool and spas;
- (e) hotel/motel;
- (f) recreational parks;
- (g) public water systems;
- (h) schools;
- (i) bed and breakfasts; and
- (j) solid waste;

(3) Benton County Environmental Health and Public Works will coordinate reporting hazardous materials related incidents to the State Department of Environmental Quality and the Oregon Emergency Response System when occurrences are known. [Ord. 2011-0243]

36.305 Access and Inspection of Properties and Facilities

The Health Administrator may enter and inspect properties and facilities identified in section 36.300(2) at reasonable times and as often as may be necessary to determine compliance with this chapter.

(1) If a property or facility has security measures in force which require proper identification and clearance before entry into its premises, the owner or operator shall make the necessary arrangements to allow access to representatives of Benton County.

(2) Inspection of the property may include but is not limited to interviews, testing (including tracing dye), sampling, photography, videotaping, and examination and copying of any records pertaining to an NPDES permit.

(3) The Health Administrator shall have the right to set up on any property or facility such devices as are necessary in the opinion of the Health Administrator to conduct monitoring and/or sampling of flow discharges.

(4) The Health Administrator may require the owner or operator to install monitoring equipment and perform monitoring as necessary, and make the monitoring data available to the Health Administrator. This sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the owner or operator

at his/her own expense. All devices used to measure flow and quality shall be calibrated to ensure their accuracy.

(5) Any temporary or permanent obstruction to safe and easy access to the property or facility to be inspected and/or sampled shall be promptly removed by the owner or operator at the written or oral request of the Health Administrator and shall not be replaced. The costs of clearing such access shall be borne by the owner or operator.

(6) Unreasonable delays in allowing the Health Administrator access to a facility are a violation of this chapter.

(7) If the Health Administrator has been refused access to any part of the premises from which illicit discharges are occurring, and the Health Administrator is able to demonstrate probable cause to believe that there may be a violation of this chapter, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this chapter or any order issued hereunder, or to protect the overall public health, safety, environment and welfare of the community, then the Health Administrator may seek issuance of an administrative search warrant from any court of competent jurisdiction.

(8) In the event the violation constitutes an immediate danger to public health or public safety, the Health Administrator is authorized to enter upon the subject private property, without giving prior notice, to take any and all measures necessary to abate the violation and/or restore the property. The Health Administrator is authorized to seek costs of the abatement as outlined in Benton County Code Chapter 31. [Ord. 2011-0243]

36.310 Notification of Accidental Discharges and Spills

Notwithstanding other requirements of law, as soon as any person responsible for a facility, activity or operation, or responsible for emergency response for a facility, activity or operation has information of any known or suspected release of pollutants or other non-stormwater discharges from that facility or operation which are resulting or may result in illicit discharges or pollutants discharging into the municipal separate storm sewer system, waters of the state, or waters of the U.S., said person shall notify Benton County and all other entities as required by state and federal law, including the Oregon Emergency Response System, by phone, or by facsimile or in person no later than the next business day. The nature, quantity and time of occurrence of the discharge shall be provided. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Health Administrator or Public Works Director within three business days of the phone or in person notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years. Said person shall also take immediate steps to ensure no recurrence of the discharge or spill. In the event of such a release of hazardous materials, emergency response agencies and/or other appropriate agencies shall be immediately notified.

Failure to provide notification of an illicit discharge as provided above is a violation of this chapter. [Ord. 2011-0243]

36.315 Violations, Enforcement and Penalties

(1) It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this chapter. Any person, who has violated or continues to violate the provisions of this chapter, may be subject to the enforcement actions outlined in Benton County Code Chapter 31, or any other legal remedies available to Benton County. Benton County may require \$500.00 per day with each day being considered a separate violation.

(2) In addition to Chapter 31 enforcement requirements, Benton County, upon finding that a violation of this chapter has occurred, may order compliance by written notice of violation. The notice of violation shall contain:

- (a) The name and address of the alleged violator;
- (b) The address when available or a description of the building, structure or land upon which the violation is occurring, or has occurred;
- (c) A statement specifying the nature of the violation;
- (d) A description of the remedial measures necessary to restore compliance with this chapter,
- (e) A time schedule for the completion of such remedial action;
- (f) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed; and,

(3) Such notice may require without limitation:

- (a) A professional or credentialed professional to complete remediation requirements;
- (b) The performance of monitoring, analyses, and reporting;
- (c) The elimination of illicit discharges and illegal connections;
- (d) That violating discharges, practices, or operations shall cease and desist;
- (e) The abatement or remediation of stormwater pollution or contamination hazards;
- (f) The restoration of any affected property;
- (g) Payment of costs to cover administrative, follow up inspections, abatement, and clean-up costs; and,
- (h) The implementation of pollution prevention practices.

(4) This chapter shall not establish responsibility on the part of Benton County to abate or clean up private property, or for Benton County to incur costs related thereto. [Ord. 2011-0243]

36.400 Ultimate responsibility

The standards set forth herein and promulgated pursuant to this chapter are minimum standards; therefore this chapter does not intend or imply that compliance by any person

will ensure that there will be no contamination, pollution, or unauthorized discharge of pollutants into the waters of the state caused by said person. This chapter shall not create liability on the part of Benton County, or any agent or employee thereof for any damages that result from any discharger's reliance on this chapter or any administrative decision lawfully made thereunder. [Ord. 2011-0243]

36.500 Severability

The provisions of this chapter are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Chapter 36 or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Chapter 36. [Ord. 2011-0243]

Benton County Internal Policy for Tracking and Resolving Water Quality Complaints (non-stormwater discharges)

**BENTON COUNTY
AVERY COMPLEX
ADMINISTRATIVE POLICY NO. 01-10**

TITLE: Water Quality Complaint Tracking Procedures

SECTION: Operational

DATE ADOPTED BY THE DEPARTMENT HEADS:

SIGNATURES:

**Roger Irvin
Public Works Director**

**Jeff Powers
Natural Areas & Parks Director**

**Greg Verret
Community Development Director
Health**

**Bill Emminger
Deputy Administrator-Environmental**

I. PURPOSE

This document outlines the procedures that Benton County staff will take in order to accurately track, route, and resolve water quality related complaints and issues. Benton County is required under State and Federal Law to meet these requirements through the

Benton County Stormwater Management Program and the Willamette River Basin TMDL Implementation Plan to improve water quality. Benton County Public Works and Community Development have been charged with the responsibility for meeting the requirements of both programs. Public Works has a database “Integrated Road Information System” (IRIS) with a Service Request Module in place for tracking and routing complaints and concerns, which will be utilized to meet the goals of this procedure.

II. OPERATION

- A. Water quality related complaints and issues will be tracked using the Benton County IRIS database (see attached sample IRIS Service Request).
- B. Tracked complaints and issues will be reviewed quarterly and annually by the Water Quality Group. This group comprises of County employees from Public Works, Community Development, Environmental Health and Natural Areas & Parks.
- C. The Water Quality Group will collaboratively review and work to resolve the complaint and/or issue; specific departments will take the lead depending on the nature of the complaint and/or issue.
- D. Each Department listed above will be responsible for training their staff on the new policy and how to recognize what is a water quality issue. See attached example.

III. RESPONSIBILITY

A. Avery Front Receptionist:

Calls will be logged into IRIS Service Request System and routed to the appropriate Department under the Request Category depending on the issue – Engineering/Survey, Community Development, Roads, Parks, and Environmental Health.

The Type of complaint entered will be identified as **Water Quality Issue**, under Engineering/Survey section.

The service request will be printed and given to the Department Point Person. Once the issue has been resolved, information will be returned to the Avery Front Receptionist for processing and closure. See Attached Sample.

At least quarterly, a report will be generated with all open and closed requests to the County Engineer for review and follow-up.

B. Benton County Staff:

Once a Service Request is generated, the Department Point Person directs it to the appropriate staff person for investigation. The assigned staff member investigates within 3 business days to determine whether violation of code or statute is apparent and notifies the property owner of required corrective action or, if non-County jurisdiction, notifies the jurisdictional authority. The request will be completed with the type of action taken, the person completing the action and the date. This will then be forwarded back to the Avery Front Receptionist.

If a call related to Water Quality Issue goes directly to a staff person's phone, the necessary information will be collected and type of action taken. This information will then be forwarded to the Avery Front Receptionist so that a Service Request can be entered for documentation.

C. County Engineer:

At least quarterly, the County Engineer will request a report on all open and closed Water Quality Issues from the Avery Front Receptionist for review at the monthly Water Quality Group meeting. A follow up with the appropriate staff person may be necessary.

D. Environmental Health Department:

To expedite customer service, calls made directly to Environmental Health staff will be documented in their database system (not IRIS). A quarterly and annually report will be sent to the County Engineer to be reviewed at the monthly Water Quality Group meeting.

EXAMPLES

There is a manure pile near a stream, creek or storm drain.

There is a large area of bare ground and when it rains soil is going into the stream, creek or storm drain.

A person is dumping into a stream, creek or storm drain.

There are junk cars leaking fluids near a stream, creek or storm drain.

There is the smell (or leaking) of raw sewage in or near a ditch, stream, or creek.

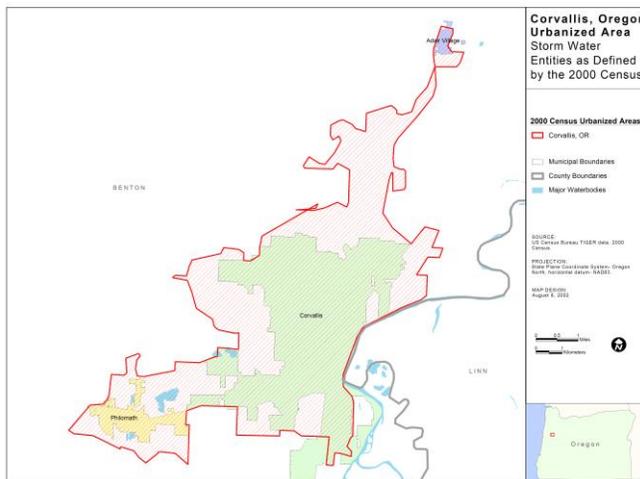
There is a large spill of some sort that could wash off into a stream, creek or storm drain.

Non-stormwater Discharges—Public Education

Press release provided for quarterly Benton County Frontline Newsletter

Benton County water quality programs update

Since 2007, an interdepartmental Benton County staff team along with local partners has led the development and implementation of the Benton County Stormwater Program and



Total Maximum Daily Load Program. You may not know it, but water that falls from sky and lands within what is known as the “Corvallis Urbanized Area”, is regulated by the State of Oregon Department of Environmental Quality. Benton County and City of Philomath have worked closely to implement Federal and State stormwater requirements that are

locally appropriate and feasible for Benton County including:

Benton County, City of Philomath, and City of Corvallis are all required to improve stormwater quality.

- 💧 Illicit Discharge Detection and Elimination
- 💧 Construction Site Runoff Control
- 💧 Post Construction Runoff Control
- 💧 Pollution Prevention/Good Housekeeping

On the ground actions include code requirements and inspection of erosion control and water quality infrastructure at large construction sites, cleaning out catch basins, and enforcing a program to detect and eliminate ‘illicit discharges’ to the storm sewer conveyance system’.

Benton County is also implementing a Water Quality Implementation Plan to meet State ‘TMDL’ requirements for Bacteria, Temperature, and Mercury under the Clean Water Act. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards. Actions on the ground include: waste management education to pet and livestock owners, septic system inspection and code enforcement, and improved protection and enhancement of streamside vegetation.



Straw baffles are required to filter sediment and chemicals from construction sites before flowing into a storm drain and eventually to a nearby local stream.

Everyone in Benton County can take action every day to help improve water quality. Although certain requirements and programs exist for the county, cities, forest or farm land--we are all connected by our shared water resources.

For more information about the meeting, contact Adam Stebbins by e-mail at adam.stebbins@co.benton.or.us or phone at (541) 766-6085.



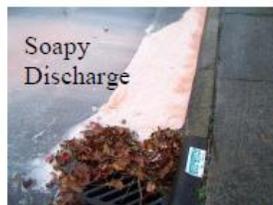
Stormwater Quality & “Illicit Discharges”

A collaborative project to:

- Raise public awareness on how to protect and improve water quality,
- Encourage and support citizen and businesses water quality protection and improvement goals,
- Develop and enforce water quality requirements to protect public and environmental health and safety.



Oil Spill



Soapy Discharge



Sedimentation



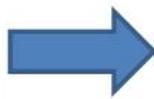
Restaurant Waste Leaking

Photos adapted from: Google images and Environmental Health (Benton County)

**Illicit Discharges and spills come in many different types, locations, and times of the year!
Being aware of this will help you keep an eye to protect our shared water resources**

What is this all about?

Benton County is required under Federal Rules and State Stormwater Discharge permit, to develop and implement a Stormwater Management Program. This includes creating and adopting an *Illicit Discharge Detection and Elimination* “ordinance or other regulatory mechanism” to “effectively prohibit” non-stormwater discharges into the Benton County Storm Drainage System (includes ditches, gutters, streets, catch basins, and other stormwater conveyances). Benton County is adopting new code to gain authority to monitor and inspect for spills and illicit discharges and work to improve and protect water quality.



Prevention and Early Detection is Key: By handling and disposing of chemicals properly, cleaning up and covering trash, and being aware of possible illicit discharges in your community, water quality will be protected and improve!

How can you help?

Benton County will need information on when and where illicit discharges or spills occur. Please report spills within the county roadways to: **Benton County Public Works at (541) 766-6821** and on private land outside of the roadways to **Benton County Environmental Health at (541) 766-6841**

IF YOU HAVE AN EMERGENCY OR HAZARDOUS SPILL CALL 9-1-1:

Be ready to provide the location, severity, actions taken, and responsible party. Remember that early response protects our shared water quality!

The following are digital print-outs documenting the Benton County Environmental Health Division and Benton County Public Works Offices, documentation of water quality complaints including if and when resolution of the issue occurred.

Benton County Environmental Health Department Investigation Request Form

Inv_Req_No	<input type="text" value="7790"/>	Type	<input type="text" value="03S"/>	SOLID WASTE		
Status	<input type="text" value="O"/>	OPEN	Date_Received	<input type="text" value="04/09/2010"/>	Date_Closed	<input type="text"/>
Loc_Address	<input type="text" value="25447 ALPINE RD"/>			City	<input type="text" value="MONROE"/>	
Requestor	<input type="text" value="WARREN HALSEY"/>					
Guardian	<input type="text"/>					
Address	<input type="text" value="25301 GILBERT LANE"/>					
City	<input type="text" value="ALPINE"/>	State	<input type="text" value="OR"/>	Zip Code	<input type="text" value="97456-"/>	
Home Phone:	<input type="text" value="(541)-847-5733"/>	Work Phone	<input type="text"/>			
Res_Party	<input type="text" value="GLADYS SPURGEON"/>					
Address	<input type="text" value="25447 ALPINE RD"/>					
Res_City	<input type="text" value="MONROE"/>	State	<input type="text" value="OR"/>	Zip Code	<input type="text" value="97456-"/>	
Home Phone	<input type="text" value="(541)-847-5256"/>	Work Phone	<input type="text"/>			
Sanitarian	<input type="text" value="GORDON BROWN"/>					
EST_Number	<input type="text"/>					
PWS_Number	<input type="text"/>					
Nature	<input type="text" value="JUNK VEHICLES/DUMPING"/>	Taken By	<input type="text" value="DEQ REFERRAL"/>			
Map_Taxlot	<input type="text" value="145300000800"/>					
Old Map_Taxlot	<input type="text"/>					
Tickle_Date	<input type="text"/>	Who	<input type="text" value="TERRI KENNEDY"/>			
Comments	<input type="text" value="RESIDENCE BURNED DOWN. CURRENT RESIDENT IS DUMPING BURNED MATERIAL INTO NEARBY CREEK. ALSO HAS JUNK VEHICLES ON PROPERTY."/>					

Animal Bites / Foodborne Only:

Rep Source	<input type="text"/>
Incident Date	<input type="text"/>
Medical Date	<input type="text"/>

SERVICE REQUEST

CATEGORY: 42 - ENG AND SURVEY

REQ. NO: 1002000422

ROAD: _____ **NEAREST XSTREET:** _____

LOCATION: THORNTON LAKE BRIDGE **PRIORITY:** _____

ADDRESS: THORNTON LAKE BRIDGE

REQUEST: THORNTON LAKE BRIDGE ON NORTH ALBANY ROAD WAS BEING SWEEP AND POWER WASHED. FRED HUEGLIN LIVES NEAR THE BRIDGE AND HAS WITNESSED THE COUNTY SWEEPER WASHING EVERYTHING OFF DIRECTLY INTO THE LAKE.

REQ. BY: HUEGLIN, FRED **PHONE:** 541-967-6119

EMAIL: _____ **ALT. PHONE:** _____

ADDRESS: _____

RECEIVED: 02/05/2010 **BY:** Steinke, Leanna **CONTACT METHOD:** _____

REQUEST TYPE: Water Quality - Water Quality Issues

SERVICE AREA: _____ **RESPONSE METHOD:** _____

CURRENT SECTION: JimS - Jim Stouder **ASSIGNED DATE:** 02/05/2010

NOTIFY WHEN COMPLETE: _____

ACTION: Request Created **02/05/2010**

SECTION: JimS - Jim Stouder

SECT. COMP: 02/05/2010

APPROVED BY: Steinke, Leanna

INSTRUCTIONS:

ACTION: Complete **02/05/2010**

APPROVED BY: Galloway, Joyce

COMMENT: THE ROAD WAS SWEEP. LAURIE CALLED MR. HUEGLIN. NO ACTION TAKEN. JIM STOUDER

ACTION: Comment **11/19/2010**

ENTERED BY: Starha, Laurie

COMMENT: THE CITIZEN WAS INFORMED THAT WE DO SWEEP SANDING MATERIAL OFF THE BRIDGE BUT THE COUNTY'S BMPS REQUIRE THAT MATERIAL NOT BE SWEEP INTO THE LAKE, BUT OFF EITHER SIDE ON THE SHOULDERS OF THE ROAD. JIM STOUDER WILL WORK WITH THE CITY OF ALBANY TO HAVE THEM SWEEP THIS BRIDGE INSTEAD OF THE COUNTY.

REQUEST COMPLETE: 2/5/2010

IN FILE

COMMENT: THE ROAD WAS SWEEP. LAURIE CALLED MR. HUEGLIN. NO ACTION TAKEN. JIM STOUDER

Section 2

Evaluation of Stormwater Management Plan Implementation

The following Evaluation of Stormwater Management Plan Implementation (see table on next page) provides the assessment of the 2007 Benton County Stormwater Management Plan (SWMP). The assessment includes:



- Specific actions taken by Benton County to develop and implement the six minimum control measure goals and objectives during the 2007-2012 NPDES Permit period;
- Implementation dates;
- Overview of the Adaptive Management goals for the 2012-2017 permit period (see specific adaptive management goals);

In support of the evaluation of Benton County Stormwater Management Plan (SWMP) implementation, several documents follow the evaluation table to document SWMP implementation, including:

- County department and division stormwater quality policies and procedures;
- Outreach and Education events and actions completed;
- Adopted Erosion and Sediment Control and Post-Construction Stormwater Management development code including the adopted Intergovernmental Agreement (IGA) with the City of Philomath;

Evaluation of Stormwater Management Plan Implementation: the following table examines the implementation of each BMP associated with the six minimum control measures within the current Benton SWMP

Program Area (Control Measure)	BMP	Responsible Party	Implementation Tasks from SWMP	Measurable Goals	Goal(s) Achieved?	Accomplishments and Implementation of Adaptive Management
Public Education	<p>BMP 1: Develop a stormwater education and outreach strategy.</p> <p>BMP 1: Develop a stormwater</p>	Benton County with support from watershed councils, soil and water conservation district, and other local stakeholders	<p>1. Identify then shape the message and educational materials.</p> <p>2. Periodic evaluation of the effectiveness of the educational materials and outreach.</p>	<p>A. Draft flyer for the general public and a mock up of the stormwater website.</p> <p>B. Various groups' feedback on ways to improve the flyers and website.</p> <p>C. Flyers and website that have been evaluated by the target audiences and subsequently modified if necessary.</p> <p>D. Review and update of materials and outreach every five years.</p> <p>E. Possibly -- changes to the flyers, website, or other materials.</p>	<p>A. Achieved</p> <p>B. Achieved</p> <p>C. Achieved</p> <p>D. Ongoing</p> <p>E. Achieved - Ongoing</p>	<p>Accomplishments: Draft flyer and website have been formed. Continuous updates/refinement of website will occur.</p> <p>Input from watershed council, soil and water conservation district and others regarding website content and flyers.</p> <p>Flyers and website have been developed and reviewed by some stakeholders. Flyers will be updated/improved as program details are developed, and with input from additional stakeholders. Website updates ongoing.</p> <p>Website and flyer updates ongoing.</p> <p>http://www.co.benton.or.us/cd/environment/water.php . There are several sub-sections which address water, energy, recycling, transportation, and habitat. Copies of brochures, and other educational materials are also made available in hard copy in the Benton County Community Development Department.</p> <p>Stormdrain stencils and medallion placements occurred with Benton County leading local students and other volunteers. Benton County notified the general public of the work using local newsletters (Benton SWCD, OSU Extension) and will continue to do so in the future</p> <p>Input on website and flyer(s) from construction and</p>

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Education Continued	education and outreach strategy.					<p>post-construction erosion control Ad-Hoc Committee (http://www.co.benton.or.us/cd/environment/stormwater.php)</p> <p>Adaptive Management:</p> <p>Evaluation of the educational and outreach materials including website updates (ongoing stakeholder group review). Staff and stakeholders evaluate the effectiveness of educational materials to improve communication of the goals of the Benton County SWMP in print and on-line format.</p>

Evaluation of Stormwater Management Plan Implementation: the following table examines the implementation of each BMP associated with the six minimum control measures within the current Benton SWMP

Program Area (Control Measure)	BMP	Responsible Party	Implementation Tasks from SWMP	Measurable Goals	Goal(s) Achieved?	Accomplishments and Implementation of Adaptive Management
Public Education	BMP 2: Distribute stormwater information and have it readily available to the public.	Stormwater-related Points of Contact Community Development, Public Works, Environmental Health, and Natural Areas and Parks.	1. Benton County Public Works/Community Development/Environmental Health “Point of Contact” program. 2. Establish a stormwater section on the County’s website. 3. Publish and distribute stormwater brochure for the general public. 4. Publish and distribute stormwater brochure targeted for building permit related activity. 5. Coordinate public education with that of other entities.	A. Flyers/handouts will be available in the buildings’ areas of public interaction. B. County staff will distribute flyers/handouts with permits. C. Establish procedures for receiving public information requests, complaints, etc. D. A stormwater website with links from related websites. E. Creation of a new brochure or selection of an existing brochure. F. Presence of the brochure in the aforementioned highly visible places at the County. G. Presence of the brochure and/or availability upon the public’s request from Marys River Watershed Council, City of Corvallis, and Benton Soil and Water Conservation District.	A. Achieved B. Achieved C. Achieved D. Achieved E. Achieved F. Achieved G. Achieved H. Achieved I. Achieved J. Achieved K. Ongoing	<p>Accomplishments: Flyers drafted and handed out. Please review attached flyer focused on steps for public to reduce pollutants in runoff.</p> <p>Stormwater brochure now being handed out with relevant permits.</p> <p>Complaint tracking system within IRIS computer system established (10/31/09). See attached Water Quality Tracking Administrative Policy.</p> <p>Website established: http://www.co.benton.or.us/cd/environment/index.php</p> <p>Existing brochures utilized at present; Benton County brochure to be developed when program details have been defined. Circulated a new brochure giving an overview of the project work.</p> <p>Stormwater information and discussion at annual Environmental Issues Forum. Several other Outreach and Education Events (see attachment) occurred where stormwater information was distributed to public and at the Benton County Avery Facility, and the availability of copies upon request</p> <p>Adaptive Management: Improvements to the stormwater website will be</p>

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Program Area (Control Measure)	BMP	Responsible Party	Implementation Tasks from SWMP	Measurable Goals	Goal(s) Achieved?	Accomplishments and Implementation of Adaptive Management
Public Education	BMP 2: Distribute stormwater information and have it readily available to the public.	Stormwater-related Points of Contact Community Development, Public Works, Environmental Health, and Natural Areas and Parks.		<p>H. Creation of a new brochure or selection of an existing brochure targeted towards building permit related activities.</p> <p>I. Presence of the brochure in the aforementioned highly visible places at the County.</p> <p>J. Distribution of the brochure through such means as building permit or septic drain field permit application.</p> <p>K. Collaborate with the City of Corvallis, Marys River Watershed Council, and Benton County Soil and Water Conservation District on education at one or more annual community event (such as Fall Festival, DaVinci Days, County Fair).</p> <p>L. Flyers present at various events attended by the City, MRWC, and BCSWD and other groups.</p>	L. Ongoing	<p>made to provide better usability and transparency of the program</p> <p>Adaptive Management Continued:</p> <p>Continue to coordinate and plan with willing local partners on stormwater/water quality issues, program, and participation opportunities related outreach and improve outreach materials (e.g. flyer)</p> <p>Greater production and wider circulation of the flyer to local groups and building, construction, and other affected business communities will increase to targeted mailings to priority residents and businesses.</p> <p>Improve Erosion Control and Post Construction brochures and supporting materials to show proper implementation of erosion control</p>

Evaluation of Stormwater Management Plan Implementation: the following table examines the implementation of each BMP associated with the six minimum control measures within the current Benton SWMP

