



Chapter 8 Maintenance and Performance

8.1 Introduction

Maintenance and operational inspection are critical to continued performance of all BMPs. Owners must check their facilities regularly to determine maintenance needs. An Operations and Maintenance Plan must be prepared and submitted to the City for any BMP that is implemented on a project. The Operations and Maintenance Plan must include a detailed schedule of maintenance activities, including a specific schedule of inspection frequency.

The primary goals of any Operations and Maintenance Plan are to:

- Establish legal and fiscal responsibility for operational inspection and maintenance activities.
- Establish grounds for physical access by the City to BMPs requiring inspection and maintenance.
- Provide a detailed schedule for the applicant/owner, who is legally responsible for performing all inspection and maintenance activities, including regulation inspection, routine maintenance, and regular operational activities required to maintain BMP function.
- Identify all facilities, runoff sources, and discharge points that require maintenance.
- Provide short-term and long-term guidance on operations and maintenance to prevent system deterioration and failure.
- Provide logs to be filled out by persons physically performing inspection and maintenance activities.

8.2 Operations and Maintenance Plan Requirements

Each project site must develop a site-specific Operations and Maintenance Plan that addresses all of the primary goals described above. At a minimum, a site-specific Operations and Maintenance Plan must include the following:

1. Map – A laminated copy of the Stormwater Management Plan drawing or map, drawn to a legible scale (maximum 1" = 100') that accurately identifies the location, type, and associated infrastructure components for each BMP installed on the project site.
2. Inspection and Maintenance Agreement – A legal document (legal form provided by the City) identifying the owner(s) as the individual(s) responsible for ensuring that inspection, operations, and maintenance activities are completed.
3. Schedule – A detailed schedule of inspection frequency and maintenance/repair actions required at the time of inspection and a schedule of regular maintenance activities required for continued BMP performance.
4. Procedures – Detailed procedures outlining the specific actions necessary, including material replacement/repair procedures, to perform all scheduled maintenance tasks.





5. As-built Drawings – A laminated 11-inch by 17-inch copy of as-built construction plans showing all components of each BMP including inflow/outfall structures and monitoring areas and material certifications to ensure that repairs are completed in a manner consistent with intended design.
6. Inspection and Maintenance Logs – Forms by which persons performing inspections, operations, and maintenance activities can log their activities to document compliance with the Inspection and Maintenance Agreement.

8.3 Inspection and Maintenance Agreements

Necessary Inspection and Maintenance Agreements must be filed for each project as directed by the City and submitted to the Land Development Office with the Final Plans submittal

8.4 Inspection Checklists

The following inspection checklists may be amended to specific BMP designs when necessary to ensure compliance with a site-specific Operations and Maintenance Plan. These checklists should be submitted to the City as part of annual reporting requirements to the Water Quality Department.

Checklists follow for each major category of BMP:

- 5.2 Damage Prevention and Protection Practices
- 5.3 Structural BMPS
- 5.4 Restoration Practices



5.2.1	<h2 style="margin: 0;">Protect Undisturbed and Healthy Soils Inspection Checklist</h2>	FORM
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Inspected by: _____ BMP ID#: _____ Property Owner: _____
 Date of Inspection: _____ Weather: _____
 Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present.	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION				
	Is protective fencing still in place where designated by Site Protection Plan?		<ul style="list-style-type: none"> Relocate/add fence per Site Protection Plan. 	
	Are individual protection measures still in place, such as tree trunk protection and erosion control measures?		<ul style="list-style-type: none"> Reinstall protections as shown in details. 	
	Are stockpiles properly located?		<ul style="list-style-type: none"> Relocate stockpiles to designated locations per design plans. 	
	Are sensitive areas either extremely wet or dry?		<ul style="list-style-type: none"> Avoid working in these areas. Implement wet weather restrictions Perform work only when soil is friable. 	
	Are topsoil stockpiles protected from erosion and wind?		<ul style="list-style-type: none"> Cover stockpile with breathable material or seed with fast-growing cover crop. 	
AFTER CONSTRUCTION				
	Is regraded terrain protected from erosive surface water flows?		<ul style="list-style-type: none"> New individual protections may be needed to intercept and control surface water flow. 	
	Is planted vegetation protecting steep slopes intact and flourishing?		<ul style="list-style-type: none"> Irrigate as needed. Replant dead plants or replace with stronger/more aggressive species. 	
	Are erosion control measures still in place and functioning as designed?		<ul style="list-style-type: none"> Reinstall damaged erosion control measures. Consult engineer if measures are not sufficient for site conditions. 	
	Are construction disturbances encroaching on riparian corridors or other sensitive areas?		<ul style="list-style-type: none"> Relocate fencing to protect sensitive areas. 	

