

# **OPERATIONS & MAINTENANCE MANUAL**

**For**

## **STORMWATER MANAGEMENT SYSTEM**

Located at

**DUNKIN'**

**Lot 64 Block 28005**

**TOWNSHIP OF MONTGOMERY  
SOMERSET COUNTY, NEW JERSEY**

OCTOBER, 2020

Prepared by:



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## **Inspection and Maintenance of the Stormwater Management System**

Maintenance of the stormwater management facilities discussed in this manual will be the responsibility of:

Montgomery Route 206 Realty  
1714 Woodbridge Avenue  
Edison, New Jersey

Preventative and/or routine maintenance of the stormwater management system will include periodic inspections, maintenance and repairs of the various components of the system. Montgomery Realty 206 will contract out the various items of work required for the maintenance of the stormwater management system.

A copy of the maintenance log and inspection log shall be kept on file and made available to Township stormwater coordinator and County officials upon request.

## **II. Stormwater Management System Components**

- A. Underground Detention Pipes – This site contains one (1) underground detention system consisting of 36” diameter HDPE pipes. This system is intended to provide storage and quantity control for the parking lot and building runoff. The system will be constructed with water-tight solid pipes.
- B. Stormfilter© MTD – The Stormfilter© manufactured treatment device (MTD) unit provides a TSS removal rate of 80% as approved by the NJDEP. This site contains one (1) Stormfilter© unit. This unit will provide runoff quality control for a portion of the parking lot runoff.
- C. Outlet Control Structures – The underground detention system utilizes an outlet control structure to control discharges from the pipes. The outlet structure is a concrete manhole containing a weir with an orifice and rectangular weir.
- D. Stormwater Conveyance System – The site contains underground storm drains that handle runoff from the parking area. Runoff from the parking lot is collected by drainage inlets and is directed to the water quality unit and detention system. All curb line inlets contain grates and headpieces that prevent large trash and debris from entering the system.

## **III. Preventive Maintenance Procedures**

- A. Inspections – Outfall locations must be inspected annually for erosion and scour. All components of the underground detention system must be inspected for clogging and excessive debris and sediment accumulation at least four (4) times annually as well as after every storm exceeding 1-inch of rainfall. Components to be inspected on this schedule include the Stormfilter© unit; inlets; manholes; 36” detention pipes; outlet structure weirs and orifice devices; and the curblines. Outlet control structures, inlets and other concrete structures should be inspected for structural integrity on an annual

basis. The structures should be inspected for major cracking or spalling. Grates and rims should be inspected for proper attachment.

- B. Removal of Sediment, Trash and Debris – Sediment, trash and/or debris should be removed from inlets and manholes in order to minimize the potential for blockage of the storm pipe. Sediment removal should take place when the system is thoroughly dry. Disposal of sediment, debris, trash and other waste material should be done at a suitable disposal/recycling site and in compliance with all applicable local, state, and federal waste regulations. These tasks should be performed on a semi-annual basis, or more frequently if a noticeable buildup occurs.
- C. Reporting – The results of all inspections and subsequent maintenance work should be recorded utilizing the inspection logs contained the Appendices of this manual. Review of the inspection logs will help establish more efficient maintenance procedures and practices.

#### **IV. Corrective Maintenance Procedures**

- A. Structural Repairs – Structural damage to inlets, connecting pipe, outlet control structures, solid pipe, riprap aprons or other structural components, must be repaired promptly. Repairs may include patching spalled concrete, resetting inlet castings, resetting displaced mulch, or replacing structurally unsound items.
- B. Re-vegetation, Settlement, Erosion and Scour – Over time it may be necessary to re-establish vegetation in the grasses and add mulch. Any areas where settlement has occurred shall be brought to grade with suitable material, topsoil and seed. Such areas shall be monitored on a quarterly basis to verify the problem is isolated. Any outfall area showing signs of erosion and/or scour shall be re-established to its design state. Installation of haybales or other temporary control measures may be required to minimize concentrated runoff until these areas are established.
- C. Ice Removal – Accumulations of ice can hinder the function capacity of the stormwater inlets. It may be necessary during winter months to ensure that the drainage inlets remain free from any accumulated ice so that subsequent rainfall events can be properly controlled.

