

Clark County NPDES Stormwater Update

FREQUENTLY ASKED QUESTIONS



Fall 2013

BACKGROUND

What is stormwater runoff?

Stormwater is rainfall (or melted snow) that runs off of buildings, pavement and other surfaces that do not allow the water to soak into the ground. Runoff picks up pollutants like dirt, oil, pesticides, fertilizers and trash that is carried to our creeks, streams, wetlands and rivers.

Stormwater can degrade streams by increasing erosion and by carrying pollutants that can harm fish habitat. Other problems related to poor stormwater management include flooding, decreased groundwater recharge and decreased water to streams during dry months (called base flow).

What is stormwater management?

Stormwater management is a broad set of techniques used to control and treat stormwater before it reaches groundwater, streams, and lakes and to control stream erosion. Good stormwater management helps to prevent pollutants and sediment from harming local water bodies and wildlife. Stormwater management can be as simple as dispersing stormwater over an area of native vegetation, or as complex as constructing an underground vault for detention and water quality treatment.

Why does Clark County manage stormwater?

Clark County is responsible for building and maintaining the public drainage system that carries stormwater runoff from roads and developed areas to the natural waterways and groundwater throughout unincorporated Clark County. This system includes pipes, catch basins, storm water ponds, roadside ditches and related infrastructure. The county is regulated by the State of Washington's Department of Ecology through the National Pollution Discharge Elimination Permit (NPDES) as part of the federal Clean Water Act.

A new permit went into effect **August 1, 2013** and will be in place for five years. There are many parts to the new permit, including monitoring, capital projects, inspections, mapping and inventory, operations and maintenance. A major portion of the permit includes updating our municipal code and stormwater design manual, as well as the maintenance and operations manual. The updates are to be completed and ready to be adopted for use by **June 2015**.

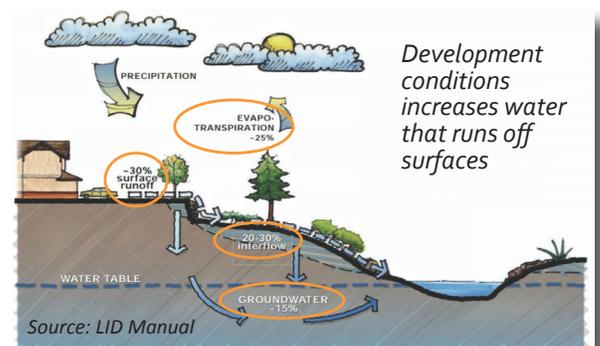
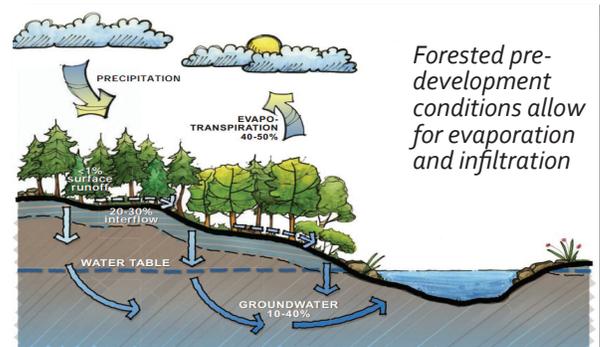
What is the stormwater ordinance, Clark Co. Code 40.385?

Requirements for construction projects that protect surface and groundwater for drinking water supply, recreation, fishing and other beneficial uses through the application of best management practices (BMPs) for stormwater management and erosion control.

Why does the county regulate activities on private properties?

Stormwater from both public and privately owned land runs into surface water bodies or groundwater, often through the county storm sewer system. The county's goal is to protect surface water and groundwater resources while meeting federal and state legal requirements to control pollutants and manage flow volumes in the stormwater runoff.

HOW STORMWATER RUNOFF WORKS



Stormwater regulations protect stormwater runoff from impacting our creeks, streams and rivers

BUSINESS RELATED QUESTIONS

What is the difference between the county's water quality ordinance and the stormwater ordinance?

The stormwater ordinance regulates new development, redevelopment and land-disturbing activities. The water quality ordinance regulates discharges from existing land uses that cause water quality concerns

Does the County have a tools to help local businesses understand and comply with stormwater regulations?

Yes. The County has a several of programs to assist local businesses with their stormwater management.

- **Business Technical Assistance** program provides support to local businesses to ensure their stormwater system is functioning properly. Staff will review the *Stormwater Facility Maintenance Manual* (2009) with local business owners to address their facility's needs.
- **Green Business** program provides web-based assessments, resources, and assistance to businesses seeking a structured approach to implementing green initiatives and measuring results. In addition technical assistants are available to visit businesses, perform resource audits and recommend improvements.
- **Stormwater Partners of SW Washington** provides an overview of types of facilities you must maintain, checklists that show how to maintain them and fix problems, how to recognize facilities in your development, whom to contact with questions and other resources.