This checklist is to be used in conjunction with the maintenance plan developed by the certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.

5.2.1.1	<h1 style="margin: 0;">Preserving Land Forms Inspection Checklist</h1>	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspection Category	Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION					
		Are sedimentation and stormwater accumulating onsite?		<ul style="list-style-type: none"> • Areas designated as "Protected" or "Areas of Minimal Disturbance" must be protected from sediment and stormwater loads (from disturbed, upgradient parts of the site), as well as from construction traffic. 	
		Do new grades meet existing grades after construction?		<ul style="list-style-type: none"> • Monitor to ensure these areas do not erode. 	
		Is soil intact and undisturbed by foot traffic, especially on slopes?		<ul style="list-style-type: none"> • Fence off "Protected" and "Minimal Disturbance Areas" with chain link fencing as identified on the Site Protection Plan. 	
		Are protection fences knocked down or damaged?		<ul style="list-style-type: none"> • If broken, fences need to be immediately repaired, and if knocked down, set up again. 	
		Are sensitive areas either extremely wet or dry?		<ul style="list-style-type: none"> • Avoid working in these areas. • Implement wet weather restrictions • Perform work only when soil is friable. 	
		Are construction disturbances encroaching on riparian corridors or other sensitive areas?		<ul style="list-style-type: none"> • Relocate fencing to protect sensitive areas. 	
AFTER CONSTRUCTION					
		Do new grades meet existing grades after construction?		<ul style="list-style-type: none"> • Monitor to ensure these areas do not erode. 	
		Is slope integrity suspect due to grading during site construction?		<ul style="list-style-type: none"> • Regraded terrain requires monitoring of surface water flow to ensure that slope integrity is maintained. 	
		Are plants are dying on slope sides?		<ul style="list-style-type: none"> • Where plants are dying, replace with stronger, more aggressive species. 	
		Is slope stabilization is suspect after site grading operations?		<ul style="list-style-type: none"> • Irrigate to establish new vegetation. 	

5.2.1.1	<h2 style="margin: 0;">Preserving Land Forms Inspection Checklist</h2>	FORM
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Inspection Category	Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
		Are erosion control measures still in place and functioning as designed?		<ul style="list-style-type: none"> • Reinstall damaged erosion control measures. Consult engineer if measures are not sufficient for site conditions. 	

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5.2.1.2	<h2 style="margin: 0;">Protect Highly Erodible Soils on Steep Slopes</h2> <h3 style="margin: 0;">Inspection Checklist</h3>	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION				
	Are highly erodible soils and/or steep slopes present onsite?		<ul style="list-style-type: none"> Mark limits of soil disturbance on the ground. Put protection measures in place – slope stability, erosion and sediment controls, site protection fencing, tree protection fencing. 	
	How to ensure site fencing will hold up to be most effective?		<ul style="list-style-type: none"> Ensure that fencing remains standing and without holes. Ensure that erosion control strategies are in place and functional. 	
	Is runoff being directed toward the slope?		<ul style="list-style-type: none"> Redirect construction runoff. 	
AFTER CONSTRUCTION				
	How to ensure slopes will not erode after construction?		<ul style="list-style-type: none"> Stabilize all disturbed slopes greater than 5% as soon as the work is finished. Stabilize all existing or newly installed swales and/or channels, especially on steep slopes with highly erodible soils. 	
	What to do with site fencing after construction?		<ul style="list-style-type: none"> Remove protective fencing unless requested otherwise by owner. 	
	Is there any damage to protected areas?		<ul style="list-style-type: none"> Repair any accidental damage to protected areas. 	
	How will slope integrity be maintained?		<ul style="list-style-type: none"> Steep terrain requires monitoring to ensure that slope integrity is maintained after adjacent lands have been modified. Locations where new grades meet steep slopes also require monitoring to ensure that the transition remains seamless. 	

This checklist is to be used in conjunction with the maintenance plan developed by the certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.

5.2.2	<h1 style="margin: 0;">Protect and Incorporate Natural Flow Paths Inspection Checklist</h1>	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present.	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION				
	Are the natural drainage features located and protected onsite?		<ul style="list-style-type: none"> At the start of construction, natural drainage features to be protected should be identified, flagged, and fenced. These features must be included on both the site plan and the construction protection plan drawings. 	
	Is there erosion, bank stability, sediment/debris accumulation, infested or dying plants or the presence of invasive species (both plant and animal) onsite?		<ul style="list-style-type: none"> These problems should be corrected in a timely manner to avoid compounding these effects. 	
	Is there proper overflow for each stormwater component?		<ul style="list-style-type: none"> Provide for overflow mechanism if system is missing or deficient. 	
	Do stormwater flows to drainage pathway inlets have energy dispersal mechanisms in place?		<ul style="list-style-type: none"> Install splash block, level spreaders, energy dissipaters, etc. 	
	Is existing healthy vegetation preserved along flow paths?		<ul style="list-style-type: none"> Preserve existing plant material within and at the edge of these flow paths, or replace if damaged. 	
AFTER CONSTRUCTION				
	Is there erosion, bank stability, sediment/debris accumulation, infested or dying plants or the presence of invasive species (both plant and animal) on site?		<ul style="list-style-type: none"> These problems should be corrected in a timely manner to avoid compounding these effects. 	
	Are new plantings being maintained?		<ul style="list-style-type: none"> For new planting, watering, weeding, mulching, replanting, etc. may be required especially during the first year after planting. 	
	Are there signs of drought?		<ul style="list-style-type: none"> If the region is suffering from a prolonged drought, fragile areas with important stormwater functions should be watered to ensure that the vegetation lives. 	

5.2.2	<h2 style="margin: 0;">Protect and Incorporate Natural Flow Paths Inspection Checklist</h2>	FORM
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Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present.	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Are invasive exotics present?		<ul style="list-style-type: none"> • Invasive exotics should be removed and the flow path replanted with desirable replacements. 	
	Are overflow inlets clogged?		<ul style="list-style-type: none"> • Remove debris from inlets after substantial rain events. 	

This checklist is to be used in conjunction with the maintenance plan developed by the certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.

5.2.3	<h2 style="margin: 0;">Protect and Preserve Riparian Corridors</h2> <h3 style="margin: 0;">Inspection Checklist</h3>	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION				
	Is there evidence of gully formation, denuded areas, bare soil or other damage after a large storm?		<ul style="list-style-type: none"> Gullies should be filled and regraded, and bare spots replanted and protected. 	
	Is dead wood present in stream corridor?		<ul style="list-style-type: none"> Do not harvest trees in zone #1, dead wood in the streams provides important food for microorganisms in a healthy aquatic system. 	
	Was a level spreading device used to concentrate flow into sheet flow?		<ul style="list-style-type: none"> Check for any channelization or standing pools of water below the level spreader. Sediment and debris should be removed semiannually. 	
	Are white tail deer present?		<ul style="list-style-type: none"> Provide 18-foot open, wire or plastic deer fencing, or organize "culls" or private bow-hunting permits. 	
	Is there a threat of damage (loss of vegetation and compaction) by vehicular traffic or pedestrians on larger campuses, parks, subdivisions, etc.?		<ul style="list-style-type: none"> Farm or ranch fencing may be desirable around perimeter of zone #3. 	
	Is there runoff channeled by swales in zones #1 and #2?		<ul style="list-style-type: none"> Use a level spreader, or similar tool, in the meadow (zone #3) to convert concentrated flow to sheet flow. Any level spreader or similar tool used should be inspected periodically to repair any developing rills or standing pools of water. Sediment and debris should be removed from below the level spreader semiannually. 	
	Is there exotic, invasive vegetation present in zones #2 and #3?		<ul style="list-style-type: none"> Locate and suppress exotic, invasive vegetation (especially smothering vines) or a single, aggressive native species. 	

5.2.3	<h2 style="margin: 0;">Protect and Preserve Riparian Corridors Inspection Checklist</h2>	FORM
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Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
AFTER CONSTRUCTION				
	Are there new plantings in riparian corridor?		<ul style="list-style-type: none"> Watering during the establishment period will be necessary if there are new plantings. 	
	Is the design a corporate or residential community (including retirement complexes)?		<ul style="list-style-type: none"> Consider having the tenants manage for wildlife. 	