Program Area (Control Measure)	BMP	Responsible Party	Implementation Tasks from SWMP	Measurable Goals	Goal(s) Achieved?	Accomplishments and Implementation of Adaptive Management
Public Participation and Involvement	BMP 1: Involve the public in general and stakeholders in particular in the development of the SWMP.	Benton County identified stakeholders, including property owners, construction companies, land developers, environmental groups, agriculture, economic development, education, local government, and specific landowners or businesses whose discharges into the stormwater system could potentially be termed "illicit".	<ol style="list-style-type: none"> 1. Establish a committee of stakeholders to review and give input to the development of the program. 2. News releases. 3. Hold public meetings to present the SWMP at various stages, and to obtain input. 4. Hold public hearings when ordinances are proposed. 	<ol style="list-style-type: none"> A. A stakeholder committee of at least 8 members from different perspectives relative to stormwater. B. Stakeholder committee endorsement of proposed draft elements of the stormwater program, or a detailed explanation of the committee's position where it differs from the proposed draft. C. At least one news release per year discussing the stormwater program, its status and opportunities for public involvement. D. An initial public meeting with adequate notification to interested parties and the general public. E. People will receive answers to their questions and will be able to provide input; contact information for staff will be provided. 	<ol style="list-style-type: none"> A. Achieved B. Achieved C. Achieved. D. Achieved E. Achieved. F. Achieved G. Achieved H. Achieved. 	<p>Accomplishments:</p> <p>A. Ongoing meetings of Stakeholder Committee with representatives from City of Corvallis and City of Philomath, Benton County departments, SWCD and Marys River watershed councils have been occurring monthly since plan approval. Additionally, stakeholders specifically involved in construction site erosion have been providing input on that portion of the SWMP.</p> <p>B. Called together an Ad-Hoc Erosion and Sediment Control and Post-Construction Runoff subcommittee composed of the local building community; prepare monthly meetings and developed action items for adopting erosion and sediment control and long term stormwater runoff control rules and procedures (monthly meetings occurred from January through August 2010; meeting materials available at: http://www.co.benton.or.us/cd/environment/stormwater.php)</p> <p>C. See stormwater-related articles in Benton County newsletter, a supplement to all subscribers to the Corvallis Gazette-Times newspaper: http://www.co.benton.or.us/documents/newsletter_wi_n09.pdf and attached stormwater releases.</p> <p>D. Annual public meeting at the Corvallis Library for the Environmental Forum in October 2014.</p>

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Program Area (Control Measure)	BMP	Responsible Party	Implementation Tasks from SWMP	Measurable Goals	Goal(s) Achieved?	Accomplishments and Implementation of Adaptive Management
Public Participation and Involvement	BMP 1: Involve the public in general and stakeholders in particular in the development of the SWMP.			<p>F. A mailing list will be established whereby interested people can receive notification of future meetings.</p> <p>G. Interested people will be solicited for membership on the stakeholder committee.</p> <p>H. Public hearings will comply with Benton County Code and Charter, and with state statute.</p>		<p>E. Answers to questions, contact info, were provided at public meeting.</p> <p>F. Mailing list completed and used for Benton County Stormwater outreach.</p> <p>G. A list of interested people has been maintained for future involvement.</p> <p>Accomplishments: See attached Administrative Policy No. 10-01. Tracked complaints and resolved issues for complaints during reporting period).</p> <p>Tracking of Water Quality complaints is ongoing</p> <p>Stormdrain stenciling program Phase I occurred in coordination with SWCD and OSU Benton County Extension office with local school volunteers.</p> <p>Completed several official tours/meetings of the Marys River Watershed Council, some with support roles (see Attachment).</p>

Evaluation of Stormwater Management Plan Implementation: the following table examines the implementation of each BMP associated with the six minimum control measures within the current Benton SWMP

Program Area (Control Measure)	BMP	Responsible Party	Implementation Tasks from SWMP	Measurable Goals	Goal(s) Achieved?	Accomplishments and Implementation of Adaptive Management
Public Involvement	BMP 2: Involve the public in implementation of the SWMP.	Benton County; Volunteers	1. Establish procedure for receiving volunteer monitoring data and/or complaints. 2. Establish program for stormdrain stenciling in urbanized areas. 3. Develop partnerships with watershed councils.	A. A written procedure for receiving, logging, investigating and responding to complaints. B. An annual report of complaints received and action taken. C. Benton County, either directly or through a partnership, will provide the materials and instructions for groups or individuals who desire to stencil (or otherwise suitably mark) stormdrains. D. Staff attendance at least twice a year at meetings of the Marys River Watershed Council.	A. Achieved B. Achieved C. Achieved Phase 1; Implement Phase 2 within FUA D. Ongoing	<p>Adaptive Management:</p> <p>Determine interested and willing partners to develop, implement, and manage a stormwater water quality/volunteer monitoring program (ongoing throughout 2010-2011)</p> <p>Continuing completion the implementation of procedure for tracking stormwater related water quality complaints. Review complaints received and develop procedures for addressing the stormwater quality complaints.</p> <p>Finalize and complete future storm drain stencil work within areas that don't have current storm drain stenciling/medallion marking.</p>

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Program Area (Control Measure)	BMP	Responsible Party	Implementation Tasks from SWMP	Measurable Goals	Goal(s) Achieved?	Accomplishments and Implementation of Adaptive Management
Public Involvement	BMP 3: Involve the public in general and stakeholders in particular in the adaptive management of the SWMP.	Benton County; Interested stakeholders	1. Annual public forum on SWMP. 2. Reconvene stakeholder committee prior to re-submittal (in 4.5 years) to review and consider changes. 3. Public meeting prior to final draft of re-submittal.	A. Benton County begin partnering outreach and education efforts with related water quality events instead of annual 'public (Change to original permit) B. Submit to Board of Commissioners proposed modifications to SWMP, including the recommendation of the stakeholder committee. C. Hold a public meeting, advertised in the local newspaper, via the website and at the County's point-of-service counters, to present proposed modifications to the SWMP.	A. Achieved; ongoing B. Completed 10/25/11 C. Completed 10/25/11; permit renewal application signed	<p>Accomplished: Several Outreach and Education events were utilized to reach the public on stormwater and related water quality issues. The events reached a wider audience than single community meetings and the process was approved by ODEQ.</p> <p>Monthly meetings of the stakeholder committee. See attached proposed modifications to the SWMP.</p> <p>Adaptive Management: Complete more partnership outreach and education events to provide education of newly adopted programs. Development interdepartmental SWMP modifications including but not limited to funding proposals, projects, and priorities.</p>
Illicit Discharge Detection and Elimination Program	BMP 1: Identify affected elements of the stormwater system.	Benton County; Interested Stakeholders	1. Develop Storm Sewer System Map with outfalls, roads, receiving streams.	A. A complete, printed map.	A. Achieved; ongoing updates	<p>Accomplished: Base GIS map and GIS project and wall map with readily available stormwater discharge related features (e.g. outfalls, receiving streams) (see maps at: www.co.benton.or.us/cd/environment/stormwater.php).</p>

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Illicit Discharge Detection and Elimination Program	BMP 1: Identify affected elements of the stormwater system.					Adaptive Management : Collect priority data as required to improve the usefulness of the stormwater system map for use in understanding and managing the stormwater geography within the Benton County FUA (ongoing, as needed and allowed by available resources).
Illicit Discharge Program	BMP 2: Establish illicit discharge ordinance and enforcement program.	Benton County; Interested stakeholders and volunteers	1. Illicit discharge ordinance and enforcement program.	A. Adopt Benton County Code standards and procedures for eliminating illicit discharges into the stormwater system.	A. Achieved—September 2011	Accomplishments: Pulled together staff team to develop program. Gain input from ODEQ on developed plan within the Benton County NPDES jurisdiction area. Assess and plan for illicit discharge and detection. Code finalized in August 2011. Adaptive Management: Continue staff work discussions to determine Benton County Water Quality Discharge code effectiveness, and necessary improvements.
Illicit Discharge Program	BMP 3: Detection and enforcement	Benton County; Interested stakeholders and volunteers	1. Develop procedures and plans for detecting illicit discharges and conducting inspections. 2. Train appropriate	A. A written set of procedures for monitoring and investigating potential stormwater discharge issues. This will include procedures for staff monitoring and a written procedure for receiving, logging,	A. Completed	Accomplishments: Formalized procedure, internal policies, and trained staff for tracking stormwater related water quality complaints to submit to ODEQ for evaluating compliance with permit conditions. This includes: New tracking code to separate out stormwater related calls

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			<p>staff in the identification and remediation of illicit discharges made to the stormwater system.</p>	<p>investigating and responding to complaints.</p> <p>B. Timely investigation of complaints and other identified potential illicit discharges.</p> <p>C. An annual report of complaints received and action taken. All complaints and identified issues will be logged, along with the results of investigation and the action taken.</p> <p>D. Staff who will be monitoring for illicit discharges or investigating suspected illicit discharges will have received adequate training within 6 months of the adoption of the illicit discharge program by the Board of County Commissioners.</p>	<p>B. Ongoing</p> <p>C. Ongoing</p> <p>D. Ongoing</p>	<p>Review complaints and developed procedures for addressing.</p> <p>Adaptive Management :</p> <p>Review and update plan for detection and enforcement based on resources and complaints.</p> <p>Continue tracking of water quality complaints to update current water quality complaint tracking procedures where needed.</p> <p>Continue to improve training programs with pertinent staff from Public Works, Environmental Health, and Community Development to resolve illicit discharge</p>

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Illicit Discharge Program	BMP 4: Inform affected parties and the general public about illicit discharges	Benton County; partners and Stakeholders	1. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.	A. Prepare an informational handout. B. Distribute the handout to identified businesses most likely to involve discharges and waste disposal. C. Distribute the handout to County employees. D. Put the information on the County's stormwater website.	A. Achieved B. Achieved C. Achieved D. Achieved	Adaptive Management: Provide targeted outreach and education to businesses and private residents with information on the water quality code. Develop handout and produce copies for staff and local residents/businesses, and update materials to improve information to local residents. Updates to the Benton County Stormwater website are ongoing; currently the MS4 coordinator has finalized a new website layout to provide improved public and internal resources regarding IDDE implementation.
Construction Site Runoff Control Program	BMP 1: Develop a construction site storm water run-off ordinance or alternative regulatory program	Benton County; interested stakeholders	1. Develop and adopt erosion control standards, policies and enforcement procedures. 2. Develop procedures for construction site plan review 3. Conduct training of employees involved in inspections	A. Adopt an erosion control ordinance. B. A new permit and fee will be instituted in Benton County computerized permitting system by the effective date of the erosion control ordinance. C. An interdepartmental to be issued, discussing which types of development activities will be reviewed by which department and how the fees for erosion control permits will	A. Achieved B. Achieved C. Achieved D. Achieved	Accomplishments: A. Code Adopted B. Finalizing electronic permit C. Interdepartmental Policy issued. D. Training completed for pertinent staff. Adaptive management: Solicit ODEQ to provide Benton County with sole-permitting authority for ground disturbances of 1-acre or more or cumulative disturbed area of 1-acre

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				be allocated. D. Staff will obtain training adequate for implementation of the erosion control regulations prior to the effective date of ordinance.		or more within Benton County (currently Benton County Erosion and Sediment Control and ODEQ 1200-C permits are required for these disturbances).
Construction Site Runoff Control Program	BMP 2: Inspect, respond to complaints, and enforce violations.	Benton County; interested stakeholders	1. Develop process for ensuring compliance with ordinance, including inspection protocols and enforcement mechanisms 2. Respond to complaints	A. Benton County will have inspection and enforcement procedures in place by the effective date of the erosion control ordinance. B. A written procedure for receiving, logging, investigating and responding to complaints. C. An annual report of complaints received and action taken.	A. Achieved B. Achieved C. Achieved	Accomplishments: Development, Engineering and Planning staff time have agreed to inspection and enforcement procedures and tracking of water quality. Adaptive Management: Review staff implementation of erosion and sediment control requirements. Update implementation to improve efficiency and effectiveness.
Construction Site Runoff Control Program	BMP 3: Inform affected public of permit requirement.	Benton County; interested stakeholders	1. Distribute information about activities requiring erosion control permit. 2. Inform contractors of training	A. Benton County will distribute informational flyers to construction operators, and will make the flyers available to the general public through the County website and at the office of Public Works/Community	A. Ongoing B. Achieved	Accomplishments: Completed general flyer ahead of schedule on upcoming local erosion and sediment control requirements. Adaptive Management:

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			opportunities.	<p>Development. The flyers will be distributed before the effective date of the erosion control ordinance.</p> <p>B. Training resources will be included with the fliers distributed to construction operators, and will be available on the County website and at County offices.</p>		Update website and secure funding to distribute training materials and resources. Determine County's ability to lead and/or coordinate training opportunities for private contractors, with coursework covering the proper implementation and requirements associated with erosion and sediment control and post-construction runoff
Post-Construction Runoff Control Program	BMP 1: Develop structural methods to limit pollution and maintain pre-development flow regimes.	Benton County; Ad-Hoc Advisory Committee	<p>1. Develop and adopt into Development Code requirements for storage, detention, filtration and infiltration.</p> <p>2. Develop and adopt a long-term stormwater plan for maintenance of installed facilities.</p> <p>3. Training for Plans Reviewers and Field Inspectors.</p>	<p>A. Adoption of Development Code standards by the Board of County Commissioners.</p> <p>B. Implementation of a set of policies and procedures, endorsed by the Board of County Commissioners, for long-term maintenance of stormwater facilities.</p> <p>C. Staff who will be reviewing or inspecting stormwater facilities will have received adequate training within 6 months of the adoption of</p>	<p>A. Achieved</p> <p>B. Achieved</p> <p>C. Achieved</p>	<p>Accomplishments: Monthly Ad-Hoc advisory committee meetings (Jan 26 2010-September 2010).</p> <p>Post-Construction code developed and adopted by Benton County staff and adopted into code.</p> <p>Adaptive Management: Review implementation of code requirements (including adoption of associated fees and review/inspection requirements) to determine effectiveness and sustainability of program. Recommend changes to Board of Commissioners as required to effectively implement code requirements.</p> <p>Review stormwater facilities Pollution Prevention</p>

Evaluation of Stormwater Management Plan Implementation: the following table examines the implementation of each BMP associated with the six minimum control measures within the current Benton SWMP

Program Area (Control Measure)	BMP	Responsible Party	Implementation Tasks from SWMP	Measurable Goals	Goal(s) Achieved?	Accomplishments and Implementation of Adaptive Management
				Development Code standards.		plan to determine effectiveness; update plan.
Post-Construction Runoff Control Program	BMP 2: Develop non-structural methods to limit pollution and maintain pre-development flow regimes.	Benton County; Benton County Riparian and Wetlands Project Advisory Group	<p>1. Develop and adopt into the Development Code standards for site design to protect sensitive areas and direct intensive activities to areas that can absorb their impacts.</p> <p>2. Develop and adopt into Development Code standards for protection of wetlands and riparian areas to maintain the natural filtration and retention capacity of the ecosystem.</p> <p>3. Develop and adopt policies and area plans that reduce the amount of impervious surface</p>	<p>A. Adopt site design standards into the Development Code.</p> <p>B. Adopt into the Development Code riparian and wetland protection for areas outside the Corvallis Urban Growth Boundary.</p> <p>C. Adopt Comprehensive Plan policies directing long-range planning efforts to minimize impervious surface and site impervious surfaces in the less-sensitive portions of the watershed.</p> <p>D. Implement education and outreach program</p>	<p>A. Ongoing</p> <p>B. Ongoing</p> <p>C. Ongoing</p> <p>D. See Control Measure 2.</p>	<p>Accomplishments:</p> <p>Completed EPA Region 10 Wetlands Program Development Grant inventory. Outreach/education has occurred in rural communities countywide to implement protection incentives and requirements for Riparian and Wetland areas within: 1.) County jurisdictional areas (e.g. Rural Residential, Commercial, Industrial outside of city limits) and 2.) Outside County jurisdictional areas.</p> <p>Several meetings of the Riparian and Wetlands Advisory Group have occurred and a timeline and process set until July 2011.</p> <p>Adaptive Management:</p> <p>Finalizing impervious area thresholds and reduction targets where appropriate in design standards on a project by project basis that takes into account specific site constraints.</p> <p>Continue education and outreach efforts via the Riparian and Wetlands Project efforts and Benton County Stormwater Program efforts (ongoing).</p> <p>Provide updates via county website on low-impact</p>

Evaluation of Stormwater Management Plan Implementation: the following table examines the implementation of each BMP associated with the six minimum control measures within the current Benton SWMP

Program Area (Control Measure)	BMP	Responsible Party	Implementation Tasks from SWMP	Measurable Goals	Goal(s) Achieved?	Accomplishments and Implementation of Adaptive Management
Post-Construction Runoff Control Program	BMP 2: Develop non-structural methods to limit pollution and maintain pre-development flow regimes.		<p>needed to develop an area and prioritize less-sensitive portions of the watershed for siting those impervious surfaces.</p> <p>4. Include long-term, non-construction considerations in the education and outreach element.</p>			development approaches to improve stormwater infiltration.
Pollution Prevention and Good House Keeping	BMP 1: Inventory Municipal Operations	Benton County	<p>1. Identify all County infrastructures that are within the MS4 area.</p> <p>2. Identify all County maintenance activities which have the potential to impact water quality within the MS4 area.</p> <p>3. List outside vendors that contract with Benton County to conduct</p>	<p>A. Printed maps of all County roads, bridges, culverts, buildings, fleet maintenance shops, storage areas and parks. Overlay locations with mapping of stormwater drainage and waterways that would be impacted.</p> <p>B. Each department (Road Maintenance, Facilities Maintenance, Fleet Maintenance, and Parks) will list all maintenance activities and include a short description. This list will be reviewed by the Staff Task</p>	<p>A. Achieved</p> <p>B. Ongoing</p> <p>C. Ongoing</p>	<p>Accomplishments:</p> <p>Completed Map and GIS Project of County infrastructure and facilities that contribute to stormwater pollution.</p> <p>See attached BMPs for specific County Departments. Completed an annual review of maintenance activities and incorporated BMPs to improve stormwater quality wherever possible.</p> <p>Continual updates and implementation of stormwater BMPs into contracts and agreements to improve water quality.</p> <p>Adaptive Management:</p>

Evaluation of Stormwater Management Plan Implementation: the following table examines the implementation of each BMP associated with the six minimum control measures within the current Benton SWMP

Program Area (Control Measure)	BMP	Responsible Party	Implementation Tasks from SWMP	Measurable Goals	Goal(s) Achieved?	Accomplishments and Implementation of Adaptive Management
Pollution Prevention and Good House Keeping	BMP 1: Inventory Municipal Operations		maintenance activities under the Pollution Prevention Program.	Force for determination on impacts to water quality. Upon determination, department designee will develop BMP. C. Review annually outside contracts and agreements annually. Implement contract language specific to BMPs.		Complete an annual review of maintenance activities and incorporate BMPs to improve stormwater quality.
Pollution Prevention in Municipal Operations Program	BMP 2: Develop and Implement a Pollution Prevention Program	Benton County	1. BMP's developed for salmon recovery species will be incorporated into the PPP. 2. Additional BMP's, not specific to salmon protection will be developed to meet program requirements	A. BMP's will be reviewed periodically as new and improved methods are adopted throughout the State. B. Departments will be required to develop BMP's identified for consideration by the County Staff Task Force and then implemented into the PPP within the scheduled timeline.	A. Ongoing B. Ongoing	Accomplishments: Current BMPs utilized are attached. Adaptive Management: Adoption and implementation of Stormwater Pollution Prevention Plan, with ongoing review of BMP effectiveness during monthly Stakeholder Advisory Committee meetings.

Evaluation of Stormwater Management Plan Implementation: the following table examines the implementation of each BMP associated with the six minimum control measures within the current Benton SWMP

Program Area (Control Measure)	BMP	Responsible Party	Implementation Tasks from SWMP	Measurable Goals	Goal(s) Achieved?	Accomplishments and Implementation of Adaptive Management
Pollution Prevention in Municipal Operations Program	BMP 3: CONDUCT EMPLOYEE TRAINING PROGRAM	Benton County	<p>1. Training will be provided to County Public Works, Parks, Fleet and Facilities maintenance personnel on the Pollution Prevention Plan.</p> <p>2. Field personnel will be empowered to use good judgment in conjunction with the BMP's outlined in the Pollution Prevention Plan to minimize runoff.</p>	<p>A. Training will be implemented for all current employees once the PPP is adopted. Annually refresher courses will be conducted to review new information, improved practices and capture new employees required to follow BMP's.</p> <p>B. Provide employees with the proper tools, equipment and flexibility to meet the demands of their job while complying with the requirements of the PPP.</p>	<p>A. Ongoing</p> <p>B. Ongoing</p>	<p>Plans for Coming Year:</p> <p>Employees within County Roads, Facilities, and other stormwater related departments are participating in ongoing annual trainings. These trainings are overviewed within the BMPs shown in the attachment. Continued employee trainings will occur to meet stormwater goals of pollution prevention in municipal operations.</p>

Supporting Materials for Evaluation of Stormwater Management Plan Implementation

Adopted Policy Internal Procedures for Erosion and Sediment Control Program

Benton County will begin regulating erosion control from construction sites once a program has been developed and adopted into the Development Code (anticipated late 2011). As an initial step in developing that program, this policy establishes the expected division of responsibilities. This policy is subject to change as the formal program is developed and adopted. Benton County will request a formal written guidance letter from Oregon Department of Environmental Quality Stormwater Program, to clearly specify State and Local regulatory authority and expectations for erosion prevention and sediment control.

Ground disturbance activities requiring an erosion control permit (currently the threshold is a cumulative disturbed area is one acre or larger) will generally fall into two categories: construction associated with a building permit, and construction associated with road improvements. There may be other construction activities that fall into neither category but still require an erosion control permit. Cumulative disturbed area includes road and building construction activities.

Permit fees will be distributed between Public Works and Community Development on the basis of the amount of work done by each department.

1. Building Permit-Associated Ground Disturbance

This would include the structure footprint as well as all other associated disturbance, including but not limited to: driveway, septic system, well and water line, landscaping.

Task	Staff Responsible
Intake of the fee and paperwork	Building Permits Clerk
Review and approval of erosion control plans	Public Works Engineering, Planning
Issuance of erosion control permit	Public Works Engineering
Inspection of erosion control	Public Works Engineering
Enforcement	Public Works Engineering

2. Road Improvement-Associated Ground Disturbance

This would include construction activities for a subdivision prior to platting, as well as road improvement activities within a right-of-way that are not associated with a subdivision (for example, off-site road improvements required for a dwelling in the Forest Conservation zone).

Task	Staff Responsible
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Intake of the fee and paperwork	Public Works Engineering
Review and approval of erosion control plans	Public Works Engineering
Issuance of erosion control permit	Public Works Engineering
Inspection of erosion control	Public Works Engineering
Enforcement	Public Works Engineering

For projects above a certain size (perhaps subdivisions), daily inspections would be required to be performed by the private engineer overseeing the construction project and then reported to Public Works Engineering on a weekly basis. Public Works staff would inspect the erosion control in the course of the typical inspections for a road construction project.

3. Other Ground Disturbance

Ground disturbance that requires an erosion control permit but does not fall in either category above will be considered on a case-by-case basis and put into one of the two categories for purposes of procedure and responsibility.

Examples could include constructing a driveway unrelated to a building permit, or landscaping a large area, or creating a sports field.

Pollution Prevention Plan Implementation Process

Benton County Stormwater Pollution Prevention Program (PPP) October 2011

The purpose of this program is to provide maintenance managers and operation crews a description to prevent or minimize stormwater pollution from operation and maintenance activities conducted by Benton County through the utilization of our Best Management Practices (BMP's). BMP's are reviewed and evaluated annually by Division Mangers. Maintenance activities that are contracted with other public agencies will follow their own BMP for their jurisdiction. Benton County personnel will receive initial training. Changes to the County's BMP's will be covered at quarterly departmental meetings and staff will have access to the manual via computer and/or paper document.

Stormwater Inlet (catch basin) Cleaning

Benton County will conduct a cleaning of all mapped/known road right of way and county facility catch basins during 2012.

In addition Benton County Public Works and support staff will complete the following:

- Benton County will establish and authorize pertinent cities with vector truck equipment (Corvallis, Philomath, Albany) to begin vectoring catch basins that are within the jurisdiction of county stormwater system area on a 1-2 yr cycle.

- Applicable City BMPs will be adhered to, tracked, and submitted to Benton County by all cities completing catch basin vactoring including: location, date, and inspection report for all catch basins.
- Updates of catch basin maps and related stormwater infrastructure by Benton County Public works and support staff will continue to occur, to provide up to date locations to contracted city departments completing catch basin management.

Curb and Gutter Sweeping

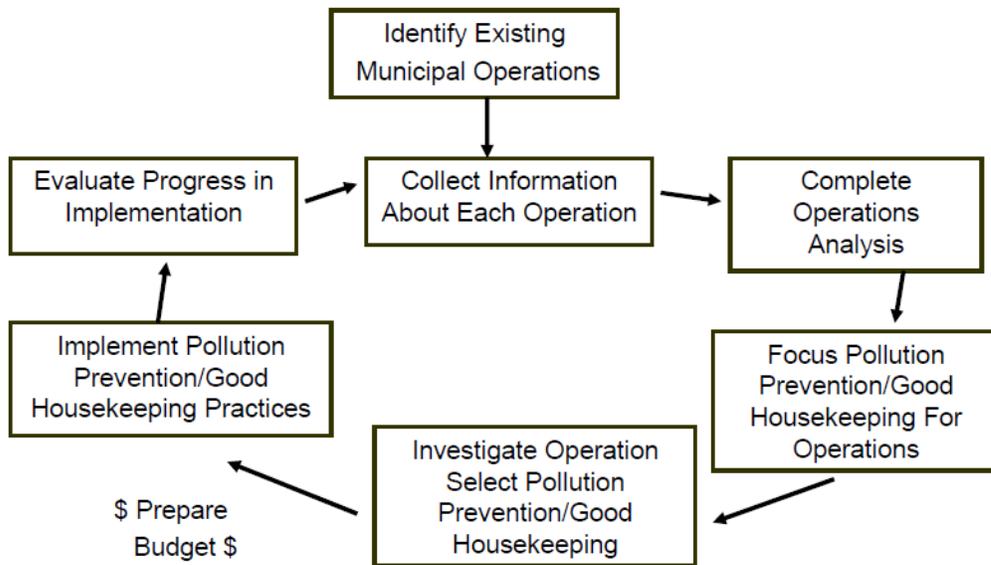
Benton County contracts with the City of Corvallis Public Works to sweep and vactor all curb and gutters within Benton County 6 times per year. This reduces the amount of pollutants that get washed into the stormwater conveyance systems and necessary catch basin cleanings. The location and timing of sweeping is tracked in the County's cost accounting system.

