

Wetland Swale Construction Checklist

This checklist has been designed for BMPs designed in accordance with the Delaware Sediment and Stormwater Program's Post Construction Stormwater BMP Standards and Specifications. Submit interim versions of this construction checklist to the approval agency weekly with the Certified Construction Reviewer report. Submit the final completed checklist with the PCVD.

PROJECT INFORMATION

Project Name/BMP Name: _____

Project Approval Number: _____ NOI number: _____

Location: _____

Contractor: _____

Construction Reviewer: _____

Supervising P.E.: _____

For each checklist item, enter in the blank the date (MM/DD/YY) the item is completed and verified by the construction reviewer. If an item is not applicable, enter "N/A" in the blank for that checklist item.

I. Pre-Construction

A. _____ Wetland swale field meeting with responsible person and person completing construction checklist.

B. _____ Wetland swale staked out.

C. _____ Equipment on the site large enough to excavate wetland swale from the sides of the facility.

D. _____ Pervious areas draining to the wetland swale stabilized in accordance with the approved plans.

E. _____ Pipe and appurtenances on-site and dimensions and properties checked and confirmed to be in accordance with the approved plan if applicable.

i. _____ Discharge pipe

ii. _____ Inflow pipe

iii. _____ Other; list: _____

F. _____ Materials on-site and dimensions and properties checked and confirmed to be in accordance with the approved plan, if applicable. ***Submit materials invoice or delivery tickets to approval agency as part of PCVD for the following items:***

i. _____ Clean washed riprap, minimum d50 size of 6" *if applicable*

ii. _____ Geotextile fabric with flow rate ≥ 110 gal/min/sf *if applicable*

iii. _____ De-watering equipment

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iv. _____ Check dam material *if applicable*

v. _____ Other; list: _____

II. Excavation and Grading

A. _____ Wetland swale excavated to dimensions and at location as per the approved plan.

A. _____ Wetland swale excavated as a two-stage system to design bottom elevations in accordance with the approved plan.

B. _____ Groundwater not encountered during excavation. (Note: Unless there is known seasonal high groundwater as determined by the Soil Investigation, if groundwater is encountered during the excavation process, construction of the facility must cease, and the designer notified that a plan modification may be necessary is above the bottom of wetland swale elevation)

C. _____ Side slopes excavated no steeper than 3:1.

D. _____ Construction of low-flow channel between 1' and 6' wide.

E. _____ Construction of a shallow floodplain bench with total bench width a minimum 4 foot, divided on either side of the low-flow channel.

F. _____ Construction of minimum 10 foot wide vegetated perimeter.

G. _____ Excavation for the riprap apron to the dimensions, bottom elevation, and location as per the approved plan.

H. _____ Forebay provided at wetland swale major inlets as specified on the approved plan.

Pretreatment types constructed:

i. _____ Forebay excavated to dimensions and at location as per the approved plan.

ii. _____ Forebay excavated to design bottom elevation.

III. Structural Components

A. _____ Pretreatment and energy dissipation provided at the wetland swale inlets as specified on the approved plan.

B. _____ Construction of check dams, *if applicable*.

C. _____ Scour protection provided at all check dams and riprap stone size and dimension confirmed, *if applicable*.

D. _____ Outlet protection provided at all points of discharge and riprap stone size and dimension confirmed, *if applicable*.

E. _____ Photo documentation of construction of structural components taken. **Submit photo documentation to approval agency as part of PCVD.** (Photo #: _____)

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IV. Vegetative Stabilization

A. _____ Areas to be vegetated have completed the following items. ***Submit soil test report, lime, fertilizer, planting tags and seed tickets to approval agency as part of PCVD.***

i. _____ Soil testing.

ii. _____ Side slopes scarified to a minimum depth of 3 inches prior to placing topsoil.

iii. _____ Application of topsoil to a minimum depth of 4 inches.

iv. _____ Application of soil amendments including lime and fertilizer in accordance with the recommendations of the soil test or the approved plan.

v. _____ Application of seed to the soil surface using approved methods.

vi. _____ Planting installed in accordance with the approved plan.

B. _____ Application of soil stabilization matting and permanent seeding used on side slopes or areas of concentrated flow in accordance with approved plan.

C. _____ Vegetative perimeter planted with grasses, trees and shrubs in accordance with the approved plans.

D. _____ Photo documentation of landscaping components taken. ***Submit photo documentation to approval agency as part of PCVD.*** (Photo #: _____)

V. Erosion and Sediment Control

A. _____ Sediment prevented from entering wetland swale by keeping it off-line or using perimeter controls as specified on the approved plan.

B. _____ Drainage area and side slopes stabilized in accordance with the approved plan.

C. _____ Sediment controls removed once drainage area meets final stabilization standard.

VI. Maintenance Access and Areas

A. _____ Maintenance access to the perimeter of the wetland swale and forebay has minimum width of 15 feet.

B. _____ Profile grade of maintenance access does not exceed 10H:1V.

C. _____ Minimum 10H:1V cross slope on maintenance access.

D. _____ Maintenance set-aside area located and dimensioned per approved plans.

E. _____ Depth of set-aside area does not exceed 1 foot.

F. _____ Slope of set aside area does not exceed 5%.

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VII. Post Construction Verification

Owner shall submit post construction verification documents to demonstrate that the wetland swale practice has been constructed within allowable tolerances in accordance with the Approved Sediment and Stormwater Management Plan and accepted by the approving agency.

- A. _____ Constructed low-flow channel and bench elevation at or above design elevation confirmed after ESC controls are removed.
- B. _____ Constructed wetland swale surface area confirmed equal to or greater than 90% of the design surface area once ESC controls are removed.
- C. _____ Constructed volume of the wetland swale storage confirmed equal to or greater than 90% of the of the design.
- D. _____ Constructed elevation of all structures confirmed to be within 0.15 foot of the design elevation for:
 - i. _____ Check dams, *if applicable*
 - ii. _____ Outlet pipe, *if applicable*
 - iii. _____ Inlet pipe, *if applicable*
 - iv. _____ Other; list: _____

VIII. BMP Acceptance

- A. _____ Final BMP construction review complete.
- B. _____ All BMP punch list items addressed.
- C. _____ Wetland swale is online (stabilized drainage area is entering wetland swale)
- D. _____ As-built survey.
- E. _____ PCVD submitted to approval agency for review and approval. Submit the following pieces of PCVD documentation to the approval agency:
 - Materials invoice or delivery tickets
 - Photo documentation
 - Soil test report
 - Lime, fertilizer, and seed tickets
 - As-built survey
 - Final, completed BMP Construction Checklist