

# Navigating Stormwater for Your Business

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Economic & Workforce Solutions

# Navigating Stormwater for Your Business

Today's webinar covers the following:

- What you need to know about stormwater and how it affects your business
- Stormwater permit compliance pathways/resources
- Stormwater Policy, current and future legislative and regulatory efforts
- Newly released training video for your Stormwater Pollution Prevention Plan (SWPPP)
- Department of Ecology on stormwater

# Navigating Stormwater for Your Business

## AWB Speakers

Grant Gilmore – AWB Institute

Grant Nelson – AWB Government Affairs

## Special Guests

Doug Howie – Department of Ecology

John Lenth – Herrera Environmental Consultants



# Navigating Stormwater for Your Business

## Poll

- ❖ Do you currently hold a stormwater permit for your business?
  - A. Yes
  - B. No
- ❖ What type of stormwater permit applies to your business?
  - A. Industrial
  - B. Construction
  - C. Other
  - D. None
- ❖ Have you had difficulties complying to your stormwater permit?
  - A. Yes
  - B. No

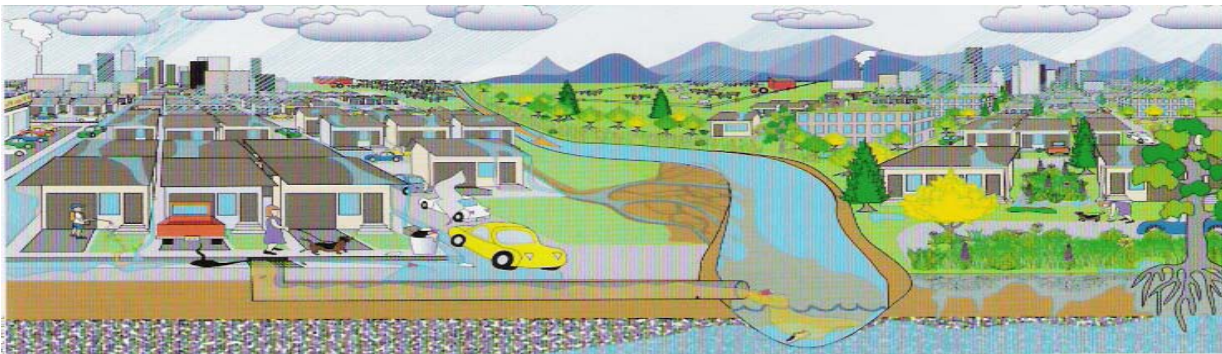
# Navigating Stormwater for Your Business

- Stormwater facts – Why is it a concern?
- Purpose of the stormwater permit – Who does it serve?
- Assessing your stormwater permit needs – Who qualifies?
- Available resources – Where should you turn for assistance?
- Lawsuits – A growing issue

# What is Stormwater Pollution?

Stormwater runoff pollution is often called non-point source pollution. Rain water that becomes polluted once earthbound, occurs from many sources:

Driveways, streets, parking lots, construction sites, agricultural fields, lawns, pet wastes, failing sewer systems, leaking septic tanks, and illicit discharges such as dumping waste motor oil to name a few.

