

Module 5

Common BMP Inspection Points

Module 5 Contents

5a. Common BMP Inspection Points

Co-located practices

Installation timing

Materials

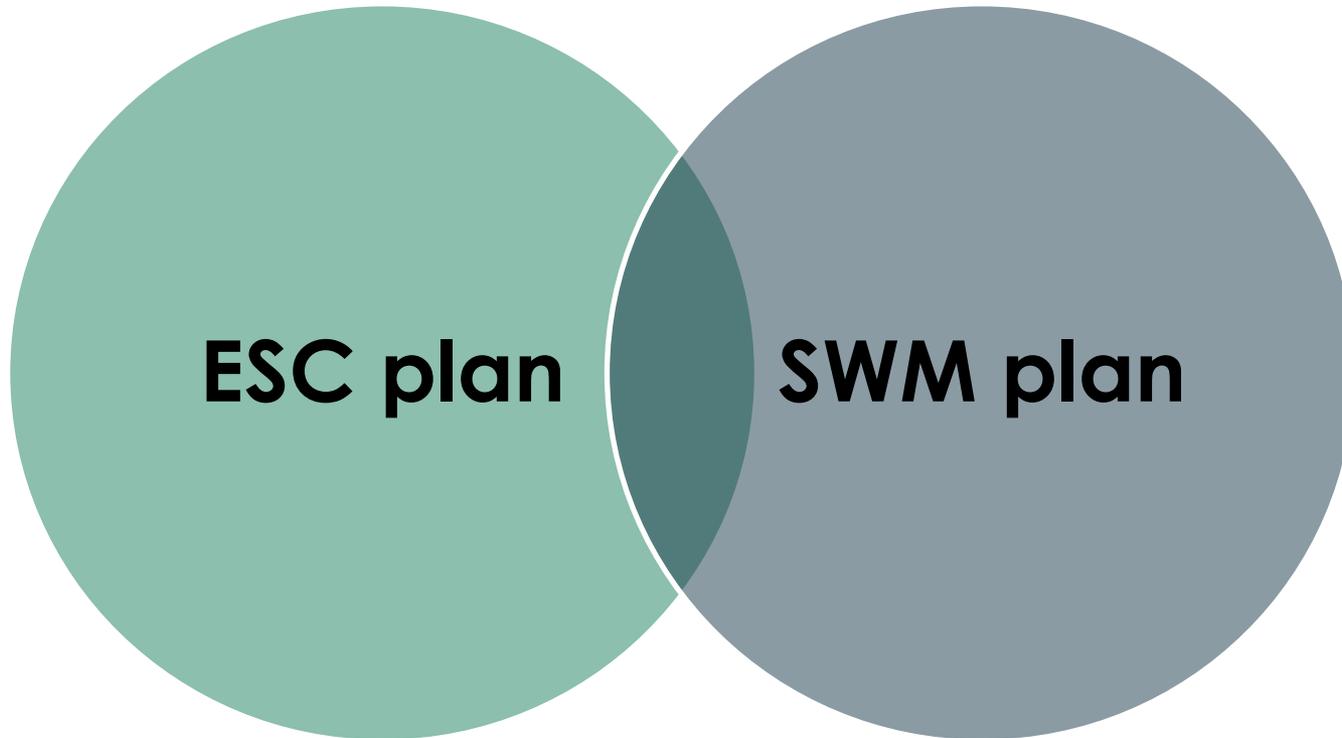
Permit termination

5b. Final BMP Inspections for Permit Termination

Module 5a.

Common BMP Inspection Points

Common BMP Inspection Points



Common BMP Inspection Points

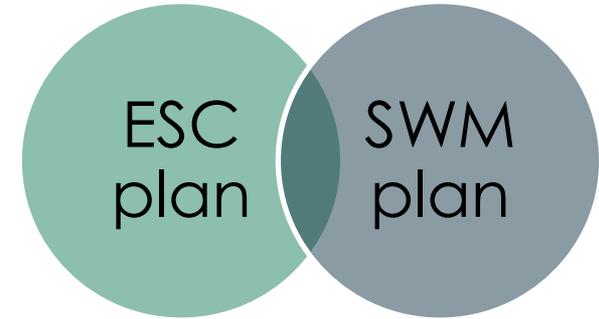
- Check the ESC and SWMP plans for:
 - Co-located practices
 - Installation timing
 - Materials

Co-Located Practices



Co-Located Practices

- Co-located practices
 - ESC practice during construction
 - Converted to post-construction BMP during final stages of construction





Sediment basin



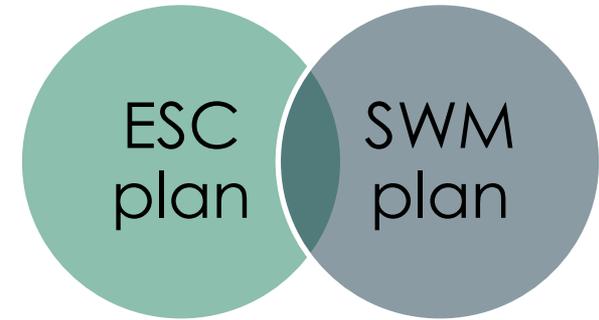
Constructed wetland



-  Riparian Buffer/Natural Area Boundary
-  Co-Located construction-phase sediment basin and post-construction BMP
-  Post-construction bioretention/infiltration area — Soil must be protected during construction.
Do **not** use for construction-phase BMPs
-  Limits of Disturbance (LOD) for construction-phase SWPPP — Must protect Riparian Buffer and post-construction infiltration area.
Fencing recommended.