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5.2.4	<h2 style="margin: 0;">Protect and Preserve Natural Vegetation Especially on Steep Slopes and Along Flow Paths Inspection Checklist</h2>	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspection Category	Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION					
		Has protective fencing been placed around Protected Areas or Areas of Minimal Disturbance?		<ul style="list-style-type: none"> Add protective fencing per Site Protection Plan. 	
		Are exposed natural/forest edges being repaired?		<ul style="list-style-type: none"> Begin repair process. 	
		Is work being performed within the Protected Areas or Areas of Minimal Disturbance?		<ul style="list-style-type: none"> Cross-check work being performed with written description of anticipated work within these areas. Verify that work has been approved by landscape architect or owner's representative. 	
		Is regular monitoring being performed?		<ul style="list-style-type: none"> Monitor before and during construction for any signs of erosion, disease or invasive species and take corrective action. 	
AFTER CONSTRUCTION					
		Are protected areas (especially around disturbed edges) being protected during drought conditions?		<ul style="list-style-type: none"> Initiate temporary irrigation during drought periods for at least a 2-year recovery period. 	
		Is regular monitoring being performed and corrective actions being taken?		<ul style="list-style-type: none"> Monitor after construction for any signs of erosion, disease or invasive species and take corrective action. 	

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5.2.4.1	<h2 style="margin: 0;">Protect Historic or Specimen Trees Inspection Checklist</h2>	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspection Category	Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION					
		Has protective fencing been placed around trees?		<ul style="list-style-type: none"> Relocate/add protective fencing per Tree Protection Plan. 	
		Have initial protection measures been started prior to construction (one growing season prior)?		<ul style="list-style-type: none"> Consult an arborist. Begin protection measures immediately. Typical measures include treatment with plant growth regulators, root pruning, fertilization, and canopy pruning. 	
		Has construction activity been restricted within tree protection zones?		<ul style="list-style-type: none"> Enforce construction activity limitations within protection zones. This includes no parking, vehicular use, stockpiling, storage, or staging within the designated root zones. 	
		Have root zones been protected from compaction?		<ul style="list-style-type: none"> Install measures to protect soil from compaction and disturbance if access routes are required through tree protection zones. Avoid using large equipment near protected trees. Route construction traffic where permanent hardscape is to be located that will not include BMPs. 	
AFTER CONSTRUCTION					
		Are trees being protected from "drought stress" post construction?		<ul style="list-style-type: none"> Initiate proactive irrigation during drought periods. Be careful not to alter the hydrology of the soil. 	
		Have trees been pruned?		<ul style="list-style-type: none"> Prune dead wood and crossing branches for tree health and safety. 	

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5.2.4.2	<h2 style="margin: 0;">Soil and Plant Salvage Inspection Checklist</h2>	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspection Category	Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION					
		Has protective fencing been placed around salvage areas?		<ul style="list-style-type: none"> Relocate/add protective fencing per Site Protection Plan. 	
		Has tree protection fencing been placed around trees to be salvaged that are outside salvage areas?		<ul style="list-style-type: none"> Add protective fencing per Site Protection Plan. 	
		Has protective fencing been placed around placement areas?		<ul style="list-style-type: none"> Relocate/add protective fencing around placement areas. Avoid activities within placement areas that will result in increased soil compaction or erosion. 	
		Have staging areas been delineated and supplied with temporary irrigation (if necessary)?		<ul style="list-style-type: none"> Delineate staging areas. Add protective fencing. Supply area with temporary irrigation if required to sustain salvaged materials. 	
AFTER CONSTRUCTION					
		Is supplemental water being supplied to salvaged material during the establishment period (1 year minimum)?		<ul style="list-style-type: none"> Supply area with temporary irrigation during the establishment period. Provide contractor agreement for watering services. 	
		Is the salvaged material being monitored regularly to ensure health?		<ul style="list-style-type: none"> Monitor salvaged material. 	

This checklist is to be used in conjunction with the maintenance plan developed by the certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.

5.3.1

Pervious Pavement Inspection Checklist

FORM

Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions to Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there standing or pooling water, especially on pervious surfaces?		<ul style="list-style-type: none"> • Check perforated pipe outlet for obstruction or damage.* • Flush perforated pipe to remove obstructions/sediment.* • Repair or replace perforated pipe, replace with new soil and regrade. • Subsurface layers may need cleaning and/or replacing. • In dry weather, use a mechanical sweeper or a vactor truck to vacuum clean surface area. • In wet weather, use a vactor truck to vacuum clean surface area. 	
	Is there visible water flowing over the surface of the pervious concrete/pavers during a low-intensity storm?		<ul style="list-style-type: none"> • Check perforated pipe outlet for obstruction or damage.* • Flush perforated pipe to remove obstructions/sediment.* • Repair or replace perforated pipe, replace with new soil and regrade. • Subsurface layers may need cleaning and/or replacing. • In dry weather, use a mechanical sweeper or a vactor truck to vacuum clean surface area. • In wet weather, use a vactor truck to vacuum clean surface area. 	
	Is there sediment visible on the surface of the pervious concrete?		<ul style="list-style-type: none"> • In dry weather, use a mechanical sweeper or a vactor truck to vacuum clean surface area. 	