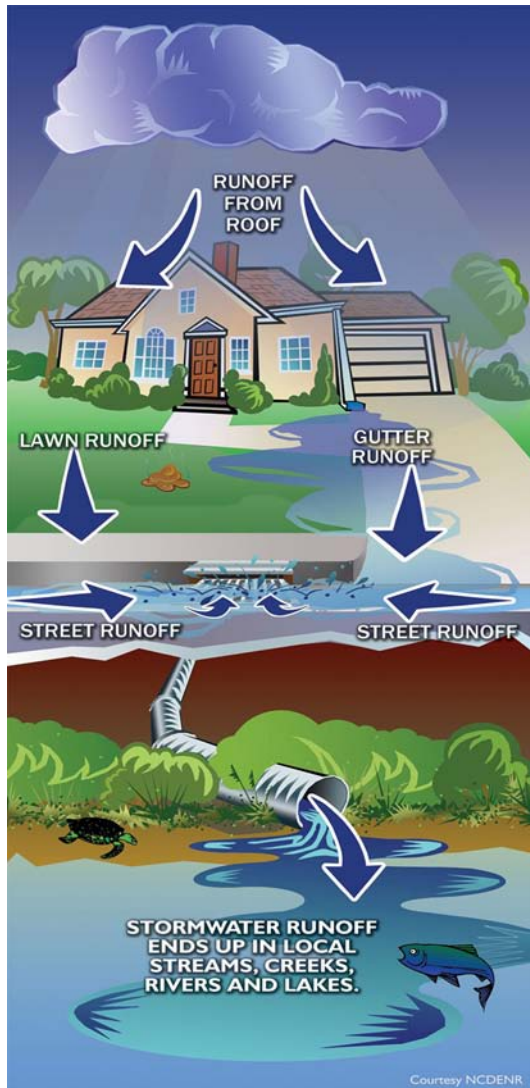


# Stormwater Runoff

**CAN CONTRIBUTE TO THIS:**



# What is Stormwater Pollution?



Pollutants of concern include but are not limited to:

- Oils, grease, sediment, fertilizers, pesticides, herbicides, bacteria, debris and litter, etc.

Stormwater runoff rarely flows to a treatment plant; in many cases it flows directly into our streams, lakes & oceans

# Stormwater Pollution Facts

➤ Effective ways to reduce stormwater pollution is to prevent it from coming into contact with pollutants, the following describe these methods:

- Source control - chemical substitution, street sweeping, bagging garbage, and checking mobile equipment for leaks
- Structural control - This is placing covers over potential pollutant sources to prevent stormwater coming in contact. Roofs, tarps on soil piles, dumpster lids, painting structures and non-polluting roof coatings are examples
- Treatment - Use of filters, ponds, swales, and chemical treatment systems are examples. By far most costly and least effective.



# Stormwater Pollution Facts



- In many cases storm drains and ditches are **DIFFERENT** than sewers. They are **NOT CONNECTED** to a treatment plant.



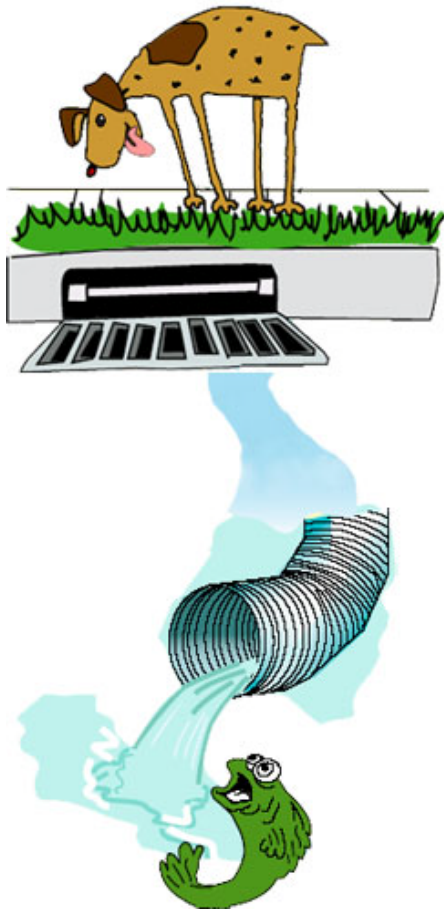
- Oil and antifreeze from leaking cars pollutes. When it rains, water runs over the impervious surface and picks up oil, antifreeze, and other pollutants and carries them to our streams and bays.



