

**STORMWATER OPERATION AND MAINTENANCE
AGREEMENT**

Project Name: _____

Town Project Number: _____

PIN Number: _____

Mail after recording to: Town of Mooresville
Engineering Department
Stormwater Program Specialist
2523 Charlotte Highway
Mooresville, NC 28117

NORTH CAROLINA

IREDELL COUNTY

This STORMWATER OPERATION AND MAINTENANCE AGREEMENT,

made this day _____ of _____, 20_____

by _____

whose principal address is _____

with, to, and for the benefit of the Town of Mooresville, a municipal corporation of the State of North Carolina, whose address is 413 North Main Street, Mooresville, North Carolina 28115.

Bioretention Operation and Maintenance Agreement

I will keep a maintenance record on this BMP. This maintenance record will be kept in a log in a known set location. Any deficient BMP elements noted in the inspection will be corrected, repaired or replaced immediately. These deficiencies can affect the integrity of structures, safety of the public, and the removal efficiency of the BMP.

Important operation and maintenance procedures:

- Immediately after the bioretention cell is established, the plants will be watered twice weekly if needed until the plants become established (commonly six weeks).
- Snow, mulch or any other material will NEVER be piled on the surface of the bioretention cell.
- Heavy equipment will NEVER be driven over the bioretention cell.
- Special care will be taken to prevent sediment from entering the bioretention cell.
- Once a year, a soil test of the soil media will be conducted.

After the bioretention cell is established, I will inspect it **once a month and within 24 hours after every storm event greater than 1.0 inches**. Records of operation and maintenance will be kept in a known set location and will be available upon request.

Inspection activities shall be performed as follows. Any problems that are found shall be repaired immediately.

Remove the top layer of fill media when the pool does not drain quickly. The pool is designed to drain within 12 hours.

BMP element:	Potential problems:	How I will remediate the problem:
The entire BMP	Trash/debris is present.	Remove the trash/debris.
The perimeter of the bioretention cell	Areas of bare soil and/or erosive gullies have formed.	Regrade the soil if necessary to remove the gully, and then plant a ground cover and water until it is established. Provide lime and a one-time fertilizer application.
The inlet device: pipe, stone verge or swale	The pipe is clogged (if applicable).	Unclog the pipe. Dispose of the sediment off-site.
	The pipe is cracked or otherwise damaged (if applicable).	Replace the pipe.
	Erosion is occurring in the swale (if applicable).	Regrade the swale if necessary to smooth it over and provide erosion control devices such as reinforced turf matting or riprap to avoid future problems with erosion.
	Stone verge is clogged or covered in sediment (if applicable).	Remove sediment and clogged stone and replace with clean stone.

BMP element:	Potential problems:	How I will remediate the problem:
The pretreatment area	Flow is bypassing pretreatment area and/or gullies have formed.	Regrade if necessary to route all flow to the pretreatment area. Restabilize the area after grading.
	Sediment has accumulated to a depth greater than three inches.	Search for the source of the sediment and remedy the problem if possible. Remove the sediment and restabilize the pretreatment area.
	Erosion has occurred.	Provide additional erosion protection such as reinforced turf matting or riprap if needed to prevent future erosion problems.
	Weeds are present.	Remove the weeds, preferably by hand.
The bioretention cell: vegetation	Best professional practices show that pruning is needed to maintain optimal plant health.	Prune according to best professional practices. Maintain lines of sight.
	Plants are dead, diseased or dying.	Determine the source of the problem: soils, hydrology, disease, etc. Remedy the problem and replace plants. Provide a one-time fertilizer application to establish the ground cover if a soil test indicates it is necessary.
	Tree stakes/wires are present six months after planting.	Remove tree stake/wires (which can kill the tree if not removed).
	Weeds are present	Remove the weeds, preferably by hand. If a herbicide is used, wipe it on the plants rather than spraying.
The bioretention cell mulch and media	Mulch is breaking down or has floated away.	Spot mulch if there are only random void areas. Replace whole mulch layer if necessary. Remove the remaining mulch and replace with triple shredded hard wood mulch at a maximum depth of three inches.
	Soils and/or mulch are clogged with sediment.	Determine the extent of the clogging - remove and replace either just the top layers or the entire media as needed. Dispose of the spoil in an appropriate off-site location. Use triple shredded hard wood mulch at a maximum depth of three inches. Search for the source of the sediment and remedy the problem if possible.
	An annual soil test shows that pH has dropped or heavy metals have accumulated in the soil media.	Dolomitic lime shall be applied as recommended per the soil test and toxic soils shall be removed, disposed of properly and replaced with new planting media.

BMP element:	Potential problems:	How I will remediate the problem:
The underdrain system (if applicable)	Clogging has occurred.	Wash out the underdrain system.
The drop inlet	Clogging has occurred.	Clean out the drop inlet. Dispose of the sediment off-site.
	The drop inlet is damaged	Repair or replace the drop inlet.
The receiving water	Erosion or other signs of damage have occurred at the outlet.	Contact the NC Division of Water Resources.

**Operation and Maintenance Agreement Additional Requirements as set forth by the Town of Mooresville Phase II Post Construction and Illicit Discharge & Connection Ordinance
Section 25-20:**

1. The owner or owners shall continuously operate and maintain the stormwater control and management facilities.
2. The Town of Mooresville is granted a right of entry to inspect, monitor, maintain, repair, and reconstruct structural BMPs.
3. The Town of Mooresville will recover from the owner or owners any and all costs the Town of Mooresville expends to maintain or repair the structural BMPs, pursuant to Article 6, Enforcement and Violations, as set forth in the Town of Mooresville Phase II Post Construction and Illicit Discharge & Connection Ordinance.
4. This Operation and Maintenance Agreement shall not obligate the Town of Mooresville to maintain or repair any structural BMPs, and the Town of Mooresville shall not be liable to any person for the condition or operation of structural BMPs.
5. This Operation and Maintenance Agreement shall not in any way diminish, limit, or restrict the right of the Town of Mooresville to enforce any of its ordinances as authorized by law.
6. The Town of Mooresville is indemnified and held harmless for any costs and injuries arising from or related to the structural BMP, unless the Town of Mooresville has agreed in writing to assume the maintenance responsibility for the BMP and has accepted dedication of any and all rights necessary to carry out that maintenance.

I acknowledge and agree by my signature below that I am responsible for the performance of the maintenance procedures listed above. I agree to notify the Town of Mooresville of any problems with the system or prior to any changes to the system or responsible party. I agree to notify the Town of Mooresville of any subsequent conveyance of the property to a new owner, and agree to provide updated contact information for any subsequent owner.

This maintenance agreement runs with the land, and is binding upon any and all subsequent owners of the hereinabove described property.

Project name: _____

BMP drainage area number: _____

Print name: _____

Title: _____

Address: _____

Phone: _____

Signature: _____

Date: _____

Note: The legally responsible party should not be a homeowners association unless more than 50% of the lots have been sold and a resident of the subdivision has been named the president.

I, _____, a Notary Public for the State of _____, County of _____, do hereby certify that _____ personally appeared before me this ____ day of _____, _____, and acknowledge the due execution of the forgoing bioretention maintenance requirements. Witness my hand and official seal,



SEAL

My commission expires _____ Notary Signature _____