Construction Stormwater Site Inspection Checklists
MuniCon – Apr. 25, 2019

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Introduction

- Permit requirements
- Project overview
- Survey results
- Checklist overview
- Training overview
- Resources
Permit Requirements
Permit Requirements

Phase I and Phase II Municipal Stormwater Permit

- **Pre-construction inspections** should be conducted prior to clearing and construction on sites that have a high potential for sediment transport.

- **Construction inspections** should verify proper installation and maintenance of required erosion and sediment controls.

- **Post-construction inspections** should verify proper installation of permanent stormwater best management practices (BMPs).
Project Overview
Project Overview

Grant of Regional or Statewide Significance (GROSS) from Ecology

- Develop 3 checklists:
  - Pre-construction
  - During construction
  - Post-construction
- Two working group meetings (StormTAC)
- Two factsheets (Western and Eastern WA)
- Six trainings (Western WA)
Project Overview

Project Timeline

- **February 2018**: Project Kickoff Meeting
- **March 2018**: Survey and Memo
- **May 2018**: Draft Checklists
- **June 2018**: Revised draft checklists
- **July 2018**: StormTAC Working Group Meeting #1
- **October 2018**: Final Checklists
- **May 2018**: StormTAC Working Group Meeting #2
Project Overview

Project Timeline (cont.)

Sept. 2018
Draft factsheets and training materials

Oct. 2018
Final factsheets and training materials

Nov. 2018 – Mar. 2019
Trainings (total of 6)

Mar. 2019
Draft summary report

Apr. 2019
Final summary report
Survey Results
Survey Results

Survey Monkey Questions

- 45 participants
  - 40 Phase II permittees
  - 3 Phase I permittees
  - 2 unspecified
- 13 counties in WA
Survey Results

What is your job role?

- Construction Stormwater Site Inspector: 27%
- Manager/Overseer of Inspectors: 20%
- NPDES Permit Coordinator: 31%
- Building Inspector: 2%
- Other: 20%
Survey Results

What inspection forms/checklists do you use to document construction stormwater site inspections?

- Ecology’s Construction Stormwater Site Inspection form, 11%
- Jurisdiction-specific Construction Stormwater Site Inspection form(s), 55%
- Other, 34%
Survey Results

How do you currently track your construction site stormwater observations?

- Hard copy form/checklist: 29%
- Electronic: 27%
- Field notes: 22%
- Other: 22%
Survey Results

What is your goal for tracking construction site stormwater observations in the future?

- Electronic: 73%
- Field notes: 7%
- Other: 18%
- Hard copy form/checklist: 2%

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Survey Results

Approximately how many questions/fields are included in your inspection form/checklist/app?

- < 10 fields
- 10-50 fields
- 50-100
- 100-200
- > 200
- Does not apply
- Other

Number of Responses

Number of Responses
Survey Results

What is your purpose for using this inspection form/checklist/app?

- Permit Tracking & Compliance: 30 responses
- Identify Common Stormwater Site Issues: 18 responses
- Inspection Consistency: 23 responses
- Other: 12 responses

Number of Responses
Checklist Overview
Checklist Overview

3 checklists

- ESC inspection:
  - Initial ESC
  - Construction ESC
  - Post-Construction ESC

5 checklists

- Permanent Stormwater BMP/Facility inspection
  - Construction
  - Post-Construction

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Checklist Overview

1) Objective
2) Project Information
3) Inspection Items
   - Grouped by Construction SWPPP element (#1-13)
   - BMP examples
4) Notes/Comments
5) Summary of Corrective Actions
Initial ESC Inspection Checklist

Objective: The initial erosion and sediment control (ESC) inspection should be conducted after the pre-construction meeting and installation of temporary best management practices (BMPs), but prior to any clearing, grubbing, or grading at the site. This inspection is required for sites that have a high potential for sediment transport.

Initial ESC Inspection Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Inspection Item</th>
<th>BMP Examples</th>
<th>Satisfactory?</th>
</tr>
</thead>
</table>
| 1 and 13 | Are the following clearly marked?  
  - Project clearing limits/perimeter  
  - Sensitive/critical areas and buffers  
  - Protected trees  
  - LID BMPs (infiltration/dispersion) |  
  • Flagging  
  • High visibility fence  
  • Silt fence | □ Yes  
□ Action required  
□ N/A |
| 2      | Has a stabilized construction entrance/exit been installed?  
  • Stabilized construction entrance/exit  
  • Wheel wash |  
  • Stabilized construction entrance/exit  
  • Wheel wash | □ Yes  
□ Action required  
□ N/A |
# Construction ESC Inspection Checklist

**Objective:** Inspections conducted during construction activities should verify proper installation and maintenance of required erosion and sediment control (ESC) best management practices (BMPs) and the protection of permanent stormwater BMPs/facilities.

