

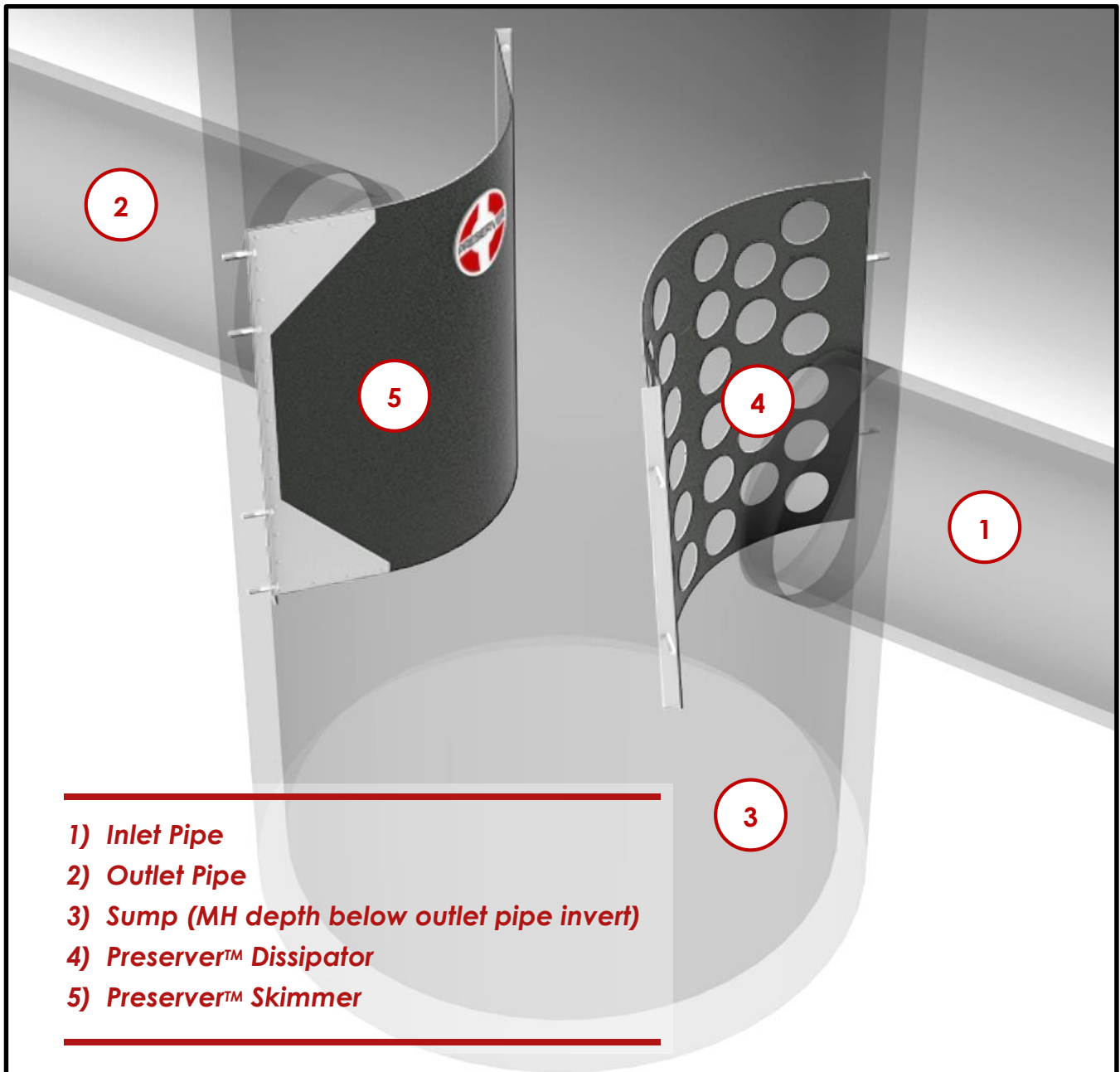


Patent Pending



SIMPLE • EFFECTIVE • AFFORDABLE • STORMWATER SOLUTIONS

Preserver™ Inspection & Maintenance Manual



1. Inspection & Maintenance Introduction

Proper inspection and maintenance of any stormwater treatment device is critical to its performance and longevity. Keeping that unavoidable fact in mind, ease of maintenance was a key element in the design of The Preserver™. The Preserver™ components have been designed to provide ease of access, and maximize accessibility to the structure without the need for confined space entry. Inspection and maintenance can be performed quickly, easily, and inexpensively. In addition, cleanout of the structure requires little or no more than vacuuming.

Following the guidance provided in this document will help to ensure proper function and maximize the benefits provided by The Preserver™.



2. Inspection¹

Frequency

Following installation of Preserver™ components, structures should be inspected often until a maintenance frequency can be determined. At a minimum, inspections are recommended twice annually, in the Spring and Fall. Depending on your local climate, the Spring inspection should follow snowmelt, blossom/seed fall, Spring street cleaning, and will ideally occur prior to heavy rainfall. Fall inspection should follow leaf fall, Fall street cleaning, and will ideally occur prior to snow/rainfall.