In addition Benton County Public Works and support staff will complete the following:

- Updates of curb and gutter maps and related stormwater infrastructure by Benton County Public works and support staff will continue to occur, to provide up to date locations to contracted city departments completing street sweeping.

NPDES Phase II Implementation

Benton County Pollution Prevention Program Development Process



Adopted Benton County Stormwater Related Best Management Practices (BMPs)

DEPARTMENT: Public Works
DIVISION: Road
BMP: Brush Cutting, Mowing and Tree Removal
DATE REVISED: January 1, 2010

Description: Hand cutting, mechanical mowing, removing and disposing of brush, trees and other undesirable vegetation on County right-of-way to maintain sight distance, vertical and horizontal vehicle clearance, and general public safety. Issue include disposal of brush and loss of shade in riparian areas.

Mitigation, Avoidance and BMPs:

- Limited mowing (3-6 feet) from edge of pavement will occur from April 1 through October 1. Mechanical brush cutting of backslope and low hanging limbs will occur from October 1 through March 31st.
- Remove vegetation up to 10 feet beyond guardrails to maintain visibility.
- Maintain shade trees along watercourses, when possible
- EXCEPTION: Consider any trees or snags, on or near a roadway/bridge, that are found to be weakened, unsound, undermined, leaning, or exposed so that they may fall across a roadway/bridge as exceptions to the above BMP. Trees determined to be such will be removed to insure public safety.
- If trees providing shade or bank stabilization within 50 feet of watercourses are determined to be a risk to public safety as defined above, the trees will be removed. Mature trees (greater than 12 in. diameter at breast height) that are removed will be replaced at a 2:1 ration within the same watershed.
- Cut brush will be left in place whenever possible if doing so does not interfere with sight distance, creates a safety issue or obstructs proper drainage. Alternative option include haul off to a pre-approved site.

DEPARTMENT: Public Works
DIVISION: Road
BMP: Chip Sealing/Oil Mat
DATE REVISED: January 1, 2010

Description: Applying a single or multiple layer each of liquid asphaltic material and aggregate to a paved roadway to seal the surface, restore surface life, flexibility and skid resistance. Excess gravel is later swept onto the shoulders.

Mitigation, Avoidance and BMPs:

- Use environmentally sensitive releasing and cleaning agents (No diesel).
- Use any practical means to prevent rock from entering streams.
- Chip seal in dry weather only.
- Cover scuppers and drains prior to chip sealing on or near bridge decks.
- Sweep up and remove excess gravel on bridge decks.
- Pick-up or sweep gravel away from salmon habitat and other flowing streams when within 25 feet of them, when possible.

DEPARTMENT: Public Works

DIVISION: Road

BMP: Ditch Shaping and Cleaning

DATE REVISED: January 1, 2010

Description: The use of equipment for cleaning and reshaping of ditches to maintain or improve drainage including loading, hauling and disposing of excess materials (vegetation/soil). This activity may be performed in all types of weather.

Mitigation, Avoidance and BMPs:

- When possible, work will be performed during optimum weather (late Spring) to minimize environmental impact and may consult with ODFW if silt devices are inadequate to filter water prior to draining to watercourses.
- Where feasible and appropriate, the County will evaluate and modify existing ditch slopes to trap sediments and support development of vegetation.
- Minimize amount of material removed and disturbance to side slopes to protect existing vegetation.
- Work will be performed when water flow in the ditch is low and not directly flowing into a waterway, except in cases of emergency where public safety issues occur. Example: water backing up onto the roadway or adjacent property.
- The County will use erosion control devices such as check dams, silt fences, biofilters and other acceptable techniques.

- When ditching to a waterway, the County will leave a 25 foot buffer zone and an erosion control device at the start of the zone.
- Cleaning a ditch with a 10% slope will have check dams installed every 300 feet or skip ditching will be used.
- When back slope cover is removed, hydroseeding or handseeding will be used to replace ground cover. Vegetation will be established before winter conditions begin.
- Material will be disposed above the bank line and not in any waterway or wetland.
- When feasible, excavated material will be recycled.

DEPARTMENT: Public Works

DIVISION: Road

BMP: Dust Abatement

DATE REVISED: January 1, 2010

Description: Dust abatement involves application of a dust palliative to non-paved road surfaces to temporarily stabilize surface soils, leading to a reduction of dust during the dry season. Dust palliatives are applied in liquid form at a maximum rate of one half gallon per square yard of surface. The rate is adjusted to be less as required to prevent any puddling of the liquid solution or runoff from the road surface immediately after its application. To prevent the loss of any dust palliative from the road surface the following mitigation and avoidance is practiced.

Mitigation, Avoidance and BMPs:

- During preparation for application of dust palliatives, gravel roads will be *tight bladed or processed (cut 2" and watered, then laid gravel back to grade and roll) to bring fines to the surface.*
- Dust palliatives will not be applied while raining. (3 day forecast of sunny Weather following application).
- Methods or materials shall be applied in a manner that is not detrimental to *either water or vegetation.*
- Where practicable, 1' buffer zone on the edge of gravel will be used if the road width allows.
- Applicator will carry adequate spill protection.

- Using environmentally sensitive cleaning agents.
- Disposing of excess materials at appropriate sites.
- Where practicable, a 25' buffer zone near waterways or a reduce rate of application will be used to ensure that runoff will not occur.

DEPARTMENT: Public Works

DIVISION: Fleet

BMP: Fueling Area and Fueling Equipment

DATE REVISED: January 1, 2010

Description: Diesel and gasoline fueling station located at Avery Maintenance Yard utilized by multi-agencies and refueling equipment out in the field.

Mitigation, Avoidance and BMPs:

- Stay next to the vehicle/equipment while fueling.
- Make sure the pump nozzle is places all of the way inside the neck of the fuel tank. The automatic shut-off will engage prior to a spill.
- Do not top off tank.
- Report spills in the yard immediately to shop personnel.
- In the event of a major release in the yard, activate alarm system located on the shop exterior wall, north of the fuel island.
- Refuel equipment in the field at least 25 feet from watercourses.
- Report spills out in the field to a supervisor.

DEPARTMENT: Public Works

DIVISION: Road and Fleet

BMP: Spill Prevention and Cleanup

DATE REVISED: January 1, 2010

Description: Spill prevention and cleanup can be required during routine maintenance activities, the operation of equipment and fleet vehicles, event that may occur at the maintenance yard and encountered along the roadways.

Mitigation, Avoidance and BMPs:

- Have absorbents and/or emergency response equipment on-site to clean spills.
- The maintenance yard has two blue barrels marked “Spill Kits”. One is located by the Fueling Island, the other at the south-west side of the yard near the storage bays.
- Provide spill prevention training to all staff employees. Include containment, clean-up and reporting requirements.
- Clean-up spills as quickly as possible.

DEPARTMENT: Public Works

DIVISION: Road

BMP: Stockpiling

DATE REVISED: January 1, 2010

Description: Loading, hauling, mixing or stockpiling materials used for routine maintenance activities.

Mitigation, Avoidance and BMPs:

- Select permanent stockpiling sites that do not carry a high risk for erosion and are out of the flood plain.
- Take appropriate preventative measures if the potential exist for runoff of sediments (ex. Berms).
- Temporary stockpiling sites may be located within the flood plain. Material in those sites will not be stored over the winter.

DEPARTMENT: Public Works

DIVISION: Fleet

BMP: **Vehicle Washing**

DATE REVISED: January 1, 2010

Description: Equipment washing to ensure proper operation, function and safety of equipment and fleet vehicles.

Mitigation, Avoidance and BMPs:

- Equipment will be washed in the covered wash rack area that contains an oil/water separator and settling vault. Water is discharged to a municipal sanitary sewer.
- Sediment in vault is cleaned out quarterly, or as needed.
- If any equipment must be washed outside of wash rack due to size restrictions, clean only the exterior (no engines or undercarriages) and use only clean water, no soap.

DEPARTMENT: **Public Works**

DIVISION: **Road**

BMP: **Herbicide Use – Broadleaf Application**

DATE REVISED: **July 2010**

Description: Activity consists of applying a broad based foliar-active herbicide to eliminate noxious weeds (as defined by the Oregon Dept. of Agriculture) and undesirable vegetation between the road shoulder and edge of right-of-way. Application is made using a truck with a boom sprayer unit, hand/backpack or small tank mix unit.

Management objectives include:

- Control the spread of State listed noxious weeds.
- Preserve sight distance requirements.

Mitigation, Avoidance and BMPs:

- Herbicide application will be spot treatment only with the focus on noxious weed control.
- Application of herbicides will cease 25' prior to crossing over a listed stream to protect water resources and sensitive fish species.
- Herbicides will be used in accordance with EPA labels (this includes weather criteria and disposal of empty container).
- No herbicides will be applied in front of schools or designated bus stop waiting areas when persons are present, driveways, or permitted no-spray areas.

- Handspraying herbicide is allowed within 25' of bridges if 1) removal of vegetation is critical to the function of the structure 2) rain is not forecasted in the timeframe outline in the herbicide label 3) an aquatic approved herbicide is used.
- Any application on or over waterways will be with an aquatic approved herbicide only.
- Herbicide truck will carry current Material Safety Data Sheets (MSDS) and labels of herbicides used in operation.
- A record-keeping system will be maintained that documents the date, amount of pesticide applied, location of application, temperature and wind-speed at the beginning and end of application.
- Application will occur between May and October 15th.
- Vegetation control in Special Management Areas will be addressed in a separate BMP.

DEPARTMENT: **Public Works**

DIVISION: **Road**

BMP: **Herbicide Use – Shoulders**

DATE REVISED: **July 2010**

Description: Activity consists of applying foliar-active and/or soil residual herbicide to eliminate undesirable vegetation within the defined road shoulders. Application is made using a truck with a boom sprayer unit. Management objectives for maintaining a shoulder free of vegetation include:

- Preserve the sub-structure of the road base thus extending the life of the road surface.
- Allow water to shed from the paved surface of the road reducing potential for hydroplaning.
- Create a fire barrier between the road and adjacent vegetation.
- Provide a vehicle recovery area.
- Maintain sight distance.

Mitigation, Avoidance and BMPs:

- 2' - 6' of rock shoulders will be kept free of vegetation through the use of a foliar-active and/or soil residual herbicide. Typically this will be 2' for local roads, 4' for collector roads and 6' for arterial roads or depending on shoulder width.
- Under and around guardrails will be treated to minimize vegetation growth.
- Application of herbicides will cease 25' prior to crossing over a listed stream to protect water resources and sensitive fish species.
- Herbicides will be used in accordance with EPA labels (this includes weather criteria and disposal of empty container).

- No herbicides will be applied in front of schools, designated bus stop waiting areas, driveways, field entrances or permitted no-spray areas.
- Herbicide truck will carry current Material Safety Data Sheets (MSDS) and labels of herbicides used in operation.
- A record-keeping system will be maintained that documents the date, amount of pesticide applied, location of application, temperature and wind-speed at the beginning and end of application. This information will meet or exceed Oregon Department of Agriculture requirements.
- Application will occur starting in April and ending by June 30th.
- EXCEPTION: Identified test areas that are being evaluated for impacts associated with vegetative shoulders
- Vegetation control in Special Management Areas will be addressed in a separate BMP.

Benton County Natural Areas and Parks Stormwater Best Management Practices (BMPs)

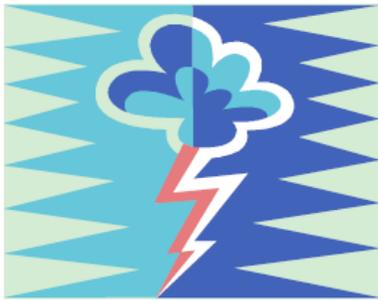
- Over-seeding after restoration burns
- Spread bark mulch, gravel, bare areas, tree wells
- Silt fences used on construction sites according to silt fence manufacturers directions
- Maintain instream large wood
- Maintain beaver dams for sediment capture; utilized beaver bafflers where appropriate
- Design recreation trails with contour of landscape, with a focus on low areas
- Re-vegetate bare/exposed trail banks
- Regulate access to areas with high erosion/sediment problems, caused by general public
- Armor culvert (e.g. rocks) inlets and outlets to decrease sediment suspended in culverts.

Stormwater Related Training completed by Benton County Staff

- Erosion Prevention and Sediment Control Certification through ODOT - (10 employees since 2003) Road Maintenance for Bridge and Drainage

- Oregon Road Scholar Program - All Road Maintenance Employee's (14) are enrolled in the program. 2 of the 10 required classes are Environmental BMP's focusing on minimizing impact to water quality from road maintenance activities and erosion control methods.
- 1st Responders Hazardous Materials Awareness Training - All Road Maintenance Employees
- Spill Prevention Training - All Road Maintenance and Fleet Employees
- DEQ's Hazardous Waste Training

General Public Stormwater Flyer/Handout



“ Stormwater runoff from land and impervious areas such as paved streets, parking lots, and building rooftops during rainfall and snow events often contain pollutants that could adversely affect water quality”.

—Oregon Department of Environmental Quality

Call (541) 766-6085

Visit us on the web:

www.co.benton.or.us/cd/environment/stormwater

“The future of our water supply will look nothing like the past. We are all connected through our stormwater ... we all live downstream.”

—Anonymous



For more information:

Call (541) 766-6085

Visit us on the web:

www.co.benton.or.us/cd/environment/stormwater

Sign up for the Stormwater Mailing list:

www.co.benton.or.us/maillist.php



At Your Service
Every Day

Are you prepared for...



Stormwater?



**What is Stormwater?
Why is it Regulated?
What can you do to help?**

Call (541) 766-6085

Visit us on the web:

www.co.benton.or.us/cd/environment/stormwater

What is Stormwater?

Stormwater is any precipitation that collects in a natural or constructed storage or transport system following a storm event. For example, during construction of a new building or neighborhood, sites are often cleared and the soil is firmly compacted, which prevents rainfall or snowfall from soaking into the soil. As a result, the rainfall streams along the surface of the ground—this is stormwater runoff.



After construction activities, impervious areas such as roads, roof tops, parking areas, and sidewalks prevent infiltration of moisture from rain and snowfall, thus causing stormwater runoff.

This runoff can be too much for the existing natural drainage systems to handle. Pollutants are often flowing in stormwater!

Benton County is working to Implement a Stormwater Management Plan...everyone has a part in improving stormwater quality.

*It's about improving water quality...
And you can help.*

Why is it Regulated?

Why is Benton County Stormwater a big deal?

Stormwater regulations are part of the Federal Clean Water Act. The State of Oregon Department of Environmental Quality has placed responsibility on counties and cities for stormwater management.

Stormwater from one area often becomes drinking water for another area. Fish and wildlife along with people are affected by poor quality, or increased flows from stormwater.



Benton County will be completing many Stormwater Rules through 2012—Want to be Involved?

Visit us on the web:
[www.co.benton.or.us/cd/environment/
stormwater](http://www.co.benton.or.us/cd/environment/stormwater)

What Can You Do To Help...

The Benton County Stormwater Phase II Permit Requires:

Public Education,
Public Participation,
Pollution Detection and Enforcement,
Construction Runoff Control, and
Good Housekeeping



What you can do to help:

take the following steps to protect stormwater quality after development is complete.

- ◆ Clean up vehicle spills. Pick up pet waste and put these items in the trash.
- ◆ Limit the amount of impervious surface on your property.
- ◆ Use porous paving surfaces such as wood decking, open-celled bricks, and concrete pavers that allow water to soak into the ground.
- ◆ Where possible, direct runoff from impervious surfaces to vegetated areas.
- ◆ Allow thick vegetation or “buffer strips” to slow runoff and soak up pollutants.
- ◆ Plant drought tolerant or native species where appropriate.
- ◆ Aerate your lawn and use less fertilizer

Public Education and Outreach BMP inclusion approved by ODEQ

Benton County Stormwater Public Education and Outreach Partnering with Established Events/Organizations for SWMP Implementation (Approved by DEQ 5/1/2010)

Dear Mr. Bayham,

Benton County requests minor changes to Control Measure 2, BMP 3.1 **Annual Public Forum on SWMP**.

Rationale: Benton County NPDES affiliated staff has experienced low turnout at NPDES exclusive events and feels that more people will be informed and engaged in stormwater, if the county begins partnering outreach and education efforts with established and/or related water quality events in Benton County instead of the current ‘Annual Public Forum on SWMP’.

Current (2010) Planned Outreach Events for SWMP Public Outreach and Education Partnerships & Involved Staff:

1. Urban Creek Tour of Dunawi Creek, May—County Engineer
2. Benton County Fair, July—Stormwater Coordinator, staff
3. Kids Day for Conservation, August —Stormwater Coordinator, staff
4. other related events as appropriate (e.g. BOC meetings, councils, etc.)—Stormwater Coordinator, staff

Please let me know if the change is approved and if there are any other requirements ODEQ has to finalize these changes.

Sincerely,

Adam Stebbins
 Water Projects Coordinator
Adam.Stebbins@co.Benton.OR.US;

**Benton County Stormwater & Water Quality
 Annual Reporting Period Public Outreach and Education Events**

Event	Date/Location	Involvement	Lead	Status
Benton County Fair	August 4-7, Benton County Fairgrounds	Possible booth/time at County booth discussing stormwater/work; Have a questionnaire	Projects Coordinator, 8/5/12 Fairgrounds Booth	Completed
Kids Day for Conservation	September 29th, Benton County Fairgrounds	A partnership between the Benton County Sustainability and Environmental Issues Advisory Committee	Adam Stebbins, and citizen volunteers	This is an all-day paper-free event and will include hands on activities.

Adopted Erosion and Sediment Control and Post-Construction Runoff Code Requirements

**Chapter 99
 General Development Standards**

99.005 Scope. All development within Benton County, including land partitions, subdivisions and associated land development, and the construction of residential dwellings, industrial, commercial, or public buildings and other accessory structures shall conform to applicable standards of this chapter. [Ord 26, Ord 7, Ord 90-0069]

* * *

SENSITIVE LAND

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99.110 Consideration. An applicant for a land division or building permit shall consider the geology, topography, soils, vegetation and hydrology of the land when designing a parcel or lot, or siting improvements. The Planning Official or Building Official may impose conditions or modifications necessary to mitigate potential hazards or otherwise provide for compliance with adopted Comprehensive Plan policies, and may require an erosion and sediment control permit. The Planning Official or Building Official shall consider the recommendation of the County Engineer, municipal officials within urban growth boundaries, and other technical sources in the determination of sensitive land conditions and mitigating measures. [Ord 7, Ord 90-0069, Ord 96-0118, Ord 2006-0214]

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FIRE PROTECTION

99.605 Annexation to Fire District Required. If a proposed parcel or lot in a non-resource zone abuts a rural fire protection district, the applicant shall petition for and obtain annexation to the district prior to final approval of a land division. [Ord 7, Ord 90-0069, Ord 96-0118, Ord 2006-0214]

STORMWATER MANAGEMENT

99.650 Definitions. As used in BCC 99.650 through 99.680:

- (1) **“County Engineer”** means the County Engineer or the authority designated by the Public Works Director.
- (2) **“Disturbed Area”** means land area subject to ground-disturbing activities.
- (3) **“Ground-disturbing Activity”** means an activity that exposes, works or redistributes soil, including but not limited to excavating, filling, stockpiling, grading, grubbing, or clearing.
- (4) **“Impervious Surface”** means a surface that prevents stormwater from infiltrating the soil, and includes but is not limited to such elements as roads, driveways, parking lots, walks, patios, and roofs.
- (5) **“Interim control measures”** mean short term erosion and sediment control practices to remedy immediate issues as deemed necessary by Benton County.

- (6) “Manual” means the required erosion and sediment control measures designated in the “Benton County Stormwater Management Guide” or its successor document.
- (7) “Non-structural Controls” means long-term stormwater management techniques and installations that do not include constructing facilities or other stormwater infrastructure; examples include natural drainage, bio-swales, and vegetation preservation.
- (8) “Responsible Party” means the party who shall be legally responsible for compliance with the requirements of BCC 99.650 through 99.680. The responsible party shall be the owner of property upon which ground disturbing activities occur, even if the property owner designates others to perform work on the property owner’s behalf. In the case of activities performed within an easement or right-of-way, the person causing the work to be performed shall be the responsible party.
- (9) “Structural Controls” means constructed facilities and other infrastructure related to long-term stormwater management.

99.660 Erosion and Sediment Control

- (1) **Purpose:** The purpose of this section is to:
 - (a) Preserve and enhance the health, safety, welfare, financial investment in public and private infrastructure, private property value, and the quality of life of the inhabitants of Benton County by minimizing the risk of flooding, erosion, sedimentation, and other stormwater impacts; and
 - (b) Maintain or improve water quality within Benton County as required under State and Federal National Pollution Discharge Elimination System law.
- (2) **Applicability.** The provisions of this section shall apply to all unincorporated areas of Benton County.
- (3) **Activities Requiring Erosion and Sediment Control Permit.**
 - (a) The responsible party shall obtain an Erosion and Sediment Control (ESC) Permit from Benton County prior to initiation of ground-disturbing activities (except those activities listed in (4) below), if both (A) and (B) are met:
 - (A) The ground-disturbing activities are associated with:
 - (i) Construction or land uses that require a permit or other review by Benton County; and
 - (ii) any of the following:
 - (a) Construction of a public or private road, driveway, or structure; or
 - (b) Site preparation, associated installations (such as a septic system drainfield, ground-source heat pump, or tennis court), landscaping, and other ground-disturbing activities related to such construction.

- (B) The total area disturbed will be:
- (i) 1 acre or more; or
 - (ii) Less than 1 acre if the ground-disturbing activity is part of a larger common plan of development or sale that will involve a total disturbed area of 1 acre or more. An ESC Permit may be waived for a phased activity in which the cumulative disturbed area is 1 acre or larger if all individual phases disturb less than 1 acre of land and each phase is fully and permanently stabilized prior to initiation of ground disturbance on a subsequent phase.
- (b) All activities shall comply with the Benton County Illicit Discharge Detection and Elimination Code, whether or not the activity requires an Erosion and Sediment Control Permit.
- (c) The responsible party shall also comply with other local, state and federal erosion control regulations that may apply.
- (4) **Exempt Activities.** The following activities are exempt from the permit requirement in subsection 3(a):
- (a) Accepted farm practices, not including construction of buildings;
 - (b) Forest practices performed pursuant to the Oregon Forest Practices Rules;
 - (c) Excavations for gas or oil facilities for which the operator demonstrates compliance with 40 CFR §122.26;
 - (d) Emergency measures to protect life, property, public infrastructure, or essential services, in which case an ESC Permit shall be obtained as soon as possible after-the-fact;
 - (e) Mining activities performed pursuant to applicable state permit requirements.
 - (f) Activities, conducted by public agencies, that meet or exceed state or federal standards for erosion and sediment control.
- (5) **Permit Application.** The applicant and/or responsible party shall submit the following:
- (a) Erosion and Sediment Control Application form;
 - (b) Erosion and Sediment Control Plan demonstrating compliance with the requirements of this section. The plan shall be prepared by an individual(s) with sufficient erosion and sediment control training and qualification to design an erosion and sediment control plan compliant with this code section. The Erosion and Sediment Control Plan for a disturbed area of more than 5 acres shall be prepared by a licensed engineer with relevant experience, or an Oregon Certified Professional in Erosion and Sediment Control.
 - (c) Fee(s) established by the Board of County Commissioners;
 - (d) Other documents deemed appropriate by the County Engineer and/or Planning Official.

(6) **Level of Potential Impact**

- (a) The required erosion and sediment control Best Management Practices (BMPs) shall correspond to the level of potential impact of the proposed project as determined using the following table. The County Engineer and/or Planning Official may require a different level of erosion and sediment control due to factors including but not limited to: proximity to known landslides, steep slopes in the vicinity, and protected conservation areas.
- (b) Unless determined otherwise by the County Engineer and/or Planning Official, the column with two or more checks shall be the required level of erosion control, and in the case of one check in each column, the medium level shall be required. A subdivision shall require a “high” level of erosion control, unless deemed otherwise by the County Engineer.
- (c) The categories of Low, Medium and High correspond to required BMPs listed in the “Benton County Stormwater Management Guide” or its successor document.

