

# Underground Detention Facility Construction Checklist

*This checklist has been designed for underground detention facilities constructed  
in accordance with the Delaware Sediment and Stormwater Program's  
Post Construction Stormwater BMP Standards and Specifications*

## **PROJECT INFORMATION**

Project Name: \_\_\_\_\_

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

Contractor: \_\_\_\_\_

Construction Reviewer: \_\_\_\_\_

Date(s) / Time(s) of Inspections: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **KEY:**

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

## **I. Pre-Construction.**

- \_\_\_\_\_ A. Pre-construction meeting held prior to beginning the facility (as required by the Delegated Agency).
- \_\_\_\_\_ B. Facility location staked out.
- \_\_\_\_\_ C. Upstream drainage area stabilized or effectively diverted.
- \_\_\_\_\_ D. Materials on-site and dimensions and properties checked.
  - \_\_\_\_\_ (1) Underground chambers and end caps
  - \_\_\_\_\_ (2) Manhole/Maintenance access catch basin
  - \_\_\_\_\_ (3) Perforated pipe outlet underdrains, if applicable
  - \_\_\_\_\_ (4) Filter fabric as specified on the Plan
  - \_\_\_\_\_ (5) Acceptable size of washed, crushed angular stone as per the Plan
  - \_\_\_\_\_ (6) Acceptable fill materials as per the Plan
  - \_\_\_\_\_ (7) Vibratory roller
  - \_\_\_\_\_ (8) Dewatering equipment

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## II. Excavation.

- \_\_\_\_\_ A. Facility excavated to dimensions and at location as per the approved plan. Excavation must be free of any standing water.
- \_\_\_\_\_ B. Stepwise excavation used for infiltration facilities by preventing any compaction in the bottom of the facility.
- \_\_\_\_\_ C. Facility excavated from the sides so as to not compact the existing soil.
- \_\_\_\_\_ D. Groundwater encountered during excavation?  
(Note: If groundwater is encountered during the excavation process, construction of the facility must cease and the designer notified that a plan modification is necessary)
- \_\_\_\_\_ E. Sides of excavation vertical.
- \_\_\_\_\_ F. Bottom of excavation level.

## III. Structural Components.

- \_\_\_\_\_ A. Discharge pipe installed at discharge point.  
*Discharge pipe diameter:* \_\_\_\_\_  
*Discharge pipe material:* \_\_\_\_\_
- \_\_\_\_\_ B. Outlet protection provided at discharge point, if applicable.
- \_\_\_\_\_ C. Outlet control structure installed at correct invert.
- \_\_\_\_\_ D. Manhole/maintenance catch basin installed at elevations as specified on the approved plan.
- \_\_\_\_\_ E. Clean-outs and/or observation ports installed as per the Plan.
- \_\_\_\_\_ F. Inlet catch basins installed at the correct inverts.
- \_\_\_\_\_ G. Washed, crushed angular stone used for the facility bed.
- \_\_\_\_\_ H. Minimum 6" of stone on the bottom of excavation or as prescribed by the design engineer. *Stone depth:* \_\_\_\_\_
- \_\_\_\_\_ I. Chambers laid out in the method shown on Plan.
- \_\_\_\_\_ J. Minimum 6" of stone on the top of the chambers or at the depth prescribed by the design engineer. Stone placed on top of the installed chambers as per the Plan.  
*Stone depth:* \_\_\_\_\_

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**III. Structural Components (continued)**

\_\_\_\_\_ K. Geotextile, in accordance with approved Plan, laid between chambers and stone bed.  
*Geotextile manufacturer's product number:* \_\_\_\_\_

\_\_\_\_\_ L. Geotextile, in accordance with approved Plan, wrapped around the Storage/Filtration Chamber.  
*Geotextile manufacturer's product number:* \_\_\_\_\_

\_\_\_\_\_ M. Geotextile, in accordance with approved Plan, laid on top of the stone bed above the chambers.  
*Geotextile manufacturer's product number:* \_\_\_\_\_

\_\_\_\_\_ N. Approved fill, compacted on top of the geotextile above the chambers,  
*Depth of fill:* \_\_\_\_\_

**Other Unique Structural Components included:**

\_\_\_\_\_ O. Underdrain pipe material according to approved Plan, if applicable.  
*Underdrain pipe material:* \_\_\_\_\_

\_\_\_\_\_ P. Underdrain pipe sizes according to approved Plan, if applicable.  
*Underdrain pipe diameter(s):* \_\_\_\_\_

\_\_\_\_\_ Q. Underdrain pipe perforations according to approved Plan.

\_\_\_\_\_ R. Other: \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ S. Other: \_\_\_\_\_  
\_\_\_\_\_

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**IV. Grading for impervious finished surface**

\_\_\_\_\_ A. Pavement sub-base, compacted. *Material:* \_\_\_\_\_

\_\_\_\_\_ B. Impervious finished surface applied and finished grade lines achieved.

**Other finished surface options:**

\_\_\_\_\_ C. Fill material compacted. *Material:* \_\_\_\_\_

\_\_\_\_\_ D. Finished surface of vegetation, 4" minimum of topsoil, amendments, mulching, and mulch anchoring as per the vegetation specifications on the Plan.

**V. Erosion and Sediment Control.**

\_\_\_\_\_ A. Site stormwater diverted around the excavation of the underground detention system.

\_\_\_\_\_ B. Inlet protection provided on any catch basins that discharge to the underground detention system.