

Field Checklist

for

Closed Sand Filter with Underground Detention

Date of Certification Assessment: _____

Assessing and Certifying NCPE: _____ Seal:

SCM Facility Name: _____

Access Address: _____

PIN/s of Parcel/s Where the Facility is Sited: _____

CHECKLIST

All items in this checklist must be compliant.

If an item is not applicable, write "N/A" next to the item.

If the engineer believes the non-compliant item still meets its intended purpose and is therefore acceptable he/she must include the following in the "Additional Comments" box at the end of this form:

- *A description of how the non-compliant item deviates from the standards and/or approved construction drawings, and*
- *An explanation of why this deviation is acceptable and how the deviation still meets the intended purpose behind the requirement.*

A. Drainage Area

- The drainage area to the facility is as per the design documents, or if there are deviations from the design drainage area, these deviations do not render the SCM undersized or result in insufficient on-site treatment to meet regulatory requirements.
- The drainage area to the facility is completely stabilized, and no excess sediment is discharging into the sediment chamber or sand filter.

B. Easements and Accessibility

- The SCM access way as constructed matches what is shown on the recorded final plat and is fully contained in the SCM Access and Maintenance Easement.
- The SCM Access and Maintenance Easement is clear of obstructions and traversable by anticipated maintenance equipment.
 - It is a minimum of 10 feet wide,
 - It has a maximum centerline grade of fifteen percent (15%) and
 - It has a maximum cross-slope of ten percent (10%).
- Unless it has been surfaced with gravel, asphalt, concrete, etc., in accordance with approved construction drawings, 85% of the SCM Access and Maintenance Easement has achieved a healthy stand of grass.

C. Internal Accessibility

- A Bilco®-type door (or approved equivalent), or other approved access ways, has been provided as shown on the construction drawings. Access points that occur in areas subject to vehicular traffic are of the traffic bearing type.
- All access ways into the unit(s) have steps or ladders installed as shown on the construction drawings. Access ways do not decrease in size from the opening at ground level. Internal sections of the access way are not offset from the opening at the ground level.
- Provided openings do not inhibit confined space entry procedures for safety.
- All internal sections of the unit can be accessed from an approved access way.
- Access to all flow control valves (and/or valve operating handles) is provided from dry areas. Unit can be drained to accommodate maintenance activities and inspections. Method to drain unit appropriately described within operation and maintenance manual.

D. Sediment Chamber/Underground Detention Chamber

- The sediment chamber/underground detention chamber minimum size has been installed in accordance with the construction drawings.
- The depth of the sediment chamber/underground detention chamber is as specified in the approved construction drawings.
- The ports and weirs that drain the sediment chamber into the sand chamber have been installed in accordance with the construction drawings.
- Any flow splitters or bypass systems have been constructed in accordance with the approved construction drawings.
- The foundational support for and the backfill around the structure have been placed in accordance with the construction drawings.
- All accumulated sediment and other debris in the sediment chamber has been removed.
- All valves, pipe connections, and chamber section joints are sealed and are water tight.

E. Sand Chamber

- The sand chamber minimum size has been installed in accordance with the construction drawings.
- The sand chamber has been constructed such that the maximum head above the sand layer is in accordance with the approved construction drawings.
- The foundational support for and the backfill around the structure have been placed in accordance with the construction drawings.
- The required sand, choking stone or filter fabric, and gravel layer(s) have been installed in accordance with the approved construction drawings, and there is no sediment or debris in the sand chamber.
- The underdrain system has been installed in accordance with the approved construction drawings. All underdrain joints have glued watertight connections.
- Solid underdrain cleanouts have been installed in accordance with the construction drawings. Screw-on type (or otherwise approved) cleanout caps have been provide for all cleanout pipes.

- Any flow splitters or bypass systems have been constructed in accordance with the approved construction drawings.
- Even flow distribution into the sand chamber has been provided in accordance with the construction drawings and is not creating scour in the sand chamber.
- The bottom of the structure is located at least one foot above the seasonal high water table.
- The filter has been observed by the certifying engineer on _____ [fill in date] to draw down the runoff from the first inch of rainfall (minimum) in a manner consistent with that specified in the approved construction drawings.
- All valves, pipe connections, and chamber section joints are sealed and water tight connections.

F. For Separate (Connected by Pipes Only) Control Structure and Principal Spillway Pipe/Pipe Connections

- The weir control structure is reinforced concrete.
- The dimensions of the structure match the approved construction drawings.
- The structure and all appurtenant devices appear to be sound.
- The structure is free of debris or obstructions.
- The foundational support for and the backfill around the structure have been placed in accordance with the construction drawings.
- All orifices, valves, siphons, ports, and weirs were installed in accordance with the construction drawings.
- Unless otherwise approved on the construction drawings, all pipes entering and exiting the system are reinforced concrete with a minimum pipe strength conforming to ASTM C-76 Class III standards.
- The diameters of all pipes are as specified on the construction drawings.
- If the principal spillway pipe is NOT discharging to a downstream drainage system, the principal spillway pipe is wrapped with a layer of geotextile filter fabric on the outside of each pipe joint.
- Based on a visual inspection, it appears that the joints of the PSP were “homed” reasonably well, and it appears that no joints are leaking.
- Access into the control structure has been provided in accordance with the construction drawings.
- All valves and pipe connections are sealed and water tight connections.

G. For Co-located/Internal Control Structure and Principal Spillway Pipe/Pipe Connections

- The control structure walls are reinforced concrete.
- The dimensions of the structure match the approved construction drawings.
- The structure and all appurtenant devices appear to be sound.
- The structure is free of debris or obstructions.
- All orifices, valves, siphons, ports, and weirs were installed in accordance with the construction drawings.

- (unless otherwise approved on the construction drawings) All pipes entering and exiting the system are reinforced concrete with a minimum pipe strength conforming to ASTM C-76 Class III standards.
- The diameters of all pipes are as specified on the construction drawings.
- If the principal spillway pipe is NOT discharging to a downstream drainage system, the principal spillway pipe is wrapped with a layer of geotextile filter fabric on the outside of each pipe joint.
- Based on a visual inspection, it appears that the joints of the PSP were “homed” reasonably well, and it appears that no joints are leaking.
- Access into the control structure has been provided in accordance with the construction drawings.
- All valves and pipe connections are sealed and water tight connections.

H. Outfall Structure and Outfall Area

- If not discharging to a storm sewer system:
 - The outfall structure has been installed in accordance with the construction drawings and there is no evidence of stability issues.
 - The principal spillway pipe is securely attached/grouted to the headwall or flared end section and this joint is smoothly finished with no evidence of gaps, cracks, and spalling
 - Energy dissipation has been provided in accordance with the construction drawings.
 - The outfall area and downstream channel(s)/receiving area appear stable, and all accumulated silt and debris has been removed.
- If discharging to a storm sewer system,
 - The receiving manhole has no visible signs of deficiencies and all accumulated silt and debris has been removed.
 - The principal spillway pipe is securely attached/grouted to the downstream manhole, and this joint is smoothly finished with no evidence of gaps, cracks, and spalling.

Additional Comments by Certifying Engineer: