



STORMWATER MAINTENANCE PLAN AND FIELD MANUAL

FOR

**Sofia By Gomes
525 Northfield Avenue
Lot 1.01, Block 159.04
Township of West Orange
Essex County, New Jersey**

**Applicant
525 Northfield Ave., LLC
91 KOSSUTH STREET
NEWARK, NJ 07105
pedro@bygomes.com**

**Prepared by
Jarmel Kizel Architects & Engineers, Inc.**

**Jarmel Kizel Project No. GOMESGR24-223
Dated: January 28, 2026**

Anthony Facchino, PE, PLS
Professional Engineer and Land Surveyor
N.J. License No. GE042585

Signature

ARCHITECTURE
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**Stormwater Maintenance Plan for
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Note:

This manual is based on the documents and guidance provided by the New Jersey Department of Environmental Protection (NJDEP) and West Orange ordinance 25-29.13.

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Jarmel Kizel has only assembled these maintenance documents as per the guidance of the NJDEP and West Orange ordinance 25-29.13. All responsibility and costs associated with the operation and maintenance of the stormwater management system including but not limited to the stormwater facilities is solely with the owner and/or his other designated managers, operators, contractors and maintenance personnel. The owner/maintainer is solely responsible for adhering to any supplier or manufacturer requirements and directions whether or not included in these documents. The owner/maintainer is also solely responsible for following all safety protocols including but not limited to the occupational safety and hazard act whether or not included in this document.

Part I- Maintenance Plan

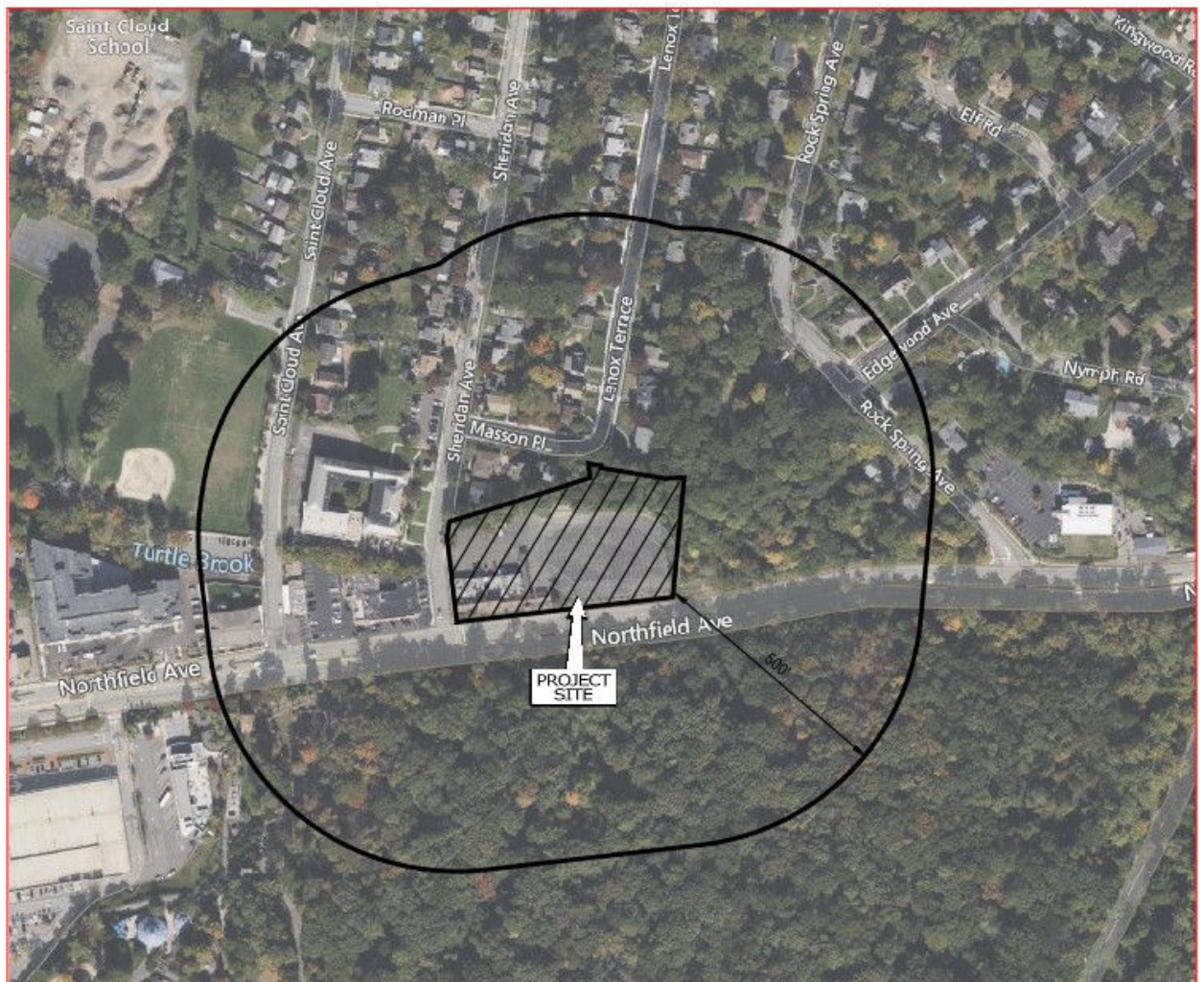
A. List of Stormwater Management Measures

