



# City of Alexandria, VA As-Built Stormwater Requirements

**Policy Dated: June 2019**

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## As-Built Stormwater Submittal Checklist of Items

Complete	Item	Submittal CD #
<input type="checkbox"/>	As-Built stormwater plan set	CD #1
<input type="checkbox"/>	BMP certification	CD #1
<input type="checkbox"/>	Detention certification (when applicable)	CD #1
<input type="checkbox"/>	Downstream conveyance certification (when applicable)	CD #1
<input type="checkbox"/>	Notice of termination (when applicable)	CD #1
<input type="checkbox"/>	CAD/Shapefile with spatial reference data	CD #2
<input type="checkbox"/>	As-Built stormwater data spreadsheet	CD #2
<input type="checkbox"/>	BMP construction checklist and associated photos	CD #3

## As-Built Submittal

A complete as-built stormwater submittal must include the following:

### 1. As-Built Plan Set

All entities constructing stormwater best management practices (BMPs) installed to meet Virginia Stormwater Management Program (VSMP) regulations must submit a construction record drawing, or as-built plan, for approval. All grading plans, development site plans, and development special use permits installing BMPs for regulatory compliance must submit an as-built plan for review and approval.

Grading plans that install public storm sewer infrastructure must submit all information as described below. Grading plans that do not install public storm sewer infrastructure must only submit the stormwater as-built plan drawings, completed BMP construction inspection checklists with associated photos, and any required certification letters.

The following information must be included on the final as-built plan set submittal:

#### A. Structural BMPs and Detention Facilities:

1. BMP Identifier
2. X Coordinate of approximate center
3. Y Coordinate of approximate center
4. Owner - "Public" or "Private"
5. Detailed description
6. Volume
7. Cross sectional diagram
8. Detail of the outlet control and bypass/diversion structure
9. Landscape/planting layout (for surface BMPs)

- B. The stormwater As-Built Plan drawings must be signed by a VA professional engineer or land surveyor and the signature must appear on all sheets of the stormwater as-built plan set. All changes to as-built data must be clearly outlined. All stormwater calculations and stormwater profiles must be signed by a VA professional engineer.

### 2. CAD/shapefile with spatial reference data

Provide the following information in a digital, GIS compatible format, generally an industry standard CAD or shapefile, which can be incorporated directly in the City's overall GIS.

- A. Storm Sewer Pipes
- B. Storm Sewer Structures (catch basins, inlets, headwalls, swales, junction boxes, manholes, etc.)

C. Structural BMP and Detention Structure Footprints with associated pipes and structures

This information does not need to include any of the base data (e.g., buildings, roads, sidewalk, etc.), but must include a spatial reference. The digital submittal should be delivered on a separate CD with the final as-built plan submittal to Development Services and Right of Way. Files shall be named to match the as-built plan hard copy.

Preferred Reference Projections and Datums

- Projected Coordinate System:  
NAD\_1983\_StatePlane\_Virginia\_North\_FIPS\_4501\_Feet
- Horizontal Datum: D\_North\_American\_1983
- Vertical Datum: NAVD 88

The following language may be included with the CAD/shapefile at the discretion of the submitting professional:

The City and the Engineer agree that any as-built information contained in the Electronic CAD/shapefile submitted is for reference only. By accepting the CAD/shapefile, the Engineer and City acknowledge and agree that as-built information contained in the CAD/shapefile may have been prepared based upon information provided by others to the Engineer, and not information provided by the Engineer. The City and the Engineer further acknowledge and agree that the Engineer has not verified the accuracy and/or completeness of the information supplied by others and that the Engineer shall not be responsible for any errors and/or omissions that may be incorporated into, referenced in or designated on any construction drawings which City or City's agents, servants, employees, or contractors prepare as a result of erroneous information provided by others and, further, City hereby agrees to waive any and all Claim(s) and/or Damage(s) which result from or are related to Engineer's reliance upon the errors and/or omissions described above.

3. As-Built Stormwater Data Spreadsheet

The following information should be populated in the As-Built Stormwater Data Spreadsheet and submitted:

- A. Storm Sewer Pipes
  1. Pipe Identifier
  2. Length (feet)
  3. Pipe Material
  4. Pipe Shape
  5. Diameter (inches)
  6. Upstream Invert
  7. Downstream Invert
  8. Owner - "Public" or "Private"
- B. Storm Sewer Structures
  1. Structure Identifier

2. X Coordinate
3. Y Coordinate
4. Type
5. Construction Material
6. Rim (Top) Elevation
7. Owner - “Public” or “Private”

C. Structural BMPs and Detention Facilities

1. BMP Identifier
2. X Coordinate of approximate center
3. Y Coordinate of approximate center
4. BMP Function
5. Total Impervious Area Treated
6. Total Pervious Area Treated
7. Owner - “Public” or “Private”

D. Stormwater Related Easements

1. Deed book and page number(s) or instrument number(s)
2. Type
3. Description of location

The as built stormwater spreadsheet is available on the City’s website as a supplemental document.

#### 4. Completed BMP Construction Inspection Checklist and Associated Photos

The applicable BMP Construction Inspection Checklist(s) and associated photos must be included with the complete As-Built submittal package. The digital submittal should be delivered on a separate CD with the final as-built plan submittal to Development Services and Right of Way.

#### 5. Signed and Sealed BMP, Detention, and Conveyance System Certifications

A stormwater BMP certification is required for each BMP certifying that it has been constructed in accordance with the approved plans. Copies of the certification (sample template is included in this document) must be submitted as a PDF on a CD with the complete As-Built submittal packet. The certification must be signed by a professional engineer.

A stormwater detention certification is required for each detention facility certifying that it has been constructed in accordance with the approved plans. Copies of the certification (sample template is included in this document) must be submitted as a PDF with the complete As-Built submittal packet. The certification must be signed by a professional engineer.

