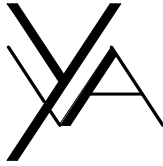


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TYPICAL DRAFT

Printed: December 2022

Stormwater Management Operation & Maintenance Manual

for

Lot xx, Block 147

in the

**Township of Mendham
Morris County, New Jersey**

'wo#222040

xxxx xx, 2022

.....with reference to typical lot development layouts presented by submitted subdivision plans entitled, 'Lawrence Farm Estates Subdivision', for review by the Mendham Township Planning Board.....
.....final form shall reflect the final design of the stormwater improvements to be approved by the Municipal Engineer.....

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Preventative Maintenance Log	
Corrective Maintenance Log	

Insert:

Stormwater Management Facilities As-Built Plan.....	[FUTURE Pending].....
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Ownership and Maintenance Responsibility

Owner _____
Permanent Legal Address _____
City/Town Mendham Township State NJ Zip Code _____
Name of Facility, if applicable: Lot Development Project
Address (Street/Road) _____
Lot No. _____ Block No. 147
Municipality Mendham Township County Morris

The owner(s) of the Stormwater Management Facility (SWMF) shall be responsible for the maintenance of all permanent stormwater quality measures as outlined in this plan. Also, the owner shall be responsible for the required inspections and maintenance obligations related to the stormwater management facilities.

The Stormwater Management Facility (SWMF) at _____ shall consist a bioretention basin, inlet(s), outlet(s) and pipe connections. These installed components of the Stormwater Management Facility (SWMF) at _____ shall be presented by the ‘Stormwater Mangement Facilities As-Built Plan’ [**FUTURE PENDING**] to be found in the back of this manual (*see insert*).

Per Mendham Township Ordinance Chapter 11, Sect.X.B.9, “In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance or repair, the municipality shall so notify the responsible person in writing Upon receipt of that notice, the responsible person shall have fourteen (14) days to effect maintenance and repair of the facility in a manner that is approved by the municipal engineer or his designee. The municipality, at its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair, the municipality or County may immediately proceed to do so and shall bill the cost thereof to the responsible person. Nonpayment of such bill may result in a lien on the property”.

Per Mendham Township Ordinance Chapter 11, Sect.X.B.5, this Operations & Maintenance manual and any future revisions shall be recorded upon the deed of record for the property. An annual inspection report must be submitted to the Township Engineer no later than April 1st of each year. The owner of the Stormwater Management Facility (SWMF) shall be responsible for the submittal of the annual inspection report.