The stormwater management measures incorporated into this development are listed below. The corresponding Field Manuals for the stormwater management measures are located in Part II of the Maintenance Plan.

Type of Stormwater Management Measure	BMP No.	Location Description	State Plane Coordinates / Lat., Long.
Inlets and Culvert Storm sewer collection system	1	Multiple locations On-site	40°46'14"N 74°16'36"W

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B. LOCATION MAP



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C. LOCAL AGENCIES

The following agencies are listed for the owner/operator's reference:

Hudson, Essex & Passaic Soil Conservation District
15 Bloomfield Ave.
North Caldwell, New Jersey 07006
Tel.—(973) 364-0786
Fax.—(973) 364-0784

Essex County Engineering Department
900 Bloomfield Ave.
Verona, New Jersey 07044
Tel.—(973) 226-8506
Fax.—(973) 226-7469

Township of West Orange
66 Main Street
West Orange, NJ 07052
973-325-4119

New Jersey Department of Environmental Protection
Division of Land Use Regulation
P.O. Box 420—501 East State Street
Station Plaza 5—Second Floor
Trenton, New Jersey 08625
Tel—609-777-0454
Website— www.nj.gov/dep/landuse

D. Description of Stormwater Management Measures

Storm Sewer Collection System

Design storm:

- Design Purposes:
 - o 100-year storm
- Dimensions: 12" & 15" HDPP and 72" Concrete Culvert

E. Preventative and Corrective Maintenance Action Plan

Preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measure, including, but not limited to, repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of non-vegetated linings.

Maintenance plans should include specific preventative and corrective maintenance tasks such as removal of sediment, trash, and debris; mowing, pruning, and restoration of vegetation; restoration of eroded areas; elimination of mosquito breeding habitats; control of aquatic vegetation; and repair or replacement of damaged or deteriorated components.

The maintenance plan should address the maintenance of access points to the stormwater management measures in accordance with the following:

- all components of the stormwater management measures must be readily accessible for inspection and maintenance.
- trees, shrubs, and underbrush must be pruned or trimmed as necessary to maintain access to the stormwater management measure via roadways, paths, and ramps, including paths through perimeter vegetation to permanent pools, aquatic benches, and safety ledges to allow for the inspection and control of mosquito breeding; and
- the exact limits of inspection and maintenance easements and rights-of-way should be specified on stormwater management measure plans and included in the maintenance plan.