<u>Site Conditions</u>	<u>Required Level of Erosion Control:</u>		
	<u>Low</u>	<u>Medium</u>	<u>High</u>
<u>Distance between the work site and the nearest Sensitive Area down-slope or at the same elevation. Sensitive Areas include:</u> (a) <u>Wetlands identified on a National, State or Local Wetland Inventory, or identified as Potential Wetland on Benton County’s wetland reference map;</u> (b) <u>Stream Channel top of bank;</u> (c) <u>Riparian Area protected pursuant to Development Code provisions;</u> (d) <u>Upland Prairie and Oak Savannah protected pursuant to BCC Chapter 88;</u> (e) <u>Potential Habitat for Fender’s blue butterfly as identified in the Prairie Species Habitat Conservation Plan.</u>	<u>More than 300 feet</u> <input type="checkbox"/>	<u>100 to 300 feet</u> <input type="checkbox"/>	<u>Within 100 feet</u> <input type="checkbox"/>
<u>Average slope across the disturbed area.</u>	<u>0 to 3.9 percent</u> <input type="checkbox"/>	<u>4 to 10 percent</u> <input type="checkbox"/>	<u>More than 10 percent</u> <input type="checkbox"/>
<u>Erodibility of predominant soil type, determined from NRCS Soil Survey of Benton County, Oregon (or successor document)</u>	<u>Low Erodibility (K value <0.24)</u> <input type="checkbox"/>	<u>Medium Erodibility (K value 0.24 to 0.40)</u> <input type="checkbox"/>	<u>High Erodibility (K value > 0.40)</u> <input type="checkbox"/>

(7) **Permit Review and Approval.**

- (a) An Erosion and Sediment Control Permit may be issued upon determination by the County Engineer that the submitted materials demonstrate compliance with the Manual and the applicable Best Management Practices (BMPs) identified pursuant to Section (6). To address specific conditions of a given site, the County Engineer may require additional or modified BMPs.
- (b) Issuance or denial of an Erosion and Sediment Control Permit is not a land use decision and is not subject to the requirements of a land use decision including but not limited to BCC 51.535, BCC 51.605 through 51.625, and BCC 51.805 through 51.840.

(8) **Permit Period of Validity; Renewal.**

- (a) An Erosion and Sediment Control Permit shall be valid for one year from the date of issuance.
- (b) The responsible party shall request permit renewal if final inspection approval pursuant to subsection (12) of this section has not been obtained prior to expiration of the permit.
- (c) Expiration of an ESC Permit that has not received final inspection approval shall be considered a violation of this code pursuant to BCC 99.680.
- (d) Permit Renewal: The responsible party shall submit a permit renewal application form and fee at least 30 days prior to expiration of the current permit. The County Engineer or Planning Official shall review the request and the current status of erosion and sediment control at the site and shall approve the request if conditions are substantially consistent with the original Erosion and Sediment Control Plan. If the County Engineer or Planning Official determines that conditions have changed such that the original Erosion and Sediment Control Plan no longer adequately addresses erosion and sediment control needs, the responsible party shall within 14 days of such determination submit the application and materials for a new Erosion and Sediment Control Permit.

- (9) **Permit Extension.** If, during the first 11 months after issuance of an ESC Permit no ground disturbance has occurred and no County site inspections have been performed, the permittee may submit written request for an extension of the period of validity. Such request shall be submitted 30 days prior to the expiration date of the ESC Permit. There will be no fee for such an extension. The County Engineer or Planning Official may grant a one-time extension for up to one year, but shall not approve an extension if the conditions of the permit or of this code section are being violated.

- (10) **Transfer of Ownership.** Permits are non-transferable. The transfer of a property to a new owner requires that a new permit be obtained prior to the initiation or

continuation of ground-disturbing activities, even though said activities may have been authorized under the permit approved for the previous owner.

(11) **Implementation Requirements.**

- (a) Erosion and Sediment Control Plan approval is required prior to clearing or grading. No ground disturbing activity requiring an Erosion and Sediment Control Permit shall be undertaken prior to County approval and issuance of the Erosion and Sediment Control Permit.
- (b) In cases where erosion or sedimentation is occurring due to ground-disturbing activities, the responsible party shall immediately install interim control measures to stabilize the condition and minimize sediment leaving the site. Within 5 working days of the responsible party or those working on behalf of the responsible party becoming aware of the erosion, the responsible party shall provide for County review new plans, or revisions to existing plans, that demonstrate adequate erosion and sediment control. Upon County approval of the plans, the new measures described shall be immediately implemented.
- (c) The responsible party shall ensure that:
 - (A) The provisions of the Erosion and Sediment Control Plan are implemented in a timely manner;
 - (B) No visible or measurable amount of sediment has entered, or is likely to enter, the public stormwater system and surface waters;
 - (C) During active construction in rainy weather, a qualified individual shall daily inspect erosion and sediment control measures and shall ensure the control measures are maintained, adjusted, repaired and/or replaced so that they function properly without interruption, and shall ensure that immediate action is taken to correct any deficiencies.
 - (D) Eroded sediment shall be removed immediately from pavement surfaces, off-site areas, and from surface water conveyances, including storm drainage inlets, ditches and culverts. In the event that sediment enters a wetland or stream, the responsible party's qualified designee shall immediately contact Benton County Public Works.
 - (E) Water containing sediment shall not be flushed into the storm water management system, wetlands or streams without first passing through an approved sediment filtering facility, device, or other County approved structure.
 - (F) When required by Benton County, the responsible party shall maintain written records of all site inspections of erosion and sediment control measures. These shall be provided to the County upon request.
 - (G) Inspections by Benton County to certify that measures are installed in accordance with the Erosion and Sediment Control Permit shall be requested by the responsible party at the times specified in the Erosion and Sediment Control Permit.

- (12) **Inspections by Benton County; Right of Entry.**
- (a) Benton County will perform the following inspections pursuant to an issued Erosion and Sediment Control Permit:
 - (A) An initial inspection of installed erosion and sediment control BMPs;
 - (B) Interim inspections as deemed necessary by the County.
 - (C) A final inspection, to verify completion of all erosion and sediment control BMPs, permanent stabilization of the site, and the required clean up of erosion and sediment control materials.
 - (b) The responsible party shall obtain inspections from the County as specified in the Erosion and Sediment Control Permit and shall take immediate action to correct any deficiencies noted by the County.
 - (c) The County may enter property at any time to investigate compliance with the requirements of this Code.
- (13) **Correction of Ineffective Erosion and Sediment Control Measures. If the facilities and techniques approved by the Erosion and Sediment Control Permit are not effective or not sufficient to meet the purpose of this section, Benton County may require the following. Failure to make required corrections in a timely manner shall be a violation subject to BCC 99.680.**
- (a) On-site modifications to the erosion and sediment control measures; and/or
 - (b) A revised plan:
 - (A) The revised Erosion and Sediment Control Plan shall be provided by the responsible party within 5 working days of Benton County notifying the responsible party and/or those conducting ground disturbing activities on behalf of the responsible party.
 - (B) The responsible party shall fully implement the revised plan within 3 working days of approval by Benton County.
 - (C) In cases where serious erosion is occurring, as determined by Benton County, the County may require immediate installation of interim control measures, before submittal of the revised Erosion and Sediment Control Plan.

99.670 Long-Term Stormwater Management

- (1) **Purpose:** Establish stormwater management requirements and controls to protect and safeguard the health, safety, welfare, financial investment in public and private infrastructure, and private property value, and minimize flooding in areas where structural and non-structural stormwater management is required to improve water quality and manage long term stormwater runoff from new development and redevelopment projects that result in ground disturbance of 1 acre or more.
- (2) **Applicability.** Land development within the Corvallis Federal Urbanized Area or within the Urban Fringe of the City of Corvallis or City of Philomath shall comply with the requirements of this section. Areas outside the Federal Urbanized Area and

Corvallis and Philomath Urban Growth Boundaries may require structural and non-structural stormwater controls, including low-impact development (LID) methods, when deemed necessary by the County Engineer.

(3) **Permit Required.**

(a) The property owner shall obtain from Benton County a Stormwater Site Plan approval prior to initiation of ground-disturbing activities if both (A) and (B) are met (exceptions are listed in subsection (b)):

(A) The ground-disturbing activities are associated with:

(i) Construction or land uses that require a permit or other review by Benton County; and

(ii) any of the following:

(1) Construction of a public or private road, driveway, or structure; or

(2) Site preparation, associated installations (such as a septic system drainfield, ground-source heat pump, or tennis court), landscaping, and other ground-disturbing activities related to new development or redevelopment construction.

(B) The total area of:

(i) ground disturbance will be:

(1) 1 acre or more; or

(2) Less than 1 acre if the ground-disturbing activity is part of a larger common plan of development or sale that will involve a total disturbed area of 1 acre or more. Benton County shall conduct a Common Plan of Development Review to determine applicability; or

(ii) impervious surface upon completion of the project will be in excess of 25,000 square feet.

(b) **Exempt Activities.** The following activities are exempt from the permit requirement in subsection 3(a):

(A) Accepted farm practices, not including construction of buildings;

(B) Forest practices performed pursuant to the Oregon Forest Practices Rules;

(C) Excavations for gas or oil facilities for which the operator demonstrates compliance with 40 CFR §122.26;

(D) Emergency measures to protect life, property, public infrastructure, or essential services, in which case a Stormwater Site Plan approval shall be obtained as soon as possible after-the-fact;

(E) Fish passage, stream enhancement, and wildlife habitat projects that comply with local, state and federal standards and permit requirements.

provided that evidence of such compliance is submitted to Benton County Public Works prior to initiation of the activity;

- (F) Repairs to any stormwater facility as deemed necessary by Benton County.
- (G) Mining activities performed pursuant to applicable state permit requirements
- (H) Activities, conducted by public agencies, that meet or exceed state or federal standards for post-construction stormwater management.

(4) **Permit Procedures and Requirements**

- (a) The property owner shall submit:
 - (A) Stormwater Site Plan Application form;
 - (B) Stormwater Site Plan and additional documentation deemed appropriate by the County Engineer and/or Planning Official to demonstrate compliance with this section; and
 - (C) Fee(s) established by the Board of County Commissioners.
 - (D) The Stormwater Site Plan shall be designed, stamped and signed by a licensed geologist or engineer, or other professional recognized by Benton County.
- (b) A Stormwater Site Plan approval may be issued upon determination by the County Engineer that the submitted materials demonstrate compliance with the requirements of this section. To address specific conditions of a given site, the County Engineer may require modification to the proposed Site Plan and/or to the standard requirements of this section.
- (c) Issuance or denial of a Stormwater Site Plan approval is not a land use decision and is not subject to the requirements of a land use decision including but not limited to BCC 51.535, BCC 51.605 through 51.625, and BCC 51.805 through 51.840.

(5) **Stormwater Management Design Criteria**

- (a) When required by subsection (3) of this section, the applicant shall implement stormwater management measures as specified in the “Benton County Stormwater Management Guide”, as interpreted by the County Engineer. Within the urban growth boundary of an incorporated city, structural and non-structural requirements will be consistent with the current standards of the pertinent city.

(6) **Improvements Agreement.**

- (a) Required stormwater infrastructure shall be subject to the Improvements Agreement provisions of BCC 99.905 through 99.925.

(7) **Long-term Maintenance and Repair of Stormwater Facilities.**

- (a) Required stormwater facilities shall be constructed by the property owner.

- (b) Stormwater facilities shall be maintained to current Benton County stormwater facility maintenance standards.
- (c) For a stormwater facility serving a single property:
 - (A) The stormwater facility shall be located on the property that is being served, unless an alternative arrangement is approved by the County Engineer as adequately preserving long-term viability of the facility;
 - (B) The property owner shall be responsible to maintain the proper functioning of the facility pursuant to subsection (c);
 - (C) A restrictive covenant shall be placed on the property. In the covenant the property owner shall agree to:
 - (i) not transfer the facility separately from the rest of the property, except with the express approval of Benton County;
 - (ii) maintain the facility to its original design specifications;
 - (iii) correct any functional deficiencies identified by Benton County;
- (d) For a stormwater facility serving multiple properties the County Engineer will require the procedure in either (A) or (B) to be completed. Sole discretion in the selection resides with Benton County.
 - (A) Maintenance Fee:
 - (i) Prior to or at final development approval, or at the completion of the warranty period pursuant to BCC 99.925, the property owner or developer shall provide a one-time payment to Benton County Public Works of the amount determined by the County Engineer to be necessary to ensure maintenance of the facility until the facility is annexed to a city and responsibility is assumed by that city. This one-time payment shall be in addition to any performance guarantee or warranty required under BCC 99.915 or 99.925.
 - (ii) The property owner shall grant an easement to Benton County for access to and maintenance, repair and operation of the stormwater facility.
 - (iii) Once the facility has completed the warranty period pursuant to BCC 99.925, Benton County Public Works will conduct routine maintenance on the facility as funding allows. Renovation, replacement, or repair exceeding routine maintenance will require some other local funding mechanism, such as a local improvement district.
 - (B) Maintenance District:
 - (i) Prior to sale or transfer of lots, the property owner shall establish a local improvement district or other lawful district comprising all benefitted properties and designed to provide for the long-term

maintenance, repair and/or renovation of the storm water management system.

99.680 Enforcement, Stop-work Orders, and Penalties. In addition to all other remedies available under Benton County Code, violations of BCC 99.650 through 99.670 shall be subject to the following enforcement procedures.

- (1) Each violation of the stormwater provisions, or any failure to carry out the conditions of any Permit approval granted pursuant to the stormwater provisions, shall be unlawful and a civil infraction subject to the enforcement provisions of Benton County Code Chapter 31.
- (2) The owner of the property upon which the violation occurs shall be responsible for mitigating resulting impacts, or, in the case of activities performed within an easement or right-of-way, the person causing the work to be performed shall be the responsible party.
- (3) In addition to and separate from those penalties available under Benton County Code Chapter 31, Benton County may enforce the following penalties:
 - (a) The Planning Official may refuse to accept any land use application or may suspend or revoke any active land use authorization.
 - (b) The Building Official shall not accept any building permit application and shall not approve occupancy of any structure on a property which is subject to a notice of noncompliance or a stop work order pursuant to this section.
 - (c) The Planning Official or County Engineer may issue a notice of noncompliance, pursuant to subsection (E) below, to the property owner requiring corrective action. If the responsible party fails to take the specified action within 24 hours, the Planning Official or County Engineer may issue a civil citation to the property owner pursuant to Chapter 31. The notice of noncompliance shall include:
 - (A) The location of the construction project;
 - (B) A description of the construction project;
 - (C) A description of the non-compliance;
 - (D) A description of the corrective action(s) that shall be taken by the responsible party;
 - (E) The amount of penalty that will be imposed if corrective action is not taken within 24 hours; and
 - (F) A statement that information regarding the appeal process will be made available upon request.
 - (d) The Planning Official or County Engineer may issue a stop work order, pursuant to subsection (E) below, requiring that all work, except work directly related to the elimination of a violation or necessary to correct a health or safety hazard, be immediately and completely stopped. Work shall not be resumed until such time as the Planning Official or County Engineer gives specific approval in writing. Failure to abide by the stop work order shall be

grounds for the Planning Official or County Engineer pursuant to Chapter 31 to issue a civil citation to the property owner pursuant to Chapter 31.

(A) The stop work order shall include:

- (i) Date of order;
- (ii) Permit number if applicable;
- (iii) Project location;
- (iv) Description of all violations; and
- (v) The remedies that must be completed before work may resume.

(e) A notice of noncompliance or stop work order shall be in writing and posted in a conspicuous location at the site. In addition, the County shall send a copy to the property owner by certified mail.

(A) No person may remove, obscure, mutilate or otherwise damage a stop work order.

(B) A notice of noncompliance or stop work order shall be effective upon posting or upon oral delivery under (C) below.

(C) When an emergency condition exists, the Planning Official or the County Engineer or the designee of either may issue a notice of noncompliance or stop work order orally. The Planning Official or County Engineer shall then issue a written notice as described above within 24 hours of the oral order.

(D) Upon the property owner's completion of corrective actions necessary to bring the property into compliance with this code, the Planning Official or County Engineer shall issue a written notice of compliance to the property owner.

SEWAGE DISPOSAL

99.705 Sewage Disposal. Each proposed dwelling, parcel, lot, or place of public occupancy shall be served by a sewage disposal system which complies with the requirements of the Oregon Department of Environmental Quality requirements. [Ord 90-0069, Ord 96-0118]

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99.905 Improvements Agreement. When required as a condition of development for a conditional use, partition, subdivision, ~~or~~ planned unit development, or stormwater management permit, the applicant shall execute a standard improvements agreement provided by the County Engineer guaranteeing the construction of any required public

improvements. The Agreement shall be recorded to put all purchasers and interested parties on notice. The agreement shall provide that:

(1) If at any time there is a breach in the agreement, the Building Official shall withhold issuance of all building permits within the subdivision or partition until such breaches have been satisfactorily corrected.

(2) The applicant shall be responsible for installing all required improvements, including, but not limited to, streets, storm drainage, pedestrianways, water system, sewage system, etc., to the standards and specifications approved by the County Engineer and/or Board of Commissioners. All work shall be completed to the County Engineer's approval within 18 months of final plat approval, or when building permits have been issued on fifty percent (50%) of the parcels or lots, whichever comes first. [Ord 90-0069, Ord 92-0092, Ord 96-0118]

99.910 Review and Inspections. Plans for public improvements required as a condition of development shall be submitted for review and approval by the County Engineer. During the installation of improvements, the County Engineer shall conduct periodic inspections of work-in-progress. The County Engineer shall charge a fee for plans review and inspection services as established by Order of the Board of Commissioners. [Ord 90-0069]

99.915 Performance Guarantee. (1) The applicant shall file with the County Engineer a performance guarantee to assure full and faithful performance. The guarantee shall be made in one of the following forms:

(a) An escrow of funds, irrevocable sight draft, letter of credit, franchised guarantee or other certification by a reputable lending institution. Such lending institution shall not be directly owned or controlled by the applicant. The amount of funds shall be released only upon authorization of the County Engineer.

(b) A surety bond executed by a surety company authorized to transact business in the State of Oregon in a form approved by the County Counsel. The bond shall guarantee to the County that the financial backing is available so that all improvements will be completed and paid for within the time specified in BCC 99.905.

(2) The guarantee shall ensure that the applicant has funds committed in the amount determined by the County Engineer for the purpose of covering the cost of the improvements and repairs, including related engineering and incidental expenses. In the event of default by the applicant, the guarantee shall ensure that the County shall have, upon demand, funds to construct, complete or pay for all improvements or incidental expenses, including improvements full or partially constructed by the County, and bills which are outstanding for work done thereon by any party. [Ord 90-0069]

99.920 Calling the Guarantee. If the applicant fails to carry out provisions of the agreement and the County has unreimbursed costs or expenses resulting from such failure, the County shall call on the guarantee for reimbursement. If the amount of the bond or cash deposit exceeds the cost and expense incurred, the remainder shall be released. If the amount of the bond or cash deposit is less than the costs and expense incurred, the applicant shall be liable to the County for the difference. [Ord 90-0069]

99.925 Warranty. Upon completion of roadways and other public facilities to County standards and specifications, there shall be a minimum of ~~one~~ three year warranty period

prior to County consideration of acceptance of roadway—maintenance. Before this acceptance, maintenance and repair of ~~roadways~~ public facilities shall be the duty of the applicant, developer, property owner, or of the homeowners association. [Ord 90-0069]

Chapter 100

Planned Unit Development in Corvallis Urban Fringe

* * *

100.150 Application Requirements.

- (1) In addition to the application requirements for partitions and subdivisions contained in Chapters 95 and 97, respectively, an application for a land division within the Corvallis urban growth boundary shall contain the following information and documentation:
- (a) The location of existing structures, including building types, driveways, and off-street parking;
 - (b) The location of all Natural Features identified on the Corvallis Urban Fringe Natural Hazards Map, Riparian Corridors and Wetlands Map, and Significant Vegetation Map;
 - (c) Soils and soil characteristics, including shrink-swell potential, erosion hazard, slide potential, and any other potential limitations, using USDA Soil Conservation Service information or field studies prepared from specific site data;
 - (d) The location of any known sensitive or endangered species of flora or fauna, or significant historic or cultural resource on the property;
 - (e) Any proposed open spaces, including proposed ownership, use, and maintenance;
 - (f) The location of existing utility systems including sanitary sewer, storm sewer, drainageways, and water, where appropriate. Additionally, the location of all planned utility systems including sanitary sewer, storm sewer, drainageways, and water, shown in adopted Corvallis facility plans, and how the proposal can accommodate these facilities;
 - (g) Any proposed significant topographic changes including contours at intervals sufficient to indicate topographic conditions (generally two or five foot contours), including identification of areas subject to slide, slump, erosion or flooding hazards;
 - (h) Any measures proposed to mitigate Code-allowed impacts to natural feature areas shown on the Corvallis Urban Fringe Natural Hazards Map and/or the Riparian Corridors and Wetlands Map;
 - (i) The proposed circulation system including roads, bikeways, and access to roads. Public or private ownership of each facility shall be clearly identified. The current condition of public facilities shall be identified, as well as the proposed standard to which the facility will be improved or constructed by the applicant.

Additionally, the location of all planned roads and trails shown in adopted Corvallis facility plans such as the Corvallis Transportation Plan and the Parks and Recreation Master Plan, and how the proposal can accommodate these facilities;

- (j) The proposed plan for managing stormwater from the site, consistent with BCC 99.650 through 99.680;
- (k) A narrative that provides:
 - (A) A phased development schedule if the development is to be phased;
 - (B) A schedule for construction of all improvements;
 - (C) The proposed method for providing water supply for each parcel or lot;
 - (D) The proposed method for providing sewage disposal for each parcel or lot;
 - (E) A description of the impact of the proposed development on water, sewer, fire protection, law enforcement, schools, hospitals, solid waste disposal, and other services;
 - (F) A description of all community facilities or systems including a maintenance program for all proposed systems; and
 - (G) A copy of tentative covenants, conditions, and restrictions, if any, proposed by the applicant.
 - (H) A description of the impact of the proposed development on Natural Features shown on the Corvallis Urban Fringe Natural Hazards Map and/or Riparian Corridors and Wetlands Map, and the proposed methods for protecting these Natural Features.
- (2) The Planning Official, in the application process, may waive any of the requirements of this section where it is determined, in the judgment of the Planning Official, that the information is not necessary to properly evaluate the application. The Planning Official may require additional information deemed necessary to evaluate the application.

100.205 Design Standards.

(1) **General.** An application for a Planned Unit Development shall comply with all applicable development standards of this code.

(5) Drainage.

- (a) Natural drainageways necessary to convey storm water through and from the subject property shall be reserved or dedicated to the public for such purposes. The area required to be dedicated or reserved for future drainageway shall be identified as determined by the Corvallis Land Development Code.

- (b) Drainage improvements shall be designed and approved pursuant to BCC 99.650 through 99.680, and shall be constructed to the applicable City of Corvallis urban standards.
- (c) In exceptional circumstances, the approving authority may allow construction of drainage improvements to a transitional standard. Construction to a transitional standard may only be allowed if the approving authority finds that exceptional engineering considerations make it not practical to construct improvements to urban standards concurrent with the proposed development. The approving authority shall consult with the City and County Engineers in making a determination to allow a transitional standard.
- (d) If an exception is granted under 100.205(5)(b), the approving authority shall impose conditions that specify how the drainage system will be improved to the applicable urban standards with subsequent development of the property. The conditions of approval shall provide mechanisms that insure, to the greatest extent possible, that the financial obligation of present and future owners of the property to fully finance urban standard drainage improvements is met. These conditions may include but are not limited to:
 - (A) Posting of a financial guarantee;
 - (B) An irrevocable petition for public improvements;
 - (C) An agreement to participate in future Improvement Districts;
 - (D) Specific provisions in covenants, conditions, and restrictions that specify the future obligation of the property owner(s) and which are attached to the property;
 - (E) Other means deemed necessary and appropriate by the approving authority.

Benton County and City of Philomath IGA for Erosion and Sediment Control and Post-Construction

ADDENDUM #1

To Agreement Effective January 12, 1995
Between the City of Philomath and Benton County
For Stormwater Development Code Implementation

A new section is hereby added to the Agreement:

Administration, Inspection, and Enforcement of Erosion and Sediment Control and Post-Construction Development Code Requirements.

1. The City and Benton County have jointly developed Erosion and Sediment Control and Post-Construction requirements as outlined in the Benton County Development Code as part of each jurisdiction's National Pollution Discharge Elimination System permit requirements.

2. Benton County and the City of Philomath have determined that it is a mutual benefit of both, and the general public, for Benton County staff to complete all administration, inspections, and enforcements related to the Erosion and Sediment Control and Post- Construction development code requirements within the City of Philomath and the surrounding Urban Growth Boundary, including but not limited to: intake of fees, review of applicable proposed ground disturbing activities, periodic inspection of installed erosion and sediment control devices, and carrying out enforcement actions against applicable violations of the County Development Code.

3. Benton County will retain all fees associated with the actions required to implement Erosion and Sediment Control and Post-Construction Development Code Requirements.

4. Benton County will be supported in the implementation of these stormwater/water quality related actions by the City of Philomath, through the provision of information to the County regarding ground disturbing activities that should be subject to County Development Code requirements.

IN WITNESS WHEREOF, the parties hereto have agreed to the terms in this addendum

Approved as to Form

By: _____
City Attorney

City of Philomath
By: _____
City Manager

Date: _____

Date: _____

Approved as to Form

By: _____
County Attorney

City of Philomath
By: _____
Public Works Director

Date: _____

Date: _____

Benton County
By: _____
Community Development Director

Benton County
By: _____
Public Works Director

Date: _____

Date: _____

Proposed Adaptive Management for Benton County Stormwater Management Plan

The following provides details on the proposed adaptive management goals that were provided in the Evaluation of Stormwater Management Plan Implementation table.

The following descriptions include the required information for implementing Adaptive Management provisions into the Benton County SWMP as required under State and Federal law (see pg.2 of the ODEQ renewal application letter). These requirements included a description of:

- How adaptive management will be applied to the MS4 stormwater program during the next permit term. This includes minimum control measures and BMPs that will be evaluated, and what data or information will be used to track implementation.
- Information for meeting the adaptive management requirements includes but is not limited to, measurable goals, environmental monitoring results, water quality modeling, or other objective evaluation metrics.