I am a developer of small projects including homes. Will the new rules affect my business?

Yes. The new requirements will require the use of Low Impact Development (LID) techniques that manage stormwater on the project site and minimize runoff. The proper planning and design of LID will require a thorough review and analysis of your development site to select the appropriate features for your specific site conditions. This may mean some more up-front work for your planning and design team. Having a thorough understanding of your site will save you time and money down the road by developing stormwater management that works with your site's native soils and topographic features.

Is there information available to assist in how to maintain our stormwater facilities? Maintenance costs are a big concern.

Yes. As with any capital project regularly scheduled operations and maintenance can save big repair bills down the road. The Stormwater Partners of SW Washington have a series of checklists based on your type of facility, to help you understand how to care for your facility. If you need assistance, call your local jurisdiction for more information.

Vortex Sedimentation Vault

Drainage System Feature	Potential Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed Or Not Needed	<input checked="" type="checkbox"/>
General	Sediment Accumulation	Sediment depth is within 12 to 18 inches of dry weather water surface elevation.	Accumulated sediment should be removed.	<input type="checkbox"/>
	Trash and Debris Accumulation	Trash and debris accumulated in vault, or pipe inlet/outlet, floatables and non-floatables.	Trash and debris removed from vault, and inlet/outlet piping.	<input type="checkbox"/>
	Oil Accumulation	Oil accumulation that exceeds one inch at the water surface.	Oil is extracted from vault using vacuoring methods. Coalescing plates are cleaned by thoroughly rinsing and flushing. Should be no visible oil depth on water.	<input type="checkbox"/>
	Damaged Pipes	Inlet or outlet piping damaged or broken and in need of repair.	Pipe repaired and or replaced.	<input type="checkbox"/>
	Baffles	Baffles corroding, cracking, warping and/or showing signs of failure as determined by maintenance/inspection person.	Baffles repaired or replaced to specifications.	<input type="checkbox"/>
	Vault Structure Damage - Includes Cracks in Walls and Bottom, Damage to Frame and/or Top Slab	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through the cracks, or maintenance/inspection personnel determine that the vault is not structurally sound.	Vault replaced or repairs made so that vault meets design specifications and is structurally sound.	<input type="checkbox"/>
		Cracks wider than 1/2 inch at the joint of any inlet/outlet pipe or evidence of soil particles entering through the cracks.	Vault repaired so that no cracks exist wider than 1/4 inch at the joint of the inlet/outlet pipe.	<input type="checkbox"/>

Source: Clark County Stormwater Facility Maintenance Manual

RESIDENTIAL RELATED QUESTIONS

Will the new rules or program updates affect my residential project?

Yes, if your project meets the minimum requirements for land disturbance or adding new impervious surface to your site. Nearly all construction projects will be required to meet erosion control requirements to minimize polluted stormwater runoff from leaving your construction site. Visit the County's Community Development web page for updated requirements based on your project type. **Building Permits.**

What is a BMP and how could they be used on my property?

BMPs are "Best Management Practices." In the state of Washington, BMPs are activities, prohibitions of practices, maintenance procedures and structural practices that prevent or reduce the risk of pollution of stormwater. BMPs may also reduce the flow volume of water leaving a site, which could negatively impact a creek, stream, wetland or river. BMPs may be used individually or in combination with other features to effectively treat the runoff, depending on site conditions.

According to the new regulations, I need to retain "native vegetation." What is the definition of native vegetation?

"Native vegetation" are plant species, other than noxious weeds, that are indigenous to the coastal region of the Pacific Northwest and which reasonable could have been expected to naturally occur on the site. Examples include trees such as Douglas fir, Western hemlock, Western red cedar, alder, big-leaf maple, and vine maple. Shrub species would include willow, elderberry, salmonberry, and salal. Groundcovers would include sword fern, foam flower and fireweed.

Will the new rules do away with requiring the big fenced off ponds in our neighborhoods?

In many cases, ponds will be used less frequently as stormwater runoff needs to be handled on site, where the rain falls. This means that many new homes will have Low Impact Development features built into the lots. These features could include pervious pavements (for sidewalks and/or driveways), rain gardens, dispersion features from the roof downspouts, and similar systems. Green roofs and rainwater harvesting are other techniques that have not been used extensively in Clark County but are options to consider if they are right for your site.

What is LID?