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Preventative Maintenance Actions

Frequency	Preventative Maintenance Actions	Stormwater Measures/ No.
Monthly	Vegetation mowing and removal in growing season	Inlets
Quarterly	Sediment removal and examine system for debris, ensure inlets are clean and other semiannual preventative maintenance actions. Basin Structural Inspection Other annual preventative maintenance actions- examine inlets, access points and other system components	Inlets and Culvert
Unscheduled	Quick inspection after every rain of one (1) inch or more Video inspect Culvert every 5 years	Inlets and Culvert

Corrective Maintenance Actions

Potential Corrective Maintenance Actions	Stormwater Management Measures/No.
- Repair/Replacement of inlet castings	Inlets

Inspection and Logs of All Preventative and Corrective Maintenance

The person responsible for maintenance shall maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders in accordance with West Orange ordinance 25-29.13. **The inspection report shall include copies of photographs depicting the conditions of the BMPs.**

A maintenance plan shall include a schedule of regular inspections and tasks, and detailed logs of all preventative and corrective maintenance performed on the

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stormwater management measure, including all maintenance-related work orders. The person with maintenance responsibility must retain and, upon request, make available the maintenance plan and associated logs and other records for review by a public entity with administrative, health, environmental, or safety authority over the site.

F. Maintenance Personnel, Equipment, Tools, and Supplies

Maintenance plans should include equipment, tools, and supplies necessary to perform the various preventative and corrective maintenance tasks specified in the plan. Sources of specialized, proprietary, and nonstandard equipment, tools, and supplies will also be provided.

This section applies to both maintenance tasks that are performed by in-house personnel or are outsourced. The design engineer has to list the required amount of maintenance personnel, equipment, tools, and supplies necessary to perform the various preventative and corrective maintenance tasks specified in the plan. In addition, the sources of specialized, proprietary, and nonstandard equipment, tools and supplies for specific measures, such as manufactured treatment devices will also be listed.

Maintenance Personnel/Equipment/Tools/Supplies

Personnel/Equipment/Tools Name	Quantity
general maintenance crew	1
debris removal tools, shovels, buckets, wheel barrels, flashlight	1 set
leaf blower	1

G. Disposal Plan

The maintenance plan includes approved disposal and recycling sites and procedures for sediment, trash, debris and other material removed from stormwater management measures during maintenance operations.

Disposal/Recycling Procedures

- There is the potential for debris to build up on the surface of the system. Send debris to the appropriate disposal facility

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Disposal Field – Offsite
Class B

FACILITY NAME/COUNTY	NJEMS PI	<u>WASTE TYPE</u>	PHONE	LOCATION	MUNICIPALITY
ESSEX					
Caputo Brothers	168325	BR, L, TP, TRS, TS	(973) 857-5410	Village Park Rd.	Cedar Grove
Evergreen Recycling Solutions, LLC	499991	T, TP, TS, W	(973) 242-3030	110 Evergreen Avenue	Newark
Silva Construction & Demolition	502757	A, BB, BR, C, T, TP, TRS, TS, W	(973) 483-3792	100 Riverside Avenue	Newark
T. Fiore Recycling Corp.	132148	A, AS, BB, BR, C, T, TP, TRS, TS, W	(973) 465-1818	411 Wilson Avenue	Newark

Class C

FACILITY NAME	NJEMS PI	WASTE TYPE	TELEPHONE	LOCATION	MUNICIPALITY
ESSEX					
Millburn Township Compost	132121	BR, L	(973) 564-7060	Kennedy Parkway	Millburn

Description of the Offsite Disposal:

Disposal may be by the township, by a private operator and conveyance entity, etc.

Class B

A = Asphalt	AM = Asphalt Millings
AS = Asphalt Shingles	BB = Brick & Block
BR = Brush	C = Concrete
CW = Creosote Wood	FW = Food Waste
G = Grass	GY = Gypsum

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L = Leaves	LW = Lake Weed
PCS = Petroleum Contaminated Soil	PWR = Potable Water Residue
SS = Street Sweepings	T = Tires
TL = Tree Limbs/Tree Branches	TP = Tree Parts
TRS = Trees	TS = Tree Stumps
TT = Tree Trunks	W = Wood
WC = Wood Chips	WP = Wood Pallets

Class C

A = Asphalt	AM = Asphalt Millings
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H. Cost Estimate

Cost estimates of maintenance tasks, including, but not limited to, sediment, trash and debris removal must be included in the maintenance plan. Below is an illustration of a cost breakdown and estimation for maintenance of stormwater management measures. The actual costs may vary widely from what is shown here with factors such as local requirements, equipment, personnel, weather, and maintenance methods and other factors.