A stormwater conveyance system certification is required when included in the conditions of approval certifying that the conveyance system and BMPs on and adjacent to the

property where construction occurred were not adversely affected by the construction. Copies of the certification (sample template is included in this document) must be submitted as a PDF with the complete As-Built submittal packet. The certification must be signed by a professional engineer.

## 6. Notice of Termination

Projects covered under the General VPDES Permit for Discharges of Stormwater from Construction Activities (i.e., the Construction General Permit), must submit a notification of termination for permit coverage (NOT) with the as-built plan.

# Certification Template for Stormwater Best Management Practices (BMPs)

Company Name  
Address

Date

City of Alexandria  
Transportation and Environmental Services-Stormwater Division  
2900B Business Center Drive  
Alexandria, VA 22314

RE: BMP Certification  
Project Name  
Project Address  
DSP/GRD/DSUP#, BMP#, VPDES Construction General Permit #

Dear Sir or Madam,

A stormwater BMP, specifically, a (BMP TYPE), was constructed as part of the above referenced project.

Pursuant to 9VAC25-870-55, I hereby certify that to the best of my knowledge and belief the stormwater management facilities shown on these record drawings have been constructed in accordance with the approved plans and specifications.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Virginia License

\_\_\_\_\_  
Date

"Certify means to state or declare a professional opinion based on sufficient and appropriate onsite inspections, material tests, as-built survey data, and information provided by other professionals and the contractor, conducted during or after construction."





# Certification Template for Stormwater Detention Structures

Company Name  
Address

Date

City of Alexandria  
Transportation and Environmental Services-Development and Right of Way Division  
301 King St. Room 4130  
Alexandria, VA 22314

RE: Detention Certification  
Project Name  
Project Address  
DSP#/GRD#/DSUP#

Dear Sir or Madam,

A stormwater detention structure, specifically, a (DETENTION TYPE), was constructed as part of the above referenced project.

Pursuant to 9VAC25-870-55, I hereby certify that to the best of my knowledge and belief the stormwater detention facilities shown on these record drawings have been constructed in accordance with the approved plans and specifications.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Virginia License

\_\_\_\_\_  
Date

"Certify means to state or declare a professional opinion based on sufficient and appropriate onsite inspections, material tests, as-built survey data, and information provided by other professionals and the contractor, conducted during or after construction."



Downstream Conveyance Certification Template- No maintenance required

Company Name  
Address

Date

City of Alexandria  
Transportation and Environmental Services-Development and Right of Way Division  
301 King St. Room 4130  
Alexandria, VA 22314

RE: Stormwater Conveyance System Certification  
Project Name  
Project Address  
DSP#/GRD#/DSUP#

Dear Sir or Madam,

On (DATE) a field inspection was performed on the stormwater conveyance system on and adjacent to the above referenced project. Per the conditions of approval, the inspection was performed to determine if the conveyance system had been adversely affected by the construction of the above referenced project. In my professional opinion, the existing stormwater conveyance systems were not adversely affected by the construction and are operating as intended. There is no maintenance required on the stormwater conveyance systems at this time.

On (DATE) a field inspection was performed on the stormwater best management (BMP) facilities adjacent to the above referenced project. Per the conditions of approval, the inspection was performed to determine if the BMP facilities had been adversely affected by the construction of the above referenced project. In my professional opinion, the existing stormwater BMP facilities were not adversely affected by the construction. (INCLUDE IF APPLICABLE)

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Virginia License

\_\_\_\_\_  
Date



## Downstream Conveyance Certification Template- Maintenance required

Company Name  
Address

Date

City of Alexandria  
Transportation and Environmental Services-Development and Right of Way Division  
301 King St. Room 4130  
Alexandria, VA 22314

RE: Stormwater Conveyance System Certification  
Project Name  
Project Address  
DSP#/GRD#/DSUP#

Dear Sir or Madam,

On (DATE) a field inspection was performed on the stormwater conveyance system on and adjacent to the above referenced project. Per the conditions of approval, the inspection was performed to determine if the conveyance system had been adversely affected by the construction of the above referenced project. To certify that the conveyance systems were functioning properly, maintenance was required. On (DATE), the following maintenance was performed:

- (Describe maintenance activities)
- 

In my professional opinion, the existing stormwater conveyance systems, are now operating as intended. There is no further maintenance required on the stormwater conveyance systems at this time.

On (DATE) a field inspection was performed on the stormwater best management (BMP) facilities adjacent to the above referenced project. Per the conditions of approval, the inspection was performed to determine if the BMP facilities had been adversely affected by the construction of the above referenced project. To certify that the BMP facilities were functioning properly, maintenance was required. On (DATE), the following maintenance was performed:

- (Describe maintenance activities)
-

In my professional opinion, no further maintenance is required on the existing stormwater BMP facilities. (INCLUDE IF APPLICABLE)

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Virginia License

\_\_\_\_\_  
Date



## Construction Inspection Checklists

The applicable BMP Construction Inspection Checklist(s) must be completed during construction. Inspectors should review the plans carefully and adjust the items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design is based on the Virginia Stormwater BMP Clearinghouse.

The applicable BMP Construction Inspection Checklist(s) and associated photos must be included with the complete As-Built submittal package. The digital submittal should be delivered on a separate CD with the final as-built plan submittal to Development Services and Right of Way.