In addition there are three (3) specific adaptive management objectives that will be priority objectives for county staff to effectively implement, track, review, and update as needed to meet adaptive management requirements.

1. *Evaluation of the educational and outreach materials including website updates (ongoing stakeholder group review). Staff and stakeholders evaluate the effectiveness of educational materials to improve communication of the goals of the Benton County SWMP in print and on-line format (Adaptive Management Priority Objective #1)*
 - a. At least 1 stakeholder meeting annually to discuss and review current effectiveness of media in providing information to local residents, businesses. This review will include the following completed by the project coordinator:
 - i. Tracking the number of website visits,
 - ii. Tracking the number of public outreach and education events,
 - iii. Determine what education barriers exist for providing stormwater resources and requirements to the public.
 - iv. Develop improvements to general and specific brochures (e.g. erosion control) to improve public understanding of requirements.
 - v. Determine effectiveness of providing electronic and hard copy educational resources.
2. *Improvements to the stormwater website will be made to provide enhanced usability and transparency of the program resources and requirements.*
 - a. The Benton County SWMP coordinator has developed an updated website design that will provide improved access to specific information applicable to each stormwater control measure.
 - b. Website updates will be completed to provide important resources to the general public regarding program requirements and work.

3. *Continue to coordinate and plan with willing local partners on stormwater/water quality issues, program, and participation opportunities related outreach and improve outreach materials (e.g. flyer).*
 - a. Continue to present information at existing outreach and education events in the local communities and watersheds through interdepartmental collaboration and partnerships with other county committees, local partners, and others.

4. *Greater production and wider circulation of the flyer [illicit discharge, erosion control, general brochure] to local groups and building, construction, and other affected business communities will increase to targeted mailings to priority residents and businesses.*
 - a. Depending on the organization or other groups, targeted information will be provided to ensure that the requirements and awareness is most effective.
 - b. Consider alternatives to hard copy brochure to improve effectiveness of communication.

5. *Improve Erosion Control and Post Construction brochures and supporting materials to show proper implementation of erosion control.*
 - a. Updates to construction related brochures should include local information on effectiveness of BMPs with supporting images and text from Oregon Department of Transportation, City of Corvallis, and Oregon DEQ erosion and sediment control manuals.

6. *Continue to coordinate and plan with willing local partners on stormwater/water quality issues, program, and participation opportunities related outreach and improve outreach materials.*
 - a. Continue Benton County led stakeholder meetings, mailing list, and other stakeholder interaction to review and improve materials as deemed necessary by staff.

7. *Complete more outreach and education events regarding newly adopted programs* **Adaptive Management Primary Objective #2.**
 - a. To improve information sharing, awareness, and adherence to BMPs and stormwater related code requirements, specific outreach will be conducted with key stakeholder groups such as: homebuilders, realtors, associations.
 - i. At least three (3) Benton County led events with key stakeholder groups that would likely be most directly affected by stormwater requirements. These stakeholder group events would include:
 1. Realtors Association/Continuing Education Course to overview all adopted stormwater ordinances/requirements along with general education of program;
 2. Construction related businesses will be provided with examples for implementation of erosion and sediment control requirements (possibly in partnership with City of

Corvallis and City of Philomath), in addition to illicit discharge requirements ,

3. Commercial businesses (e.g. restaurants, trucking companies), will be provided with direct information on illicit (non-stormwater) discharges requirements, with staff follow up to assist in understanding and implementation of ordinance requirements.

- ii. Effectiveness evaluation of the program will occur including:
 1. Participation in the program will be tracked to determine interest,
 2. A questionnaire will be conducted to allow staff to update the programs as necessary to improve participation.
 3. Existing staff funding will be used to develop and complete trainings, however areas where additional funding is required to improve education and outreach will be documented.

8. *Develop interdepartmental SWMP modifications including but not limited to funding proposals, projects, and priorities.*
 - a. Several monthly stakeholder group meetings have discussed developing a sustainable funding model for stormwater/water quality work. These would include but not be limited to funding proposals for: inspections/compliance with code requirements, water quality monitoring equipment, grant writing/implementation, and outreach and education material costs.
9. *Develop and present funding proposals for Board of Commissioners review/adoption.*
 - a. After priority funding proposals are finalized and reviewed by department heads, the proposals would be considered by Board of Commissioners through county's budget process.
 - i. If adopted, funding proposals will be managed by the respective departments that will be awarded the funding, with support from the stormwater coordinator.
10. *Collect data to improve the stormwater system map for use in understanding and managing the municipal separate stormwater system within the Benton County Federal Urbanized Area.*
 - a. Update GPS locations of stormwater outfall locations that have not been identified and GPS any new stormwater outfalls as they are built.
11. *Hold quarterly staff work discussions to determine Benton County Water Quality Discharge code effectiveness, and necessary improvements.*

- a. The Benton County Water Quality Stakeholder Group NPDES meetings with stakeholders will determine code updates will transition into quarterly meetings (every three months).
 - b. Annually evaluate code implementation, and propose amendments as needed to improve effectiveness.
12. *Review and update plan for illicit discharge detection and enforcement based on resources and complaints.*
- a. Quarterly Water Quality Stakeholder meetings will review illicit discharge complaints to determine types and locations and resolutions of the reported enforcement.
 - b. Annually evaluate code implementation, and propose amendments as needed to improve effectiveness.
13. *Continue tracking of water quality complaints and update current water quality complaint tracking procedures where needed.*
- a. Benton County is currently tracking water quality related complaints, through established systems.
 - b. Update tracking as needed to improve effectiveness of water quality complaint tracking.
14. *Continue training programs with pertinent staff from Public Works, Environmental Health, and Community Development to resolve illicit discharge issues.*
- a. Staff will be provided with trainings related to NPDES requirements including but not limited to: erosion and sediment control, illicit discharges, and public education and outreach.
 - b. Evaluation of training courses to ensure effective implementation of the stormwater program.
15. *Provide targeted outreach and education to businesses and private residents with information on the water quality code.*
- a. High attendance public events will be the focus for public outreach and education regarding the stormwater program.
 - b. Specific businesses, contractors, etc. will receive more specific information on the requirements of adopted code requirements that could affect work.
16. *Develop handout and produce copies for staff and local residents/businesses, and update materials to improve information to local residents.*
- a. Focused handouts with specific information and requirements applicable to the businesses that are important for improving water quality.
17. *Updates to the Benton County Stormwater website are ongoing; currently the MS4 coordinator has finalized a new website layout to provide improved public and internal resources regarding IDDE implementation.*

- a. Updated Stormwater website to be completed by November, 2011
18. *Solicit ODEQ to provide Benton County with sole-permitting authority for ground disturbances of 1-acre or more or cumulative disturbed area of 1-acre or more within Benton County (currently Benton County Erosion and Sediment Control and ODEQ 1200-C permits are required for these disturbances).*
- a. Benton County staff will work in partnership with other NPDES Phase II communities to gain sole-permitting authority for 1-acre or more regulated ground disturbing activities.
19. *Review staff implementation of erosion and sediment control requirements. Update implementation to improve efficiency and effectiveness.*
- a. Staff will review projects that have occurred using the Benton County Erosion and Sediment Control requirements and make improvements as needed.
20. *Update website and attempt to secure funding to distribute training materials and resources. Determine County's ability to lead and/or coordinate training opportunities for private contractors, with coursework covering the proper implementation and requirements associated with erosion and sediment control and post-construction runoff.*
- a. Training opportunities during erosion and sediment control project consultation or implementation will be a goal.
21. *Review implementation of code requirements (including adoption of associated fees and review/inspection requirements) to determine effectiveness and sustainability of program. Recommend changes to Board of Commissioners as required to effectively implement code requirements.*
- a. Any updates to funding or code requirements will be reviewed by the Board of Commissioners.
22. *Implement stormwater Pollution Prevention Plan and determine effectiveness; update plan as needed. **Adaptive Management Primary Objective #3.***
- a. Stormwater facilities/operations within the Corvallis Urbanized Area or other locations adhere to the Best Management Practices as required in the current Benton County Stormwater Pollution Prevention Plan. Specifically, stormwater inlet (catch basin) monitoring and management will be a priority adaptive management objective, including work to:
 - i. Determine the number and location of current or future stormwater catch basins, retention, detention and other water quality and/or quantity stormwater infrastructure will be tracked under adopted inspection criteria and in some cases managed by Benton County Public works.
 - ii. Develop management procedures for required stormwater infrastructure that is built within the county jurisdiction.

- iii. Location and schedule of catch basin vactoring of Benton County catch basins by City of Corvallis will be formalized.
 - iv. Benton County will be periodically update the Pollution Prevention Plan including inspection, vactoring, and management requirements as needed to improve stormwater quality within current staff resource constraints.
 - v. Annual review of BMP effectiveness will allow pertinent staff to determine plan effectiveness and to develop updates to inspection forms and requirements.
23. *Finalize impervious area thresholds and reduction targets where appropriate in design standards on a project by project basis that takes into account site specific constraints.*
- a. Staff will review proposed development plans, with a focus on larger projects including proposed commercial and subdivisions, to reduce impervious surfaces where possible to improve infiltration.
24. *Continue education and outreach efforts via the Riparian and Wetlands Project and Benton County Stormwater Program efforts (ongoing).*
- a. Continue throughout Riparian and Wetlands Project period and stormwater program led by Benton County Community Development.
25. *Provide updates via county website on low-impact development approaches to improve stormwater infiltration.*
- a. Increased BMPs, education, and current information will be provided on the updated county website for public use.
26. *Complete an annual review of maintenance activities and incorporate BMPs to improve stormwater quality.*
- a. Staff and stakeholders will review and update BMPs for road maintenance and other public works BMPs. This will also include stormwater retention and detention facilities, and/or water quality improvement facilities.

Section 4. Proposed modifications or additions to SWMP

ODEQ requires that the permit renewal application must include proposed BMP modifications and/or additions to the current Benton County SWMP, and describe the rationale supporting the proposal (see Updated Benton County SWMP below). In addition, ODEQ has directed NPDES Phase II communities to consider prioritizing BMP implementation based on cost-effectiveness, sustainability, reliability and other similar factors, and to consider a balance of program development, administrative, construction, maintenance and other implementation costs and encourages the MS4 Phase II permittees to consider focusing program improvements, as appropriate, in the areas identified as:

MS4 Phase II Program Areas of Focus

- a) Post-construction stormwater requirements that incorporate flow-reduction.
- b) Retrofit strategy development (note please see separate section below describing **Benton County Water Quality Retrofit Project**)
- c) Information and tracking tools.
- d) Documentation of enforcement response and other procedures.
- e) Education and outreach programs that target specific local issues of concerns.
- f) Pollution prevention strategies for municipal operations.
- g) Illicit discharge detection and elimination program refinements.

The following are proposed modifications and additions to the current Benton County SWMP that incorporate ODEQ requirements and program focus areas:

BENTON COUNTY
Stormwater Management Program
for the Corvallis Urbanized Area



Updated and Submitted to:
Oregon Department of Environmental Quality
for Phase II of the National Pollutant Discharge Elimination System
Approved 2008, Updated 2013

Benton County
Stormwater Management Program
for the Corvallis Urbanized Area

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Proposed Implementation Schedule

Introduction

Beginning in 1990, the US Environmental Protection Agency (EPA) required large municipalities to obtain National Pollutant Discharge Elimination System (NPDES) permits for their municipal separate storm sewer systems (MS4). An MS4 is a system of conveyances, including roads, ditches, gutters, catch basins, and storm drains that are owned or operated by a public body. In December of 1999, the EPA adopted rules to implement “Phase II” of the stormwater program. Phase II expanded the stormwater permitting program to include smaller communities located in US census defined urban areas. The Corvallis Urbanized Area includes the urban fringe surrounding the cities of Corvallis, Philomath, and Adair Village (please see area map). Phase II rules require communities to develop, implement, and enforce stormwater management programs that address six minimum control measures:

- 1) Public Education and Outreach
- 2) Public Participation/Involvement
- 3) Unlawful Discharge Detection and Elimination (Illicit Discharge)
- 4) Construction Site Runoff Control
- 5) Post-Construction Runoff Control
- 6) Pollution Prevention/Good Housekeeping.

This document outlines the different components of Benton County’s Stormwater Management Program (SWMP). The program is intended meet the requirements of the National Pollutant Discharge Elimination System (NPDES) Program as developed under the federal Clean Water Act.

This document was developed through the collaborative efforts of staff in the Community Development, Public Works, Environmental Health, and Natural Areas and Parks Departments of Benton County. The SWMP was reviewed and approved by the Benton County Board of Commissioners on March 20, 2007.

Control Measure 1 - Stormwater Public Education and Outreach

Goal: To implement a public education program to distribute effective educational materials to the community and conduct outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff. Education could reduce the amount of contaminants entering the surface water.

BMP	Responsible Staff	Implementation Schedule
1. Develop a Stormwater Education and Outreach Strategy.		
1.1. Identify then shape the message and educational materials.		
A. Draft flyer for the general public and a mock up of the website.	CD Director	November 2012
B. Various groups' feedback on ways to improve the flyers and website.	CD Director	January 2013
C. Flyers and website that have been evaluated by the target audiences and subsequently modified if necessary.	CD Director	January 2013
1.2. Periodic evaluation of the effectiveness of the educational materials and outreach.		
D. Review and update of materials and outreach every five years.	CD Director	Annually
E. Possibly -- changes to the flyers, website, or other materials.	CD Director	Annually
2. Distribute stormwater information and have it readily available to the public		
2.1. Benton County Public Works/Community Development/Environmental Health "Point of Contact" program.		
A. Flyers/handouts will be available in the buildings' areas of interaction.	CD Director, PW Director, EH Director	January 2013
B. County staff will distribute flyers/handouts with permits	CD Director, PW Director, EH Director	January 2013
C. Establish procedures for receiving public information requests, complaints, etc.	CD Director, PW Director, EH Director	January 2013
2.2. Update stormwater section on the County's website.		
D. A stormwater website with links from related websites.	CD Director	January 2013
2.4. Update stormwater brochure for general public.		
E. Creation of a new brochure or selection of an existing brochure.	CD Director	January 2013
F. Presence of the brochure in highly visible places at the County.	CD Director, PW Director, EH Director	January 2013
G. Presence of the brochure and/or availability upon the public's request from MRWC, City of Corvallis, and Benton Soil Water and Conservation District.	CD Director	January 2013
2.5. Publish and distribute stormwater brochure targeted for building permit related activity.		

H. Update current brochure	CD Director; PW Director	March 2013
I. Presence of the brochure in highly visible places at the County.	CD Director, PW Director, EH Director	March 2013
J. Distribution of the brochure at the time of building permit or septic drainfield permit application.	CD Director	March 2013
2.6. Coordinate public education with that of other entities.		
K. Collaborate with the City of Corvallis, Marys River Watershed Council, and Benton County Soil and Water Conservation District on education at one or more annual community event (such as Kids Day for Conservation, County Fair).	CD, EH, PW	ongoing
L. Flyers present at various events attended by the City of Corvallis, City of Philomath MRWC, and BSWCD.	CD, EH, PW	ongoing

BMP 1: DEVELOP A STORMWATER EDUCATION AND OUTREACH STRATEGY.

Actions/Elements

1. Identify then shape the message and educational materials.

Benton County will, describe the major activities related to stormwater pollution, and identify the target audiences. The County will use this information to appropriately shape the content on draft flyers and update the website. (See Sections 2.2, 2.4, and 2.5 regarding flyers and website.)

The County will ask groups such as the Marys River Watershed Council, the Benton County Soil and Water Conservation District, the stakeholder committee, contractors/developers, and the general public to review the flyers and website and offer feedback on their ease of use and effectiveness. The County may also gather input through the Environmental Issues Advisory Committee. The County will specifically ask the contractors/developers and general public if the flyers are convincing and would actually cause them to modify their behavior. A follow up question is how the flyers can be improved to increase their effectiveness in ensuring compliance with stormwater management best practices. The County will evaluate the feedback and use it to refine the flyers and website.

Rationale:

- Current fliers and brochures will need to be updated to deal with the
- Presenting draft copies of the educational information to the public and experts with stormwater experience to review and offer constructive feedback will help improve information and understanding of the need to protect and improve stormwater quality.
- The goal is not merely information distribution, but also behavior modification. The educational materials need to be effective in improving how individuals affect stormwater quality.

Measurable Goals:

- A. Update flyer for the general public and a mock up of the stormwater website.
- B. Various groups' feedback on ways to improve the flyers and website.
- C. Flyers and website that have been evaluated by the target audiences and subsequently modified if necessary.

Goal Rationale: Because members of the target audience will be reviewing the draft educational materials, the final products are more likely to be effective.

2. Periodic evaluation of the effectiveness of the educational materials and outreach.

Benton County will evaluate the SWMP every five years. Part of the evaluation will be the evaluation of the effectiveness of the educational materials and outreach. County staff dealing with stormwater issues will share and compare what they have seen to be effective and not so effective components. Topics of discussion will include an analysis of whether the public's awareness and understanding of stormwater issues has increased, as well as whether compliance with best practices has increased. Staff will adapt the educational materials as needed.

Rationale:

- Because public awareness can change with time, educational materials should also change to reflect the current reality.
- Many different members of the County staff will be dealing with stormwater issues (building inspectors, staff answering the stormwater phone number described in Section 2.3, Environmental Health Specialists, Planning staff helping the public at the counter, etc.). Pooling the knowledge would be helpful in determining the effectiveness of the public education and outreach efforts and analyzing ways to improve the program.

Measurable Goals:

- D. Review and update of materials and outreach every five years.
- E. Possibly -- changes to the flyers, website, or other materials.

Goal Rationale: Meetings provide a mechanism to share information and “in the field” experiences. Changes may not be needed if it appears none would be beneficial.

BMP 2: DISTRIBUTE STORMWATER INFORMATION AND HAVE IT READILY AVAILABLE TO THE PUBLIC.

Actions/Elements

1. Benton County Public Works/Community Development/Environmental Health “Point of Contact” program.

Stormwater-related Points of Contact are at these County offices: Community Development, Public Works, Environmental Health, and Natural Areas and Parks. At each Point of Contact (a reception counter in a County office), Benton County will provide appropriate information relating to stormwater quality, most typically in the form of a fact sheet or flyer. These handouts will be available to any visitor, but will be specifically provided to anyone conducting business with the County that could impact stormwater quality including building permits, road approach permits, and land use applications. (See sections on flyers, 2.4 and 2.5.)

Rationale:

- The Point of Contact program reaches citizens who visit the County to conduct business that may affect stormwater quality, including builders, developers, and homeowners. The type of information distributed can be tailored to the person's activity, allowing precise outreach.

Measurable Goals:

- A. Flyers/handouts will be available in the buildings' areas of public interaction.
- B. County staff will distribute flyers/handouts with permits.
- C. Establish procedures for receiving public information requests, complaints, etc.

Goal Rationale: Those people visiting the County for building permits, road approach permits, and land use applications likely recently engaged in or will engage in activities that impact stormwater quality, and thus are the target audience.

2. Update stormwater section on the County's website.

Benton County has established a stormwater section on the County's website that can be accessed independently, as well as through links on the Environmental Health Department, Public Works Department, and Community Development Department websites. The website provides information on the county's SWMP, stormwater quality/quantity issues, actions that citizens can take to improve stormwater quality, and links to relevant stormwater information. The site also provides the "one-contact" information for questions and comments. (See Section 2.3.) The site also features information on how the SWMP is being developed and how citizens can get involved. (See Public Involvement Section X). The site includes downloadable fact sheets, illustrations and diagrams, photographs, and links to other websites (e.g., MRWC, BCSWCD, City of Corvallis, City of Philomath, DEQ, EPA).

Rationale:

- Benton County already has a large number of visitors to its website. Websites are an efficient information distribution method for the public researching information via the internet. The website will be accessible 24 hours a day, 7 days a week. Other than the initial setup cost, websites are cheap to maintain and update. Providing information to the public about actions they can take and how they can get involved with the County's SWMP can improve stormwater quality.

Measurable Goals:

- C. A stormwater website with links from related websites.

Goal Rationale: The presence of a website is necessary so that people can have access to detailed information and pictures/diagrams/photographs that are not able to be put on the flyers.

4. Distribute stormwater brochure for the general public.

Benton County will create, collaborate with others to create, or use an existing (City of Corvallis, EPA, DEQ, or other) stormwater brochure/flyer and distribute this to the general public. Distribution avenues include Marys River Watershed Council, City of Corvallis, Benton Soil and Water Conservation District, and Benton County Environmental Health Division and Public Works/Community Development Department. The information may also be mailed directly to

property owners in the MS4. The purpose of the brochure will be to educate the general public about the negative impacts associated with pollution in stormwater runoff and strategies to prevent pollution.

The brochure will include:

- A description of the issue and its implications
- Activities the reader can follow to improve stormwater quality
- Relevant local information, such as ordinances, programs, opportunities to get involved
- Benton County stormwater website for more information
- Benton County Staff Contact for more information

Rationale:

- Many people, especially those who are involved in development activities, visit the “Planning/Building counter” and “Environmental Health counter,” so the presence of flyers there will increase awareness of stormwater issues.
- The flyers will provide an overview of actions the public can take to benefit stormwater quality and inform them where they may learn more (website and “one contact”).

Measurable Goals:

- E. Update existing brochures or selection of a new brochure.
- F. Presence of the brochure in the aforementioned highly visible places at the County.
- G. Presence of the brochure and/or availability upon the public’s request from Marys River Watershed Council, City of Corvallis, and Benton Soil and Water Conservation District.

Goal Rationale: Having the brochure available through many sources increases the likelihood the public will see it, which increases the number of people who will read it.

5. Publish and distribute stormwater brochure targeted for building permit related activity.

Benton County will update existing (City of Corvallis, EPA, DEQ, or other) stormwater brochure that is targeted for those embarking on building permit activities. This brochure would be located at Benton County Environmental Health Department and Public Works/Community Development Departments. The purpose of the brochure will be to educate developers and property owners of the negative impacts associated with pollution in stormwater runoff and strategies to prevent pollution.

The brochure will include:

- A description of the issue and its implications
- Activities the reader can follow to improve stormwater quality
- Relevant local information, such as ordinances, penalties, programs, opportunities to get involved
- Benton County stormwater website for more information
- Benton County Staff Contact for more information

Rationale:

- Many people, especially those who are involved in construction activities, visit the “Planning/Building counter” and “Environmental Health counter,” so the presence of flyers there will increase awareness of stormwater issues among the population sector most likely to benefit from the information.

- Construction activities have the potential to add pollutants to stormwater runoff; therefore, targeted flyers that provide construction operators with preventative methods to reduce stormwater pollution will be beneficial.

Measurable Goals:

H. Creation of a new brochure or selection of an existing brochure targeted towards building permit related activities.

I. Presence of the brochure in the aforementioned highly visible places at the County.

J. Distribution of the brochure through such means as building permit or septic drainfield permit application.

Goal Rationale: People involved in construction activities would most benefit from the brochure, and giving it to them as early as possible increases the likelihood that appropriate precautions can still be taken in developing the land.

6. Coordinate public education with that of other entities.

Benton County will seek to coordinate public education (such as stormwater flyers, meetings/trainings on erosion control and site maintenance) with Marys River Watershed Council, City of Corvallis, and Benton County Soil and Water Conservation District. The City of Corvallis has programs for erosion control and stormwater management, and public education and outreach are established elements of those programs.

Additionally, when these entities have a presence at local events, the County will encourage them to put stormwater flyers in their booths.

Rationale:

- Coordinating public education and outreach with others reduces duplication of effort and capitalizes on information distribution mechanisms.

Measurable Goals:

K. Collaborate with the City of Corvallis, Marys River Watershed Council, and Benton County Soil and Water Conservation District on education at one or more annual community event (such as Fall Festival, DaVinci Days, County Fair).

L. Flyers present at various events attended by the City, MRWC, and BCSWD.

Goal Rationale: The number of events indicates the amount of outreach the County has achieved.

Control Measure 2 - Public Participation & Involvement

Goal: To improve the quality and sustainability of the SWMP by incorporating a wide range of ideas and perspectives into the preparation, implementation and adaptive management of the SWMP. Also, to improve the acceptability of the SWMP to the affected parties by involving them in the process.