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Cost Overview

Cost Type	Cost	Details
The annual fee for the stormwater maintenance permit per West Orange 25-29-13 Fee	Per Township fee schedule	To be paid on a yearly basis
General cost for routine maintenance (quarterly maintenance)	\$3,000.00 / year	Table A
Unscheduled maintenance inspection after 1 inch of rain	\$300.00 / year	Table B
Culvert video inspection every 5 years	\$300.00 / year	Table C
Total cost	\$3,600.00 / year	

Table A: General cost for routine maintenance (quarterly maintenance)

Cost Type	Required Quantity	Unit Price	Cost
Inspector	1 persons/day-2 hours each	\$ 225.00/hr	\$ 450.00
Personnel			
Crew	1 persons/day-2 hours each	\$ 75.00/hr	\$ 150.00
Equipment			
Blower			
Services			
Subcontractor for disposal	1	\$ 150.00	\$ 150.00
Subtotal	x4		\$3,000.00
Total Cost			\$ 3,000.00 / yr

Table B: General cost – unscheduled maintenance inspection after 1 inch of rain

Cost Type	Required Quantity	Unit Price	Cost
Personnel			
Crew	1 workers- 2 hours each	\$ 75.00	\$ 150.00
Subtotal	x2		\$ 300.00
Total Cost			\$ 300.000 / yr

Table C: General cost – Culvert video inspection every **5 years**

Cost Type	Required Quantity	Unit Price	Cost
Personnel			
Crew	1 worker- 4 hours	\$ 375.00	\$ 1,500.00
Subtotal			\$ 1,500.00/5years
Total Cost			\$ 300.000 / yr

I. Safety Measures and Procedures

Maintenance plans should include procedures and equipment required to protect the safety of inspection and maintenance personnel.

Maintenance training begins with a basic description of the purpose and function of the overall stormwater management measure and its major components. Such understanding will enable maintenance personnel to provide more effective component maintenance and more readily detect maintenance-related problems. Depending on the size, character, location, and components of a stormwater management measure, maintenance personnel may also require training in specialized inspection and maintenance tasks and/or the operation and care of specialized maintenance equipment. Training should also be provided in the need for and use of all required safety equipment and procedures.

Safety Regulations and Requirements

The maintenance personnel/contractor to follow the safety protocols as is already regulated and standardized in the industry, including but not limited to the requirements of the following:

- Occupational Safety & Health Act of 1970
- Administrative Procedures Act (APA)
- National Environmental Policy Act (NEPA)
- Regulatory Planning and Review (Executive Order 12866)

Safety Tools, Equipment and Garments

Safety Tools and Equipment	Location	Responsible Person/Contact #
Subcontractor certified by OSHA to do work necessary for clean up.		Owner: 525 Northfield Ave., LLC 91 KOSSUTH STREET NEWARK, NJ 07105 pedro@bygomes.com
All tools and equipment necessary to be accessible by subcontractor to do the work.		OSHA Certified Subcontractor
All tools and equipment to be OSHA certified.		OSHA Certified Subcontractor
Design Engineer		Jarmel Kizel 42 Okner Parkway Livingston, NJ 973-994-9669

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Qualification for Performing the Task in Special Circumstances

Stormwater Measures	Location	(OSHA) Confined-Space Entry Permit
1926.1207 Training (a) The employer must provide training to each employee whose work is regulated by this standard, at no cost to the employee, and ensure that the employee possesses the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this standard. This training must result in an understanding of the hazards in the permit space and the methods used to isolate, control or in other ways protect employees from these hazards, and for those employees not authorized to perform entry rescues, in the dangers of attempting such rescues		Obtained by Subcontractor if needed.
Personnel entering inlet to use safe confined space entry procedures		OSHA Certified Subcontractor

Safety Training

OSHA Training Requirements, 1926.1207 Training (d) The employer must maintain training records to show that the training required by paragraphs 1926.1207(a) through (c) of this standard has been accomplished. The training records must contain each employee's name, the name of the trainers, and the dates of training. The documentation must be available for inspection by employees and their authorized representatives, for the period of time the employee is employed by that employer.

