

# Field Checklist

for

## Open Sand Filters

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.
- Unobstructed maintenance vehicle access has been provided to the control structure and all inlets, and access to the facility and top of the dam meets the following conditions per field observation and survey spot shot data:
  - It is a minimum of 10 feet wide.
  - It has a maximum centerline grade of fifteen percent (15%).
  - 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. Sediment Chamber (Forebay)

- The sediment chamber minimum size has been installed in accordance with the construction drawings.
- The depth of the sediment chamber is as specified in the construction drawings.
- The top of the forebay berm has been installed level, and 100% of the berm has either achieved a healthy stand of turf grass or been armored in accordance with the construction drawings.
- All accumulated sediment and other debris in the sediment chamber has been removed.
- All inlet pipes have been installed with appropriate end treatments, including curtain walls, in accordance with the approved construction drawings.
- All inlet pipes are well homed and securely attached/grouted to their headwalls/flared end sections. The joints are smoothly finished with no evidence of gaps, cracks, and spalling.

### D. Sand Chamber

- The sand chamber minimum size has been installed in accordance with the approved 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 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 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 approved construction drawings. Screw-on type (or otherwise approved) cleanout caps have been provided for all cleanout pipes.
- All side slopes leading to the sand chamber are no steeper than 3:1.
- 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.
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- 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.

### E. Dam Embankment

- The narrowest top of dam width is \_\_\_\_\_.
- The steepest slope on the upstream face of the dam is \_\_\_\_\_.

- The steepest slope on the downstream face of the dam is \_\_\_\_\_.
- Based on manual rod probings of the dam, particularly in the zones over and around the principal spillway pipe, the dam appears to have been well compacted.
- The dam and dam foundation, groin, toe, and abutment areas are completely free of trees, landscaping, and other woody growth.
- The dam has been fine graded and is free of ruts, erosion, etc.
- 85% of the SCM slopes (cut slopes and dam embankment) and dam foundation, groin, toe, and abutment areas have achieved a healthy stand of grass. The dam is not overgrown and there is no undesirable vegetation.
- No evidence of seepage was noted on the downstream face of the dam.

## **F. Emergency/Outlet Spillway**

- The narrowest width of the control section is \_\_\_\_\_.
- The side slopes of the control structure are [Left] \_\_\_\_\_ and [Right] \_\_\_\_\_.
- The size, shape, and alignment of the exit channel are in accordance with the construction drawings.
- Armoring has been installed in accordance with the construction drawings \_\_\_\_\_.
- The spillway has been fine graded and is free of ruts, erosion, etc.
- Excluding the hard-surfaced armored area, 85% of the spillway has achieved a healthy stand of grass. The spillway is not overgrown and there is no undesirable vegetation.

## **G. Riser/Control Structure**

- The riser/control structure is reinforced concrete.
- The diameter or opening dimensions of the riser is/are \_\_\_\_\_.
- A top, peak-roofed trash rack has been provided and bolted down to the riser, or, if the riser is of a different configuration, it has been constructed in accordance with the construction drawings.
- A trash rack access hatch (minimum 2' x 3') and steps down the inside of the riser have been provided.
- The riser structure and all appurtenant devices appear to be sound.
- The riser is free of debris or obstructions.
- For precast structures, the barrel sections were installed with gasketed joints, adjacent riser barrel sections have been bolted together with stainless steel strapping, and there is no evidence of leakage at the joints.
- All orifices, siphons, ports, and weirs were installed in accordance with the construction drawings.
- The anti-flotation ballast has been provided in accordance with the construction drawings.
- A placed concrete invert to the invert out of the principal spillway pipe (PSP) has been provided.

## **H. Principal Spillway Pipe**

- The PSP is reinforced concrete with a minimum pipe strength conforming to ASTM C-76 Class III standards.

- The diameter of the PSP is \_\_\_\_\_.
- The principal spillway pipe was 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.
- No piping (loss of soil) is evident around the PSP \_\_\_\_\_.

## I. Outfall Structure and Outfall Area

- The principal spillway pipe is securely attached/grouted to the headwall or downstream manhole, and this joint is smoothly finished with no evidence of gaps, cracks, and spalling.
- 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.
  - 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 appears stable and all accumulated silt and debris has been removed.

Additional Comments by Certifying Engineer: