

FACILITY: WETLAND - POND/WETLAND SYSTEM (W-3)*



GENERAL MAINTENANCE CARD

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PURPOSE AND FUNCTION

A wetland system that provides a portion of the water quality volume in the permanent pool of a wet pond that precedes the marsh for a specified minimum detention time.

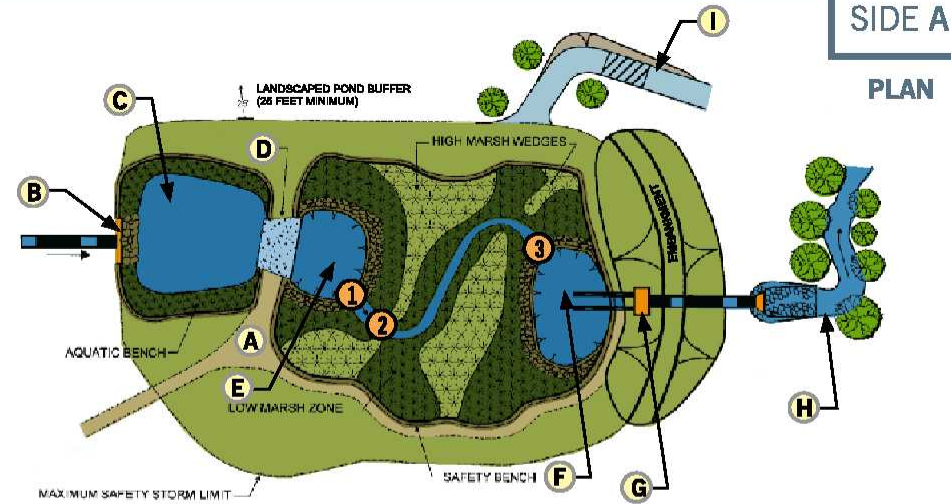
SHORT-TERM MEASURES (FREQUENCY: AT LEAST ONCE A MONTH)

Drainage Issues:

- Inspect wetland surface area.**
 - Remove accumulated debris/floatables manually or by other approved means, if required. Dispose of debris off-site.
 - Note the existence of excessive algae. If present, refer to Item 2 of Medium-Term Measures.
 - Correct any issues relating to flow short-circuiting, if present.
- Inspect the inlet structure (Location B), concrete spillway (Location D) and plunge pool (Location E).**
 - Remove accumulated debris/floatables near the inlet pipe/concrete spillway/plunge pool/rip-rap apron manually or by other approved means, if required. Dispose of debris off-site.
 - Note any cracks in pipe, headwall/concrete pipe collar, and concrete spillway.
 - Note displaced field stone at rip rap apron and plunge pool. Remove as required.
- Inspect the outlet structure (riser/barrel at Location G), micropool (Location F), and outfall (Location H).**
 - Riser/Barrel**
 - Manually remove debris accumulated on the trash rack; dispose of debris off-site.
 - Note any cracks/damage to riser/barrel (see critical maintenance issues box).
 - Manually remove debris/critters lodged in reverse-flow pipe; dispose off-site.
 - Micropool**
 - Remove accumulated debris/floatables near the inlet manually or by other approved means, if required. Dispose of debris off-site.
 - Note any displaced field stone. Remove as required.
 - Outfall**
 - Remove accumulated debris/floatables near the outfall spillway approach and discharge channels manually or by other approved means, if required. Dispose of debris off-site.
 - Note any displaced field stone. Remove as required.
- Inspect the emergency spillway (Location I).**
 - Vegetated emergency spillway channels should be mowed and should not be cut to less than 6 to 8 inches in height.
 - The emergency spillway approach and discharge channels should be cleared of brush and other woody growth.
 - After any flow has passed through the emergency spillway, the spillway crest (control section) and exit channel should be inspected for erosion. Note location of any eroded areas. Stabilize for future maintenance.
- Inspect adjacent catch basin grates and manhole covers.**
 - Remove accumulated debris; dispose off-site.

Landscaping Issues:

- Inspect overall condition of installed vegetation.**
 - Remove vegetative invasives manually, ensuring root removal, to the extent possible. Refer to Appendix 1: New York State Invasive Plants for key species. Note any significant establishment for future removal/maintenance.