BMP	Responsible Staff	Implementation Schedule
1. Involve public in SWMP development.		
1.1. Stakeholder committee		
A. Continue coordination of stakeholder committee of at least 8 members from different perspectives relative to stormwater.	CD Director; PW Director	ongoing
B. Stakeholder committee review of stormwater program work, or a detailed explanation of the committee's position where it differs from proposed work.	CD Director	ongoing
1.2. News releases		
C. At least one news release per year discussing the stormwater program, its status and opportunities for public involvement.	CD Director; Public Information Officer	annually; ongoing
1.3. Public meetings		
D. Annual public meeting with adequate notification to interested parties and the general public.	PW Director; CD Director	April 2013
E. People will receive answers to their questions and will be able to provide input; contact information for staff will be provided in case people have follow-up questions.	PW Director; CD Director	April 2013
F. A mailing list will be updated whereby interested people can receive notification of future meetings.	PW Director; CD Director	April 2013
G. Interested people will be solicited for participation on the stakeholder committee.	PW Director; CD Director	April 2013
1.4. Public hearings		
H. Public hearings will comply with Benton County Code and Charter, and with state statute.	CD Director	ongoing
2. Involve public in SWMP implementation.		
2.1. Update procedure for receiving volunteer monitoring data and/or complaints.		
A. Update written procedure for receiving, logging, investigating and responding to complaints.	EH Division Head; PW Director; CD Director	June 2014
B. An annual report of complaints received and action taken.	EH Division Head; PW Director; CD Director	annual; ongoing

2.2. Continue program for storm drain stenciling in urbanized areas.		
C. Benton County, either directly or through a partnership, will provide the materials and instructions for groups or individuals who desire to stencil (or otherwise suitably mark) storm drains.	PW Director	June 2014
2.3. Develop partnerships with watershed councils.		
D. Staff attendance at least twice a year at meetings of the Marys River Watershed Council.	CD Director	annual; ongoing
3. Involve public with adaptive management of SWMP.		
3.1. Annual public forum on SWMP.		
A. Hold an annual public forum, advertised in the newspaper and with invitations sent out through watershed councils and similar organizations.	PW Director; CD Director	annual; ongoing April 2014
3.2 Reconstitute stakeholder committee prior to re-submittal (in 4.5 years) to review and consider changes.		
B. Submit to Board of Commissioners proposed modifications to SWMP, including the recommendation of the stakeholder committee.	CD Director	Starting January 2016
3.3 Public meeting prior to final draft of re-submittal.		
C. Hold a public meeting, advertised in the local newspaper, to present proposed modifications to the SWMP.	PW Director; CD Director	April 2016

BMP 1: INVOLVE THE PUBLIC IN GENERAL AND STAKEHOLDERS IN PARTICULAR IN THE UPDATE OF THE SWMP.

Actions/Elements

1. Coordinate a committee of stakeholders to review and give input to the development of the program.

Benton County will identify stakeholders, including property owners, construction companies, land developers, environmental groups, agriculture, economic development, education, local government, and specific landowners or businesses whose discharges into the stormwater system could potentially impact stormwater quality.

A voluntary committee of these stakeholders will be established to review and provide input to the development of the various elements of the SWMP. The role of the committee will be advisory. The final plan updates that are proposed to the Board of Commissioners will note the staff and committee recommendation, and where those differ, an explanation of the rationale of each.

Benton County sponsors an Environmental Issues Advisory Committee – a citizen group that discusses and provides input to the County on various environmental issues. This committee would form the core of general public involvement in the stormwater program development.

Rationale:

- Involving the public improves the quality of the final product and increases its acceptability to the public and stakeholders.
- Providing stakeholders with a structured means to have clear input into the final product improves the quality of that product and its acceptability to those most affected by it.

Measurable Goals:

A. A stakeholder committee of at least 8 members from different perspectives relative to stormwater.

B. Stakeholder committee endorsement of proposed draft elements of the stormwater program, or a detailed explanation of the committee’s position where it differs from the proposed draft.

Goal Rationale: Coordinating a committee with diverse makeup will ensure a variety of ideas are presented, and will improve acceptability of the plan by a diversity of interests. Per DEQ requirements, the plan must have certain elements. The program also must be implementable. For these reasons, the draft plan presented to the Board of Commissioners should be staff’s recommendation. Detailed explanation of any areas the stakeholder committee differs with the staff recommendation will ensure the stakeholders’ input gets to the decision-making body.

2. News releases.

Benton County will generate news releases regarding the SWMP, its status in development, the science and regulations behind it, and ways in which people can learn more or become more involved. The Corvallis Gazette-Times is widely read in Benton County, especially within the SWMP area, and is responsive to news releases regarding matters of community concern.

Rationale:

- The local newspaper (the Corvallis Gazette-Times) is widely read in Benton County, and is a useful medium for getting information to the general public.
- Providing information to local media will increase public awareness about the issues of water quality in general and the SWMP in particular.

Measurable Goals:

C. At least one news release per year discussing the stormwater program, its status and opportunities for public involvement.

Goal Rationale: This minimum frequency of news release will ensure that at least an annual update of SWMP status and activities is presented to the general public.

3. Hold public meetings to present the SWMP at various stages, and to obtain input.

Benton County will notify stakeholders and advertise the meeting in the newspaper. Notification will also be posted at the point-of-service counters and on the County's stormwater website. . The County will provide both targeted and general notification. Meetings (and to a lesser extent the notification itself) will explain the program the County is implementing, answer questions, elicit input on a few key issues, and inform people of other opportunities to be involved throughout the process.

As elements of the SWMP are embarked upon and/or finalized, similar public meetings will be held. Public meetings specific to the other elements are discussed in those sections (e.g., construction site erosion control).

Rationale:

- Public meetings are a useful way to get interested people the information they need. They also provide an opportunity to obtain targeted input from a potentially broader audience than the stakeholder committee.

Measurable Goals:

D. An initial public meeting with adequate notification to interested parties and the general public.

E. People will receive answers to their questions and will be able to provide input; contact information for staff will be provided in case people have follow-up questions.

F. A mailing list will be established whereby interested people can receive notification of future meetings.

G. Interested people will be solicited for membership on the stakeholder committee.

Goal Rationale: One general public meeting will be sufficient to get the word out about the overall SWMP process, get general input and establish an understanding of the process among the public. Enabling people to contact staff subsequent to the meeting will ensure their questions get answered and their input is received. People interested in further involvement can sign up for the mailing list or apply to be on the stakeholder committee.

4. Hold public hearings when ordinances are proposed.

The illicit discharge program, construction site erosion control program, and the post-construction program will all include implementation of adopted ordinances. Benton County will hold public hearings, with notification to affected parties and the general public, before adopting ordinances. In the cases of amendments to the Benton County Development Code (e.g.the erosion control and post-construction elements), public hearings will also be held by the Benton County Planning Commission.

Rationale: Public hearings are required before adoption or updates of ordinances. In addition to being a legal requirement, public hearings enable careful deliberation by the decision makers and an opportunity for formal comment by members of the public.

Measurable Goals:

F. Public hearings will comply with Benton County Code and Charter, and with state statute.

Goal Rationale: Achieving this goal will ensure the public hearings fulfill their purpose of enabling thoughtful consideration of the matter and incorporating public input.

BMP 2: INVOLVE THE PUBLIC IN IMPLEMENTATION OF THE SWMP.

Actions/Elements

1. Follow adopted procedure for receiving volunteer monitoring data and/or complaints.

Benton County will continue with adopted procedure for receiving, logging, investigating and responding to complaints or inquiries from the public concerning stormwater quality. This includes potential illicit discharges, unauthorized runoff from construction sites, and impacts from municipal operations.

Depending on the monitoring program decided upon in the illicit discharge element, there may also be opportunities to involve citizens in monitoring stormwater quality. If so, a procedure will be established.

Information about monitoring activities and how to lodge complaints will be contained in the informational handouts and website.

Rationale:

- Information from the public is a highly valuable extension of any monitoring program. Continuous monitoring of all stormwater facilities is cost-prohibitive. Members of the public will often notice and report conditions that are not observed by County staff or monitoring.
- An explicit procedure for handling complaints increases the effectiveness of the program, and increases the public's confidence in the program.

Measurable Goals:

- A. Following written procedure for receiving, logging, investigating and responding to complaints.
- B. An annual report of complaints received and action taken.

Goal Rationale: A written procedure will ensure that all complaints are recorded and dealt with in a standardized way. An annual report encourages completion of action on complaints, and enables consideration of trends. Together these goals will establish an accountable and actionable procedure for responding to complaints.

2. Continue program for stormdrain stenciling in urbanized areas.

In cooperation with the watershed councils and the City of Corvallis, and other organizations, Benton County will establish a program to facilitate volunteer stenciling (or other suitable marking) of stormdrains in areas of the county jurisdiction that have catchbasins. The marking will discourage dumping of waste and will inform the public that the stormdrain drains to a stream.

Rationale:

- Informing the public about the negative consequences of actions is effective in changing behavior.

- Involving the public in activities such as stormdrain stenciling fosters a sense of ownership for community resources (such as water quality).

Measurable Goals:

C. Benton County, either directly or through a partnership, will provide the materials and instructions for groups or individuals who desire to stencil (or otherwise suitably mark) stormdrains.

Goal Rationale: It is most efficient to partner with existing programs or with other agencies who have the same goal. This also provides a unified program across jurisdictional boundaries, which makes the program work more seamlessly for the general public.

3. Develop partnerships with watershed councils.

The Marys River Watershed Council is a very active council whose watershed includes the southern portion of the Corvallis Urbanized Area. There is no active watershed council for the remainder of the Urbanized Area. Benton County will augment current interactions with the Marys River Watershed Council, and with other councils should they form. County staff will attend watershed council meetings at least bi-annually, or more often if stormwater issues are on the agenda.

Benton County will also partner with the watershed council(s) on activities such as stream cleanups and volunteer stormwater monitoring, as those activities coincide with the priorities and action plan of the watershed council.

Rationale:

- The watershed councils are a diverse group of people working for common goals concerning water. They are a useful forum for disseminating information regarding the SWMP. It is more efficient for the County to tap into their ability to mobilize volunteers for projects than for the County to attempt to duplicate that organization for SWMP-related volunteer opportunities.
- Frequent attendance at watershed council meetings develops rapport and keeps County staff apprised of conditions and sentiment across the watershed.

Measurable Goals:

D. Staff attendance at least twice a year at meetings of the Marys River Watershed Council.

Goal Rationale: This establishes a minimum commitment. Staff will likely attend more often when the stormwater program would benefit from increased interaction with the watershed council.

BMP 3: INVOLVE THE PUBLIC IN GENERAL AND STAKEHOLDERS IN PARTICULAR IN THE ADAPTIVE MANAGEMENT OF THE SWMP.

Actions/Elements

1. Public forums on SWMP.

Benton County will participate in annual public forums to discuss progress on implementation, to receive focused input, and to answer questions from the public. Benton County Public Works currently holds an annual public forum under the auspices of its Environmental Issues Advisory

Committee. The forum proposed here could either be an expansion of the current one, or a separate meeting modeled on the existing one.

Rationale: An annual event facilitates regular evaluation of how the program is working, both on the part staff and the public. It provides a structured way in which to solicit input and disseminate information. Participating in annual public forums (e.g. County Fair) will occur in addition to or in place of a single public forum that is only dedicated to stormwater, because of low turnout at these events

Measurable Goals:

A. Hold and participate in public forums, advertised in the newspaper and with invitations sent out through watershed councils and similar organizations.

Goal Rationale: Encouraging public participation in public forums will increase transparency, instill a sense of ownership in the program, and garner valuable input from the public toward improving the program.

2. Reconvene stakeholder committee prior to re-submittal (in 4.5 years) to review and consider changes.

As the date nears for permit resubmittal, Benton County will convene the stakeholder committee described under BMP 1.1. Input from annual public forum, complaints and concerns raised by the public, and insights from 4.5 years of implementation will be formulated into a list of potential modifications to the SWMP. The stakeholder committee will give input to these potential modifications, and add any of their own. A recommendation will be forwarded to the Board of County Commissioners.

Rationale:

Measurable Goals:

B. Submit to Board of Commissioners proposed modifications to SWMP, including the recommendation of the stakeholder committee.

Goal Rationale: Encouraging public participation in the forums will increase transparency, instill a sense of ownership in the program, and garner valuable input from the public toward improving the program.

3. Public meeting prior to final draft of re-submittal.

The draft permit re-submittal, including proposed modifications to the SWMP, will be presented at a public meeting. Staff will answer questions from the public and receive input on the proposal. Stakeholders will be invited, and notification will be placed in the newspaper. This public meeting may take the form of a public hearing before the Board of Commissioners, or a staff-facilitated meeting earlier in the drafting of the recommendation to the Board of Commissioners.

Rationale:

Measurable Goals: Hold a public meeting, advertised in the local newspaper, via the website and at the County’s point-of-service counters, to present proposed modifications to the SWMP.

Goal Rationale: Encouraging public participation in the annual forum will increase transparency, instill a sense of ownership in the program, and garner valuable input from the public toward improving the program.

Control Measure 3 - Illicit Discharge Detection and Elimination

Goal: To improve the quality of stormwater reaching waters of the state by identifying non-stormwater discharges into the stormwater system and halting such discharges.

BMP	Responsible Staff	Implementation Schedule
1. Identify affected elements of the stormwater system.		
1.1. Update Storm Sewer System Map with outfalls, roads, receiving streams.		
A. A complete, printed map.	PW Director	June 2013
2. Implement illicit discharge ordinance and enforcement program.		
2.1. Illicit discharge ordinance and enforcement program		
A. Effectively implement Benton County Code standards and procedures for eliminating illicit discharges into the stormwater system.	EH Division Mgr; PW Director	ongoing
3. Detection and enforcement.		
3.1. Develop procedures and plans for detecting illicit discharges and conducting inspections.		
A. Update set of procedures for monitoring and investigating potential stormwater discharge issues. This will include procedures for staff monitoring and a written procedure for receiving, logging, investigating and responding to complaints.	PW Director; EH Division Mgr	June 2014
B. Timely investigation of complaints and other identified potential illicit discharges.	PW Director; EH Division Mgr	ongoing
C. An annual report of complaints received and action taken. All complaints and identified issues will be logged, along with the results of investigation and the action taken.	PW Director; EH Division Mgr	ongoing
3.2. Train appropriate staff in the identification, investigation, and enforcement of illicit discharges made to the stormwater system.		
D. Staff who will be monitoring for illicit discharges or investigating suspected illicit discharges will have received adequate training of the illicit discharge program by the Board of County Commissioners.	PW Director; EH Division Mgr	ongoing
4. Inform affected parties and the general public about illicit discharges.		

A. Update informational handout.	PW Director; EH Division Mgr	December 2014
B. Distribute the handout to identified businesses most likely to involve discharges and waste disposal.	PW Director; EH Division Mgr	ongoing
C. Distribute the handout to County employees.	PW Director; EH Division Mgr	ongoing
D. Put the information on the County's stormwater website.	PW Director; EH Division Mgr	ongoing

BMP 1: IDENTIFY AFFECTED ELEMENTS OF THE STORMWATER SYSTEM.

Actions/Elements

1. Update Storm Sewer System Map with outfalls, roads, receiving streams

Benton County GIS Department and Benton County Public Works have identified and mapped all streams, storm water culverts and drainage systems in the Corvallis Urbanized Area. The current Storm Sewer System Map will be updated to identify the location of all storm water outfalls and receiving waters of the State of Oregon.

The map will complement information contained in the City of Corvallis Storm Sewer System Map and the City of Philomath Storm Sewer Map as most all streams and storm sewers for these Cities will receive from or discharge into Benton County streams and storm sewers within the urbanized area.

Rationale:

- A continuously updated map of the storm sewer system will assist the County in tracking stormwater in general and illicit discharges in particular.
- A system map will also help County staff to conceptualize the stormwater system and its inter-connections with other jurisdictions (especially Corvallis and Philomath).

Measurable Goals:

- A. A complete, printable map, updated over time.

Goal Rationale: Map updates will exist in both printed and digital (GIS) format. The GIS version will likely be the form most often used by staff, but a printed copy is useful for obtaining an overall picture of the system. A printed copy is also typically easier to submit as a deliverable with an annual report.

BMP 2: IMPLEMENT ILLICIT DISCHARGE ORDINANCE AND ENFORCEMENT PROGRAM.

Actions/Elements

1. Illicit discharge ordinance and enforcement program

Benton County will implement Benton County Code standards and procedures defining illicit discharges into the County stormwater system and prescribing the means stop such discharges and take enforcement action against those responsible (see adopted Benton County Illicit (non-stormwater) Discharges.

Primary concerns as sources of illicit discharges are improperly functioning septic systems, intentionally discharging household graywater or sewage, and illegal dumping. Nearly all of the area subject to the SWMP is served by individual on-site sewage disposal systems. These are of varying ages and conditions, and occasionally a system will fail, allowing sewage to surface and, often, drain to the stormwater system. There is one County service district providing municipal sanitary sewer to approximately 30 residences. There is also at least one private sewer system (serving a manufactured dwelling park).

The stormwater system in the County's jurisdiction is almost entirely open ditches and drainageways. This eases monitoring and makes it less likely that an illicit connection or discharge would go unnoticed.

The illicit discharge program is an interdepartmental effort, led by the Environmental Health Division. Environmental Health will investigate reports or complaints outside of the road right of way. Public Works road managers will informally monitor the stormwater system for signs of illicit discharge and investigate reports or complaints within the right of way. Community Development staff will assist with involving the public in updating the program and informing the public about the program requirements once they are in place.

Presently, there is an enforcement program and ordinance in Benton County that addresses illicit discharges. An ordinance for the stormwater management program to address illicit discharges was adopted in the Benton County Code. The enforcement procedures, remedies and sanctions have been developed and will be updated as required.

Rationale:

- Non-stormwater discharges into the stormwater system can result in serious negative impacts to water quality in the receiving streams. Implementing and updating a program for identifying such discharges will make their detection much more likely. County Code standards and enforcement procedures will enable the County to take necessary action to stop and mitigate illicit discharges.

Measurable Goals:

- A. Implement adopted Benton County Code standards and procedures for eliminating illicit discharges into the stormwater system.

Goal Rationale: Implementation of the adopted code provisions establishes a formal method for resolving illicit discharge issues, and will improve the means of enforcement.

BMP 3: DETECTION AND ENFORCEMENT

Actions/Elements

1. Implement procedures and plans for detecting illicit discharges and conducting inspections.

Storm drains and streams at bridges are presently inspected once every two years by the Benton County Department of Public Works. This is completed as part of bridge inspection that is performed every two years, a large culvert (>4 ft diameter) inspection every two years, or as a routine drainage maintenance or inspection activity.

Benton County Building Inspectors and Benton County Public Works Engineering Staff also monitor construction activities for erosion control.

The inspection of the received stream or storm water discharge is informally noted as part of these routine activities that are presently in place. Inspection procedures will be updated and documented to verify the absence or presence of an illicit discharge.

At this time, if an illicit discharge is noted, the operations personnel contact the Director of Public Works, and the Director of Community Development. The Oregon DEQ is also contacted. The appropriate source of the illicit discharge is also contacted so this discharge will be stopped.

As discussed in the public involvement element, the County has implemented a procedure for receiving and acting on volunteer monitoring information and complaints regarding stormwater quality. Information that implies a possible illicit discharge will be investigated, with appropriate action pursuant to the County Code provisions adopted under Action 1 above.

Benton County has established similar policies with the Cities of Corvallis and Philomath for the sharing of information and the coordination of investigation/remediation of stormwater issues that cross jurisdictional boundaries.

A formalized program was developed and submitted to the Board of Commissioners for approval (September 2011).

Rationale:

- The County has neither the staff nor financial resources to establish a water quality monitoring program; therefore, illicit discharge detection relies on existing road drainage maintenance staff, current Building and Environmental Health inspections, and on information received from members of the public to alert staff to possible problem areas. Given the exposed nature of the County's stormwater system, these methods of detection should be adequate for detecting most illicit discharges, especially the most egregious ones.

Measurable Goals:

- A. Implementation of the written set of procedures for monitoring and investigating potential stormwater discharge issues. This includes procedures for staff monitoring and a written procedure for receiving, logging, investigating and responding to complaints.
- B. Timely investigation of complaints and other identified potential illicit discharges.
- C. An annual report of complaints received and action taken. All complaints and identified issues will be logged, along with the results of investigation and the action taken.

Goal Rationale: A written procedure will ensure that all complaints are recorded and dealt with in a standardized way. An annual report encourages completion of action on complaints, and enables consideration of trends. Together these goals establish an accountable and actionable procedure for responding to complaints.

2. Train appropriate staff in the identification and remediation of illicit discharges made to the stormwater system.

The Benton County Public Works road and drainage maintenance crew will be trained to identify and report suspected illicit discharges. Other staff will receive training on receiving complaints from the public regarding possible illicit discharges, logging those complaints, and routing them to the appropriate staff for investigation and follow-up. Staff from the Environmental Health Division will receive training in investigating suspected illicit discharges and working with the responsible party to achieve compliance.

Rationale:

- Appropriate levels of training will enable all staff to respond to this new program in the appropriate manner.

Measurable Goals:

D. Staff who will be monitoring for illicit discharges or investigating suspected illicit discharges will have received adequate training as required to effectively implement the required

Goal Rationale: As standards that are adopted into the Development Code change, or additional permit requirements occur, training will need to be provided. Appropriate training opportunities might not be available immediately,. The effective date of updated regulations may be set out several months to allow time for staff to obtain necessary training.

BMP 4: INFORM AFFECTED PARTIES AND THE GENERAL PUBLIC ABOUT ILLICIT DISCHARGES

Actions/Elements

1. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

Benton County will continue to update and distribute a succinct informational handout describing the negative impacts of inappropriate discharges and disposal. The information discusses Benton County’s illicit discharge enforcement program, and lists ways to contact Benton County to learn more or to make a complaint.

Rationale: Information can change behavior, and also creates awareness that can lead to more reporting of illegal actions.

Measurable Goals:

- A. Updated informational handout as needed.
- B. Distribute the handout to identified businesses most likely to involve discharges and waste disposal.
- C. Distribute the handout to County employees.
- D. Put the information on the County’s stormwater website.

Goal Rationale: These methods will provide both targeted and broad exposure to the information related to illicit discharges.

Control Measure 4 - Construction Site Runoff Control

Goal: To reduce pollutants from construction activities within the Corvallis Urbanized Area by implementing a regulatory program enacted by ordinance. Procedures will include site plan review, site inspection, enforcement, and public input.

BMP	Responsible Staff	Implementation Schedule
1.0 Ordinance		
1.1 Standards, Policies & Enforcement Procedures		
A. Implement erosion control ordinance.	Public Works & Building Department Staff	ongoing
1.2 Review Procedures		
A. Update permit fees.	Public Works & Building Department Staff	annually
B. Update Interdepartmental policy regarding review of permits.	Public Works & Building Department Staff	January 2014
1.3 Inspector Training		
A. Training	Public Works & Building Department Staff	ongoing
2.0 Inspection, Complaint Response And Violation Enforcement		
2.1 Process For Ensuring Compliance		
A. Update Procedures	Public Works & Building Department Staff	March 2014
2.2 Complaint Response		
A. Implement ritten Procedure And Record Keeping	Public Works & Building Department Staff	ongoing
B. Annual Reports	Public Works & Building Department Staff	annually
3.0 Inform The Affected Public Of Permit Requirements		
3.1 Distribute Information		
A. Brochure	Public Works & Community Development Staff	ongoing

3.2 Inform Contractors And The Affected Public Of Training Opportunities		
A. Training Resources And Outreach	Public Works & Community Development Staff	ongoing

BMP 1: IMPLEMENT BENTON COUNTY EROSION AND SEDIMENT CONTROL CODE REQUIREMENTS

Actions/Elements

1. Implement erosion control standards, policies and enforcement procedures.

Benton County developed, through a process involving stakeholders and the general public, a program for both immediate and long-term runoff control from development sites. The program was built around provisions to be added to the Benton County Development Code, but also included non-code policies and procedures. The program requires that erosion and sediment control plans be reviewed and approved for any development action or series of actions that will disturb an acre or more of land or cumulative disturbed area greater than acre, within the permit area. The code provisions require implementation of the site plan and verification through inspections, where updates to the erosion and sediment control BMPs may be required.

The standards for the Benton County erosion control regulations were developed from the following Erosion and Sediment Control Manuals (ESCM):

- Department of Environmental Quality (DEQ) – Erosion and Sediment Control Manual
- City of Corvallis – Erosion Prevention & Sediment Control Manual
- Oregon Department of Transportation Erosion Control Manual

To facilitate updates for a workable and acceptable program, Benton County will involve stakeholders. Those landowners, developers, contractors that are required to implement the Benton County Staff will work with stakeholders to help ensure that the adopted program is workable and addresses local water quality issues. We will attempt to attain consistency between our program and the program of the City of Corvallis, including sole permitting authority so that developers and contractors do not have to learn two distinct regulatory systems.

During the program implementation, Benton County will consider expanding its construction site stormwater permit program to include all of Benton County, not just that within the urbanized area. If that arrangement appears beneficial to both Benton County and DEQ, we will apply our program to the whole of Benton County.

Implementation of any updated regulatory components will begin immediately upon the Development Code changes taking effect. Training and procedures will have been instituted prior to adoption (see Section 3, below), and educational materials will be prepared in draft form for

distribution following adoption of the final program (See Public Education and Outreach element, below).

Rationale:

- Benton County currently has regulations for erosion and sediment control for ground-disturbing activities resulting in disturbances that are greater than an acre. To reduce ‘dual permitting’ issues Benton county will work to gain sole permitting authority from DEQ and work to provide consistency between Benton County and City of Corvallis requirements.
- The Benton County Development Code is the primary document regulating land use activities, including site development and road construction. Adopting any updates to the erosion control requirements by ordinance into the Development Code will enable Benton County to enforce the standards.

Measurable Goals:

- A. Implement and update Erosion and Sediment Control ordinance as required to improve consistency with cities.
- B. Continue work to ensure that Benton County is the sole permitting authority for ground-disturbing activities where Benton Erosion and Sediment Control requirements apply.

Goal Rationale: To reduce redundancy, permitting issues, and costs, Benton County should have similar requirements with city jurisdictions where possible and allow permittees to pay review and inspection fees to Benton County. Requiring DEQ and Benton County permits and associated fees is not practical within the Corvallis Urbanized area where county Erosion and Sediment Control ordinance applies.

2. Update procedures for construction site plan review

Updates to the permit will be added into Benton County’s existing system of permitting as needed, which will be a procedurally simple matter. Building permits and land use applications will be screened for activities that will disturb one acre or more of land. (This currently occurs, so the only change will be the agency from which we require applicants to obtain a permit.)

Review of erosion and sediment control plans will be done by either Benton County engineering staff or building inspection staff depending on the scope and context of the project. For example, the erosion control plan associated with a building permit application disturbing 1+ acre of land will be reviewed by the building inspection staff, while the erosion control plan associated with a subdivision (road construction and infrastructure development) will be reviewed by the engineering staff.