- Too much soil in runoff can pollute. Soil from erosion carries pollutants reduces sunlight and smothers fish eggs in spawning gravel

# Stormwater Pollution Facts

- Boat and engine maintenance can pollute. Chemicals, oils, and cleaners can make their way into the water
- Additional residential pollutants pet waste, car washing, pesticides and fertilizers
- The things we do everyday significantly contribute to impacts to our streams, lakes and wetlands



# Effects of Stormwater Pollution

## ➤ Effects of Stormwater on Plants and Animals

- ✓ Stormwater pollution can adversely affect plants and animals such as interfere with reproduction, contribute to disease, reduce food supply and sunlight, cause cancers and mutations and outright kill.



- ✓ When green waste decays in water it uses up oxygen, taking vital oxygen away from plants, fish and other aquatic animals.
- ✓ Soil makes waterways cloudy and can suffocate fish by clogging their gills.
- ✓ Litter clogs waterways and causes toxicity as it breaks down. It affects the health of birds, fish and other animals and plants that live in the waterways.



# Effects of Stormwater Pollution



## ➤ Effects of Stormwater on Humans

- ✓ Bacteria and chemical pollutants in runoff pose a health risk to humans. It can be dangerous to swim immediately after rain.
- ✓ Pollution also destroys the visual amenity of our waterways.
- ✓ Flooding
- ✓ Commercial and sports fisheries
- ✓ Reduced groundwater recharge (drinking water)

# Stormwater Prevention

## Stormwater - Who's responsible?



Everyone has a part to play. Reducing the pollution depends on every person preventing harmful natural or chemical substances entering the drains.



Local municipalities are responsible for controlling and maintaining stormwater systems. Local municipalities and rate payers have to foot the bill for cleaning out stormwater facilities, and it's much more cost-effective to stop the problem at the top of the pipe than further downstream.



# Stormwater Permit History

- 1990, the U.S. Environmental Protection Agency (EPA) adopted federal regulations requiring cities with more than 100,000 population to obtain a “Phase I” stormwater permit. Phase I regulations also addressed 11 categories of “industrial activities” including construction that disturbs more than five (5) acres of land
- 1999, EPA adopted “Phase II” stormwater regulations that required smaller cities, mostly having “Urbanized Area,” along with other cities designated by the permitting authority, to obtain a Phase II stormwater permit. The 1999 regulations also addressed construction between one (1) and five (5) acres



# Industrial Stormwater Permit Holder

- A few examples of activities that take place at industrial facilities exposed to stormwater could range from:
  - ✓ Material handling
  - ✓ Storage
  - ✓ Vehicle maintenance
  - ✓ Production practices
- As runoff from rain or snowmelt comes into contact with these activities, it can pick up pollutants and transport them to a nearby storm sewer system or directly to a river, lake, or coastal water



# Industrial Stormwater Permit Holders Categories

- **Category One** - Facilities subject to federal stormwater effluent discharge standards in 40 CFR Parts 405-471
- **Category Two** - **Heavy manufacturing** (for example, paper mills, chemical plants, petroleum refineries, and steel mills and foundries)
- **Category Three** - **Coal and mineral mining** and **oil and gas exploration** and **processing**
- **Category Four** - **Hazardous waste treatment, storage, or disposal facilities**
- **Category Five** - **Landfills, land application sites, and open dumps with industrial wastes**



# Industrial Stormwater Permit Holders

- **Category Six** - Metal scrapyards, salvage yards, automobile junkyards, and battery reclaimers
- **Category Seven** - Steam electric power generating plants
- **Category Eight** - Transportation facilities that have vehicle maintenance, equipment cleaning, or airport deicing operations
- **Category Nine** - Treatment works treating domestic sewage with a design flow of 1 million gallons a day or more
- **Category Eleven** - Light manufacturing (For example, food processing, printing and publishing, electronic and other electrical equipment manufacturing, and public warehousing and storage)



# Construction Stormwater Permit Holder

- Stormwater runoff from construction activities can have a significant impact on water quality. As stormwater flows over a construction site, it can pick up pollutants like sediment, debris, and chemicals and transport these to a nearby storm sewer system or directly to a river, lake, or coastal water.
- Sedimentation can destroy aquatic habitat, and high volumes of runoff can cause stream bank erosion. Debris can clog waterways and potentially reach the ocean where it can kill marine wildlife and impact habitat.
- Turbidity, oil runoff & high levels of PH are three types of outcomes from stormwater pollutants