Safety Procedures

To effectively control and prevent hazards, employers should:

- Involve workers, who often have the best understanding of the conditions that create hazards and insights into how they can be controlled.
- Identify and evaluate options for controlling hazards, using a "hierarchy of controls."

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- Use a hazard control plan to guide the selection and implementation of controls, and implement controls according to the plan.
- Develop plans with measures to protect workers during emergencies and nonroutine activities.
- Evaluate the effectiveness of existing controls to determine whether they continue to provide protection, or whether different controls may be more effective. Review new tech
- nologies for their potential to be more protective, more reliable, or less costly.

Emergency Procedures

OSHA Training Requirements, 1910.146 Permit required confined spaces

(k) Rescue and emergency services (1) An employer who designates rescue and emergency services, pursuant to paragraph (d)(9) of this section, shall: (i) Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified; Note to paragraph (k)(1)(i): What will be considered timely will vary according to the specific hazards involved in each entry. For example, §1910.134, Respiratory Protection, requires that employers provide a standby person or persons capable of immediate action to rescue employee(s) wearing respiratory protection while in work areas defined as IDLH atmospheres. (g) and (k)(1)(i) through (iv) 52 Training Requirements in OSHA Standards (ii) Evaluate a prospective rescue service's ability, in terms of proficiency with rescue-related tasks and equipment, to function appropriately while rescuing entrants from the particular permit space or types of permit spaces identified; (iii) Select a rescue team or service from those evaluated that: (A) Has the capability to reach the victim(s) within a time frame that is appropriate for the permit space hazard(s) identified; (B) Is equipped for and proficient in performing the needed rescue services; (iv) Inform each rescue team or service of the hazards they may confront when called on to perform rescue at the site.

[Saint Barnabas Medical Center](#)

94 Old Short Hills Road
Livingston, NJ 07039
(973) 322-5000
Fax: (973) 322-5007

[Overlook Medical Center](#)

99 Beauvoir Avenue
Summit, NJ 07901
(908) 522-2000
Fax: (908) 273-5134

J. Training Plan and Records

Maintenance training begins with a basic description of the purpose and function of the overall stormwater management measure and its major components. Such understanding will enable maintenance personnel to provide more effective component maintenance and more readily detect maintenance-related problems. Depending on the size, character, location, and components of each stormwater management measure, maintenance personnel may also require training in specialized inspection and maintenance tasks and/or the operation and care of specialized maintenance equipment. Training should also be provided in the need for and use of all required safety equipment and procedures.

Training Plan

Types of Training

- Mandatory Stormwater Management Basic Training and Field Manual Usage Training for new maintenance crews
- Occupational Safety Training
- Subcontractor training, if applicable

Content of Training

- **Stormwater Management Basic Training**
 - Purposes and Functions of BMPs

More training information is available at NJ Stormwater.org
(<http://www.nj.gov/dep/stormwater/training.htm>)

- Vegetation Care
Example Training Material
 - NJDEP Stormwater BMP Manual, Chapter Seven: Landscaping
 - Other
- Field Manual Usage Training
Example Training Material
 - Field Manuals attached to this Maintenance Plan
 - “Pointy end of shovel goes into ground”.
- Equipment and Tools Operation Training
Example Training Material
 - Equipment or tool manufacturer’s Operation & Maintenance Manual
 - Other
- Occupational Safety Training
Example Training Material
 - OSHA Training

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- Equipment or tool manufacturer's Operation & Maintenance Manual
- Other

Training Records

Training attendance sheets should be attached by the responsible party after each training.

K. Annual Evaluation of the Effectiveness of the Plan

The person responsible for maintenance shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

The responsible party should evaluate the effectiveness of the maintenance plan by comparing the maintenance plan with the actual performance of the maintenance. The items to evaluate may include, but not limited to,

- Whether the inspections have been performed as scheduled;
- Whether the preventive maintenance has been performed as scheduled;
- Whether the frequency of preventative maintenance needs to increase or decrease;
- Whether the planned resources were enough to perform the maintenance;
- Whether the repairs were completed on time;
- Whether the actual cost was consistent with the estimated cost;
- Whether the inspection, maintenance, and repair records have been kept.

