2015 Community Stormwater Event

Sponsors:

- Catch All Environmental
- Lakewood Hardware & Paint, Inc.
- McLendon Hardware
2015 Community Stormwater Event
2015 Community Stormwater Event
Stormwater

Click on image to play video
What’s the Problem with Stormwater?

- Whenever it rains, stormwater flows over hard surfaces, picking up pet waste, oils, fertilizers, pesticides and other pollutants.

- Stormwater flows down streets and into drains and ditches.

- Eventually, the stormwater ends up in rivers, streams and Puget Sound, or in the soil where it can seep into ground water.
Stormwater Facilities

- A “stormwater facility” is generally any landscaped or structural feature that slows, filters, stores, or infiltrates runoff water after rainfall.

- Neighborhood stormwater facilities play a key role in preventing flooding, pollution and erosion.

- Stormwater facilities come in many shapes and forms – from simple swales to complex stormwater ponds.
Regulatory Framework

Federal Clean Water Act

Washington State Stormwater Permit Program

Pierce County Stormwater Permit

Property Maintenance Agreements
Site Development

How does this...
Site Development

.... become this?
Site Development Plans
Site Development Plans

- A layout of the proposed parcels, streets, and common areas.
- An engineered stormwater drainage system to address the property’s naturally occurring drainage and new runoff volume.
- An Operation and Maintenance Plan with associated Maintenance Agreement.
Operation and Maintenance Plan

- Maintenance Agreement
- Site Summary (description of the stormwater drainage system)
- Maintenance Checklists
- Pollution Prevention Plan
Stormwater Drainage System Maintenance

How do you maintain your stormwater drainage system?

✔ Follow Operation and Maintenance Plan checklist
The Operation and Maintenance Plan will show you how to inspect, clean, and repair your stormwater drainage facilities.
Stormwater Drainage System Maintenance

Maintaining and Enhancing Stormwater Systems: how to?

• Organize a Stormwater Management Group
• Secure Funding and create a budget
• Perform Routine Maintenance and Inspections
• Get Help with Major Repairs
• Create Attractive Open Spaces*
Stormwater Drainage System Maintenance
Maintaining and Enhancing Stormwater Systems: how to?

- Organize a Stormwater Management Group
- Secure Funding and create a budget
- Perform Routine Maintenance and Inspections
- Get Help with Major Repairs
- Create Attractive Open Spaces*

✓ Conduct Regular Meetings (quarterly or biannually)
✓ Have Work Parties
✓ Distribute newsletters
Stormwater Drainage System Maintenance

Maintaining and Enhancing Stormwater Systems: how to?

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• Create Attractive Open Spaces*

✓ Funding is perhaps the most essential component
✓ Develop a budget for each anticipated maintenance needs
Stormwater Drainage System Maintenance
Maintaining and Enhancing Stormwater Systems: how to?

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✓ Visual inspections (*using flash light and catch basin probe*)
✓ Clearing paths for access (*vegetation maintenance*)
✓ Debris and litter control
✓ Clearing inlet and outlet pipes of blockages
Stormwater Drainage System Maintenance

Maintaining and Enhancing Stormwater Systems: how to?

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✓ Deterioration of pipes or concrete structures
✓ Excessive erosion or sedimentation
✓ Low spots or sinkholes in bottom areas
✓ Unexpected ponding or flooding
Stormwater Drainage System Maintenance

Maintaining and Enhancing Stormwater Systems: how to?

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Well maintained ponds, attractive landscape buffers, and/or passive recreational features, can become major site amenities and provide quality open space.

* Major alterations to existing systems may require a permit
Stop Pointless Personal Pollution

Many of our daily activities can cause this pollution and it can travel by many different routes into the ground and surface waters.

**What you can do?**

- Service your car regularly to prevent leakage of fluids
- Don’t drain used motor oil into storm drains
- Follow your site’s Pollution Prevention Plan
- Pick up dog waste
- Use garden and lawn chemicals wisely

*Only rain - down the drain...*
Okay,
- beyond preventing water pollution ..........
Why should I care?
Pavement/Structure Damage

Settlement  Fractures  Cracks
Pavement/Structure Damage

Settlement

Cause: Poor compaction around structure and surrounding area during initial construction causes settlement
Pavement/Structure Damage

Fractures

Cause: Surface Cracks allowed water to enter the road base caused erosion and settling around the structure
Pavement/Structure Damage

Cause: Saturated soils from ground water
Stormwater Drainage System Inspections

Most inspections of stormwater systems consist of checking on three basic stormwater drainage system structures.

Catch Basins

Ponds

Swales
Stormwater Drainage System Inspections

**Catch basins** are inspected to ensure:

- Sediment level is below inlet and outlet pipes
- Inlet and outlet *Pipes* are clear
Stormwater Drainage System Inspections

**Ponds** are inspected to ensure:

- Vegetation is not blocking inlet/outlet pipes
- No Trash has accumulated, and the
- Inlet and outlet Pipes are clear of sediment
Stormwater Drainage System Inspections

**Swales** are inspected to ensure:

- Grass is healthy
- Sediment accumulation and erosion are not impairing flow
- Inlet and outlet pipe are clear of blockages
Water Quality in Our Community

Annual Site Inspections 2009-2015

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Water Quality in Our Community

Significant non-compliance trend

- 2009: 21.5%
- 2010: 15.0%
- 2011: 15.2%
- 2012: 9.9%
- 2013: 11.7%
- 2014: 4.9%
- 2015: 5.2%
Water Quality in Our Community

Annual Site Inspections 2009-2015

Significant non-compliance trend
Water Quality in Our Community

2014 Overall Site Ratings - Countywide

- 33.5% Rated 3
- 60.5% Rated 4
- 4.5% Rated 5
- 0.4% Rated 2
- 1.1% Rated 1
Water Quality in Our Community

2015 Overall Site Ratings - Countywide

- 58.10%
- 34.70%
- 5.04%
- 2.02%
- 0.14%
Water Quality in Our Community

2015 Overall Site Ratings - Countywide

- 58.10%
- 34.70%
- 2.02%
- 0.14%
- 0.92%
- 0.90%
- 5.04%
Thank you

Technical Assistance
Our inspectors are happy to assist you with your stormwater challenges and questions. To speak with an inspector, or schedule an on-site consultation call, (253) 798–2725.