Not all activities with ground disturbance of one acre or more will be necessarily connected to a building permit or land use application; therefore, it will be important to continue to inform the affected public of the requirement to obtain an erosion control permit for qualifying activities. See BMP 3 (below).

Rationale:

- Current duties of Benton County building inspectors and Public Works engineers have been expanded to include review of erosion control. It makes sense for the staff already reviewing an activity to review the erosion control for that activity. This avoids duplication of effort and will allow for recommendations to update permit requirements as needed.

Measurable Goals:

- A. Updates to permit and fee will be instituted in Benton County as required under State law and as needed to implement the program
- B. The interdepartmental policy will be updated, discussing which types of development activities will be reviewed by which department and how the fees for erosion control permits will be allocated.

Goal Rationale: The permit and fee need to be updated in order for the fee intake and permit tracking to occur in an orderly way and respond to changing State requirements. Interdepartmental cooperation is necessary because the activities that trigger an erosion control permit cross departmental jurisdictions.

3. Conduct training of employees involved in inspections

Benton County will ensure that building inspectors and engineering staff have adequate training in the area of erosion and sediment control. Additionally, Benton County land use planners will avail themselves of educational opportunities regarding area planning techniques that can reduce the water quality and quantity impacts of new development.

Training for plan review, site inspection and construction oversight will be available through the Oregon DEQ the Oregon Department of Transportation and other resources. Benton County plans train Engineering, Planning and Building Inspection personnel at these and in-house training sessions.

Rationale:

- Benton County has adopted erosion control regulations; however, current staff members will need training updates in erosion control techniques and inspection. Additional training will ensure staff is knowledgeable and competent in implementing current Benton County erosion control requirements.

Measurable Goals:

- A. Staff will obtain training adequate for implementation of the erosion control regulations as updates to the erosion and sediment control program requirements occur.

Goal Rationale: Staff should have the knowledge consistent with current regulations and implement the regulations.

BMP 2: INSPECT, RESPOND TO COMPLAINTS, AND ENFORCE VIOLATIONS.

Actions/Elements

1. Implement process for ensuring compliance with ordinance, including inspection protocols and enforcement mechanisms

Procedures for inspection of construction sites will be implemented and updated to match current code requirements. Similar to the plan review step, road- or subdivision-related erosion control will be inspected by engineering staff while building-permit-related erosion control will be incorporated into building inspections.

Enforcement procedures will be updated as needed, including the means to enjoin illegal activity, rectify damage done, and respond to complaints. These procedures may require amendment to the Benton County Code, and may be part of the erosion control ordinance discussed in BMP 1.

Benton County will review the erosion control program on an annual basis. If a pattern of deficiencies becomes apparent, Benton County will modify the program as appropriate. Proposed modifications will be submitted to DEQ to ensure compliance with the program requirements.

Rationale:

- Inspection and enforcement are necessary to ensure the erosion control standards are adhered to.

Measurable Goals:

A. Benton County will have inspection and enforcement procedures in place by the effective date of the erosion control ordinance.

Goal Rationale: These critical elements of the program need to be in place by the time the rules go into effect. This may require the ordinance to have an effective date later than otherwise would occur.

2. Respond to complaints

As discussed in the Public Involvement element, Benton County has established procedures for receiving complaints, investigating, taking action and reporting and will update these as needed.

Rationale:

- Information from the public is a highly valuable extension of any monitoring program. Continuous monitoring of all stormwater facilities is cost-prohibitive. Members of the public will often notice and report conditions that are not observed by County staff or monitoring.
- An explicit procedure for handling complaints increases the effectiveness of the program, and increases the public's confidence in the program.

Measurable Goals:

- A. Continued implementation of procedure for receiving, logging, investigating and responding to complaints.
- B. An annual report of complaints received and action taken.

Goal Rationale: Implementation of the written procedure will ensure that all complaints are recorded and dealt with in a standardized way. An annual report encourages completion of action on complaints, and enables consideration of trends. Together these goals will establish an accountable and actionable procedure for responding to complaints.

BMP 3: INFORM AFFECTED PUBLIC OF PERMIT REQUIREMENT.

Actions/Elements

1. Distribute information about activities requiring erosion control permit.

As discussed in the Public Education and Outreach element, information about the erosion control permit program will be provided to construction operators and others. This will include the types of activities requiring permits, how to obtain the permits, and possibly a summary of the erosion control standards.

Rationale:

- The erosion control permit requirement will be new for Benton County. Contractors and property owners will need to be informed that a permit from Benton County may be necessary. Informing the general public will enable them to identify and report potential violations.

Measurable Goals:

A. Benton County will distribute informational flyers to construction operators, and will make the flyers available to the general public through the County website and at the office of Public Works/Community Development. The flyers will be distributed before the effective date of the erosion control ordinance and as required to ensure public awareness.

Goal Rationale: Affected parties should be made aware of the new regulation prior to completing activities that may be in violation of code requirements.

2. Inform contractors of training opportunities.

Benton County will pass along to contractors a set of resources for obtaining additional information and training regarding erosion control. This will include information on how to obtain reference manuals, as well as opportunities for training workshops.

Rationale:

- **This is an easily achieved public service, providing contractors with resources to enable them to meet the rules. In addition, it will improve compliance with the rules and make the job of the building inspector and Public Works engineer easier, not having to explain erosion control.**

Measurable Goals:

A. Training resources will be included with the flyers distributed to construction operators, and will be available on the County website and at County offices.

Goal Rationale: This will be a simple but effective means of distributing the helpful information.

Control Measure 5 - Post-Construction Runoff Control

Goal: To reduce water quality impacts from the built environment, and maintain pre-development runoff regimes, over the long term.

BMP	Responsible Staff	Implementation Schedule
1. Implement structural methods to limit pollution and maintain pre-development flow regimes.		
1.1. Implement Development Code requirements for storage, detention, filtration and infiltration.		
A. Implement Development Code standards adopted by the Board of County Commissioners.	CD Director	ongoing
1.2. Implement long-term stormwater plan for maintenance of installed facilities.		
B. Implementation of a set of policies and procedures, endorsed by the Board of County Commissioners, for long-term maintenance of stormwater facilities.	PW Director	ongoing
1.3. Training for Plans Reviewers and Field Inspectors.		
C. Staff who will be reviewing or inspecting stormwater facilities will have received adequate annual training of Development Code standards.	PW Director	annually
2. Implement non-structural methods to limit pollution and maintain pre-development flow regimes.		
2.1. Implement Development Code standards for site design to protect sensitive areas and direct intensive activities to areas that can absorb their impacts.		
A. Implement site design standards from the Development Code.	CD Director	ongoing
2.2. Assess development and need to adopt standards for protection of wetlands and riparian areas to maintain the natural filtration and retention capacity of the ecosystem.		
B. Assess vegetation cover within priority riparian corridors as required by Benton County/ODEQ Vegetation Monitoring Protocol and wetland protection for areas outside the Corvallis Urban Growth Boundary.	CD Director	ongoing
2.3. Implement policies and area plans that reduce the amount of impervious surface needed to develop an area and prioritize less-sensitive portions of the watershed for siting those impervious surfaces.		
C. Implement Comprehensive Plan policies directing long-range planning efforts to minimize impervious surface and to site impervious surfaces in the less-sensitive portions of the watershed.	CD Director	ongoing
2.4. Include long-term, non-construction considerations in the education and outreach element.		

D. Implement public education and outreach program.	<i>See Public Education and Outreach Program</i>	ongoing
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BMP 1: IMPLEMENT STRUCTURAL METHODS TO LIMIT POLLUTION AND MAINTAIN PRE-DEVELOPMENT FLOW REGIMES.

Actions/Elements

1. Implement Development Code requirements for storage, detention, filtration and infiltration.

Benton County will implement adopted standards for development activities to incorporate long-term methods for storing/detaining stormwater, filtering out pollutants, and encouraging stormwater to infiltrate into the groundwater instead of being quickly directed downstream.

Standards developed by staff with review and input by the stakeholder committee as described in the Public Involvement element will be implemented for new development and redevelopment project. Proposed code amendments will be developed over time as required; hearings before the Benton County Planning Commission and then the Benton County Board of Commissioners will occur.

Rationale:

- Runoff from completed subdivisions and large commercial, industrial or civic developments can carry substantial pollutant loads and can dramatically increase peak flows.
- Properly designed facilities can reduce pollutant loads discharged to water bodies, and can cause discharge flows to mimic those of pre-development site conditions.

Measurable Goals:

A. Implementation of Development Code standards adopted by the Board of County Commissioners.

Goal Rationale: Implementation of Post-Construction code standards as mandatory and enforceable requirements in Benton County.

2. Implement long-term stormwater plan for maintenance of installed facilities.

Once installed, storage, detention, filtration and infiltration facilities will require long-term maintenance. Benton County will implement policies and procedures, including binding agreements, specifying who bears what responsibility for maintenance and adaptive management of such facilities. Some facilities may be the County’s responsibility, and Benton County will be maintaining required stormwater detention and retention facilities others will fall to a homeowners’ association or the property owner.

Rationale:

- Clear responsibility for long-term maintenance of facilities will ensure facilities continue to function and do not create hazards.
- Adaptive management of such facilities may be necessary in order to meet water quality and quantity targets.

Measurable Goals:

B. Implementation of a set of policies and procedures, endorsed by the Board of County Commissioners, for long-term maintenance of stormwater facilities.

Goal Rationale: Consistently implementing formal policies for these facilities will improve consistency in dealing with the facilities.

3. Training for Plans Reviewers and Field Inspectors.

To implement the Development Code requirements called for under Action 1 (above), Benton County will ensure training for the individuals who will be reviewing site development plans and inspecting building sites. Training necessary will be determined once standards have been implemented for a specific location. This training may be a joint effort with the City of Corvallis and the City of Philomath.

Rationale: Proper training will ensure staff has the expertise to evaluate the site conditions and stormwater management techniques employed on a given site.

Measurable Goals:

C. Staff who will be reviewing or inspecting stormwater facilities will have received adequate training of the adoption of Development Code standards.

Goal Rationale: It will be necessary for staff to understand exact standards in the Development Code before arranging for training. Appropriate training opportunities will match current code requirements and will be updated to include training for specific areas for improvement determined by staff..

BMP 2: IMPLEMENT NON-STRUCTURAL METHODS TO LIMIT POLLUTION AND MAINTAIN PRE-DEVELOPMENT FLOW REGIMES.

Actions/Elements

1. Implement Development Code standards for site design to protect sensitive areas and direct intensive activities to areas that can absorb their impacts.

Benton County staff and/or consultants will implement site design standards that encourage or require development activities to avoid or minimize modification of sensitive areas.

Rationale:

- Development that avoids or minimizes impacts to steep slopes, wetlands, erosive soils, drainageways and other sensitive areas will have less likelihood of degrading water quality.

Measurable Goals:

A. Implement site design standards adopted in the Development Code.

Goal Rationale: Implementing site design standards in the Development Code will make them mandatory and enforceable, and will integrate site design standards with other existing standards applicable to site development.

2. Evaluate implementation of Development Code standards for protection of wetlands and riparian areas to maintain the natural filtration and retention capacity of the ecosystem.

Inside the Corvallis Urban Growth Boundary, Benton County and the City of Corvallis have collaboratively adopted regulatory protections for wetlands and riparian areas. The County will assess vegetation cover within priority riparian corridors as required by Benton County/ODEQ Vegetation Monitoring Protocol (see Section 7). ODEQ Willamete Basin Water Quality Division/TMDL staff is currently reviewing the proposed riparian corridor vegetation monitoring proposal. Any proposed regulations will be considered by the Benton County Planning Commission and Board of Commissioners at public hearings, if riparian vegetation monitoring determines vegetation loss exceeds ODEQ threshold staff will proceed with adoption of riparian and associated wetland protections and/or program to support and improve natural functions to improve stormwater management and water quality.

Rationale:

- Natural wetlands and riparian areas have a tremendous capacity to filter pollutants from runoff and to detain and retain water during high-flow periods. Preserving these resources in their natural condition is highly beneficial to stormwater quality and quantity. Riparian vegetation corridor monitoring will provide the necessary data to evaluate current and future conditions and determine the need for regulations to protect vegetation.

Measurable Goals:

B. Assess need to implement Development Code and/or associated program for riparian and wetland protection for areas outside the Corvallis Urban Growth Boundary.

Goal Rationale: These protections and/or program would complement existing protections applicable inside the UGB. Adopting these provisions into the Development Code will make them mandatory and enforceable along with a non-regulatory, education and outreach program to support riparian and wetlands functions to improve stormwater management and water quality. Due to significant implementation/enforcement cost and issues including significant valid landowner input regarding regulation effectiveness and lack of data regarding current data on riparian conditions, the proposed monitoring program was developed.

3. Implement policies and site plans that reduce the amount of impervious surface needed to develop an area and prioritize less-sensitive portions of the watershed for siting those impervious surfaces.

The policies of the Benton County Comprehensive Plan guide adoption and revision of Development Code provisions, zoning, area plans and infrastructure plans. Benton County will identify sensitive portions of watersheds and prioritize less-sensitive areas for the siting of development (impervious surfaces, in particular). Additionally, policies and plans will be directed toward reducing the total impervious surface needed to achieve development of an area. Numerous case studies exist demonstrating ways in which impervious surface can be minimized while achieving the same density of development.

Amendment of the Comprehensive Plan will require public hearings before the Benton County Planning Commission and Board of County Commissioners. Currently, the Post-Construction requirements for larger construction projects require stormwater to be managed on-site.

Rationale:

- Impervious surfaces decrease infiltration and increase the speed of runoff delivery to streams, increasing peak flows, which contribute to flooding and erosion. Impervious surfaces also

collect pollutants, which are then carried by stormwater into the stormwater system. Reducing impervious surfaces in a watershed reduces these impacts.

- Water quality impacts can also be reduced by concentrating impervious surfaces in portions of the watershed where land is stable and where slowing and filtering of runoff can occur before stormwater enters streams.

Measurable Goals:

C. Update Comprehensive Plan policies directing long-range planning efforts to minimize impervious surface and site impervious surfaces in the less-sensitive portions of the watershed.

Goal Rationale: The Comprehensive Plan is the policy document that will guide future planning. Updating policies now will ensure these considerations are made a high priority when future area planning and/or Development Code amendments are considered.

4. Provide long-term, non-construction considerations in the education and outreach element.

Education and outreach are key to long-term stormwater management. The education and outreach element of the SWMP will include a focus on reducing pollutant loads and stormwater discharges from individual properties as well as on a watershed scale.

Rationale:

- Regulations can go only so far. The actions of individuals over time have substantial impact on stormwater quality and quantity. Providing information on these impacts and encouraging people to make certain choices can influence actions in a positive direction.

Measurable Goals:

D. Implement education and outreach program (see Public Education of this report).

Goal Rationale: The education and outreach program is designed to encourage changes in behavior on the part of the general public. Implementation of the program will provide people with information about the consequences of individual decisions upon pollutants and stormwater discharges.

Control Measure 6 - Pollution Prevention and Good Housekeeping

Goal: Benton County will create and implement a Pollution Prevention Program (PPP) to reduce or prevent pollutant runoff from county activities within the MS4 areas.

BMP	Responsible Staff	Implementation Schedule
1. Inventory Municipal Operations		
A. Identify all County infrastructures that are within the MS4 area.	PW Director and Parks Director or designee(s)	ongoing
B. Identify all County maintenance activities which have the potential to impact water quality within the MS4 area.	PW Director and Parks Director or designee(s)	ongoing
C. List outside vendors that contract with Benton County to conduct maintenance activities under the Pollution Prevention Program.	PW Director and Parks Director or designee(s)	ongoing
2. Implement Pollution Prevention Program		
A. BMP's implemented for salmon recovery will be incorporated into the Program	PW Director and Parks Director or designee(s)	ongoing
B. Additional BMP's, not specific to salmon protection will be developed to meet program requirements	PW Director and Parks Director or designee(s)	ongoing
3. Conduct Employee Training Program		
A. Training will be provided to County Public Works, Parks, Fleet and Facilities maintenance personnel on the O&M Plan.	PW Director and Parks Director or designee(s)	annually
B. Field personnel will be empowered to use good judgment in conjunction with the BMP's outlined in the PPP to minimize runoff.	PW Director and Parks Director or designee(s)	annually

BMP 1: INVENTORY MUNICIPAL OPERATIONS

Actions/Elements

1. Identify all County infrastructures that are within the MS4 area.

Rationale: This ongoing BMP will ensure that all locations are identified, documented and mapped through the GIS department. Most of Benton County is outside the MS4 area and this will help define the scope of the program.

Measurable Goal: Printed maps of all County roads, bridges, culverts, buildings, fleet maintenance shops, storage areas and parks. Overlay locations with mapping of stormwater drainage and waterways that would be impacted.

Goal Rationale: Due to limited funding and resources, the primary focus will be on the areas of the MS4 with the ability to expand the program in the future.

2. Identify all County maintenance activities which have the potential to impact water quality within the SS4 area.

Rationale: Many of the BMP's developed will be adopted into the Pollution Prevention Program however there are other activities that have yet to be determined, such as parking lots at County buildings, fleet maintenance, etc. By reviewing all maintenance activities a thorough review can be made and additional BMP's adopted into the Pollution Prevention Plan.

Measurable Goal: Each department (Road Maintenance, Facilities Maintenance, Fleet Maintenance, and Parks) will list all maintenance activities and include a short description. This list will be reviewed by the staff for determination on impacts to water quality. Upon determination, department designee will develop BMP.

Goal Rationale: To ensure that all areas have been evaluated and BMP's implemented.

3. List outside vendors that contract with Benton County to conduct maintenance activities under the Pollution Prevention Program.

Rationale: The BMP's implemented extend outside County maintenance personnel. Contracts and/or intergovernmental agreements will need to adopt language consistent with County BMP's.

Measurable Goal: Review annually outside contracts and agreements annually. Implement contract language specific to BMPs.

Goal Rationale: To ensure that other agencies/vendors comply with the Pollution Prevention Program (PPP).

BMP 2: IMPLEMENT A POLLUTION PREVENTION PROGRAM

Actions/Elements

1. BMP's developed for salmon recovery species will be incorporated into the PPP.

Rationale: The BMP's for salmon recovery have shown to be effective in reducing some of the pollutants in stormwater runoff typical of maintenance operations. This allows Departments with limited County staff to focus on BMP's that have yet to be developed to improve water quality.

Measurable Goal: BMP's will be reviewed periodically as new and improved methods are adopted throughout the State.

Goal Rationale: To ensure that updated information is being considered and evaluated

2. Additional BMP's, not specific to salmon protection will be developed to meet program requirements

Rationale: BMP's need to be updated for additional County activities other than road maintenance. This would include Fleet, Parks and Facility Maintenance.

Measurable Goal: Departments will be required to develop BMP's identified for consideration by the County Stormwater Stakeholder Team and then implemented into the PPP within the scheduled timeline.

Goal Rationale: Departments required to develop their own BMP's will have ownership of their own program.

BMP 3: CONDUCT EMPLOYEE TRAINING PROGRAM

Actions/Elements

1. Training will be provided to County Public Works, Parks, Fleet and Facilities maintenance personnel on the Pollution Prevention Plan.

Rationale: Training and educating staff on the PPP and the BMP's will establish consistency with the program and promote awareness.

Measurable Goal: Training will be implemented for all current employees once the PPP . Annually refresher courses will be conducted to review new information, improved practices and capture new employees required to follow BMP's.

Goal Rationale: Ensures that all employees receive the training.

2. Field personnel will be empowered to use good judgment in conjunction with the BMP's outlined in the Pollution Prevention Plan to minimize runoff.

Rationale: Training of personnel and encouraging suggestions to the recommended BMP's will allow field personnel to use good judgment in the field when applying techniques as outlined in this program.

Measurable Goal: Provide employees with the proper tools, equipment and flexibility to meet the demands of their job while complying with the requirements of the PPP.

Goal Rationale: Personnel are better equipped to provide input on the BMP's effectiveness within the program.

Section 5. Total Maximum Daily Load Evaluation and Benchmark Development

DEQ requires (as stated in the permit renewal application cover letter) “progress towards achieving assigned TMDL Wasteload Allocation must be documented in the permit renewal package. Successful implementation of current SWMP BMPs (and achievement of measurable goals), and estimates of future TMDL pollutant reductions (i.e., benchmarks) based on proposed additional or modified BMPs will guide DEQ’s determination of whether adequate progress has or will be achieved”. “For example, if bacteria is an applicable TMDL pollutant, please provide a qualitative narrative describing of how existing and proposed BMPs, such as a ‘Doggie Waste’ education program, IDDE cross-connection program or Capital Improvement Project program aimed at reducing or disconnecting impervious surfaces, specifically address and effectively reduce bacteria to the MEP.” “It is important to note that factors limiting your ability to estimate pollutant load reductions associated with current and proposed BMPs, such as limited data availability and quality, or conducting a quantitative analysis must be described.”

Table 2. Applicable Benton County Total Maximum Daily Load Parameters

Waterbody Name	Bacteria (fecal coliform or E.coli)	Mercury	Temperature*
Long Tom River	X		X
Marys River	X		X
Muddy Creek			X
Soap Creek			X
Mainstem Willamette River	X	X	X

*Temperature does not require a benchmark as it not currently considered a stormwater pollutant.

Table 3. Documentation of Progress towards TMDL Waste Load Allocation

2007 BMP Implementation Status and SWMP Updates	Description of TMDL Impact	Proposed or Additional BMPs	Current and Future Progress
Coordination of stakeholder committee of at least 8 members from different perspectives relative to stormwater.	Continue to combine efforts to reduce bacteria and erosion	Continue coordination of stakeholder committee	Monthly stakeholder meetings and combination of efforts to improve stormwater quality.
2007 BMP Implementation Status and SWMP Updates	Description of TMDL Impact	Proposed or Additional BMPs	Current and Future Progress on TMDL Reductions

Press releases, mailing lists and other opportunities for public involvement.	Raise awareness of TMDLs	Develop mailing lists, and continue public meetings.	Creating awareness of the linkage between stormwater and surface water quality and how individual actions can impact water quality.
Written procedure for receiving, logging, investigating and responding to complaints.	Staff will capture all water quality related complaints	Implement updated procedures to resolve complaints	Staff will respond to all water quality complaints and work to resolve the water quality issues with appropriate State agencies as necessary.
Effectively implement Benton County Code standards and procedures for eliminating illicit discharges into the stormwater system.	Local regulation to control applicable non-stormwater discharges	Implementation of adopted regulations including enforcement.	Applicable bacteria and erosion impacts (not covered under the Erosion and Sediment Control requirements) will be regulated.
Implement Erosion and Sediment Control ordinance.	Erosion reduction that could occur from 1-acre or more ground disturbance on non-farm and forestry related activities	Update of requirements as needed to improve erosion and sediment control, while providing cost efficient service.	Where applicable, a minor amount of land base where erosion will be reduced, thus reducing possible mercury impacts to the main-stem Willamette River
Benton County staff will work in partnership with other NPDES Phase II communities to gain sole-permitting authority for 1-acre or more regulated ground disturbing activities.	Increase local control and management of program to ensure requirements are implemented and effectively administered	Benton County has a priority to locally administer erosion and sediment control along with other jurisdictions	Benton County sole permitting authority for projects that are 1-acre or more in disturbed area, will provide greater assurance that requirements are implemented and enforced to reduce erosion.
2007 BMP Implementation Status and SWMP Updates	Description of TMDL Impact	Proposed or Additional BMPs	Current and Future Pr 118 TMD

<p>Implement post-construction and site design standards from the Development Code standards adopted by the Board of County Commissioners.</p>	<p>Filtration of surface runoff to reduce sediment and bacteria loading to receiving streams</p>	<p>Benton County Public Works and Community Development will work with new development and redevelopment to plan for long term stormwater management.</p>	<p>Locally appropriate site-design standards will provide for long term storage, filtration, infiltration and controlled release of stormwater flows to streams; resulting reductions in pollutants will occur for a range of developments.</p>
<p>Develop riparian and wetland protection for areas outside the Corvallis Urban Growth Boundary.</p>	<p>Long term assurance for protection of natural features that decrease TMDL loading.</p>	<p>Implementation of an integrated voluntary program and regulations based program to support and improve natural riparian and associated wetland functions.</p>	<p>Benton County Riparian and Wetlands Inventory has been completed for priority riparian and wetland resources, and proposed development code and voluntary approaches will be finalized resulting in decreases in TMDL parameter loading to receiving streams. In addition, the ongoing monitoring of riparian areas will be completed as required by ODEQ approved monitoring approach (Section 7).</p>
<p>Develop Comprehensive Plan policies directing long-range planning efforts to minimize impervious surface and to site impervious surfaces in the less-sensitive portions of the watershed.</p>	<p>Site specific increases in infiltration and reduction of surface water runoff.</p>	<p>Develop current map of estimated impervious surface; prioritize how reductions in impervious surface can occur in various watersheds.</p>	<p>Decrease in impervious surfaces where site conditions allow for this type of management, will result in decreased overland flow and transport of TMDL pollutants.</p>
<p>Identify all County maintenance activities which have the potential to impact water quality within the MS4 area in the Stormwater Pollution Prevention Plan (PPP)</p>	<p>Identification of applicable operations that can affect stormwater quality</p>	<p>Finalizing the PPP with various departments.</p>	<p>Implementation of the PPP will reduce possible water quality impacts resulting from County operations. 119 can affect stormwater quality</p>
<p>Training will be provided to County Public Works, Parks, Fleet and Facilities maintenance personnel on the PPP</p>	<p>Staff awareness of water quality impacts from county operations.</p>	<p>Implementation of the PPP will occur with annual trainings for applicable staff.</p>	<p>Awareness by staff of PPP requirements leading to reduction in TMDL parameters from operations that affect stormwater quality</p>

There are several important factors currently limiting Benton County's ability to estimate pollutant load reductions associated with current and proposed BMPs through a quantitative approach. These include:

- There is currently no integrated approach by the City of Corvallis and City of Philomath and Oregon DEQ to provide water quality trends to determine the effect of SWMP implementation measures. ODEQ coordination of water quality monitoring in Benton County should occur to determine effectiveness ;
- There is currently a low level of development activity, and as a result there have been no requests or needs for implementation of Illicit Discharge (non-stormwater) Ordinance, Erosion and Sediment Control Ordinance, or Post-Construction Long Term Stormwater Ordinance so determination of code effectiveness is not possible at this point;
- The dominant land uses of farming and forestry within the county are suspected of having a significant influence on the stormwater quality, and would be extremely difficult to separate this impact from the stormwater quality within the Corvallis Federal Urbanized Area.
- Currently there is no stormwater utility fee, tax, or similar fee based system or grant program in place in Benton County; monitoring would require consistent funding to develop a Quality Assurance/Quality Control Plan, purchase/borrow monitoring equipment, and provide staff training and monitoring time.