#### **V. Stormfilter© Unit Maintenance**

##### A. General Maintenance

All Stormfilter© unit components expected to receive and/or trap debris and sediment must be inspected for clogging and excessive debris and sediment accumulation at least four times annually as well as after every storm exceeding 1 inch of rainfall. Such components may include bottoms, inlets, outlets, chambers, and cleanouts.

Sediment removal should be conducted at least annually and with greater frequency if excessive accumulation is observed. Disposal of debris, trash, sediment, and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state, and federal waste regulations.

#### B. Structural Components

All structural components must be inspected for cracking, subsidence, spalling, erosion, and deterioration at least annually.

**SEE FOLLOWING PAGE FOR SPECIFIC STORMFILTER© UNIT MAINTENANCE GUIDELINES**

# TABLE 1

## Maintenance Work Order and Checklist For Stormwater Management Facilities

Name of Facility: Montgomery Dunkin  
 Location: Intersection of Route 206 & Georgetown-Franklin Turnpike Date: \_\_\_\_\_  
 Crew: \_\_\_\_\_ Work Started: Date \_\_\_\_\_ Time \_\_\_\_\_  
 Equipment: \_\_\_\_\_ Work Completed: Date \_\_\_\_\_ Time \_\_\_\_\_  
 Weather: \_\_\_\_\_ Total Man-hours of Work: \_\_\_\_\_

### A. Preventive Maintenance

Work Item	Items Required (x)	Items Done (x)	Comments and Special Instructions
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#### 1. Grass Cutting

A. Lawns (Annually, early fall)			
B. Embankments and Side Slopes (Annually, early fall)			
C. Grass Swales and Perimeter Areas (Monthly, or as required)			
D. Access Areas and Roads (Monthly or as required)			
E. Other:			

#### 2. Ground Cover Maintenance

A. Re-Seeding			
B. De-Thatching			
C. Conduit Outlet Protection			
D. Other:			

#### 3. Trash and Debris Removal

A. Detention system			
B. Embankments and Side Slopes			
C. Perimeter Areas			
D. Access Areas and Roads			
E. Inlets			
F. Outlets and Trash Racks			
G. STORMFILTER© Unit:			
H. Other:			

Work Item	Items Required (x)	Items Done (x)	Comments and Special Instructions
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**4. Sediment Removal**

A. Detention System			
B. Stormfilter© Units			
C. Outlet Structures			
D. Inlets and Manholes			
E. Other:			

**5. Structural Components  
(Inspect the following items)**

A. Outlet Structures			
B. Orifices & Weirs			
C. Trash Racks and Grates			
D. Stormfilter© Unit			
E. Detention system			
F. Other:			

**6. Other Preventive Maintenance**

A.			
B.			
C.			

**B. Corrective Maintenance**

Work Item	Items Required (x)	Items Done (x)	Comments and Special Instructions
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**1. Removal of Debris & Sediment**

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**2. Structural Repairs**

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**3. Detention System**

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**4. Erosion and Scour Repair**

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**5. STORMFILTER© Unit**

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Work Item	Items Required (x)	Items Done (x)	Comments and Special Instructions
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6. Snow & Ice Removal

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7. Other

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### **C. Aesthetic Maintenance**

Work Item	Items Required (x)	Items Done (x)	Comments and Special Instructions
1. Trash Removal			
2. Grass Trimming			
3. Weeding			
4. Other:			

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**Remarks** (Refer to Item No., if Applicable):

