

Site ID/Name: \_\_\_\_\_

Location: \_\_\_\_\_

Inspector: \_\_\_\_\_

Date: \_\_\_\_\_

# BIORETENTION

Applies to Bioinfiltration, Bioswales (Dry Enhanced Swales) and Rain Gardens.



GOOD EXAMPLES

## GENERAL INSPECTION QUESTIONS

Note: 'Yes' indicates a maintenance need and action

### General:

- 1. Is access to the site inadequately maintained for inspection and maintenance? **YES / NO**
- 2. Are grass clippings present in the drainage area or within the system [inlet structure, pretreatment (filter strip and grass channel), main treatment, or outlet/overflow structure]? *(Note: grass clippings should be removed)* **YES / NO**

### Drainage Area: *(pertains to the surrounding landscape that will contribute runoff to the practice)*

- 3. Is there any exposed or unstable soil that could cause sediment accumulation within the practice? **YES / NO**
- 4. Do the drainage ways (overland flow or pipes) to the practice have trash, debris, grass clippings, large branches, etc. present? **YES / NO**

### Inlet Structure / Pretreatment: (Choose One)

- A. Forebay**      **B. Weir**      **C. Filter Strip / Grass Channels**      **D. Rock-Lined Plunge Pools**

- 5. Does this area have trash, debris, or sediment present? **YES / NO**
- 6. Condition of **A-D** listed above:
  - A/C:** Is there any undesirable vegetation or unhealthy grass *(bare or dying)*? **YES / NO**
  - B:** Is the sediment more than 25% of the total depth of the weir? **YES / NO**
  - D:** Is the rock thickness in the pool inadequate? **YES / NO**
- 7. Is there evidence of runoff short-circuiting (going around) the inlet structure? **YES / NO**
- 8. Is there evidence of gullies, rills, or erosion around the inlet or pre-treatment structure? **YES / NO**

COMMENTS: \_\_\_\_\_

9. Does the area around the inlet structure (including filter strip and grass channels) need to be mowed? **YES / NO**

10. If a diversion structure (high flow bypass structure or underdrain) is present, is there presence of trash, debris, on sediment? **YES / NO**

### Main Treatment:

- 11. Is there evidence of long-term ponding or standing water in the practice (more than 48 hours after a rain event)? (e.g., stains, odors, mosquito larvae, etc.) **YES / NO**
- 12. Is there any evidence of fertilizer use on plants? (e.g., fertilizer crusting on surface of soil, tips of leaves turning brown or yellow, blackened roots, etc.) **YES / NO**
- 13. For practices with internal check dams to allow for surface ponding on a slope, is there erosion present around the side of the check dams? **YES / NO**
- 14. Is the mulch depth inadequate or too deep? Note: target depth is 2 to 4 inches **YES / NO**

### Underdrain: (if installed)

- 15. If cleanouts are included, are caps missing? **YES / NO**
- 16. Are cleanout caps in poor condition? (e.g., inadequately sealed or set below maximum ponding depth) **YES / NO**
- 17. Are there any signs of the underdrain being clogged or a blockage? **YES / NO**

### Emergency Overflow / Outlet Structure:

- 18. Do these structures have trash, debris, sediment or structural damage present? **YES / NO**
- 19. Is there evidence of erosion, scour, or flooding around the structure? **YES / NO**

**QUALITATIVE INSPECTION QUESTIONS (GOOD/MARGINAL/POOR)**

Note: 'Poor' indicates a maintenance need and action

- 20. Rate the presence of sediment accumulation in the bioretention surface area.
- 21. Rate the presence of debris (e.g., leaves, trash, grass clippings) in the bioretention surface area.
- 22. Rate the presence of undesirable vegetation.
- 23. Rate the condition of plant health per landscaping plan and site objectives.\*
- 24. Rate the condition of plant density per landscaping plan and site objectives.\*

<b>GOOD (&lt;25% of area)</b>	<b>MARGINAL (25-50%)</b>	<b>POOR (&gt;50%)</b>
<b>GOOD (&lt;25% of area)</b>	<b>MARGINAL (25-50%)</b>	<b>POOR (&gt;50%)</b>
<b>GOOD (&lt;25% of area)</b>	<b>MARGINAL (25-50%)</b>	<b>POOR (&gt;50%)</b>
<b>GOOD (&lt;25% dying/stressed)</b>	<b>MARGINAL (25%-50% dying/stressed)</b>	<b>POOR (&gt;50% dying/stressed)</b>
<b>GOOD (&gt;50% vegetation coverage)</b>	<b>MARGINAL (25%-50% vegetation)</b>	<b>POOR (overgrown or &lt;25% vegetation)</b>

\* General percentages provided if landscaping plan and site objectives are not available

**EXAMPLES OF POTENTIAL ISSUES:**



**5 INLET SEDIMENT**



**5 INLET STRUCTURE DEBRIS & SEDIMENT**



**8 INLET EROSION (GRASS CHANNEL)**



**8 INLET EROSION (ROCK PLUNGE POOL)**



**8 PRETREATMENT EROSION (FILTER STRIPS), 14 MULCH (NONE), & 24 PLANT DENSITY (POOR)**



**8 PRETREATMENT EROSION (SLIDE SLOPES) & 22 UNDESIRABLE VEGETATION (POOR)**



**11 EXCESSIVE PONDING (CATTAILS & STAINING)**



**14 MULCH (NONE), 18 OUTLET DEBRIS, & 22 UNDESIRABLE VEGETATION (MARGINAL)**



**14 MULCH (NONE) & 22 UNDESIRABLE VEGETATION (POOR)**



**14 MULCH (NONE) & 24 PLANT DENSITY (POOR)**



**14 MULCH (<2"), 22 UNDESIRABLE VEGETATION (MARGINAL) & 24 PLANT DENSITY (MARGINAL)**



**18 OUTLET DEBRIS**



**19 OUTLET STRUCTURE EROSION**



**23 PLANT HEALTH (POOR - EXPOSED ROOTS AND UNSTABLE)**



**23 PLANT HEALTH (GOOD) & 24 PLANT DENSITY (POOR - OVERGROWN)**