1) An "Inspection and Maintenance Log" sheet is available for download at www.MomentumEnv.com.

Inspection Items

Noteworthy items during inspection include (but are not limited to):

- Pollutant depths²
 - Oil/floatables
 - Sediment/settleable solids
- Site conditions³
 - Stabilized
 - Construction activity
 - Equipment wash-down
 - Erosion
 - Winter sanding
- Whether maintenance/cleaning was performed
- Pollutant composition
 - Hydrocarbons
 - Oil
 - Gas
 - Grease
 - Trash
 - Organics
- Water level (below outlet invert indicates leaking)
- Structural condition
 - Casting condition
 - Chimney condition
 - Adjusting ring deterioration
 - Leaking/proper seal
 - Spalling concrete
 - Preserver™ components
 - Condition
 - Connections
 - Debris accumulation

3. Maintenance

Frequency

Annual maintenance of treatment structures is common, and is typically performed in the Fall following leaf fall and street cleaning, and ideally occurs prior to snow/rainfall. However, each site is unique, and structure-specific maintenance may be more or less frequent. The maintenance frequency should be determined as described in Section 2. At a minimum, pollutant storage volumes must not be exceeded (Section 4).

Execution^{4,5}

Structure cleanout will typically require no more than vacuuming out the water and debris contained in the structure. Water can be sprayed to dislodge and/or move debris for vacuum collection. Following cleanout, the structural condition should be determined. Any repairs determined necessary should be done as soon as possible. Contact Momentum should Preserver™ replacement parts be needed.



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- 2) When measuring sediment depth, the tape/rod should be lowered slowly until minimal resistance is detected.
 - 3) When noting site conditions, the entire treatment structure's drainage area should be included.
 - 4) Collected pollutants must be disposed of properly.
 - 5) Should physical access be determined necessary, confined space entry procedures must be followed.

4. Storage Volumes

Use the table and methodology below to determine allowable pollutant storage volumes for The Preserver™. The methodology below assumes that circular pipe and stock Preserver™ components are used – please contact Momentum if customized components or calculations are needed for your project.

Structure Diameter (ft)	Structure Footprint ¹ (sf)	Storage Volume Per Foot of Depth* (cf)	Storage Volume Per Foot of Depth ¹ (gal.)
4'	12.6	12.6	94.0
5'	19.6	19.6	146.9
6'	28.3	28.3	211.5
7'	38.5	38.5	287.9
8'	50.3	50.3	376.0
9'	63.6	63.6	475.9
10'	78.5	78.5	587.5
12'	113.1	113.1	846.0

*Adjust footprint and storage volume values accordingly for square and rectangular structures.

Cleanout depths vary according to outlet pipe diameter:

- Maximum Oil/Floatables Depth = $\frac{1}{2}$ x outlet pipe diameter
- Maximum Sediment Depth = sump depth – outlet pipe diameter

Example:

- 5' diameter structure
- 4' sump depth
- 18" outlet pipe diameter

Oil/Floatables Storage:

Maximum Oil/Floatables Depth = $\frac{1}{2}$ x 18" = 9" or 0.75'

Maximum Oil/Floatables Volume = 0.75' (max. depth) x 146.9 gal. (5' structure diameter volume/ft) = 110.2 gallons

Sediment/Settleable Solids Storage:

Maximum Sediment Depth = 4' (sump depth) – 18" (outlet pipe dia.) = 2.5'

Maximum Sediment Volume = 2.5' (max. depth) x 19.6 cf (5' structure diameter volume/ft) = 49.0 cubic feet



Preserver™ Inspection & Maintenance Log

Site ID: _____

Structure ID: _____

Structure Diameter: _____

Sump Depth: _____

Outlet Pipe Diameter: _____

Date	Initials	Oil/ Floatables Depth	Sediment Depth	Cleaned?		Notes ³ :
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	
				Y	N	

NOTES:

- 1) Following installation, structures should be inspected a minimum of twice annually, in the Spring and Fall. Depending on your local climate, the Spring inspection should follow snowmelt, blossom/seed fall, Spring street cleaning, and will ideally occur prior to heavy rainfall. Fall inspection should follow leaf fall, Fall street cleaning, and will ideally occur prior to snow/rainfall.
- 2) Owners should plan for annual Fall maintenance. Once sufficient inspections have been logged to determine a trend, maintenance can be adjusted accordingly.
- 3) Noteworthy items during inspection/maintenance may include: site conditions (stabilized, construction, erosion, etc.), pollutant composition (oils, trash, organics, etc.), low water-level (leaking structure), structural condition (casting, spalling concrete, Preserver™ components, etc.), etc.
- 4) Refer to "Preserver™ Inspection and Maintenance Manual" for additional guidance and requirements.