<table>
<thead>
<tr>
<th>Item #</th>
<th>Inspection Item</th>
<th>BMP Examples</th>
<th>Satisfactory?</th>
</tr>
</thead>
</table>
| 1 and 13A | Are the following clearly marked and in good condition? | • Flagging  
• High visibility fence  
• Silt fence |
|        | • Project clearing limits/perimeter  
• Sensitive/critical areas and buffers  
• Protected trees/vegetation  
• LID BMPs (infiltration/ dispersion) | □ Yes  
□ Action required  
□ N/A |
| 2 | Is track-out of sediment prevented? | • Stabilized construction entrance/exit  
• Wheel wash | □ Yes  
□ Action required  
□ N/A |
| 3A | Are flow control facilities installed and functioning properly? | | □ Yes  
□ Action required  
□ N/A |
Post-Construction ESC Inspection Checklist

**Objective:** Post-construction inspections should verify full site stabilization and proper removal of temporary erosion and sediment control (ESC) best management practices (BMPs).

<table>
<thead>
<tr>
<th>Item #</th>
<th>Inspection Item</th>
<th>Status</th>
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<tbody>
<tr>
<td>5A</td>
<td>Is the site fully stabilized?</td>
<td>□ Yes, proceed with inspection</td>
</tr>
<tr>
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<td></td>
<td>□ No, stop inspection; provide feedback on additional stabilization needs</td>
</tr>
<tr>
<td>5B</td>
<td>Is vegetation (e.g., grasses, sod, trees) protected, well-established and meet the landscaping design specifications?</td>
<td>□ Yes   □ Action required □ N/A</td>
</tr>
<tr>
<td>9A</td>
<td>Have waste and demolition materials been removed?</td>
<td>□ Yes   □ Action required □ N/A</td>
</tr>
<tr>
<td>13</td>
<td>Have LID BMPs (infiltration and dispersion) been protected from:</td>
<td>□ Yes   □ Action required □ N/A</td>
</tr>
<tr>
<td></td>
<td>• Siltation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Compaction</td>
<td></td>
</tr>
</tbody>
</table>
Construction Permanent BMP/Facility Inspection

[City/County Name]
[Department Name]
[Address Line 1]
[Address Line 2]

Add logo here

Construction of Permanent Stormwater BMPs/Facilities Inspection Checklist

Objective: Inspections conducted during construction activities should verify proper installation and maintenance of permanent best management practices (BMPs).

Bioretention/Rain Gardens Installation

<table>
<thead>
<tr>
<th>Item #</th>
<th>Inspection Item</th>
<th>Applicable BMPs/Specifications</th>
<th>Satisfactory?</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>Are curb and gutters blocked during _____?</td>
<td>• Block and gravel barrier&lt;br&gt;• Sandbag berm&lt;br&gt;• Rock berm</td>
<td>□ Yes&lt;br&gt;□ Action required&lt;br&gt;□ N/A</td>
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<td></td>
<td>□ Bioretention soil media (BSM) installation&lt;br&gt;□ Mulch installation&lt;br&gt;□ Planting activities</td>
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<tr>
<td>B-2</td>
<td>Did appropriate actions occur following excavation and prior to BSM placement?</td>
<td>• Sediment deposits removed&lt;br&gt;• Subgrade raked/scarified to ≥ 3 inches</td>
<td>□ Yes&lt;br&gt;□ Action required&lt;br&gt;□ N/A</td>
</tr>
</tbody>
</table>
# Post-Construction Permanent BMP/Facility Inspection

## Post-Construction of Permanent Stormwater BMPs/Facilities Inspection Checklist

**Objective:** Post-construction inspection(s) should verify proper installation, maintenance, and performance of permanent best management practices (BMPs).

<table>
<thead>
<tr>
<th>Item #</th>
<th>Inspection Item</th>
<th>Status</th>
<th>Infiltration Test Results (if required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-1</td>
<td>Bioretention</td>
<td><img src="ChecklistOptions.png" alt="Checklist Options" /></td>
<td>Tested infiltration rate(s): ____________</td>
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*Design infiltration rate: ____________

*Attach additional pages if necessary*
Training Overview
6 trainings total (Nov. 2018 – Mar. 2019)

- Tumwater
- Poulsbo
- Edmonds
- Thurston County
- Redmond
- Vancouver (WA)

A total of 193 participants representing 56 jurisdictions
Resources
Checklists (Word and PDF), factsheets, and training materials can be found here:

www.wastormwatercenter.org/stormwater-construction-site-inspection-resources
Questions?
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