LID is Low Impact Development. LID is an approach to land development that works with the natural landscape to manage and minimize stormwater runoff. LID preserves and recreates natural landscape features and minimizes impervious surfaces. It treats stormwater as a resource, not as a waste product. There are a variety of LID features that can be used in Clark County (refer to the following page for more information). Visit our partner website for more information on LID at www.stormwaterpartners.com/LID

LOW IMPACT DEVELOPMENT in Clark County

Tour guide of LID in Clark county
and more information at www.stormwaterpartners.com

LID FEATURE	System Functions	Descriptions What are the elements of these features and how they can be applied in our community	Pros / Cons
Site Planning / Design 	Minimize Impact	Provides a thorough review of site conditions to ensure the most appropriate design approach is applied for stormwater management. Analysis includes vegetation, soils, topography, features, erosion areas, etc.	<ul style="list-style-type: none"> • Comprehensive review • Identifies opportunities / conflicts early • More time/costs up front
Permeable Pavers 	Infiltration Storage	Modular pavement system that provides gaps between pavers to allow water to infiltrate. Type of paver depends on use, such as parking, pedestrian, etc.	<ul style="list-style-type: none"> • Reusable products • Very durable • Available in many styles • Higher up front costs • Labor intensive
Pervious Concrete 	Infiltration Storage	A rigid pavement type that eliminates fine materials to allow gaps between the aggregate. Can be used in roadways, parking lots, driveways, sidewalks, plazas, etc. Best use in roads below 35 mph.	<ul style="list-style-type: none"> • Drains well • Requires regular maintenance • Can become slippery • May be bumpy for wheeled vehicles (walkers)
Porous Asphalt 	Infiltration Storage	A semi-rigid pavement type that eliminates fine materials to allow gaps between the aggregate. Performs well in walkways, driveways, parking lots and low speed roads.	<ul style="list-style-type: none"> • Requires regular maintenance to prevent clogging • Requires experienced installer
Vegetated Roof 	Filtration Storage Evapo-transpiration	Layers of specialized soils on liners planted with low-growing plant materials that can handle water inundation and dry periods. Can be applied to roofs, tops of kiosks, etc.	<ul style="list-style-type: none"> • Requires specific design • Requires experienced installer • Designs vary, can be highly artistic
Bioretention 	Storage Infiltration Filtration Evapo-transpiration	Engineered features that include shallow depressions with specific soils and plants to filter water and allow it to soak into the ground. Can be swales, cells & planters.	<ul style="list-style-type: none"> • Requires an engineer • Can be sized for most sites/conditions • Plantings can vary to meet aesthetic needs
Rain Gardens 	Storage Infiltration Filtration Evapo-transpiration	Small depressions that capture stormwater runoff that allows water to soak in the ground. Does not require an engineer. Design options vary, including variety of plant materials.	<ul style="list-style-type: none"> • Can be sized for most sites/conditions • Plantings can vary to meet aesthetic needs • Low maintenance
Rainwater Harvesting 	Storage / Reuse	A system to collect and store rainfall for later use. These can slow and reduce runoff. Systems vary based on size needed and intended use, such as cisterns, tanks or rain barrels. Use could include irrigation or washwater.	<ul style="list-style-type: none"> • Provides a water source • Requires engineering • High initial costs • Requires some on-going maintenance
Native Plantings 	Filtration Evapo-transpiration	Native plants are some of the most cost-effective tools for managing stormwater. Mature trees can intercept up to 40% of a rainstorm. Plantings can include trees, shrubs and ground covers.	<ul style="list-style-type: none"> • Plants must be carefully chosen to fit site conditions and site uses • Use can vary from forested or artistic look • Requires establishment

Potentially affected municipal code:

- 13.26A Water Quality
- 14. Building code
- 14.7 Grading
- 15.13 Access
- 40.250 Overlay districts
- 40.260 Special uses
- 40.300 Design standards
- 40.320 Landscaping
- 40.340 Parking
- 40.350 Road Standards
- 40.385 Stormwater
- 40.400 Critical Areas
- 40.520 Permits and Reviews (site development)
- 40.6 Development impact fees
- County Comprehensive Growth Management Plan



Photo by: Gary Piazza

As part of the County's permit with the state, we are required to provide opportunities for the public to participate in the updates to the County municipal code and design manuals that guide how future development will look in our community. Clark County values the perspectives, expertise and interest of our citizens to ensure that any code and manual updates provide efficient and flexible tools to guide development in our community while protecting the health of our streams and rivers.

Who is participating and how can I be involved?

There are several opportunities to learn more about the potential updates, including all public meetings:

	2013									2014					
	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Technical Advisory Committee Local stormwater experts and staff			■		■		■		■		■		■		■
Stakeholder Advisory Committee Local community leaders and stakeholders					■		■		■		■		■		
Public Forums / Outreach General public and local community									■		■				
Elected & Appointed Boards and Commissions BOCC, Planning Commission, DEAB, & Clean Water Commission															

Media updates via web page, press release, e-mail updates, etc. as necessary

On regular meeting agendas as required

DRAFT updates due to Ecology June 30, 2014

Clark County Environmental Services
 P.O. Box 9810
 Vancouver, WA 98660

(360) 397-2121
www.clark.wa.gov/environment

Need more information?

Visit the Stormwater Ordinance Update website at:
www.clark.wa.gov/stormwater