# Construction Inspection Checklist: Bioretention



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

DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_

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

Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_

BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

### Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).
- 

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the bioretention area, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

BMP Construction Preparation			
Complete	Photo	Description	Date
<input type="checkbox"/>		The bioretention area has not been impacted during construction or has been remediated prior to installation.	
<input type="checkbox"/>		All pervious areas of the contributing drainage areas have been adequately stabilized with a thick layer of vegetation or erosion control measures are still in place and stormwater has been diverted around the area.	
<input type="checkbox"/>		Impervious cover draining to the BMP has been constructed and the area is free of equipment, vehicles, and material storage.	
<input type="checkbox"/>	<input type="checkbox"/>	Stormwater is diverted around the bioretention area and perimeter E&S controls to protect the BMP during construction have been installed.	

Excavation			
Complete	Photo	Description	Date
<input type="checkbox"/>		The area of bioretention excavation is marked and the size and location conform to the approved plan.	

Excavation (continued)			
<input type="checkbox"/>		If the excavation area has been used as a sediment trap, the bottom elevation of the proposed stone reservoir is lower than the bottom elevation of the existing trap.	
<input type="checkbox"/>		Excavation bottom is scarified prior to placement of stone.	
<input type="checkbox"/>	<input type="checkbox"/>	Subgrade surface is free of rocks, roots, and large voids. (Voids may be refilled with base aggregate to create a level surface for the placement of aggregates and underdrain.)	
<input type="checkbox"/>		No groundwater seepage or standing water is present. Any standing water is dewatered through an acceptable dewatering device and the design consultant has been notified.	
<input type="checkbox"/>	<input type="checkbox"/>	Excavation of the bioretention area has achieved proper grades and the required geometry. The area has been excavated from the sides to avoid soil compaction. Constructed dimensions: _____	
<input type="checkbox"/>	<input type="checkbox"/>	Sides of the excavation area are covered with geotextile; no tears or holes, or excessive wrinkles are present.	

Pretreatment, Filter Layer, Underdrain and Stone Reservoir Placement			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	Energy dissipaters and pretreatment practices (forebays, gravel diaphragms, etc.) are installed in accordance with the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	All aggregates (stone, sand, etc., as required) conform to the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	The impermeable liner (when required) is placed in accordance with manufacturer specifications and the approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	Filter fabric is installed on the sides only per the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	#57 stone is placed to achieve the required storage depth per the approved plan/design specifications. Depth of #57 stone: _____ ft.	
<input type="checkbox"/>	<input type="checkbox"/>	Underdrain size and perforations conform to the approved plan/design specifications. (if applicable) Underdrain Diameter: _____ inches Underdrain Material: _____ Underdrain Spacing: _____ ft. Perforation Size & Spacing: _____ inches Number of Cleanouts/Observation Wells: _____	
<input type="checkbox"/>		Placement of underdrain(s), cleanouts/observation wells, and underdrain fittings are in accordance with the approved plan/design specifications.	
<input type="checkbox"/>		Elevations of the underdrain(s) and outlet structure are in accordance with approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	The filter layer (choker stone/pea gravel/sand) is installed per the approved plan/design specifications. Choker material: _____ Depth of choker material: _____ inches	

Soil Media Placement			
Complete	Photo	Description	Date
<input type="checkbox"/>		Soil media is certified by a supplier or contractor as conforming to the approved plan/design specifications.	
<input type="checkbox"/>		Filter media is placed in 12-inch lifts to the top elevation of the bioretention area in accordance with the approved plan/design specifications. The filter media is raked to a level grade after final lift and the elevation has been verified after settlement. No machinery, vehicles, or other heavy equipment have been permitted to travel across the filter media.	
<input type="checkbox"/>	<input type="checkbox"/>	Filter media depth conforms to the approved plan/design specifications. Depth: _____ ft.	
<input type="checkbox"/>		Side slopes of the ponding area are laid back at the required slope (no steeper than 3H:1V) in accordance with the approved plan/design specifications.	

Plant and Outlet Installation			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	Riser, overflow weir, or other outflow structure is set to the elevation in the approved plan/design specifications and functional.	
<input type="checkbox"/>	<input type="checkbox"/>	Mulch composition and depth conform to approved plan/design specifications. Depth of mulch layer: _____ inches	
<input type="checkbox"/>	<input type="checkbox"/>	Ponding depth is in accordance with the approved plan/design specifications after plant and mulch placement. Depth of ponding area: _____ inches (above mulch, 12" maximum)	
<input type="checkbox"/>	<input type="checkbox"/>	Signs are installed per the approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	Plant installation conforms to the approved plan/design specifications and all plants are healthy.	
<input type="checkbox"/>	<input type="checkbox"/>	Final elevations and slopes within the bioretention area after plant and mulch installation match the approved plan elevations.	
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the completed BMP after completion of construction.	

Comments	Date



Comments (continued)	

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans and specification (or deviations as noted above).

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_

# Construction Inspection Checklist: Dry Swale



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

DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_

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

Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_

BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

**Instructions:**

- Complete each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; checkboxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).
- 

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the swale, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

BMP Construction Preparation			
Complete	Photo	Description	Date
<input type="checkbox"/>		Impervious cover has been constructed/installed and the area is free of construction equipment, vehicles, material storage, etc.	
<input type="checkbox"/>		All pervious areas of the contributing drainage areas have been adequately stabilized with a thick layer of vegetation or erosion control measures are still in place and stormwater has been diverted around the area.	

Excavation			
Complete	Photo	Description	Date
<input type="checkbox"/>		The area of dry swale excavation is marked, and the size and location conform to the approved plan.	
<input type="checkbox"/>		If the excavation area has been used as a sediment trap, verify that the bottom elevation of the proposed stone reservoir is lower than the bottom elevation of the existing trap.	