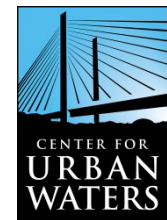
# Washington Stormwater Center

## Mission

*To protect Washington's waters through improvements in stormwater management, serving as the central resource in Washington for integrated NPDES education, permit technical assistance, stormwater management and new technology research, development, and evaluation.*

## Vision

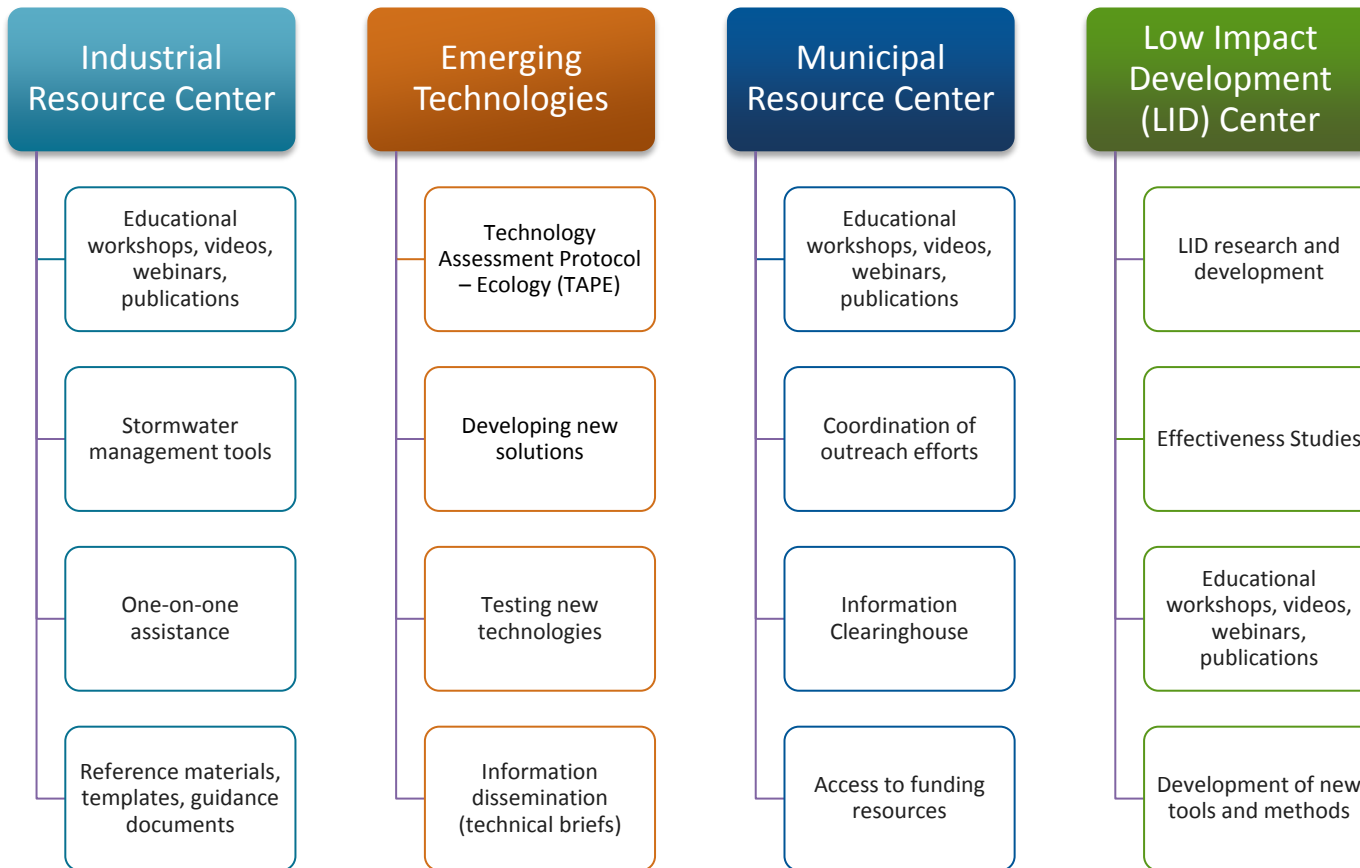
*The Washington Stormwater Center will be the preferred one-stop source of stormwater management support systems, knowledge, and resource referrals for all businesses and governmental agencies in Washington State.*