If actual performance of those items has been deviated from the maintenance plan, the party responsible should find the causes and implement solutions in a revised maintenance plan.

Annual Evaluation Records

Evaluator(s)	Date of Evaluation	Decision
		☐ Maintain current version OR ☐ Revise current version Revision date _____ (also update the last revision date on the cover page) ☐ Requires a new deed recording (also update the last recording information on the cover page)
		☐ Maintain current version OR ☐ Revise current version Revision date _____ (also update the last revision date on the cover page) ☐ Requires a new deed recording (also update the last recording information on the cover page)

L. Documents

Transfer Agreement

If the maintenance plan identifies a person other than the developer as having the responsibility for maintenance, the plan shall include documentation of such person's agreement to assume this responsibility, or the developer's obligation to dedicate a stormwater management facility to such person under an applicable ordinance or regulation.

OWNER OF RECORD:

525 Northfield Ave., LLC
91 KOSSUTH STREET
NEWARK, NJ 07105
pedro@bygomes.com

TRANSFER OF OWNERSHIP:

EFFECTIVE DATE OF OWNERSHIP: _____

OWNER: _____

ADDRESS: _____

PHONE: _____ FAX: _____

ALTERNATE PHONE: _____ EMAIL: _____

NOTES: _____

Deed

If the person responsible for maintenance is not a public agency, the maintenance plan and any future revisions shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.

As-Built Drawings with Drainage Plans

As-built construction plans of the stormwater management measure and copies of pertinent construction documents, such as laboratory test results, permits, and completion certificates should be included in this Maintenance Plan.

Landscaping Plan for the Stormwater Management Measures

If there is a Landscaping Plan for the stormwater management measures, it should be included in this Maintenance Plan.

Soil Boring Logs

If any soil borings were taken prior to construction, a copy of the soil boring logs should be included in this Maintenance Plan.

Local, State, Federal Permits

Local, state, or federal permits related to the stormwater management measures for this development should be included in this Maintenance Plan. See Cost Estimate Section of This Maintenance Plan for more information.

The requirement to obtain State permits depends on specific circumstances, such as, but not limited to, the specific design of the stormwater management measures, the maintenance actions, the access and disturbance, the disposal methods, the location of disposal, the method to empty a basin, the method to dredge the basin, the pollutants in the basin, the damages to the basin, and the method to repair the basin.

Check Maintenance Guidance in NJDEP Stormwater Management Website for details and links to the relevant permits and program areas (<http://www.njstormwater.org>).

Safety Regulations and Requirements

All local ordinances and state and federal regulations regarding occupational safety should be included in this Maintenance Plan.

Devices/Tools/Equipment Operation and Maintenance Manual and Warranties

Maintenance, repair, and replacement instructions for specialized, proprietary, and nonstandard equipment, tools, supplies, manufacturers' product instructions, and user manuals should be included in this Maintenance Plan.

Part II- Field Manuals

Preventative and corrective maintenance shall be performed to maintain the function of stormwater management measures, including repair or replacement of the structure; removal of sediment, debris or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; repair or replacement of non-vegetated linings, and removal of rodent/wildlife and repair/restoration to damaged affected areas caused by them.