Excavation (continued)			
<input type="checkbox"/>		Excavation of the bottom is scarified.	
<input type="checkbox"/>		Subgrade surface is free of rocks, roots, and large voids. (Voids may be filled with base aggregate.)	
<input type="checkbox"/>		No groundwater seepage or standing water is present. Any standing water is dewatered to an acceptable dewatering device, and the design consultant has been notified.	
<input type="checkbox"/>	<input type="checkbox"/>	Excavation of the facility has achieved proper grades, longitudinal slope, and required geometry per approved plans. Longitudinal Slope _____	

Filter Layer, Underdrain, and Stone Reservoir Placement			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	All aggregates (stone, sand, etc., as required) conform to the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	Sides of the excavation are covered with filter fabric that has no tears, holes, or excessive wrinkles.	
<input type="checkbox"/>	<input type="checkbox"/>	Underdrain size, spacing, and base material are installed per the approved plan/design specifications. Pipe Diameter _____ Inches Material _____ Slope _____ % Pipe Spacing _____ ft. Perforation Size, Spacing _____ Inches Base Material/Type _____ Depth _____ ft. Number of Cleanouts _____	
<input type="checkbox"/>		Observation well(s) are installed per the approved plan/design specifications. Number of Observation Wells _____	
<input type="checkbox"/>	<input type="checkbox"/>	The remaining lift of the stone reservoir layer is placed as needed to achieve the required reservoir depth.	
<input type="checkbox"/>		Elevations of the underdrain and outlet structure are in accordance with the approved plan/design specifications.	

Soil Media Placement			
Complete	Photo	Description	Date
<input type="checkbox"/>		Soil media is placed in 12-inch lifts to the design top elevation of the dry swale, as verified after settlement (2-4 days after initial placement).	
<input type="checkbox"/>		Side slopes of the ponding area are installed per the approved plan/design specifications (no steeper than 3H:1V).	
<input type="checkbox"/>	<input type="checkbox"/>	Dry swale dimensions are verified as installed per the approved plan/design specifications. Swale Length _____ ft. Bottom Width _____ Swale Longitudinal Slope _____ Swale Side Slopes (max. 3:1) _____	

Pretreatment, Check Dam, and Plant Installation			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	Energy dissipaters and pretreatment practices (forebays, gravel diaphragms, etc.) are installed in accordance with the approved plans/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	Appropriate number and spacing of check dams are installed in accordance with the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	Appropriate number and spacing of plants are installed in accordance with the approved plan/design specifications and all plants are healthy.	
<input type="checkbox"/>		Erosion control matting is installed as required by the approved plan/design specifications or as needed to ensure adequate stabilization.	
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the BMP facility after completion of construction	

Comments	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans and design specifications (or deviations are noted here).

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_

# Construction Inspection Checklist: Filtering Manufactured Treatment Device



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

DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_

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

Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_

BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.
- 

### Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the filtering MTD, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

Filtering MTD Pre-Construction			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	Verify the type of Filtering Manufactured Treatment Device installed: MTD Manufacturer: _____ MTD Name / Model: _____	
<input type="checkbox"/>		Pervious areas within contributing drainage area are fully stabilized with appropriate vegetation prior to the installation of any filter media.	
<input type="checkbox"/>		Impervious cover is constructed, free of construction equipment, and material storage prior to the installation of any filter media.	
<input type="checkbox"/>	<input type="checkbox"/>	Stormwater runoff has been temporarily diverted around the facility during construction. Filter chambers may be installed with the storm drainage system, but no internal components are installed until the site is stabilized and the chamber is flushed.	

Filtering MTD Construction			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	Filter area and depth is in accordance with approved plan and manufacturer's specifications for filter chambers and/or filter beds.	
<input type="checkbox"/>	<input type="checkbox"/>	Cartridge filter systems have the correct number of filters per the approved plan/design specifications and are installed correctly.	
<input type="checkbox"/>	<input type="checkbox"/>	Filter fabric is installed per the approved plan/design specifications (where applicable)	
<input type="checkbox"/>	<input type="checkbox"/>	Pretreatment: Type of pretreatment device: _____ Material: _____ Diameter or length/width: _____ Invert-in elev. _____ Invert out elev. _____ Connection to BMP structure is in accordance with manufacturer's specification, type of connection: _____	
<input type="checkbox"/>		Inflow pipe: Material: _____ Diameter: _____ in. Invert-in elev. _____ Connection to BMP structure is in accordance with manufacturer's specification, type of connection: _____	
<input type="checkbox"/>		Overflow Bypass: Type of overflow bypass: _____ Diameter: _____ in. Invert-in elev. _____ Invert-out elevation: _____	
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the completed BMP after completion of construction (prior to placement of backfill).	

Comments	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans and specification (or deviations as noted above).

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_

# Construction Inspection Checklist: Hydrodynamic



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

DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_

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

Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_

BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

**Instructions:**

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the hydrodynamic device, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

Hydrodynamic Device Construction			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	Verify the type of hydrodynamic device installed: MTD Manufacturer: _____ MTD Name / Model: _____	
<input type="checkbox"/>		Inflow pipe: Material: _____ Diameter: _____ in. Invert-in elev. (if accessible) _____ Connection to the BMP structure is in accordance with manufacturer's specification. Type of connection: _____	
<input type="checkbox"/>		Outflow pipe: Material: _____ Diameter: _____ in. Invert-out elev. (if accessible) _____ Connection to the BMP structure is in accordance with manufacturer's specification, Type of connection: _____	

Hydrodynamic Device Construction (continued)			
<input type="checkbox"/>		Conveyance/overflow structures are installed per the approved plan/design specifications. Type: _____ Dimensions: _____ Locations: _____	
<input type="checkbox"/>		All sediment, debris, greases and oils removed from the device after final stabilization.	
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the completed BMP after completion of construction.	

Comments	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans and specification (or deviations as noted above).