Quick Reference Maintenance Action Chart

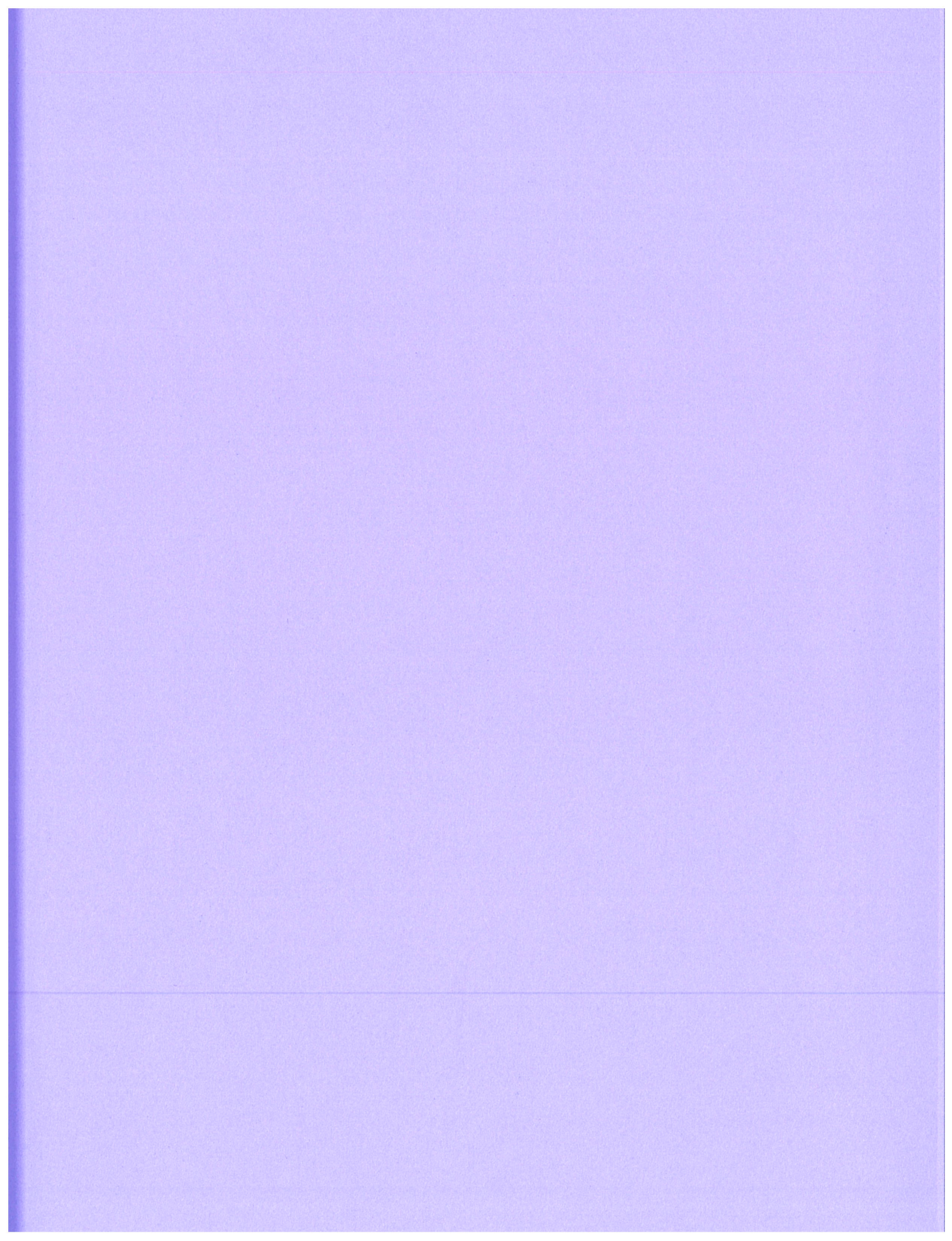
Required Action	Maintenance Objective	Frequency of Action *
Lawn mowing and lawn care	Occasional mowing to limit unwanted vegetation. Maintain turf grass as 2 to 4"	Routine - Depending on aesthetic requirements.
Debris and litter removal	Remove debris and litter to minimize outlet clogging and improve aesthetics.	Routine - Including just before annual storm seasons (that is, April and May) and following significant rainfall events.
Erosion and sediment control	Repair and revegetate eroded areas.	Non-routine - Repair as needed based on regular inspections.
Structural	Repair inlets, outlets, manholes and subsurface systems whenever damage is discovered.	Non-routine - Repair as needed based on regular inspections.
Inspections	Inspect to insure that the outlet structures and discharges continue to function as initially intended. Examine outlets for clogging, erosion excessive sedimentation levels, overgrowth, embankment integrity, and damage to any structural element.	Routine - Annual inspection of hydraulic and structural facilities. Also check for obvious problems during routine maintenance visits, especially for plugging of outlets.
Nuisance control	Address odor, insects, and overgrowth issues associated with stagnant or standing water in the bottom zone.	Non-routine - Handle as necessary per inspection or local complaints.
Sediment removal	Remove accumulated sediment from problem areas, re-vegetate as necessary.	Non-routine - Performed when sediment accumulates in the bioretention swale bottom, inlet, outlet and/or piping network. As needed based on regular inspections.

Cost Estimate for Stormwater Management Facility Maintenance

The following is a cost estimate for the routine and non-routine items outlined in this manual. The costs below represent average market value and do not take into account future inflation of wages and materials.