1. **INLETS**—In parking lots and driveways, rain (and melting snow) will travel across the ground as runoff to be collected into an underground piping system, by first dropping through metal grates into concrete boxes called inlets. The inlets have specially designed grates to prevent large pieces of debris and trash from getting into the inlet and pipes. All structures should be periodically inspected for debris and clean as needed.
2. **PIPES**—The runoff travels underground through the pipes to a point of discharge. These pipes are usually made of reinforced concrete (RCP), high density polypropylene (HDPP—usually black plastic), or polyvinyl chloride (PVC—usually white plastic). Most pipes are of solid wall construction to transport runoff water or to be used to temporarily detain water as part of the detention system. Other pipes may be perforated, which can be used to let water drain out through the holes into the surrounding ground or water from the ground can flow into the pipes depending on soils, ground conditions, elevations, and so forth. Pipes should be periodically inspected for debris and clean as needed. Also the pipe system should be flush periodically in order to keep the sediment from accumulating inside the pipes.
3. **GUTTERS/DOWNSPOUTS/SPLASH PADS**—Under state and local stormwater regulations, runoff water flowing off of roofs is considered “clean” and does not necessarily have to be directed to the stormwater system which may be basins, ponds, drywells, underground pipes and so forth. In general, allowing the water to flow through areas of dense vegetation (woodlands, meadows, and so forth, but not basic lawn areas) is sufficient to clean the water even further. In order for the water to flow clean, the system should be maintain clean.

PART III—Gutters and Leaders

As part of good maintenance procedure, it is recommended that the gutters and leaders be periodically inspected and cleaned. The building drainage system should particularly be inspected during the autumn when falling and blowing leaves and miscellaneous materials can easily clog drain pipes, plug downspouts, and cover inlet grates. Gutters and leaders should also be inspected in the springtime for debris, correct pitch, loose connections, and other various problems that may have occurred over the winter. It is also suggested that the system be examined whenever large storms are predicted.

Debris removed from the drainage system should be examined for reuse. That is, it can be separated into trash, recyclables, and organic matter. Organic materials such as leaves and twigs could possibly be composted if there is sufficient room at the site for such activity.

Equipment for gutter and leader cleaning could include ladders, “grab” poles, rakes, plumber’s snakes, and garden hoses. Heavy duty rubber or leather work gloves, non-slip work shoes, and protective eyewear are also recommended.

PART IV—Inlets

Inlets and discharge control devices should be inspected after several storms to ensure that they are functioning properly and that there is no erosion or debris problems developing. Source of sediment contamination should be identified and controlled when native soil is exposed or erosion channels are present. Inspect for sediment and debris buildup. Sediment buildup exceeding 2 inches in depth or that begins to constrict the flow path should be removed. The Inlet control devices should particularly be inspected during the autumn when falling and blowing leaves and miscellaneous materials can easily clog drain pipes, plug downspouts, and cover inlet grates. Clean out leaves, trash, debris, etc.

Maintain records of all inspections and maintenance activity. Include estimate of sediment and/or debris removed. Indicate sediment and/or debris disposal methods.

PART V - Inspection Checklist / Maintenance Actions

Checklist (circle one): Quarterly / Annual / Monthly / Special Event Inspection

Checklist No. _____

Inspection Date: _____

Preventative Maintenance

Date of most recent rain event: _____

Frequency Circle One

Quarterly

Annual

Rain Event

Rain Condition (circle one):

Drizzle / Shower / Downpour / Other _____

Ground Condition (circle one):

Dry / Moist / Ponding / Submerged / Snow accumulation

	For Inspector			For Maintenance Crew
Component No. Component Name	Inspection Item and Inspection Item No.		Inspected	Preventative / Corrective Maintenance Actions Comments
Storm Sewer Collection system	1	Structures broken or in disrepair, sediment, water present after 72 hours.	Y__ N__	
	2	Sediment and standing water observed after 72 hours.	Y__ N__	
	3	Excessive sediment or debris present in the inspection port	Y__ N__	.
	4	Little or no flow into the system	Y__ N__	

	For Inspector		For Maintenance Crew
Component No. Component Name	Inspection Item and Inspection Item No.	Inspected	Preventative / Corrective Maintenance Actions Comments
Storm Sewer Collection system	5	Downspout or Overflow pipe is clogged Y__ N__	
	6	Odor present Y__ N__	
	7	Overflow from the top of the casting Y__ N__	
	8	Storm Collection System Y__ N__	
	9	Vegetation Y__ N__	
Site conditions	10	Embankment erosion control Y__ N__	

The inspection report shall include copies of photographs depicting the conditions of the BMPs.

Inspector Name Signature Date

File this Corrective Maintenance Record in the Maintenance Log after performing maintenance.