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_





# Construction Inspection Checklist: Infiltration System

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

DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_

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

Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_

BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

## Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the infiltration facility, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

BMP Construction Preparation			
Complete	Photo	Description	Date
<input type="checkbox"/>		Impervious cover has been constructed/installed and the area is free of construction equipment, vehicles, material storage, etc.	
<input type="checkbox"/>		All pervious areas of the contributing drainage areas have been adequately stabilized with a thick layer of vegetation or erosion control measures are still in place and stormwater has been diverted around the area.	
<input type="checkbox"/>		The infiltration facility area has not been impacted during construction.	

Excavation			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	Excavation of the infiltration facility has achieved proper grades and the required geometry for the subsurface infiltration trench or the surface infiltration basin. The area has been excavated from the sides to avoid soil compaction. Constructed dimensions: _____	

Excavation (continued)			
<input type="checkbox"/>	<input type="checkbox"/>	Filter fabric is installed on the sides only (if required).	
<input type="checkbox"/>	<input type="checkbox"/>	Excavation bottom is scarified and raked level before installation of filter fabric, stone, and soil media placement.	

Filter Layer, Underdrain, and Stone Reservoir Placement			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	Pretreatment practices are installed per the approved plan/design specifications. Type(s) of pretreatment: _____	
<input type="checkbox"/>	<input type="checkbox"/>	All aggregates including the filter layer, the stone reservoir layer, and infiltration sump conform to the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	Filter layer of sand is installed on trench bottom per the approved plan/design specifications. Depth of Sand layer _____ ft.	
<input type="checkbox"/>	<input type="checkbox"/>	Underdrain size, spacing, and base material are installed per the approved plan/design specifications. Pipe Diameter _____ Inches Material _____ Slope _____ % Pipe Spacing _____ ft. Perforation Size, Spacing _____ Inches Base Material/Type _____ Depth _____ ft. Number of Cleanouts _____	
<input type="checkbox"/>		Observation well(s) is installed per the approved plan/design specifications. Number of Observation Wells _____	
<input type="checkbox"/>	<input type="checkbox"/>	Remaining stone aggregate is placed (not dumped) in 6-inch lifts. Depth of Stone aggregate _____ ft.	
<input type="checkbox"/>	<input type="checkbox"/>	Storage chambers (when required) are installed per the approved plan/design specifications.	
<input type="checkbox"/>		The top surface of infiltration practice is in accordance with the approved plan/design specifications. Material type _____ Depth _____ ft.	
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the BMP facility after completion of construction.	

Comments	Date

Comments (continued)	

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans and specification (or deviations as noted above).

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_

# Construction Inspection Checklist: Permeable Pavement



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

DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_

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

Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_

BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

## Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the permeable pavement, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	
<input type="checkbox"/>		The sequence for building of permeable pavement has been determined. Measures for protection and surface cleaning have been reviewed.	

BMP Construction Preparation			
Complete	Photo	Description	Date
<input type="checkbox"/>		The contributing drainage areas are stabilized and not eroding.	
<input type="checkbox"/>		Runoff is diverted around the excavation area to a stabilized conveyance.	

Excavation			
Complete	Photo	Description	Date
<input type="checkbox"/>		The permeable pavement area is marked, and the size and location conform to the approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	The excavation has achieved proper grades and the required geometry and elevations.	
<input type="checkbox"/>		If the excavation is used as a sediment trap, verify that the bottom elevation of the proposed stone reservoir is lower than the bottom elevation of the existing trap.	

Excavation (continued)			
<input type="checkbox"/>	<input type="checkbox"/>	The subgrade surface is free of rocks and roots, and large voids. Any voids should be refilled with the base aggregate to create a level surface for the placement of aggregates and underdrain (if required).	
<input type="checkbox"/>		Ensure the bottom of the excavation is scarified or tilled to a depth of 3-4 inches prior to placement of stone.	
<input type="checkbox"/>		No groundwater seepage or standing water is present. Any standing water is dewatered to an acceptable dewatering device and the design consultant has been notified.	

Filter Layer, Underdrain, Stone Reservoir, and Bedding Layer Placement			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	Sides of the excavation are covered with filter fabric prior to placing stone reservoir aggregate; no tears or holes, or excessive wrinkles are present.	
<input type="checkbox"/>	<input type="checkbox"/>	All aggregates, including, as required, the filter layer, the reservoir layer, and bedding layer conform to the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	The filter layer and initial layer of reservoir layer are spread (not dumped) to avoid aggregate segregation. Depth of filter layer _____ ft.	
<input type="checkbox"/>	<input type="checkbox"/>	The aggregate layer for the installation of the underdrain system is installed per the approved plan/design specifications. Depth of aggregate layer _____ ft. Size of aggregate layer _____	
<input type="checkbox"/>	<input type="checkbox"/>	Underdrain size and perforations meet the approved plan/design specifications. (if applicable) Underdrain Diameter _____ inches Underdrain Material _____ Underdrain Spacing _____ ft. Perforation Size & Spacing _____ inches. Number of Cleanouts _____	
<input type="checkbox"/>		The placement of underdrains, observation wells, and underdrain fittings are in accordance with the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	The stone reservoir layer, aggregate placement, compaction, and thickness, are per the approved plan/design specifications. Depth of reservoir layer aggregate _____ inches	

Permeable Material Installation			
Complete	Photo	Description	Date
<input type="checkbox"/>		The pavement surface is even and runoff spreads evenly across surface.	
<input type="checkbox"/>		Concrete curbs and plastic/metal edge restraints are installed.	
<input type="checkbox"/>		For porous asphalt and pervious concrete pavement, the full permeability of paved surface has been properly tested (clean water applied at a min. rate of 5 gpm over the entire surface), and all water infiltrated directly without puddle formation or surface runoff.	
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the completed BMP after completion of construction.	

Comments	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and conform to the approved plans and specifications (or deviations as noted above).

