

Delaware Department of Transportation

Wet Pond Construction Checklist

*For permanent structures per USDA SCS Pond Code 378,
Delaware Sediment and Stormwater Regulations, and
Post Construction Stormwater BMP Standards and Specifications*

Contract No.:	_____	Contract Name:	_____
Contractor:	_____	Contractor Project Supt.:	_____
CCR Name:	_____	CCR No.:	_____
TYPE:	Basin: _____	Trench:	_____
BMP No.:	_____	BMP Location (Road/Crossroads):	_____
<u>Construction Dates & Time:</u>			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

KEY:

<u>✓</u>	Item meets standard
<u>X</u>	Item not acceptable
<u>N/A</u>	Item not applicable

I. Pre-Construction

- _____ A. Notification given
- _____ B. Facility location staked out & detention area delineated to include pre-treatment areas
- _____ C. Materials on-site and dimensions and properties verified per the approved plan
 - _____ 1. Pipe and appurtenances
 - _____ A. Pre-cast Outlet Structure
 - _____ B. Water control structures (orifices, weirs, etc.)
 - _____ C. Barrel stub for prefabricated pipe structures at correct angle for design barrel slope
 - _____ D. Number and dimensions of pre-fabricated anti-seep collar(s)
 - _____ E. Watertight connectors and gaskets
 - _____ F. Outlet drain valve
 - _____ 2. Appropriate compaction equipment

Contract No.: _____

Contract Name: _____

BMP No.: _____

BMP Location: _____

CCR Name: _____

CCR No.: _____

_____ 3. Project benchmark near pond site

_____ 4. Dewatering equipment

II. Subgrade Preparation

_____ Area stripped of all vegetation, root mat, topsoil and organic matter

_____ Cut-off trench excavated a minimum of 4 feet below subgrade and minimum 4 feet below proposed pipe invert, side slopes $\leq 1v:1h$

_____ Back-fill cut-off trench with impervious material

III. Structural Components (*Pipe Spillway Installation*)

_____ A. Method of installation detailed on the approved plan

_____ B. Bed preparation within a fill

_____ Construct the fill embankment 24" above the proposed top of pipe or as per the approved plan

_____ Excavate the trench to required grade with $\leq 1v:1h$ side slopes

_____ Pipe trench is free of standing water during pipe placement and backfilling

_____ Subgrade be stable, uniform and dry impervious material (*If subgrade is wet, contractor will have defined steps before proceeding with installation.*)

_____ Invert elevation verified and as per the approved plan

_____ C. Pipe placement

_____ Metal/Plastic Pipe

_____ 1. Water tight connectors and gaskets installed correctly

_____ 2. Anti-seep collar(s) properly spaced and watertight connection to pipe

_____ 3. Place and compact backfill to required elevation in 4" horizontal loose-thickness lifts maximum until 24" of cover over pipe is reached

_____ Concrete Pipe

_____ 1. Pipe set on blocks or concrete slab for pouring of low cradle

_____ 2. Pipe installed with rubber gasket joints with no spalling in gasket interface area

Contract No.: _____

Contract Name: _____

BMP No.: _____

BMP Location: _____

CCR Name: _____

CCR No.: _____

_____ 3. Excavation for lower half of anti-seep collar(s) with reinforcing steel set

_____ 4. Junction area for anti-seep collar(s) and pipe will be sufficiently coated with mastic or other approved waterproof sealant

_____ 5. Low cradle and bottom half of anti-seep collar installed as monolithic pour as per the approved plan

_____ 6. Upper half of anti-seep collar(s) formed with reinforcing steel set

_____ 7. Pour and vibrate into place Class A concrete meeting the requirements of Standard Specification 812, as per the approved plan

_____ 8. Strip forms and inspect collar for “honeycomb” prior to backfilling. Parge coat as necessary

_____ D. Backfill

_____ Place and compact backfill to required elevation in 4” horizontal loose-thickness lifts maximum

_____ Compact each lift as per Standard Specification 910.03.C.5(a)

_____ Install 24” hand compacted backfill material cover above pipe

IV. Riser/Outlet Structure Installation

_____ A. Metal

_____ Prepare a dry and stable subgrade per the approved plan for placement

_____ Prepare embedded base sections by coating with zinc chromate or equivalent (inside/outside)

_____ Block and level to designed elevations

_____ Install reinforcing bars at right angles into the sides of riser

_____ Pour concrete filling the inside riser to invert of barrel

_____ B. Pre-cast concrete structure (*Class A concrete meeting the requirements of Standard Specification 812*)

_____ Prepare a dry and stable subgrade per the approved plan for placement

_____ Set riser base to design elevation per the approved plan

_____ Fill any space between pipes and walls of pre-cast riser with grout

_____ Sound watertight collar or gasket will be installed where the structure connects to the spillway pipe

Contract No.: _____

Contract Name: _____

BMP No.: _____

BMP Location: _____

CCR Name: _____

CCR No.: _____

C. Poured concrete structure (*Class A concrete meeting the requirements of Standard Specification 812*)

_____ Prepare a dry and stable subgrade per the approved plan for placement

_____ Construct a reinforced steel footer as per the approved plan

_____ Pour and vibrate into place as per the approved plan

_____ Strip forms and inspect structure for “honeycomb” prior to backfilling. Parge coat as necessary

V. Embankment Construction

_____ A. Fill material

_____ Source ticket approval verified

_____ B. Compaction

_____ Visual test by inspector

_____ C. Embankment

_____ Fill placed and compacted in 8” lifts maximum as per the approved plan

_____ Construct embankment to lines, grades and details as per the approved plan

VI. Impoundment Area Construction

_____ Excavated to lines, grades and details as per the approved plan

_____ Outfall pipes protected as per the approved plan

_____ Forebay constructed as per the approved plan

_____ Wet Basin Requirements

_____ 1. 10 foot reverse slope bench one foot above normal pool elevation

_____ 2. 10 foot wide level bench one foot below normal pool elevation

VII. Emergency Spillway Construction

_____ Spillway constructed to lines, grades and details as per the approved plan

_____ Riprap channel constructed as per the approved plan

Contract No.: _____

Contract Name: _____

BMP No.: _____

BMP Location: _____

CCR Name: _____

CCR No.: _____

VIII. Outlet Protection

_____ A. End section

_____ Placed, properly backfilled and compacted as per the approved plan

_____ B. Headwall

_____ Construct a reinforced steel footer on prepared stable subgrade per the approved plan

_____ Construct headwall as per the approved plan

_____ Pour and vibrate into place as per the approved plan

_____ Strip forms and inspect structure for “honeycomb” prior to backfilling. Parge coat as necessary

_____ C. Riprap dissipator and/or channel

_____ Excavate dissipator or channel to lines, grades and details as per the approved plan

_____ Geotextile placed and keyed in 6” minimum depth

_____ Install specified riprap as per the approved plan

IX. Vegetative Stabilization

_____ Topsoil installed as per the approved plan and Standard Specification 908

_____ Permanently seed and stabilize as per the approved plan and Standard Specification 908

Contract Name: _____

BMP Location: _____

CCR No.: _____