*If perforated pipe is present.



Pervious Pavement Inspection Checklist

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there under cutting or washout along the sidewalks and/or curbs abutting a planter strip?		<ul style="list-style-type: none"> • Fill in eroded areas and regrade. 	
	Are there cracks, uplifts, slumps, missing pavers, and/or potholes present?		<ul style="list-style-type: none"> • Check perforated pipe outlet for damage. • Repair or replace perforated pipe, replace with new soil and regrade. • Subsurface layers may need cleaning and/or replacing. • Replace or repair damaged areas. 	
	Is there sediment present in the catch basin and in the overflow pipe?		<ul style="list-style-type: none"> • Check perforated pipe outlet for damage. • Repair or replace perforated pipe, replace with new soil and regrade. • Subsurface layers may need cleaning and/or replacing. • Replace or repair damaged areas. 	
	Is vegetation clogging the inlet flow areas?		<ul style="list-style-type: none"> • Trim and/or remove the excess vegetation. 	
	Is there vegetation growing in the cracks, stress lines, and/or abutment areas?		<ul style="list-style-type: none"> • Remove vegetation. • In dry weather, use a mechanical sweeper or a vactor truck to vacuum clean surface area. • In wet weather, use a vactor truck to vacuum clean surface area. 	
	Is algae present?		<ul style="list-style-type: none"> • In dry weather, use a mechanical sweeper or a vactor truck to vacuum clean surface area. • In wet weather, use a vactor truck to vacuum clean surface area. 	
	Is there trash/debris in the area?		<ul style="list-style-type: none"> • Remove all trash and debris. 	



Pervious Pavement Inspection Checklist

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there gummy material or other substances stuck to the pervious surface?		<ul style="list-style-type: none"> In dry weather, use a mechanical sweeper or a vactor truck to vacuum clean surface area. In wet weather, use a vactor truck to vacuum clean surface area. 	
	Check for damaged sidewalk, curb, gutter, and catch basin including uplift and/or settling.		<ul style="list-style-type: none"> Remove and replace damaged areas. 	
	From the inspection port or inlets, is there evidence of water remaining in the bed after 3 days of dry weather?		<ul style="list-style-type: none"> Further evaluate. Restoration may be required. 	

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Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description:

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there accumulation of sediment (sand, dirt, mud) at the infiltration bed entrance or overflow locations?		<ul style="list-style-type: none"> Remove sediment and check the grading. 	
	Is there evidence of animal activity such as holes or dirt mounds from digging or burrowing?		<ul style="list-style-type: none"> Repair and fill in damaged areas. Implement rodent control activities where warranted. Activities must be in accordance with applicable laws. 	
	From the inspection port or inlets, is there evidence of water remaining in the bed after 3 days of dry weather?		<ul style="list-style-type: none"> Further evaluate. Restoration may be required. 	
	Is there trash/debris in the area?		<ul style="list-style-type: none"> Remove all trash and debris. 	

This checklist is to be used in conjunction with the maintenance plan developed by a certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.



5.3.3

Infiltration Trench Inspection Checklist

FORM

Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there standing or pooling of water?		<ul style="list-style-type: none"> Remove top layer of pea gravel. If ponded water remains, further grading and replacement may be necessary. 	
	Is water bypassing the trench opening?		<ul style="list-style-type: none"> Clean and/or remove any obstructions in and around the inlet. Check high-flow inlet for damage. 	
	Is there evidence of under cutting or washouts around the inlet splash blocks?		<ul style="list-style-type: none"> Reposition the inlet splash block(s) or dissipater(s). Fill in eroded areas and regrade. 	
	Is there accumulation of sediment (sand, dirt, mud) around the trench, especially at inlets?		<ul style="list-style-type: none"> Remove sediment and check the grading. 	
	From the inspection port or inlets, is there evidence of water remaining in the bed after 3 days of dry weather?		<ul style="list-style-type: none"> Further evaluate. Restoration may be required. 	
	Is there trash/debris in the trench area?		<ul style="list-style-type: none"> Remove all trash and debris 	

This checklist is to be used in conjunction with the maintenance plan developed by a certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.