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_

# Construction Inspection Checklist: Rainwater Harvesting



Project Name: \_\_\_\_\_ Address: \_\_\_\_\_  
 DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_  
 Contractor: \_\_\_\_\_ Telephone: \_\_\_\_\_  
 Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_  
 BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

### Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).
- 

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the facility, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

Installation			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	Rooftop area and tank are installed per the approved plan/design specifications. Tank Volume _____ gal. Tank Material _____ Above ground ____ or Below ground _____	
<input type="checkbox"/>	<input type="checkbox"/>	The rainwater harvesting system foundation is constructed per the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	The pre-treatment system is installed per the approved plan/design specifications. Type of pretreatment: _____	
<input type="checkbox"/>		The collection and conveyance system (gutters, downspouts, and pipes) has been constructed per the approved plan/design specifications.	

Installation (continued)		
<input type="checkbox"/>		Inflow and outflow pipes are constructed per the approved plan/design specifications and have been tested for water-tightness. Type/Size of Inflow Pipes _____ Type/Size of Outflow Pipes _____
<input type="checkbox"/>		The distribution system is constructed per the approved plan and has been tested for water-tightness. Type/Size of Backflow Preventer _____ Type/Size of Pump(s) _____
<input type="checkbox"/>		The overflow device is installed and discharges per the approved plan/design specifications. Type of Device _____ Size of Device _____
<input type="checkbox"/>		The overflow filter path is stabilized.
<input type="checkbox"/>		Secondary runoff reduction measure(s) are installed per the approved plan/design specifications. A separate inspection checklist is required for the secondary practice. Type of Measure _____
<input type="checkbox"/>		Measures used to protect from freezing (above ground tanks and/or pipes) are installed per the approved plan and have been tested for water-tightness. Type of Measure _____
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the completed BMP after completion of construction.

Comments	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and conform the approved plans and specifications (or deviations as noted above).

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_



# Construction Inspection Checklist: Rooftop Disconnection



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

DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_

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

Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_

BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

### Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the facility, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

BMP Construction Preparation			
Complete	Photo	Description	Date
<input type="checkbox"/>		All pervious areas of the contributing drainage areas have been adequately stabilized.	
<input type="checkbox"/>		Impervious cover has been constructed and the area is free of equipment, vehicles, and material storage.	
<input type="checkbox"/>		Downspouts have been installed and proper drainage away from the building foundation has been provided.	

Construction			
Complete	Photo	Description	Date
<input type="checkbox"/>		Downspout runoff has been temporarily diverted to a stabilized conveyance.	
<input type="checkbox"/>		The final flow from downspouts has been directed to a pervious surface or alternative practice per the approved plan. Type of disconnect: Pervious surface  Alternative practice Type of alternative practice: _____	

Construction (continued)			
<input type="checkbox"/>		Soil amendments (when required) are incorporated per the approved plan/design specifications. Soil amendment Depth_____ ft.	
<input type="checkbox"/>	<input type="checkbox"/>	Disconnection dimensions and grades have been achieved to provide the required geometry per the approved plan/design specifications. Length_____ ft. Width_____ ft. Slope_____ %	
<input type="checkbox"/>		The area has been rototilled to reverse any soil compaction due to construction traffic.	
<input type="checkbox"/>	<input type="checkbox"/>	Pretreatment level spreader or energy dissipaters have been installed per the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	The disconnection filter path is stabilized with adequate mulch, matting, etc. per the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	The downspout has been directed to the new conveyance.	
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the completed BMP after completion of construction.	

Comments	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and conform to the approved plans and specifications (or deviations as noted above).

Signature: \_\_\_\_\_

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

Certifying Professional's License Number (or Seal): \_\_\_\_

# Construction Inspection Checklist: Sand Filter



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

DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_

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

Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_

BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

### Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the sand filter, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

BMP Construction Preparation			
Complete	Photo	Description	Date
<input type="checkbox"/>		All pervious areas of the contributing drainage areas have been adequately stabilized with a thick layer of vegetation or erosion control measures are still in place.	
<input type="checkbox"/>		Impervious cover draining to the BMP has been constructed and the area is free of equipment, vehicles, and material storage.	
<input type="checkbox"/>	<input type="checkbox"/>	Stormwater is diverted around the BMP area and perimeter E&S controls to protect the BMP during construction have been installed.	

Sand Filter Construction			
Complete	Photo	Description	Date
<input type="checkbox"/>		The area of the sand filter excavation is marked, and the size and location conform to the approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	The excavation of the facility has achieved proper grades and the required geometry for underground structural housing per the approved plan.	

Sand Filter Construction (continued)			
<input type="checkbox"/>		No groundwater seepage or standing water is present. Any standing water is dewatered to an acceptable dewatering device, and the design consultant has been notified.	
<input type="checkbox"/>	<input type="checkbox"/>	Placement of the structural housing and the internal and external plumbing invert elevations are installed per the approved plan/design specifications.	
<input type="checkbox"/>		A water-tightness test has been completed and approved by the contractor or vault supplier.	
<input type="checkbox"/>	<input type="checkbox"/>	Filter fabric is installed per the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	Underdrain size and perforations conform to the approved plan/design specifications. (if applicable) Underdrain Diameter: _____ inches Underdrain Material: _____ Underdrain Spacing: _____ ft. Number of Cleanouts/Observation Wells: _____	
<input type="checkbox"/>		Placement of underdrain(s), cleanouts/observation wells, and underdrain fittings are in accordance with the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	Filter media sand is installed to the required depth per approved plan/design specifications. Depth of sand: _____ ft.	
<input type="checkbox"/>	<input type="checkbox"/>	The gravel layer is installed per the approved plan/design specifications. Depth of gravel layer _____ in.	
<input type="checkbox"/>		Inlet and outlet pipes are connected to the site drainage system per the approved plan/design specifications.	
<input type="checkbox"/>		Elevation of inflow invert _____ ft. Elevation of outflow invert _____ ft. Depth of permanent pool in sedimentation chamber _____ ft.	
<input type="checkbox"/>	<input type="checkbox"/>	Dewatering drain and valve are installed per the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	Pump and electrical wiring are installed per the approved plan/design specifications.	