**Work Order Prepared By:** \_\_\_\_\_

**Work Completed By:** \_\_\_\_\_

**TABLE 2**

**Maintenance Log  
For  
Stormwater Management Facilities**

Name of Facility: Montgomery Dunkin  
Location: Intersection of Route 206 & Georgetown-Franklin Turnpike Date:                     

**A. Preventive Maintenance**

Work Item

Date/Completed (x)

**1. Grass Cutting**

A. Lawns (Annually, Early Fall)							
B. Embankments and Side Slopes, (Annually, early fall)							
C. Perimeter Areas, (Monthly or as required)							
D. Access Areas and Roads (Monthly, or as required)							
E. Other:							

**2. Ground Cover Maintenance**

A. Re-Seeding							
B. De-Thatching							
C. Conduit Outlet Protection							
D. Other:							

**3. Trash and Debris Removal**

A. Detention system							
B. Embankments and Side Slopes							
C. Perimeter Areas							
D. Access Areas and Roads							
E. Inlets and STORMFILTER© Unit							
F. Outlets and Trash Racks							
G. Other:							

**4. Sediment Removal**

A. Detention system							
B. STORMFILTER© Unit							
C. Outlets Structures							





TABLE 3  
**Inspection List  
 For  
 Stormwater Management Facilities**

Name of Facility: Montgomery Dunkin  
 Location: Intersection of Route 206 & Georgetown-Franklin Date:

Facility Item	O.K. <sup>1</sup>	Routine <sup>2</sup>	Urgent <sup>3</sup>	Comments <sup>4</sup>
<b>1. Embankments and Side Slopes</b>				
A. Vegetation				
B. Erosion				
C. Settlement				
D. Sloughing				
E. Trash and Debris				
F. Seepage				
G. Aesthetics				
H. Other:				

**2. Detention System**

A. Vegetation				
B. Erosion				
C. Settlement				
D. Sloughing				
E. Trash and Debris				
F. Infiltration Rate				
G. Aesthetics				
H. Other:				

**3. Outlet Structure**

A. Condition of Structure				
B. Erosion				
C. Trash & Debris				
D. Sediment				
E. Trash Rack and Grates				
F. Low Flow Device/Plates				
F. Aesthetics				
G. Other:				

Facility Item                      O.K.<sup>1</sup>    Routine<sup>2</sup>   Urgent<sup>3</sup>    Comments<sup>4</sup>

#### 4. Outfall Conduit

A. Condition of End Section				
B. Riprap Apron				
C. Erosion				
D. Trash & Debris				
E. Other:				

#### 5. Perimeter

A. Vegetation				
B. Erosion				
C. Trash & Debris				
D. Fences & Gates				
E. Aesthetics				
F. Other:				

#### 6. Detention System

A. Sediment				
B. Trash and Debris				
E. Piping				
F. Other				

<sup>1</sup> The item checked is in good condition, and the maintenance program is adequate.

<sup>2</sup> The item checked requires attention, but does not present an immediate threat to the facility function or other facility components.

<sup>3</sup> The item checked requires immediate attention to keep the facility operational or to prevent damage to other facility components.

<sup>4</sup> Provide explanation and details if columns 2 or 3 are checked.

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**Remarks** (Refer to Item No., if Applicable):

**Inspector:** \_\_\_\_\_

**TABLE 4**  
**Inspection Log**  
**For**

Name of Facility: Montgomery Dunkin  
 Location: Intersection of Route 206 & Georgetown-Franklin Date: \_\_\_\_\_

[illegible]

Facility Item

Indicate Condition (i.e. 1, 2 or 3)

## 1. Embankments & Side Slopes

[illegible]

## 2. Detention System

[illegible]

### 3. Inlet Structure

[illegible]

#### 4. Outlet Structure

A. Condition of Structure										
B. Erosion										
C. Trash & Debris										
D. Sediment										
E. Mechanical Components										
F. Aesthetics										
G. Other:										

#### 5. Outfall Conduit

A. Vegetation										
B. Riprap Apron										
C. Erosion										
D. Trash & Debris										
E. Other:										

#### 6. Perimeter

A. Vegetation										
B. Erosion										
C. Trash & Debris										
D. Fences & Gates										
E. Aesthetics										

#### 7. Miscellaneous

A. Effectiveness of Exist. Maint. Program										
B. STORMFILTER© Unit Inspections										
C. Potential Mosquito Habitats										
D. Mosquitoes										
E.										
F.										