5.3.5

Vegetated Swale Inspection Checklist

FORM

Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there standing or pooling of water after 3 days of dry weather?		<ul style="list-style-type: none"> Remove any obstruction in the swale and/or regrade to restore positive drainage. 	
	Is there poor drainage during a high-intensity storm event (i.e., overtopping)?		<ul style="list-style-type: none"> Clean the high-flow bypass inlet. Check pipe for damage and/or blockage. Repair if required. 	
	Is the flow into the vegetated swale even and uniform?		<ul style="list-style-type: none"> Remove any obstruction preventing a uniform flow into the vegetated swale. 	
	Is there evidence of under cutting or washouts along the impervious surfaces abutting the vegetated swale?		<ul style="list-style-type: none"> Fill in eroded areas and regrade. Erosion control materials must be used. 	
	Is there channelization (gully) forming along the length of the vegetated swale area?		<ul style="list-style-type: none"> Fill in eroded areas and regrade. Additional repairs, such as the use of turf reinforcement material (TRM), may be necessary. 	
	Is there accumulation of sediment (sand, dirt, mud) in the vegetative swale or at entrance?		<ul style="list-style-type: none"> Remove sediment and check the grading. Add replacement soil and/or mulch. 	
	Are there voids and/or holes around the high-flow bypass inlet?		<ul style="list-style-type: none"> Inspect the high-flow bypass inlet for damage. Replace or repair as necessary. Fill in eroded areas and regrade. 	



Vegetated Swale Inspection Checklist

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there evidence of animal activity such as holes or dirt mounds from digging or burrowing?		<ul style="list-style-type: none"> Repair and fill in damaged areas. Implement rodent control activities where warranted. Activities must be in accordance with applicable laws. 	
	Is vegetation clogging the inlet/outlet flow areas?		<ul style="list-style-type: none"> Trim and/or remove the excess vegetation. 	
	Are there dead or dry plants/weeds? Is the vegetation overgrown?		<ul style="list-style-type: none"> Remove dead and/or dry vegetation. Replace as needed. Remove or trim any vegetation that is causing a visual barrier, trip, and/or obstruction hazard. Mow grass as needed. 	
	Is there trash/debris in the area?		<ul style="list-style-type: none"> Remove all trash and debris. 	
	Are there missing or disturbed aesthetic features?		<ul style="list-style-type: none"> Replace and/or reposition aesthetic features to original placement. Placement should not disrupt flow characteristics/design. 	
	Are the aesthetic features firmly secured in place?		<ul style="list-style-type: none"> Repair and/or replace loose or damaged features. 	
	Check for damaged sidewalk, curb, gutter, and catch basin including uplift and settling.		<ul style="list-style-type: none"> Remove and replace damaged areas. 	

This checklist is to be used in conjunction with the maintenance plan developed by a certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.



5.3.6

Vegetated Filter Strip Inspection Checklist

FORM

Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there standing or pooling of water after 3 days of dry weather?		<ul style="list-style-type: none"> Remove any obstruction in the buffer strip and/or regrade to restore positive drainage. Clean and/or remove any obstructions in and around the storm drain inlet. 	
	Is there poor drainage during a high-intensity storm event?		<ul style="list-style-type: none"> Clean and/or remove any obstructions in and around the storm drain inlet. 	
	Is the flow into the filter strip even and uniform?		<ul style="list-style-type: none"> Remove any obstruction preventing a uniform flow into the filter strip. 	
	Is there evidence of under cutting or washouts along the impervious surfaces of the filter strip?		<ul style="list-style-type: none"> Fill in eroded areas and regrade. 	
	Is there channelization (gully) forming along the length of the filter strip area?		<ul style="list-style-type: none"> Fill in eroded areas and regrade. 	
	Is there accumulation of sediment (sand, dirt, mud) in the filter strip?		<ul style="list-style-type: none"> Remove sediment and check the grading. Add replacement soil and/or mulch. 	
	Are there voids and/or holes around the storm drain inlets?		<ul style="list-style-type: none"> Inspect the storm drain inlet for damage. Replace or repair as necessary. Fill in eroded areas and regrade. 	
	Has planting successfully established?		<ul style="list-style-type: none"> Restore soils and planting. Evaluation of selected species and soil conditions should be made to ensure successful restoration. 	