MAJOR AREAS OF PRACTICE

- | | | |
|---------------------------------|-----------------------|------------------------------|
| A. Maintenance Accessway | D. Spillway | G. Outlet Structure |
| B. Inlet Structure | E. Plunge Pool | H. Outfall |
| C. Wet Pond | F. Micropool | I. Emergency Spillway |

- Relocate rodents and/or provide exclusion devices, as required.
- Trim shrubs and cut grass along street frontages, as required.
- Note condition of embankments (see critical maintenance issues box).

Perimeter Treatment (perimeter boundaries not shown in figures):

- Inspect overall condition of the perimeter treatment items.**
 - Remove accumulated litter/debris by hand; dispose off-site.
 - Promptly notify NYSDEC police regarding illegal dumping.
 - Secure gates, guiderails, signs, and boulders, as required.

MEDIUM-TERM MEASURES (FREQUENCY: ONCE EVERY SIX MONTHS)

Drainage Issues:

- Measure the sediment depth in plunge pool and micropool (Locations E & F).**
- If excessive algae persists after large storms, flush wetland surface area with clean water.**
- Inspect the inlet structure (Location B), spillway (Location D) and plunge pool (Location E).**
 - Repair cracks/damaged stones on headwall, as required.
 - Repair cracks in pipe or concrete pipe collar using a sealant, as required.
 - Repair or revegetate spillway, as required.
 - Replace displaced field stone, as required.
- Inspect the outlet structure (Location G) and micropool (Location F).**
 - Repair cracks/damage to concrete riser box, as required
 - Replace displaced field stone, as required.

Critical Maintenance Issues

- Risers and barrels**
 - Presence of corrosion
 - Weld joint weakness
 - Valves operational
 - Security key in known location
 - Clogging of barrel outlets
- Embankments**
 - No rodents
 - No trees and shrubs
 - No seepage and settlement

Albany County	City of Albany	Town of Bethlehem	City of Cohoes	Town of Colonie	Village of Colonie	Village of Green Island	Town of Guilderland	Village of Menands	Town of New Scotland	Village of Voorheesville	City of Watervliet	SUNY Albany
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* Facility abbreviations refer to 2003 NYSDEC Stormwater Design Manual practice labels

5. Inspect the emergency spillway (Location I).
 - Repair and stabilize eroded areas in the exit channel, as necessary.
6. Inspect for unstable embankments.
 - Repair/reinforce unstable embankments using field stone, plantings, etc.

Landscaping Issues:

7. Inspect plant mortality.
 - Remove dead plants by hand; dispose off-site; replant as required.
 - Trim and remove specified trees, as required.
8. Inspect for significant establishment of invasives and develop an area-wide plan for removal.
9. Inspect for herbivore damage.
 - Repair burrows/damage created by rodents, as required.
 - Introduce alternative plantings, as required.

Perimeter Treatment (perimeter boundaries not shown on figures):

10. Lubricate locks and hinges on gates, as required.
11. Refurbish or mow accessway and site perimeter, as required.
12. Inspect and repair damaged sidewalks, fencing, guiderail, and signs, as required.

LONG-TERM MEASURES (FREQUENCY: ONCE EVERY YEAR)

Landscaping Issues:

1. Inspect the Low Marsh and High Marsh zones.
 - If a minimum coverage of 50% is not achieved in the planted wetland zones after the second growing season, a reinforcement planting is required.
 - Ensure that adequate water depth is maintained for desired wetland plant species.
 - Ensure survival of desired wetland plant species and that the distribution is in accordance with the landscaping plan. Replace plantings and revise landscaping plan, as required.

LONG-TERM MEASURES (FREQUENCY: ONCE EVERY TWO YEARS)

Drainage Issues:

1. Remove sediment from plunge pool/micropool and adjacent catch basins; "vactoring" recommended.

LONG-TERM MEASURES (FREQUENCY: ONCE EVERY FIVE TO TEN YEARS)

Drainage Issues:

1. Remove sediment from wet pond; "vactoring" recommended.

DEWATERING PROCEDURE AT PLUNGE POOL/MICROPOOL

The plunge pool/micropool must be dewatered before proceeding with "vactoring" operations.