Comments	Date

Comments (continued)	

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans and specification (or deviations as noted above).

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_

# Construction Inspection Checklist: Sheet Flow



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

DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_

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

Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_

BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

**Instructions:**

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the facility, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

BMP Construction Preparation			
Complete	Photo	Description	Date
<input type="checkbox"/>		The conserved open space / filter strip area is protected from construction traffic via adequate signage/fencing, and is in good condition (undisturbed, except for required maintenance).	
<input type="checkbox"/>		The conserved open space area / filter strip area is protected from construction runoff and sediment per the approved plan.	

Installation			
Complete	Photo	Description	Date
<input type="checkbox"/>		The area of the filter strip/conserved open space is marked and the size and location conform to the approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	The dimensions of the filter strip/conserved open space conform to the approved plans. Width: _____ ft. Length: _____ ft. Slope: _____%	

Installation (continued)			
<input type="checkbox"/>	<input type="checkbox"/>	The engineered level spreader or gravel diaphragm has been constructed per the approved plan/design specifications. Energy dissipater installed: Engineered level spreader   Gravel diaphragm	
<input type="checkbox"/>	<input type="checkbox"/>	The engineered level spreader overflow/bypass structure has been constructed per the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	The engineered level spreader pretreatment structure has been constructed per the approved plan/design specifications.	
<input type="checkbox"/>		Amended soil has been installed and scarification has been completed per the approved plan/design specifications. Depth _____ inches Scarification? Yes   No	
<input type="checkbox"/>		Any light grading required to the establish the upper boundary for conserved open space has been performed with light equipment/minimal impact to existing vegetation.	
<input type="checkbox"/>	<input type="checkbox"/>	Stormwater runoff has been directed into the conserved open space / filter strip after the contributing drainage area has been stabilized.	
<input type="checkbox"/>	<input type="checkbox"/>	Plant installation, when required, conforms to the approved plan and all plants are healthy. Filter strips have been seeded, not sodded.	
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the completed BMP after completion of construction.	

Comments	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and conform to the approved plans and specifications (or deviations as noted above).

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_

# Construction Inspection Checklist: Urban Bioretention



Project Name: \_\_\_\_\_ Address: \_\_\_\_\_  
 DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_  
 Contractor: \_\_\_\_\_ Telephone: \_\_\_\_\_  
 Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_  
 BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

**Instructions:**

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; checkboxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the urban bioretention practice, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

BMP Construction Preparation			
Complete	Photo	Description	Date
<input type="checkbox"/>		All pervious areas of the contributing drainage areas have been adequately stabilized with a thick layer of vegetation or erosion control measures are still in place and stormwater has been diverted around the area.	
<input type="checkbox"/>		Impervious cover draining to the BMP has been constructed and area is free of equipment, vehicles and material storage.	
<input type="checkbox"/>	<input type="checkbox"/>	Stormwater is diverted around the bioretention area and perimeter E&S controls to protect the BMP during construction have been installed.	

Excavation			
Complete	Photo	Description	Date
<input type="checkbox"/>		The area is marked, and the size and location conform to the approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	Excavation has achieved proper grades and the required geometry and elevations.	



Excavation (continued)			
<input type="checkbox"/>	<input type="checkbox"/>	The box is constructed using the material specified and to the required dimensions as shown on the approved plan/design specifications. Constructed interior dimensions: _____	

Pretreatment, Filter Layer, Underdrain and Stone Reservoir Placement			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	Energy dissipaters and pretreatment practices (forebay, splash rocks, etc.) are installed in accordance with the approved plans/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	All aggregates (stone, sand, etc., as required) conform to the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	Impermeable liner/waterproofing (when required) is placed in accordance with manufacturer specifications and the approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	#57 stone is placed to achieve the required storage depth per the approved plan/design specifications. Depth of #57 stone _____ ft.	
<input type="checkbox"/>	<input type="checkbox"/>	Underdrain size and perforations conform to the approved plan/design specifications. (if applicable) Underdrain Diameter _____ inches Underdrain Material _____ Underdrain Spacing _____ ft. Perforation Size & Spacing _____ inches. Number of Cleanouts _____	
<input type="checkbox"/>		Placement of underdrain(s), cleanouts/observation wells, and underdrain fittings are in accordance with the approved plan/design specifications.	
<input type="checkbox"/>		Elevations of underdrain(s) and the outlet structure are in accordance with approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	The filter layer (choker stone/pea gravel/sand) is installed per the approved plan/design specifications. Choker material: _____ Depth of choker material: _____	

Soil Media Placement			
Complete	Photo	Description	Date
<input type="checkbox"/>		Soil media is certified by a supplier or contractor as conforming to the approved plan/design specifications.	
<input type="checkbox"/>		Filter media is placed in 12-inch lifts to the design top elevation of the bioretention area. Elevation has been verified after settlement.	
<input type="checkbox"/>	<input type="checkbox"/>	Filter media depth conforms to the approved plan/design specifications. Depth: _____ ft.	

Plant and Outlet Installation			
Complete	Photo	Description	Date
<input type="checkbox"/>	<input type="checkbox"/>	The riser or other outlet structure is set to the elevation in the approved plan/design specifications and functional.	