1. The item checked is in good condition, and the maintenance program is adequate.
2. The item checked requires attention, but does not present an immediate threat to the facility function or other facility components.
3. The item checked requires immediate attention to keep the facility operational or to prevent damage to other facility components.

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**Remarks** (Refer to Item No., if Applicable):

**Inspector:** \_\_\_\_\_

**TABLE 5**  
**SPILL RESPONSE NOTIFICATION FORM**  
**National Response Center 1-800-424-8802**

Note: It is not necessary to wait for all information before calling the NRC

REPORTER INFORMATION	
Reporter's Name	
Last	
First	
Reporter's Phone Number	
Company	
Organization Type	
Position	
Address	Street:
	City:
	State:
	Zip:
Materials Released	YES G or NO G
Confidential	YES G or NO G
Time Call Received	(use 24 hour time)
INCIDENT DESCRIPTION	
Source and/or Cause of Incident	
Date	
Time of Incident (use 24 hour time)	
Incident Address/Location	
Nearest City	
County	
State	
Zip Code	
Distance from City (miles)	
Section	
Township	
Range	
Container Type	
Tank Capacity (include units)	
Facility Capacity (include units)	
Facility Latitude	Degrees
	Minutes
	Seconds
Weather Conditions	
Facility Longitude	Degrees
	Minutes

	Seconds
Materials Released	CHRIS Code Substance/Chemical Name
YES <input type="checkbox"/> or NO <input type="checkbox"/>	Quantity, Time & Duration of Release (include units)
EHS	Material Released into water?
YES <input type="checkbox"/> or NO <input type="checkbox"/>	YES <input type="checkbox"/> or NO <input type="checkbox"/>
	Quantity Released into Water (include units)
<b>RESPONSE ACTIONS</b>	
Actions taken to Correct Incident	
Actions Taken to Control Incident	
Actions Taken to Mitigate Incident	
<b>ACTION</b>	
Number of Injuries	
Number of Deaths	
Evacuation(s) Required	YES <input type="checkbox"/> or NO <input type="checkbox"/>
	Number Evacuated:
Was There and Damage	YES <input type="checkbox"/> or NO <input type="checkbox"/>
Damage in Dollars (estimated)	
Medium Affected	
Description of Effect, Including Any Known or Anticipated Acute or Chronic Health Risks (See MSDS)	
Additional Information about Medium	
<b>ADDITIONAL INFORMATION</b>	
Any information about the incident not recorded elsewhere in this report to include, if appropriate, information regarding medical attention necessary for exposed individuals and proper precautions to take as a result of spill or release.	
<b>CALLER NOTIFICATIONS</b>	
NRC	YES <input type="checkbox"/> or NO <input type="checkbox"/>
EPA	YES <input type="checkbox"/> or NO <input type="checkbox"/>
USCG	YES <input type="checkbox"/> or NO <input type="checkbox"/>
SERC	YES <input type="checkbox"/> or NO <input type="checkbox"/>
LEPC	YES <input type="checkbox"/> or NO <input type="checkbox"/>
NOSC	YES <input type="checkbox"/> or NO <input type="checkbox"/>
Other (List)	YES <input type="checkbox"/> or NO <input type="checkbox"/>
Other (List)	YES <input type="checkbox"/> or NO <input type="checkbox"/>
Other (List)	YES <input type="checkbox"/> or NO <input type="checkbox"/>

Note: State-specific forms may be available and required for use. Consult with your State Department of Environmental Resources.