All unit prices do not include de-watering, soil testing or certifications, permits of any kind, removal or disposal of hazardous materials.

Cost Estimate for Stormwater Management Facility (SWMF) Maintenance		
Item	Unit Cost	Yearly Cost
Lawn mowing	Lawn mowing to be performed by the owner/tenant (ie. within swale and surrounding inlets/outlet discharges) \$xx	\$xx
Fertilize	\$ xx / acre	\$ xx. x xx acres = \$ xx Performed annually
Spring Clean-up	\$ xx./ acre	\$ xx. x xx acres = \$xx Performed annually
Debris and Litter Removal	Cost has been included in Lawn mowing. Additional removal may be handled by Owner/Tenant	N/A
Replace Landscaping / Lawn	\$ xx per sq. yd.	Performed as necessary
Inspections	To be performed by Responsible Agent	Price Varies
12" HDPE Pipe	\$xx per linear foot	Replace as needed
Manholes/connection structures	Varies by manufacturer	Repair or Replace as needed
Drainage Inlet	\$xx per 'A' inlet unit	Repair or Replace as needed
Outlet control structure	\$xx per 'E' inlet unit	Repair or Replace as needed
Sediment Removal	\$xx per ton	Performed as necessary
Preformed Scour Hole w/FES	\$xx per unit	Repair or Replace as needed



Stormwater Management Measures Maintenance Plan

**Lawrence Farm Estates
Lot _____, Block _____
Mendham Township, NJ**

Inspection and Maintenance Records

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Part I – Inspection Checklist Log

1. **The responsible party shall report issues to the local authority and mosquito commission as required by local ordinances and regulatory authorities.**
2. The maintenance persons should fill out the checklist in the field manual when performing each inspection/maintenance task.
3. After the maintenance task is performed, the checklist should be filed in the Maintenance Plan and recorded in the log below.

Part II – Preventative Checklist Log

Part III – Corrective Checklist Log

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Inspection Checklist Log

Cycle of Inspection	Stormwater Management Measure No.	Checklist No.	Date(s) of Inspection
(1st Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(2nd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(3rd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(4th Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(Unscheduled Inspection; e.g., after 1" rain) MM/DD/YYYY			
(1st Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(2nd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(3rd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		

Cycle of Inspection	Stormwater Management Measure No.	Checklist No.	Date(s) of Inspection
(4th Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(Unscheduled Inspection; e.g., after 1" rain) MM/DD/YYYY			
	Copy table when necessary		

Attach the Inspection Checklist after each inspection

Preventative Maintenance Log

Maintenance Schedule	Stormwater Management Measure No.	Preventative Maintenance Record No.	Date(s) of Maintenance
(1st Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(2nd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(3rd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(4th Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(Unscheduled Maintenance work; e.g., after 1" rain) MM/DD/YYYY			
(1st Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(2nd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		

Maintenance Schedule	Stormwater Management Measure No.	Preventative Maintenance Record No.	Date(s) of Maintenance
(3rd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(4th Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(Unscheduled Inspection; e.g., after 1" rain) MM/DD/YYYY			
	Copy table when necessary		

Attach the Preventative Maintenance Record after each maintenance task performed

Corrective Maintenance Log

Maintenance Schedule	Stormwater Management Measure No.	Corrective Maintenance Record No.	Date(s) of Maintenance
(1st Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(2nd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(3rd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(4th Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(Unscheduled Maintenance work; e.g., after 1" rain) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(1st Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(2nd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(3rd Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		

Maintenance Schedule	Stormwater Management Measure No.	Corrective Maintenance Record No.	Date(s) of Maintenance
(4th Quarter) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
(Unscheduled Inspection; e.g., after 1" rain) MM/DD/YYYY	Bioretention Basin FES/Pref.Scour DI B-type DI E-type (OCS)		
	Copy table when necessary		

Attach the Corrective Maintenance Record after each maintenance task performed