Plant and Outlet Installation (continued)			
<input type="checkbox"/>	<input type="checkbox"/>	Mulch composition and depth conform to the approved plan/design specifications. Depth of mulch layer: _____ Inches	
<input type="checkbox"/>	<input type="checkbox"/>	Downspouts are installed in accordance with the approved plan/design specifications. (for planter boxes). Inlets are installed in accordance with the approved plan/design specifications. (for BMP tree wells)	
<input type="checkbox"/>	<input type="checkbox"/>	Ponding depth is in accordance with the approved plan/design specifications after plant and mulch placement. Depth of ponding area _____ inches. (above mulch, 12" maximum)	
<input type="checkbox"/>	<input type="checkbox"/>	Signs are installed as shown on the approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	Plant installation conforms to the approved plan/design specifications and all plants are healthy.	
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the completed BMP after completion of construction.	

Comments	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans and specification (or deviations as noted above).

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_

# Construction Inspection Checklist: Vegetated Roof



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

DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_

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

Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_

BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

### Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install the vegetated roof, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

BMP Construction Preparation			
Complete	Photo	Description	Date
<input type="checkbox"/>		The roof is constructed with the proper slope and material.	
<input type="checkbox"/>		Roof dimensions meet required dimensions per the approved plan. Vegetated roof dimensions and surface area: _____	
<input type="checkbox"/>		Waterproofing has been installed per the manufacturer's specifications and is watertight.	
<input type="checkbox"/>		A flood test has been performed to ensure the system is watertight. A flood test consists of placing at least 2" of water over the membrane for 48 hours to confirm the integrity of the waterproofing system.	

Vegetated Roof Components			
Complete	Photo	Description	Date
<input type="checkbox"/>		Verify the type of vegetated roof system installed: ___ Tray System ___ Built in Place System	
<input type="checkbox"/>	<input type="checkbox"/>	Root barrier, insulation, filter fabric and drainage layers are installed per the approved plan/design specifications.	
<input type="checkbox"/>	<input type="checkbox"/>	Growing media meets the approved plan/design specifications and is applied to correct depth. Growing Media Depth: _____ inches	
<input type="checkbox"/>	<input type="checkbox"/>	Conveyance/overflow structures are installed per the approved plan/design specifications. Type: _____ Dimensions: _____ Locations: _____	
<input type="checkbox"/>	<input type="checkbox"/>	Plant installation conforms to the approved plan/design specifications and all plants are healthy.	
<input type="checkbox"/>		Safe access for maintenance has been constructed per the approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the completed BMP after completion of construction.	

Complete	Photo	Verify installed per approved plans/specifications	Material	Depth	Inspection Date
<input type="checkbox"/>	<input type="checkbox"/>	Roof deck layer			
<input type="checkbox"/>		Water proofing layer			
<input type="checkbox"/>		Root barrier			
<input type="checkbox"/>	<input type="checkbox"/>	Protection layer			
<input type="checkbox"/>		Leak detection system			
<input type="checkbox"/>		Thermal insulation barrier			
<input type="checkbox"/>	<input type="checkbox"/>	Gravel drainage layer			
<input type="checkbox"/>		Filter fabric			
<input type="checkbox"/>	<input type="checkbox"/>	Growth media			

Comments Documenting Field Changes and Other Notable Items	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and conform to the approved plans and specifications (or deviations as noted above).

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_

# Construction Inspection Checklist: Wet Pond



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

DSP/DSUP/GRD #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_

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

Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_

BMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

## Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
<input type="checkbox"/>		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
<input type="checkbox"/>		A pre-construction meeting with the contractor designated to install wet pond, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
<input type="checkbox"/>		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

BMP Construction Preparation			
Complete	Photo	Description	Date
<input type="checkbox"/>		If prior use of area was for sediment control (sediment basin/trap), it has been adequately stabilized to convert and construct a permanent wet pond.	
<input type="checkbox"/>		All pervious areas of the contributing drainage areas have been adequately stabilized with a thick layer of vegetation or erosion control measures are still in place.	
<input type="checkbox"/>		Impervious cover draining to the BMP has been constructed and the area is free of equipment, vehicles, and material storage.	
<input type="checkbox"/>	<input type="checkbox"/>	Stormwater is diverted around the wet pond area and perimeter E&S controls to protect the BMP during construction have been installed.	

Excavation and Construction			
Complete	Photo	Description	Date
<input type="checkbox"/>		The area of the wet pond excavation is marked, and the size and location conform to the approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	The following components are constructed per the approved plan/design specifications: Impermeable Liner: Yes   No Anti-Seepage Controls Yes   No Outlet Protection Yes   No	
<input type="checkbox"/>	<input type="checkbox"/>	The following components are constructed per the approved plan/design specifications: Drain pipe and valve: Yes   No Pipe Length_____ Ft. Valve Size_____ Inches	
<input type="checkbox"/>	<input type="checkbox"/>	The following components are constructed per the approved plan/design specifications: Aquatic bench width_____ ft. Safety bench width_____ ft. Wetlands cell covers more than 10% of pond area (Level 2) Yes   No Number of main cells installed One   Two Forebay Yes   No	
<input type="checkbox"/>	<input type="checkbox"/>	The following components are constructed per the approved plan/design specifications: Principal Spillway Yes   No Low Flow Orifice Yes   No Emergency Spillway Yes   No	
<input type="checkbox"/>		Embankment material has been placed in 8" – 12" lifts and compacted per the approved plan.	
<input type="checkbox"/>	<input type="checkbox"/>	Plant installation conforms to the approved plan/design specifications and all plants are healthy.	
<input type="checkbox"/>	<input type="checkbox"/>	Provide a photo of the completed BMP after completion of construction.	

Comments Documenting Field Changes and Other Notable Items	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans and specification (or deviations as noted above).

Signature: \_\_\_\_\_

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

Certifying Professional's License Number (or Seal): \_\_\_\_\_