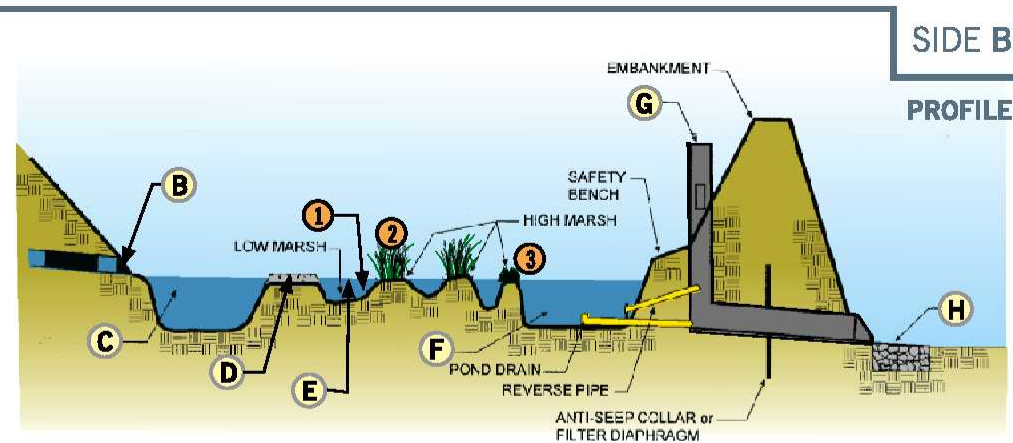
Methodology:

1. Park the "vactor" truck along the maintenance accessway near the inlet (Location A). The boom should be extended in the direction of the plunge pool/micropool.
2. Ensure clear access for a two-person crew down the slope near the plunge pool/micropool (Locations E & F).
3. Isolate the plunge pool/micropool by erecting a sand bag wall perpendicular to the direction of flow at Locations 1 & 3.
4. The sand bag wall should extend up the slopes of the rip-rap beyond the edge of water to ensure no flow conveyance.
5. Pump out water from the plunge pool to the channel downstream (Location 2) or in the case of the micropool, to a sediment tank on the other side of the embankment.
6. Proceed with "vactoring" operations.
7. On completion of "vactoring" work, disassemble the sand bag wall manually and remove from site.

"VACTORING" PROCEDURE AT PLUNGE POOL/MICROPOOL

Methodology:

1. Connect the "vactor" truck to an approved nearby source of clean water for "vactoring" purposes.



MAJOR AREAS OF PRACTICE

- | | | |
|--------------------|---------------------|-----------------------|
| B. Inlet Structure | E. Plunge Pool | H. Outfall |
| C. Wet Pond | F. Micropool | I. Emergency Spillway |
| D. Spillway | G. Outlet Structure | |

2. Place water jet hose down the slope of the plunge pool/micropool (Locations E & F). Use hose to loosen accumulated sediment.
3. Place the flexible suction hose into the plunge pool/micropool (Locations E & F).
4. Perform "vactoring" operations by simultaneously using the suction arm and water jet hose to remove slurry until the rip-rap base is reached.
5. Continue slurry removal until capacity of "vactor" truck is reached.
6. Stop "vactoring" work. Dispose of slurry off-site.
7. Repeat Steps 1-6 until all the sediment has been removed.
8. After "vactoring" work is complete, carefully remove the flexible suction hose and the water jet hose from the plunge pool/micropool, and transport them back to the truck.
9. Inspect the accessway and adjacent area for damage, such as dislodged field stone, wood chips, etc., and refurbish as required.

Paperwork and Reporting

- 1) Refer to site specific SWPPP and regulated MS4 for reporting requirements related to maintenance
- 2) Report practice failures to owner-operator and relevant regulated MS4

Note: Secure locks on gates as necessary prior to exiting site.

Required Maintenance Permits	
Issuing Agency	Regulated Parameters
1. U.S. Army Corps of Engineers	- Sediment Removal and Placement of fill within wetlands
2. NYSDEC	- Temporary dewatering of wetland - Revegetation - Herbicide application

Maintenance Considerations During Design

- Erosion and Sediment Control
 - Inlet/Outlet Protection
 - Sediment Removal
- Landscaping
- Mechanical Issues
 - Pipe Considerations
 - Adjustable Gate Valve
- Pond Drain
- Maintenance Access
- Cold Climate Considerations