INSTRUCTORS:

• Jessica Engel
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• Alison Sienkiewicz, CPESC
<table>
<thead>
<tr>
<th>START</th>
<th>END</th>
<th>TIME</th>
<th>TOPIC / ACTIVITY</th>
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<td>Introduction and Overview of the Day</td>
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<td>Follow up questions / Comfort Break</td>
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<td>Factors Affecting Erosion</td>
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<td>Elements 9-12</td>
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<td>Elements 13</td>
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<td>3:00 PM</td>
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<td>Monitoring</td>
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<td>1:00</td>
<td>Interactive - SWPPP Problem</td>
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<td>Follow up questions / Comfort Break</td>
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<td>Go Over SWPPP Problem / Summary / Overview / Test</td>
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<td>GO HOME!</td>
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COURSE OBJECTIVES:

- Comply with the Construction Stormwater NPDES General Permit for construction activities
- Know the 13 elements of a SWPPP
- Assess and manage risks of erosion and sedimentation on construction sites
- Plan, install, monitor and maintain BMPs that comply with Ecology’s Construction NPDES permit
- Provide CESCL certification for attendees
Course Materials on-line

Ecology’s Web Site
Applications and forms

King County’s Web Site

Apply
You will need to set up an account to use our WQWebPortal to apply for coverage:
- Online application (will require SAW account sign in) [1]

Changes in coverage
- Impaired water new discharge [1]
- Transfer coverage (TOO) [2]
- Modification/Update [2]
- Terminate coverage (NOT) [2]

Implement & comply
You will need to set up an account to use our WQWebPortal to submit a DMR:
- Submit a DMR (will require SAW account sign in) [2]
- Submit inspection form template
- Request for chemical treatment [2]
- Stormwater Pollution Prevention Plan (SWPPP) Template
- Stormwater manuals

Training materials
Certified Erosion and Sediment Control Lead (CESCL)

Presentations are provided in Adobe Acrobat pdf format unless otherwise noted.

1. CESCL Training Introduction | Powerpoint version
2. Regulations and Permits | Powerpoint version
3. Erosion and Sediment Processes | Powerpoint version
4. Factors Affecting Erosion | Powerpoint version
5. Stormwater Pollution Prevention Plan (SWPPP) Basics | Powerpoint version
6. SWPPP Elements 1-5 | Powerpoint version
7. SWPPP Elements 6-8 | Powerpoint version
8. SWPPP Elements 9-12 | Powerpoint version
9. SWPPP Element 13 | Powerpoint version
10. Inspection, Monitoring, Reporting and Recordkeeping | Powerpoint version
11. Managing Construction Stormwater in the Washington (external link, NW Environmental Business Council)
Pre Construction - Natural Conditions

Typical Annual Water Budget

Forested Land Cover

- 37.4% Evaporation-Transpiration
- 25.7% Interflow
- 36.6% Groundwater
- 0.3% Runoff

Courtesy May, U of W
Developed Conditions

Typical Annual Water Budget

Urbanized Land Cover

25% Evaporation-Transpiration

Interflow 30%

Groundwater 15%

30% Surface Runoff

Courtesy May, U of W
Runoff Hydrograph
Ecology Fines – Clean water Act
Impacts of Erosion and Sedimentation

- Construction Delays & Increased Costs
- Legal Costs
- Mitigation Costs
- Fisheries Impacts
- Profitability Impacts

Digging yourself Out of a hole
2016 Construction Project Fine

Port Orchard construction project fined $53,000 for water quality violations

Muddy water polluted local creek and Sinclair Inlet

PORT ORCHARD – A homebuilder faces a $53,000 penalty for failing to prevent muddy stormwater runoff from a construction site, which polluted a nearby creek and marine waters in Port Orchard.

The Washington Department of Ecology issued the fine to Gig Harbor-based Mike Paul Construction for violating six parts of Washington’s Construction Stormwater General Permit and an Ecology order at an 11-acre site at S.E. Horstman Road and S.E. Orlando Street.
Horstman Heights Penalty, Port Orchard
Additional Pictures - Horstman Heights, Port Orchard

Muddy water seen at creek mouth

Horstman Heights construction site
2017 Contractor fined for construction runoff on Snoqualmie Pass

- OLYMPIA – A Renton company doing construction near Snoqualmie Pass has been fined $18,000 for failing to properly manage storm and wastewater generated at the large-scale construction site on the Interstate 90 corridor between the town of Easton and the summit.

- Ecology issued the penalty to Guy F. Atkinson Construction, LLC for allowing high pH concrete runoff water and loose concrete materials to wash into waters of the state without proper treatment.

2016 Contractor fined for construction runoff along I-205

- Vancouver – A general contractor has been fined $33,000 by Ecology for violating its construction stormwater permit, allowing muddy runoff to leave a transportation project along Interstate 205 and flow into Burnt Bridge Creek, a fish-bearing stream.

- Cascade Bridge LLC of Vancouver received the fine after numerous site visits and attempts by Ecology to provide the company with technical assistance.
37 Filters @ $150.00ea. = $5,550

This filter is in a subdivision that has not even started home construction yet
Cleanup Costs:
Storm System Clean-out & Repair

Once handed over by the builder, this could be a King County facility.
Mitigation Costs

- Offsite Damage to Private Property
  - Remove Sediments
  - Repair Slopes/ Grades
- Offsite Damage to Water Resources
- Wetland Mitigation
  ($80,000 to $100,000 per acre)
- Stream Mitigation