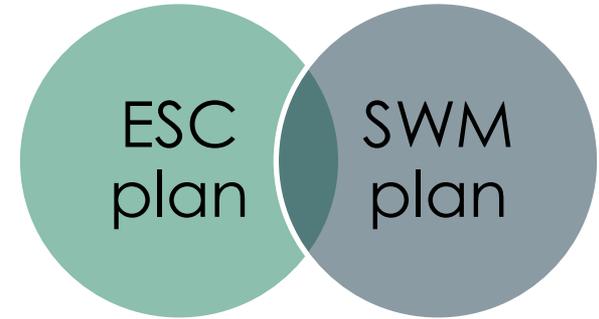
Co-Located Practices

- Why are some BMPs not co-located with ESC practices?



Co-Located Practices

- Non co-located practices
 - Operator must follow protective measures in ESC or SWM plan to keep sediment and stormwater away from the BMP location



Installation Timing

- Construction sequence
 - When should BMPs be installed?
 - After contributing drainage area has been stabilized
 - Why?
 - Keep sediment from clogging the BMP

Was the contributing drainage area stabilized?



**Are ESC practices
being used to keep
stormwater out until
stabilized?**



12 12:02PM



Are multi-phase projects converted at the correct time?

Materials

- Materials must match approved SWM plan

Is the soil media the right composition?



Filter fabric or geotextile? Where should it be placed?



Do the plants match the planting plan?



Is the stone clean, proper size, and proper dimension?



Module 5b.

Final BMP Inspections for Permit Termination

Permit Termination Checklist

Permit termination checklist

- Permit termination requirements met
- DEQ Notice of Termination form completed
 - Confirmation long-term maintenance agreement(s) recorded in local land records (when applicable)
 - Information on permanent control measures recorded (when applicable)
- Construction record drawing(s) for permanent stormwater management facilities submitted to VSMP authority (when applicable)
- Notice of Termination information entered into Construction General Permit System

Permit Termination Requirements

- DEQ Notice of Termination Form and Construction GP termination requirements
 - N.O.T. submitted within 30 days of meeting one of the following requirements:

Permit Termination Requirements

- DEQ Notice of Termination Form and Construction GP termination requirements
 1. SWPPP control measures in place and functioning effectively, final stabilization achieved, long-term maintenance agreement recorded (when applicable);

Permit Termination Requirements

- DEQ Notice of Termination Form and Construction GP termination requirements
 2. Another operator has assumed control over all areas of the site that have not been fully stabilized and obtained coverage for the ongoing discharge;
 3. Coverage under an alternative VPDES or state permit has been obtained; or

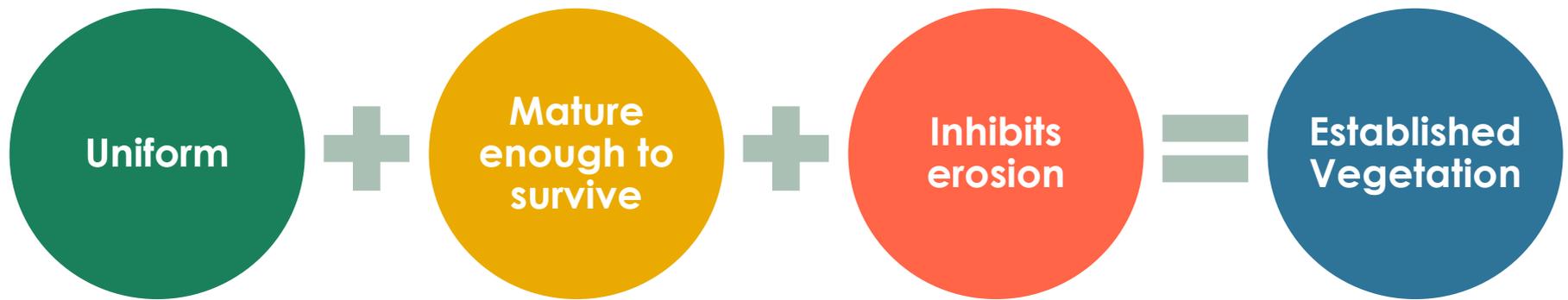
Permit termination inspections

- DEQ Notice of Termination Form and Construction GP termination requirements
 4. For residential construction only, temporary soil stabilization has been completed and the residence has been transferred to the homeowner