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# Washington Stormwater Center



# Washington Stormwater Center Services Management Assistance

## ➤ Stormwater Management Assistance

- ✓ Answering questions about permit requirements
- ✓ Providing an non-regulatory connection to help
- ✓ Coordinating specific questions with appropriate Ecology Staff
- ✓ Offering a neutral setting for permittee peer communication

## ➤ Training

## ➤ Emerging Technologies

## ➤ Research

## ➤ Information clearinghouse



# Washington Stormwater Center Services Training

- Stormwater Management Assistance
- Training
  - ✓ Developing videos and guidance materials for permit requirements
  - ✓ Training on stormwater management techniques and practices
  - ✓ Breaking down permit requirements into manageable pieces
- Emerging Technologies
- Research
- Information clearinghouse



# Washington Stormwater Center Emerging Technologies



- Stormwater Management Assistance
- Training
- Emerging Technologies
  - ✓ Assisting Ecology with administration of TAPE program
  - ✓ Analyzing and disseminating in-field research data
  - ✓ Coordinating efforts for a nationally-recognized review system
- Research
- Information clearinghouse

# Washington Stormwater Center Research



- Stormwater Management Assistance
- Training
- Emerging Technologies
- Research
  - ✓ Developing Low Impact Development standards and protocols
  - ✓ Analyzing performance of LID installations
  - ✓ Developing innovative and cost effective technical solutions
  - ✓ Conducting pilot projects to test solutions
- Information clearinghouse

# Washington Stormwater Center Information Clearing House

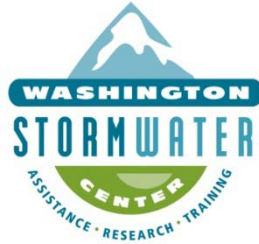
- Stormwater Management Assistance
- Training
- Emerging Technologies
- Research
- Information clearinghouse
  - ✓ Serving as outreach and clearinghouse center for stormwater technologies, training, and literature
  - ✓ Publishing an all-inclusive stormwater events calendar
  - ✓ Sharing stormwater news from throughout the region



# Your Stormwater Resources

- For stormwater Policy updates contact Government Affairs Director Grant Nelson at Association of Washington Business [grantn@awb.org](mailto:grantn@awb.org)
- For access too our states new online Stormwater resource go to [www.wastormwatercenter.org](http://www.wastormwatercenter.org)
- For additional information through the Department of Ecology regarding your stormwater permit go to [www.ecy.wa.gov/programs/wq/wqhome.html](http://www.ecy.wa.gov/programs/wq/wqhome.html)
- For additional information through the EPA regarding stormwater pollution go to [www.epa.gov/epa.gov/](http://www.epa.gov/epa.gov/)

# LID Workshop Details



## Low Impact Development for Western Washington

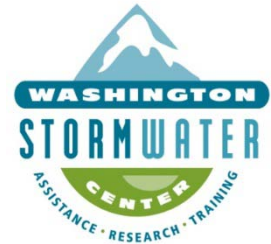
- WSU Puyallup Research and Extension Center
- Allmendinger Center (2606 W Pioneer, Puyallup, WA)
- May 23, 2011, 1:00-5:00pm

## Low Impact Development for Eastern Washington

- WSU Campus, Pullman, WA
- Smith Center for Undergraduate Education (CUE) Room 209
- June 3, 2011, 10:30am-3:30pm (Lunch break from 12:30-1:30pm)