Section 6. Water Quality Retrofit Projects and Strategy

2014 Water Quality Retrofit Project

A collaborative project between Benton County and Oregon State University to treat storm water via green infrastructure. Total project cost is \$108,000 with funding provided by OWRD, Oregon-BEST, Pacific Northwest Transportation Consortium and Benton County, This project will help advance similar projects to the next level by investigating field scale planning policies and designs needed to build green infrastructure. Project construction will be completed in Summer 2014 with long term research and treatment goals including:

- Treating more than 3 million gallons of stormwater from 121,590 ft² of highly impermeable/industrial surface area;
- Real time research and testing of water flow and water quality treatment technologies;
- Diverse educational and outreach opportunities for OSU students, facility visitors from the building; and
- Building local and regional partnerships to help treat storm water via green infrastructure while implementing the Benton County Stormwater Management Plan.



The 3 bioretention cells are 3 ft. deep, 95 feet long, and 10 feet wide. Each is sealed with a geomembrane and layered with 2 feet of mixed compost and native soil with drain rock and gravel over a perforated pipe. Slide valves, in-line weirs, and other monitoring equipment provide many options for researching stormwater treatment.



The Sediment Bay at the southern end of the facility is 2 ft. wide and 33 feet long and provides for settling out sediment and other debris before flowing into each individual cell.



Each cell has rock meanders to support stormwater distribution and aesthetics, in addition to native plants that range in density and species between cells.

Proposed Future Water Quality Retrofit Strategy

Benton County will work towards sampling and reporting (via annual reports to ODEQ) on the outflow from the completed and vegetated water quality facilities to determine current levels of dissolved solids, and applicable TMDL/303 D parameters.

Section 7

Benton County Non-Regulatory Riparian Corridor Program Vegetation Monitoring Scope of Analysis Area and Monitoring Methodology

Introduction

The Benton County Total Maximum Daily Loads (TMDL) implementation plan was adopted by Benton County in 2007, and included the goal of reducing Temperature and Bacteria inputs through the protection of riparian corridor vegetation (Benton County TMDL Implementation Plan Tracking Matrix). Benton County has been in formal correspondence with Oregon Department of Environmental Quality (DEQ) water quality division staff since late 2011 regarding the development of a non-regulatory riparian corridor vegetation program, to comply with Willamette Basin TMDL requirements specifically meeting Division 42 TMDL ‘reasonable assurance’¹ requirements. Oregon DEQ Water Quality modeling and division staff provided an email update (see **Attachment A**, dated 4/30/12 and 5/23/12) and verbal request for specific details for a proposed monitoring program if a non-regulatory program is adopted by Benton County in 2013. We note that DEQ would not require vegetation monitoring for a regulatory riparian program, although enforcement of all adopted code would be expected. We understand that there is less experience with non-regulatory programs to attain compliance with TMDL requirements, and that monitoring is necessary to gauge success. The effectiveness of regulations and their enforcement can also vary greatly, and simply having adopted code does not ensure success in riparian vegetation preservation.

Benton County Riparian and Wetlands Project staff have developed the following methodology to enable DEQ staff to determine whether the proposed monitoring is sufficient to meet applicable TMDL requirements with a non-regulatory program. See <http://www.co.benton.or.us/cd/riparian> for more information on the project as a whole.

¹ “Reasonable Assurance” defined in OAR 340-042-0030 (9) means a demonstration that a TMDL will be implemented by federal, state, or local governments or individuals through regulatory or voluntary actions including management strategies or other controls.

DEQ Requested Information

Program Goal

By means of education, outreach, collaboration, monitoring, and adaptive management, Benton County intends to work with property owners to ensure that native riparian vegetation is not reduced and is hopefully enhanced. A key element of achieving this goal is monitoring the status of riparian vegetation over time

The elements of the proposed non-regulatory program include:

- Education and outreach to inform riparian landowners regarding preservation/enhancement;
- Support and coordination with watershed councils and soil and water conservation districts of their efforts to enhance and restore riparian areas;
- Continuation of Benton County's current requirement that new structures adhere to setback requirements from streams;
- Monitoring of riparian vegetation conditions;
- Implementation of regulatory riparian protection program if monitoring indicates degradation is occurring;
- Periodic reporting to, and consultation with, DEQ regarding riparian conditions and adaptive management;
- Budget estimate and assurance of funding;

Scope of Analysis Area

The vegetation analysis will occur within "priority riparian corridors," defined as:

Land, zoned rural residential, situated within 50ft. (75 ft. for main-stem Willamette River) of

- a. a perennial stream (as determined by Benton County from USGS and BLM data),
or
- b. a 'Fish Bearing' stream with 'verified' and 'assumed' 'fish presence' map attributes (as determined by Oregon Department of Forestry)

Excluded from "priority riparian corridors" are:

1. Land within the Urban Growth Boundary and city limits of the following incorporated cities: Corvallis, Albany, Philomath, Adair Village, and Monroe.
2. Those portions of private property where farm and forest activities are the primary land use;
3. Public lands.

In summary, monitoring (see **Monitoring Methodology**) will occur primarily within applicable rural residential zoned properties (see **Figure 1**) AND select locations where

multiple developments or re-development ²is proposed regardless of the primary zoning designation.

Monitoring Methodology

The following monitoring methodology was developed by Benton County Riparian and Wetlands Project staff (Community Development) with guidance provided by ODEQ Water Quality Division staff (Pers. Comms. Loboy, Bayham, Michie). The proposed methodology is organized in chronological order of the monitoring that would occur for 'priority riparian corridors' as defined above.

- 1. Establish baseline characterization of the extent of existing overstory riparian vegetation by digitizing vegetation from LiDAR (2008) and best available resolution aerial imagery:** LiDAR imagery (captured summer 2008) is currently available for significant portions of Benton County and is scheduled to be available for nearly all of Benton County by fall 2012 (**Attachment B**). Using Arc GIS, LiDAR (2008) 'highest hit' data subtracted from 'bare earth' data will provide vegetation density and height (see **Attachment C**). The riparian vegetation density and height derived from LiDAR (2008) will be compared to most current aerial imagery to determine any changes; resulting in a baseline characterization of vegetation. The 1-meter DEMs will also be utilized to determine channel locations. LiDAR riparian vegetation height/cover analysis (highest hits minus bare earth) would be completed for all priority riparian corridors in Benton County utilizing current LiDAR data. The vegetation height analysis will provide specific locations/properties where riparian vegetation gaps are located. In addition, riparian vegetation density, height, and width data will provide baseline information for determining overall trends of vegetation within the delineated riparian corridor buffer.
- 2. Complete Annual Monitoring (once per calendar year or as acquisition of new aerial imagery allows) for priority riparian corridors:** Aerial imagery (2011, 1-ft. resolution) (**Attachment D**) is available countywide and is updated (approximately) on an annual basis by federal, state, or local agencies or private organizations and is available for county use. Best available aerial imagery will be utilized to digitize riparian vegetation overstory presence/absence adjacent to priority riparian corridors. There is an estimated 40-60 stream miles within the priority riparian corridors; 20 stream miles will be selected for annual evaluation. The digitized areas will be compared with results from the prior monitoring period. In addition, a sampling of publicly or privately allowed field assessment will occur in predetermined locations to confirm accuracy. Areas of decreased riparian vegetation will be identified, and staff will calculate the decrease/increase in vegetation coverage within the riparian corridor and quantify an amount of

² Development or redevelopment defined by ODEQ from Benton County Floodplain Development Permit: 'structural (new addition, remodel, and demolition) permits and non-structural projects related to grading, excavation, and fill work; construction of fences and retaining walls; stream restoration and rehabilitation work'.

change per stream mile. Areas of apparent vegetation removal will be further analyzed to attempt to determine cause and any mitigating factors (e.g., removal of non-native vegetation; removal of hazard trees; replanting). Benton County will also attempt to identify areas of vegetation enhancement and areas of change (e.g., trees replaced by shrubs or grasses/forbs) where possible.

3. **Program Trends and Status Report (5-year reporting schedule):** After five years of non-regulatory program implementation, Benton County will compile and review the annual changes and analyze for trends. The County will prepare a status report to DEQ. Staff and will review most recent LiDAR (if available) and aerial imagery monitoring to compare the change from the baseline (year 2013 condition) to the riparian corridor conditions in year 5 (2018). The report will also identify locations of riparian vegetation removal. Best available data will be used for each program status report.

4. **Thresholds and Triggers:** If the Five-Year study indicates a decline in riparian vegetation of 20% or greater relative to the baseline, Benton County will initiate the public hearing process for adoption of a regulatory riparian protection program similar to the draft contained in **Attachment E**. If the report identifies other trends or changes, which may or may not be quantifiable, and which are concerning to Benton County or DEQ, Benton County will consult with DEQ regarding potential modifications to the program.

Additionally, if annual monitoring indicates significant decline in riparian vegetation (greater than 20% vegetation removal across the study area or near-complete removal at a single parcel level), Benton County will take immediate action to encourage voluntary enhancement in locations where extensive removal occurred and track whether that vegetation enhancement is occurring.

Budget & Financial Assurance

Deliverable	Estimated Staff Time (hours)	Budgeted Cost
Baseline LiDAR Vegetation Analysis	10 (project staff)	\$520
Annual Digitization of Priority Riparian Corridor Vegetation	120 (combined intern and project staff)	\$2,040
5-Year Program Trends and Status Report	100 hour (project staff)	\$5,200

These estimated expenditure amounts constitute less than 1% of the Benton County Planning Division’s budget and are therefore quite manageable. If the proposed non-regulatory program is approved by the Benton County Board of Commissioners, staff will request that part of the Board’s action be to provide DEQ with assurance of the financial commitment to complete this work.

Photopoint Analysis

We evaluated and considered the potential role of establishing photopoints at specific sites. Photopoints would enable site-specific tracking of modifications over time. However, quantifying results of photopoint analysis would be difficult or impossible. The goal of this monitoring program is not to identify site-specific impacts in order to take action; the goal is to evaluate the change across the riparian landscape. Having detailed documentation at a few sites via photopoints does not appear to assist with this goal. Moreover, it will likely be viewed as invasive by property owners. For these reasons, Benton County is not proposing photopoint analysis, but may use photos as part of the ground-truthing described in Section 2 of the Methodology.

Outreach and Education

The Benton County Riparian and Wetlands Advisory Group developed a brochure with review and input from Oregon DEQ. The brochure was partially funded by the Oregon American Fisheries Society Chapter, and will be printed on 11x17 full color copies (500 count). Total cost for brochure development is over \$500 and printing will be completed by mid-October and the current draft can be downloaded and reviewed at:

<http://www.co.benton.or.us/cd/riparian/resources.php>

Conclusion

The proposed monitoring program provides a process for Benton County to meet anti-degradation and reasonable assurance requirements of the Oregon Administrative Rules for Total Maximum Daily Load through a non-regulatory program to assess, monitor, and encourage voluntary protection/enhancement riparian corridors to meet State water quality requirements as a designated management agency.

We request DEQ confirmation that the proposed monitoring program, if implemented as described in this document, will be accepted by DEQ, and Benton County will be in compliance with TMDL requirements. If the proposed program is inadequate, please provide details regarding what changes or what additional information DEQ needs in order to make a positive determination. Benton County staff needs to know what will be accepted by DEQ before we finalize a proposal to the Benton County Planning Commission and ultimately the Board of Commissioners.

References Cited

Benton County Total Maximum Daily Load Implementation Plan (2008). Benton County, Oregon adopted TMDL implementation plan adopted and approved by ODEQ.

Ozawa, C.P. and Yeakley, J.A. 2007. Performance of Management Strategies in the Protection of Riparian Vegetation in Three Oregon Cities. *Journal of Environmental Planning and Management* 50: 803-822. [\(PDF\)](#)

Michael J. Schuft, Thomas J. Moser, P.J. Wigington, Jr., Don L. Stevens, Jr., Lynne S. McAllister, Shannen S. Chapman, and Ted L. Ernst. Development of Landscape Metrics for Characterizing Riparian-Stream Networks

http://asprs.org/a/publications/pers/99journal/october/1999_oct_1157-1167.pdf

Oregon Department of Environmental Quality, Antidegradation Policy Internal Management Directive: <http://www.deq.state.or.us/wq/pubs/imds/antideg.pdf>

Oregon Department of Environmental Quality—Water Quality Division Staff (pers. comms. with Chris Bayham, Zach Loboy, Ryan Michie).

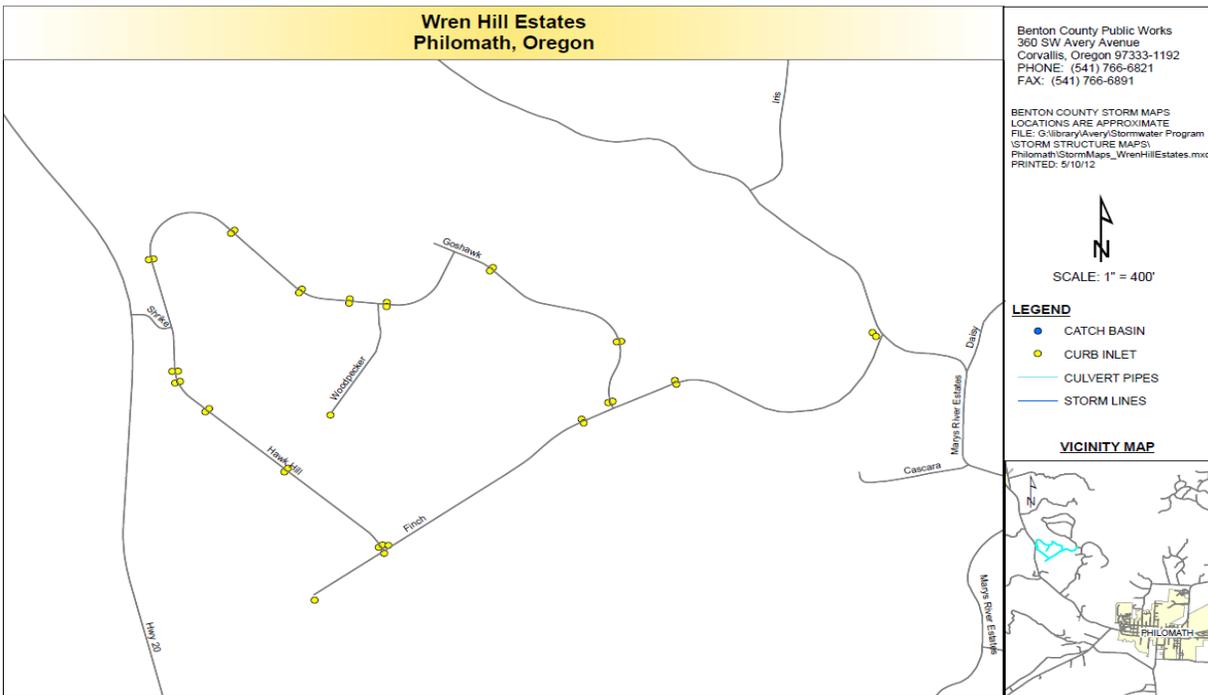
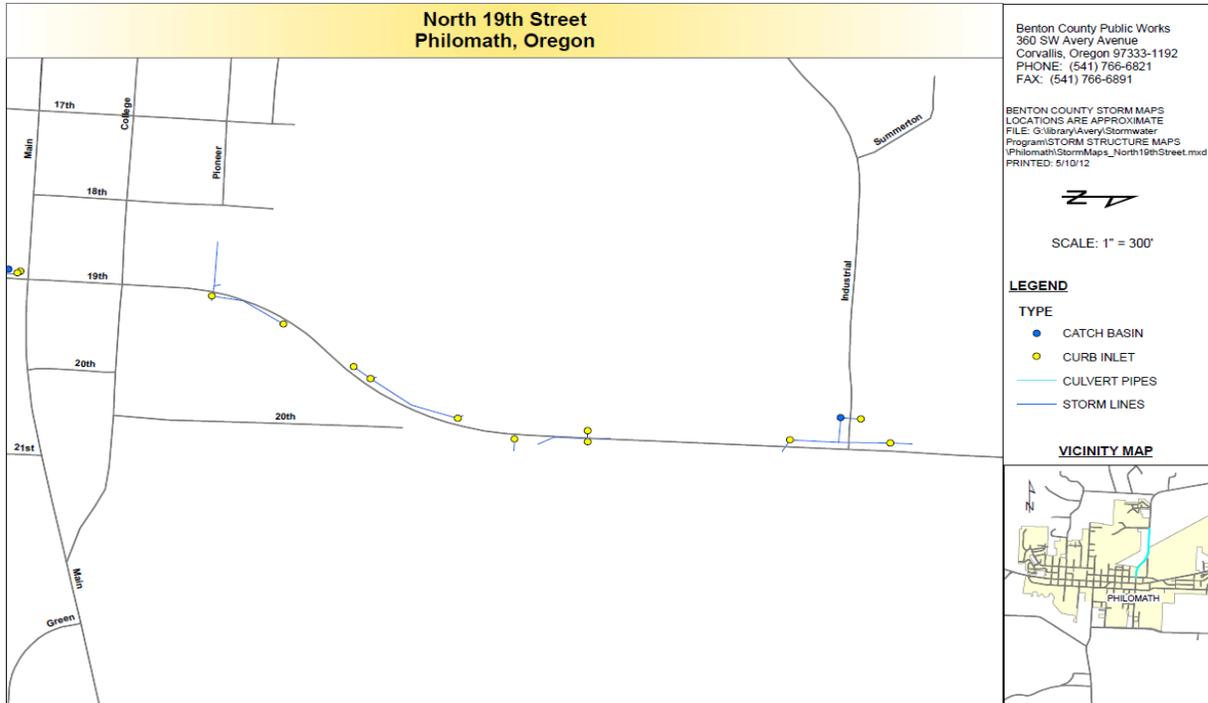
Update: Benton County Voluntary Program for Riparian Corridors

As of September 2014, the following major program accomplishments have occurred:

- Benton County partnered with OSU School of Biological and Ecological Engineering to develop and test the Riparian Monitoring Protocol to track vegetation conditions within priority riparian corridors;
- Student intern completed testing of monitoring protocol for 50 randomly selected sites and confirmed accuracy and sensitivity of monitoring protocol to inform Benton County and ODEQ on the progress of the voluntary program;
- Project Coordinator complied all applicable and approved building permits and land use applications within priority riparian corridors and began implementing monitoring protocol using 2011 aerial imagery and 2009/2011 LiDAR imagery to determine vegetation conditions;
- Benton County GIS will be acquiring 2014 1 ft. aerial imagery for all of Benton County and utilize the new imagery during the winter of 2015 to determine riparian vegetation condition changes (2011 to 2014) for approved permit and land use applications. All documented changes in riparian vegetation condition will be provided to ODEQ and used by Benton County to inform voluntary program work objectives.

Section 8 Stormwater Inlet/Catch Basin Maintenance

Benton County partnered with the City of Philomath to complete maintenance on 70 catch basins within the City of Philomath Urban Growth Boundary and surrounding rural communities with storm drainage and catch basins. All mapped catch basins within the Philomath area were maintained and all records of maintenance recorded, adhering to City of Philomath maintenance requirements. This will occur annually then bi-annually or as needed.



Section 9 Benton County Spill Prevention Control and Counter Measures (SPCC)

The following is the introduction and table of contents for the Benton County SPCC, providing the pollution prevention and mitigation in the event of a spill/discharge within Benton County owned facilities and property. The full SPCC report is 63 pages, and is available upon request.

Benton County Public Works Department
360 SW Avery Avenue
Corvallis, OR 97333

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

I. GENERAL FACILITY INFORMATION

- A. Department provides and maintains transportation infrastructure within Benton County; provides and maintains water treatment facilities for certain service districts within the County; provides and maintains the County motor pool; provides and maintains the County facilities utilized in the operation of the County Government
- B. Major types of chemical substances on site (see Appendix 1 for reportable quantities in the event of a spill)
 - 1. gasoline
 - 2. diesel
 - 3. variety of asphalt products
 - 4. paint (traffic, building, and aerosols)
 - 5. solvents
 - 6. herbicides
 - 7. automotive fluids (oils, grease, antifreeze, etc.)

II. CHEMICAL SPILLS

- A. Training
 - 1. in all spill situations the number one priority is protection of life and health safety. BCPW employees are not trained as hazardous materials emergency response crews. They will have training to allow them to respond to incipient spills at the work site. Incipient spills are defined as those "just beginning to exist or to come to notice"
 - a. employees will take only appropriate defensive actions in the event of a spill

- b. defensive actions will be taken only if they can be done so in a safe manner and as long as these actions can be performed without the need for any Level D personal protective equipment, i.e. gloves, hard hats, eye protection, etc.
 - c. defensive actions can be such things as putting a lid on a container that has been knocked over, closing a valve to stop a spill, containment, covering a storm drain, or diking to prevent the spread of a material
 - 2. all employees will be given Hazard Communication training to familiarize them with the hazards associated with chemicals they will use in the performance of their jobs, how to use MSDS, to recognize the presence of chemical hazards, and to understand the proper level of action should there be a spill
 - 3. all temporary and permanent non-office employees will receive First Responder Awareness Level training with an annual refresher class
 - 4. since the road crew and equipment shop personnel will periodically be required to clean up spills involving petroleum based products (liquid asphalt, gasoline, diesel, brake fluid, antifreeze and various kinds of oils) they will receive additional training. This will include proper cleanup techniques to use and to recognize and respond to a situation that has exceeded their training level. There will be an annual refresher class on cleanup and disposal methods
 - 5. Safety/Environmental Officer and certain key Managers and employees will be required to have the 40-hour Hazardous Waste Operations and Emergency Response training. An annual 8-hour refresher class will also be required
- B. Spills on-site at public works compound (follow reporting requirements in Appendix 2 for all spills, including those on the county road system)
 - 1. storm drains in PW yard
 - a. prevent spill material from entering any storm drain (see attached map for locations of all storm drains in the PW compound)
 - b. build a dike around storm drain with 1/4-10 material (see PW compound map for location)
 - c. use Plug-N-Seal to cover and seal storm drain grates
 - (1) stored at both Spill Stations
 - 2. minor spills on floors or ground (examples of minor spills are given in Appendix 3)
 - a. follow appropriate steps listed in Appendix 4
 - b. if unfamiliar with proper use of material check with Supervisor and MSDS for proper handling of the substance

Benton County Public Outreach & Education

Fall Forum 2013 completed October 10, 2013



Roof To Rivers

Thursday, October 10, 2013 at 7:00 PM
Corvallis Public Library
645 NW Monroe Avenue

featuring:

2012 Benton County Sustainability Award
2013 Benton County Environmental Award

Healthy Streets & Stormwater Systems
Iris Benson, City of Corvallis

Biochar Water Filtration Products
John Miedema

Benton County Stormwater Management
TBD
Benton County Public Works

This presentation is sponsored by the Benton County Environmental Issues Advisory Committee. All Benton County residents are invited to attend. Those in attendance will be invited to express their interests in environmental issues affecting Benton County. For further information you may contact Laurie Starha at 541-766-6002.



*Benton County
Stormwater Program*

*Benton County
Stormwater Program*

Roofs to Rivers

**Benton County Fall Forum
2013**



*Benton County
Stormwater Program*

*Benton County
Stormwater Program*

Overview

- ❖ Quick Background
- ❖ Our Local Stormwater
- ❖ The Highlights
- ❖ We all have a role
- ❖ Questions

Completed Employee Staff Training with Public Works and Road Crew (4/4/13)



Best Management Practices (BMPs)



Are you familiar with current water quality protection BMPs?

What are some of the BMPs you use in your work to protect water quality?

What are some improvements that can be made to protect water quality BMPs?



Reporting 'Illicit Discharges'



Date	Complaint/Impact	Solution
2/5/10	Sweeping into water way	County contracted with Albany for vacor-sweeping
6/1/10	Driving over septic drain field	EH contacted neighbor ; stopped driving over drain field
10/29/10	Sheen in water way	EH worked to determine issue was from recent plumbing work
10/1/12	Allied Waste oil spill	Allied Cleaned up spill prior to rain event
1/28/13	Discharging sewage to creek	EH required disconnection
3/25/13	Hydraulic fluid containers near waterway	Determined property location was active/permitted timber harvest; ODF determined minor spill occurred.

REPORT ALL POTENTIAL WATER QUALITY IMPACTS ON/OFF COUNTY PROPERTY & COMPLAINTS TO PUBLIC WORKS ADMINISTRATIVE STAFF FOR TRACKING & ENSURING SUCCESSFUL SOLUTIONS