Final Stabilization



1. Soil disturbing activities are complete and permanent vegetative cover has been **established** on denuded areas



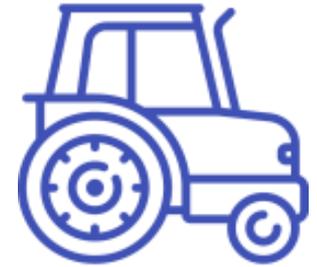
Final Stabilization



2. Individual lots in residential construction:

- a. Permanent vegetation has been established, **OR**
- b. Before occupation by homeowner:
 - Temporary soil stabilization has been established
 - Perimeter controls are in place
 - Homeowner is informed of need for, and benefits of, final stabilization

Final Stabilization



- 3. Lands used for agricultural purposes:** Final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use.

Areas not previously used for agricultural activities (e.g., buffer strips immediately adjacent to surface waters) and areas not being returned to preconstruction agricultural use: Final stabilization criteria specified in 1 or 2 above.

Important BMP Inspection Points for Permit Termination

- Is water getting into the practice?
- Any signs of erosion in or around the practice?
- Is sediment getting into the practice?
- Is vegetation growing?
- Does the practice drain correctly?

Is water getting into the practice?



Any sign of erosion in or around the practice?



Is sediment getting into the practice?



Is vegetation growing?



Does the practice drain correctly?



Long-Term Maintenance

Permit termination checklist

- ☑ Permit termination requirements met
- ☑ DEQ Notice of Termination form completed
- Confirmation long-term maintenance agreement(s) recorded in local land records (when applicable)
- Information on permanent control measures recorded (when applicable)
- ☑ Construction record drawing(s) for permanent stormwater management facilities submitted to VSMP authority (when applicable)
- ☑ Notice of Termination information entered into Construction General Permit System

Long-Term Maintenance

- Long-term maintenance agreement check
 - Runs with the land
 - Provides for access for maintenance and regulatory inspections
 - Provides for inspections and maintenance by owner and submission of reports
 - Enforceable

Construction Record Drawings

Permit termination checklist

- Permit termination requirements met
- DEQ Notice of Termination form completed
 - Confirmation long-term maintenance agreement(s) recorded in local land records (when applicable)
 - Information on permanent control measures recorded (when applicable)
- Construction record drawing(s) for permanent stormwater management facilities submitted to VSMP authority (when applicable)
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Construction Record Drawings

- Verifies BMPs have been installed according to approved SWM plan – or shows changes
- Inspector can confirm accuracy
 - Does installation match construction record drawing?
- Important for post-construction inspections and maintenance

Construction Record Drawings



Earthwork specifications



Material specifications



Dimensions and elevations survey

Check components visually and by reviewing
documentation

Construction Record Drawings

1 Earthwork specifications

- Compaction tests
- Inspections of the removal of unsuitable materials under and adjacent to the embankment foundation
- Construction of the cut off trench and other seepage control measures
- Compaction around the barrel, riser structure footing, and any other element that is hidden in the final condition

Construction Record Drawings

1 Earthwork specifications:

Geotechnical/geophysical testing

- Tests existing underlying strata which indicates the composition of that strata and if that strata will support a SWM facility
- Critical in areas of karst

Construction Record Drawings

1

Earthwork specifications: Fill classification

- Soils suitable for project infill
- Specialized criteria
- Materials used in construction of drainage and filter diaphragms comply with approved plan specifications

Construction Record Drawings

1

Earthwork specification: Compaction

- Application of “lifts” in proper thickness and density
- Compaction of dam embankment
- Compaction in areas adjacent to the barrel and seepage control measures

Construction Record Drawings

2

Material specifications: Riprap and aggregate

1. Sizing
2. Amount of fines contained within the aggregate
3. Rock integrity and shape

Construction Record Drawings

2

Material specifications: Control structure

- Project specifications for dimensions, strength and specific materials in accordance with the specifications found in the particular BMP Design Specification and any other local requirements

Construction Record Drawings

2

Material specifications: Geotextiles

- Method of installation
- Tag from product to verify compliance with product specifications in approved SWM plan

Construction Record Drawings

2

Material specifications: Conveyance system components

- How water gets to or is diverted away from the stormwater management facility

Construction Record Drawings

3

Dimensions and elevations survey

- Confirms that elevations and dimensions are consistent with the approved plan

Construction Record Drawings

- Submittal requirements
 1. Copy of applicant's inspection log book
 - Documents all aspects of the facility's construction

Construction Record Drawings

- Submittal requirements
 2. Red-line revision of the approved SWM plan sheets

Construction Record Drawings

- Submittal requirements
 3. Certification by qualified professional registered in the Commonwealth of Virginia

Questions?