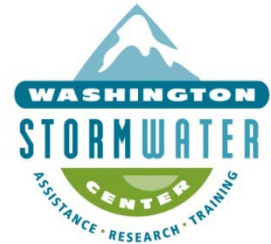
# Western WA LID Workshop Agenda

- What is low impact development (LID)?
- Regulatory drivers for LID
- LID site planning principles
- LID best management practices (BMPs)
  - Description of facilities
  - Capabilities (treatment and flow control)
  - Siting and design criteria (overview)
  - Construction and O&M costs
- Tools to implement LID requirements
  - Hydrologic modeling tools
  - Simplified sizing tools
  - O&M checklists



# Eastern WA LID Workshop Agenda

- **What is low impact development (LID)?**
- **Regulatory drivers for LID**
- **LID site planning principles**
- **LID best management practices (BMPs)**
  - Description of facilities
  - Capabilities (treatment and flow control)
  - Siting and design criteria (overview)
  - Construction and O&M costs
- **Implementing LID**
  - What types of LID can you find in Eastern Washington?
  - What types of LID work well in Eastern Washington?
  - What are the barriers to LID implementation?
  - What types of tools could be developed to reduce barriers to LID?
  - O&M checklists



# LID Workshop Registration

**Western Washington LID Workshop Registration:**

<https://events.r20.constantcontact.com/register/eventReg?oeidk=a07e3s2gp11bef50f80&oseq=>

**Eastern Washington LID Workshop Registration:**

<https://events.r20.constantcontact.com/register/eventReg?oeidk=a07e3s29zlofa190bb7&oseq=>

**Both Workshops Are Complimentary!**

Brought to you by:



# Third Party Lawsuits

- Primary “Notices of Intent” (NOI) Issues
  - ✓ Stormwater Pollution Prevention Plan (SWPPP)
  - ✓ Discharge Monitoring Reports (DMRs)
- How to Avoid Receiving a NOI
  - ✓ Annual reports (under new permit)
  - ✓ 303(d) effluent limits
  - ✓ Level one compliance
  - ✓ Waiver requirement for level two & three
  - ✓ Key action words

# Policy, Regulation & The Need For Collaboration

- SB 6415 – Industrial & Construction stormwater permits 2004
  - ✓ Adaptive management
  - ✓ Presumption of compliance
  - ✓ Appropriately derived numeric limits
  - ✓ Narrative standards
  
- HB 2222 – Establishing the Washington Stormwater Center 2009
  - ✓ History / Background
  - ✓ Main Objectives
  - ✓ Partners & Location

# Policy, Regulation & The Need For Collaboration

- HB 1806 Construction & Industrial Stormwater permits 2011
  - ✓ Reaffirm presumption of compliance
  - ✓ Adaptive management
  - ✓ Use of benchmarks
  - ✓ Science based permitting

# S-Series Stormwater Video

**Learn how to add pollutant sources to your site map**  
Industrial Stormwater General Permit, Special  
Requirement: S3B1g, pg. 14 of the ISWGP  
[http://www.youtube.com/watch?feature=player\\_embedded&v=InnAQ7W6cic#at=34](http://www.youtube.com/watch?feature=player_embedded&v=InnAQ7W6cic#at=34)



# Department of Ecology on Stormwater

## Stormwater General Permits & the WA State Business Community

Douglas Howie, P.E.



360-407-6444

[douglas.howie@ecy.wa.gov](mailto:douglas.howie@ecy.wa.gov)

# Department of Ecology on Stormwater Overview

- Permits are required by both state law and the Federal Clean Water Act
- Concepts from laws are vague and need to be formalized
- Significant litigation over IGSWP has created case law that adds specific permit conditions and formalizes the requirements

# Department of Ecology on Stormwater

## Why General Permit?

- Balance between establishing Individual permits and providing a general permit for many different uses that is fair to all
- General Permits are directed for low risk sites and are typically generic

# Department of Ecology on Stormwater Ecology General Permits

- **Industrial**
- **Construction**
- Municipal
  - Phase I
  - Phase II Western Washington
  - Phase II Eastern Washington
- Boat Yard
- Sand and Gravel



# Department of Ecology on Stormwater Industrial General Permit

- Issued October 21, 2009
- Effective January 1, 2010
- Expires January 1, 2015
- Covers Facilities engaged in industrial activities listed by SIC code in the Permit

Can obtain copy at:

<http://www.ecy.wa.gov/programs/wq/stormwater/industrial/index.html>



# Department of Ecology on Stormwater Permittee Requirements

- Stormwater Pollution Prevention Plan (SWPPP)
- Monthly Inspections
- Reporting and Record Keeping
- Annual Report
- Corrective Actions

# Department of Ecology on Stormwater On-Line Assistance to Permittees

- FAQs
- SWPPP Template (Word)
- Monthly Site Inspection Form
- Annual Report Form
- How to find a Laboratory
- Videos [www.wastormwatercenter.org](http://www.wastormwatercenter.org)
  - Look for the Stormwater Channel

# Department of Ecology on Stormwater Guidance Documents

- Vehicle and Metal Recyclers
- Developing a SWPPP
- How to Sample
- Others

# Department of Ecology on Stormwater Reporting and Record Keeping

- Must provide DMRs whether have runoff or not
- WebDMR preferred method
- Produce Annual Report (Due May 15)
  - Form available on-line

# Department of Ecology on Stormwater Corrective Actions

- Level 1 Operational Source Controls
- Level 2 Structural Source Controls
- Level 3 BMPs
- Information in SWMMWW, SWMMEW
- TAPE Program

# Department of Ecology on Stormwater Construction General Permit

- Issued December 1, 2010
- Effective Date January 1, 2011
- Expiration Date December 31, 2015
- Projects disturbing > 1 acre of land
- Local jurisdictions may require their own permit

Can obtain copy at:

<http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html>



# Department of Ecology on Stormwater Purpose

- Protect areas outside the construction area from pollutants primarily soils
- Protect stormwater treatment facilities within project site from damage (LID)

# Department of Ecology on Stormwater Permittee Requirements

- Stormwater Pollution Prevention Plan (SWPPP)
- Install BMPs
- Weekly Sampling and Reporting
- Manage and Maintain BMPs

# Department of Ecology on Stormwater On-Line Assistance to Permittees

- FAQs
- SWPPP Template (Word) and instructions
- Permit Application form
- Request for Chemical Treatment Form
- Videos [www.wastormwatercenter.org](http://www.wastormwatercenter.org)
  - Look for the Stormwater Channel

# Department of Ecology on Stormwater Guidance Documents

- How to meet Permit Requirements
- Developing a SWPPP
- Stormwater Monitoring Guidance
- Site Inspection Checklist
- CESCL Training
- CESF Training

# Department of Ecology on Stormwater Reporting and Record Keeping

- Must provide DMRs for sampling results
- WebDMR preferred method

# Department of Ecology on Stormwater BMPs

- Stormwater Management Manual for Western Washington (2005) Vol. II
- Stormwater Management Manual for Eastern Washington (2004) Chapter 7
- Technology Assessment Protocol – Ecology (TAPE and C-TAPE)

# Navigating Stormwater for Your Business

## Q&A Session

- Please share your questions, concerns or interests about stormwater pollution with our panel
- If you've had success with stormwater permit compliance and BMP's please share your experiences

# *Thank You For Attending!*

*Form more information regarding areas covered in this presentation please contact the following individuals:*

- ❖ Grant Gilmore – [grantg@awb.org](mailto:grantg@awb.org)
- ❖ Grant Nelson – [grantn@awb.org](mailto:grantn@awb.org)
- ❖ Doug Howie – [douglas.howie@ecy.wa.gov](mailto:douglas.howie@ecy.wa.gov)
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