Vegetated Filter Strip Inspection Checklist

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there evidence of animal activity such as holes or dirt mounds from digging or burrowing?		<ul style="list-style-type: none"> Repair and fill in damaged areas. Implement rodent control activities where warranted. Activities must be in accordance with applicable laws. 	
	Is vegetation clogging the inlet/outlet flow areas?		<ul style="list-style-type: none"> Trim and/or remove the excess vegetation. 	
	Has planting successfully established?		<ul style="list-style-type: none"> Restore soils and planting. Evaluation of selected species and soil conditions should be made to ensure successful restoration. 	
	Are there dead or dry plants/weeds? Is the vegetation overgrown?		<ul style="list-style-type: none"> Remove dead and/or dry vegetation. Replace as needed. Remove or trim any vegetation that is causing a visual barrier, trip, and/or obstruction hazard. Mow grass as needed. 	
	Is there trash/debris in the area?		<ul style="list-style-type: none"> Remove all trash and debris. 	
	Check for damaged sidewalk, curb, gutter, and catch basin including uplift and settling.		<ul style="list-style-type: none"> Remove and replace damaged areas. 	

This checklist is to be used in conjunction with the maintenance plan developed by a certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.



5.3.7

Infiltration Berm Inspection Checklist

FORM

Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there standing or pooling of water after 3 days of dry weather?		<ul style="list-style-type: none"> Remove any obstruction in the berms and/or regrade to restore positive drainage. 	
	Is there poor drainage during a high-intensity storm event?		<ul style="list-style-type: none"> Clean structural components. Check inlet structures for damage and/or blockage. Repair if required. 	
	Is there channelization (gully) forming along the length of the infiltration berms?		<ul style="list-style-type: none"> Fill in eroded areas and regrade. 	
	Is vegetation clogging the inlet/outlet flow areas?		<ul style="list-style-type: none"> Trim and/or remove the excess vegetation. 	
	Is the vegetation overgrown?		<ul style="list-style-type: none"> Mow grass as needed. 	
	Is there trash/debris in the area?		<ul style="list-style-type: none"> Remove all trash and debris. 	
	Is the mulch distributed evenly throughout infiltration berm?		<ul style="list-style-type: none"> Redistribute and add additional mulch if needed. 	

This checklist is to be used in conjunction with the maintenance plan developed by a certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.



5.3.8

Green Roof Inspection Checklist

FORM

Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there standing or pooling of water?		<ul style="list-style-type: none"> Check outlet(s)/downspouts for obstruction or damage. If ponded water remains, further grading and replacement may be necessary. 	
	Is there channelization (gully) forming along the length of the green roof area?		<ul style="list-style-type: none"> Fill in eroded areas and regrade. 	
	Is vegetation clogging the outlet flow areas?		<ul style="list-style-type: none"> Trim and/or remove the excess vegetation around the outlet areas. 	
	Are there dead or dry plants/weeds?		<ul style="list-style-type: none"> Remove dead and/or dry vegetation. Replace as needed. 	
	Check for broken or damaged drain outlets, splash blocks, and grates.		<ul style="list-style-type: none"> Replace or repair all damaged features. 	
	Is the vegetation irrigation functional (if present)?		<ul style="list-style-type: none"> Repair broken/missing spray emitters. Reposition to eliminate over spray and/or over watering. 	
	Is there trash/debris on the green roof area?		<ul style="list-style-type: none"> Remove all trash and debris. 	

This checklist is to be used in conjunction with the maintenance plan developed by a certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.



5.3.9

Runoff Capture and Reuse Inspection Checklist

FORM

Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there standing or pooling of water after 3 days of dry weather around the storage tanks?		<ul style="list-style-type: none"> Regrade overflow drainage area. Reposition splash block/dissipater. Check for leaks from storage tanks. 	
	Is there excessive splashing/spray from the overflow outlet?		<ul style="list-style-type: none"> Reposition splash block or dissipater to reduce or eliminate splash/spray. 	
	Are the house/building gutters overflowing during a rain event?		<ul style="list-style-type: none"> Check gutter downspout and gutter for obstructions. Check storage tank(s) inlet screens for blockage. Check storage tank(s) outlet(s) for blockage. 	
	Are the storage tank(s) overflowing?		<ul style="list-style-type: none"> Check storage tank(s) outlet(s) blockage. 	
	Is there evidence of under cutting or washouts around the storage tank(s)?		<ul style="list-style-type: none"> Reposition splash block(s)/dissipater(s). Fill in eroded areas and regrade. Repair any leaks or overflows from storage tank(s). 	
	Is there accumulation of sediment/debris in the storage tank(s)?		<ul style="list-style-type: none"> Remove sediment and check inlet/gutter screens. Verify that the lid of the storage tank is secure. 	
	Is there undercutting or washouts around the outlet splash block(s)?		<ul style="list-style-type: none"> Reposition splash block(s) or dissipater(s). Fill in eroded areas and regrade. 	
	Is water freezing in the storage tank(s)?		<ul style="list-style-type: none"> Remove water from tank(s) before winter. Divert inflow away from tank during freezing conditions. 	



Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is vegetation clogging the outlet flow areas?		<ul style="list-style-type: none"> Trim and/or remove the excess vegetation around the outlet flow area. 	
	Is the mulch/gravel distributed evenly throughout the storage tank area?		<ul style="list-style-type: none"> Redistribute and add additional mulch if needed. Regrade vegetated swale area. 	
	Are there dead or dry plants/weeds?		<ul style="list-style-type: none"> Remove dead and/or dry vegetation. Replace as needed. Remove or trim any vegetation that is causing a visual barrier, trip, and/or obstruction hazard. 	
	Is there trash/debris in the area?		<ul style="list-style-type: none"> Remove all trash and debris. 	
	Are there missing or disturbed aesthetic features?		<ul style="list-style-type: none"> Replace and/or reposition aesthetic features to original placement. Placement should not disrupt flow characteristics/design. 	
	Are the vector control/prevention devices in place and functional?		<ul style="list-style-type: none"> Replace or repair all damaged components. Contact vector control if problem persists. 	
	Is the irrigation system functional?		<ul style="list-style-type: none"> Repair broken/missing spray emitters. 	
	Are the aesthetic features firmly secured in place?		<ul style="list-style-type: none"> Repair and/or replace loose or damaged features. 	
	Is the backflow operation/maintenance log current? (If installed)?		<ul style="list-style-type: none"> Test all backflow prevention assemblies annually by the system owner using an approved certified tester. 	
	Is there algae or other growth in the storage containers?		<ul style="list-style-type: none"> Clean tank(s) with non-toxic cleaners. 	

This checklist is to be used in conjunction with the maintenance plan developed by a certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.



5.3.10	Disconnected Impervious Area Inspection Checklist	FORM
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Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there standing or pooling of water after 3 days of dry weather?		<ul style="list-style-type: none"> • Remove any obstruction in the area to which disconnected impervious area drains and/or regrade to restore positive drainage. • Clean and/or remove any obstructions in and around points of discharge into vegetated area. 	
	Is there poor drainage during a high-intensity storm event?		<ul style="list-style-type: none"> • Clean and/or remove any obstructions in and around the storm drain inlet. 	
	Is the flow into the filter strip even and uniform?		<ul style="list-style-type: none"> • Remove any obstruction preventing a uniform flow into the vegetated disconnection area. 	
	Is there evidence of under cutting or washouts along the impervious surfaces draining to vegetated disconnection area?		<ul style="list-style-type: none"> • Fill in eroded areas and regrade. 	
	Is there channelization (gully) forming along the length of the vegetated disconnection area?		<ul style="list-style-type: none"> • Fill in eroded areas and regrade. 	
	Is there accumulation of sediment (sand, dirt, mud) in the vegetated disconnection area?		<ul style="list-style-type: none"> • Remove sediment and check the grading. • Add replacement soil and/or mulch. 	
	Has planting successfully established?		<ul style="list-style-type: none"> • Restore soils and planting. 	



5.3.10	Disconnected Impervious Area Inspection Checklist	FORM
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Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments <small>(Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)</small>
	Is accumulated vegetation inhibiting inflow to vegetated disconnection area?		<ul style="list-style-type: none"> Trim and/or remove excess vegetation. 	
	Has planting successfully established?		<ul style="list-style-type: none"> Restore soils and planting. Evaluation of selected species and soil conditions should be made to ensure successful restoration. 	
	Is there trash/debris in the vegetated disconnection area?		<ul style="list-style-type: none"> Remove all trash and debris. 	
	Check for damaged sidewalk, curb, gutter, and catch basin including uplift and settling.		<ul style="list-style-type: none"> Remove and replace damaged areas. 	

This checklist is to be used in conjunction with the maintenance plan developed by a certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.



5.3.11

Stormwater Planter Box Inspection Checklist

FORM

Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there standing or pooling of water after 3 days of dry weather?		<ul style="list-style-type: none"> Check perforated pipe outlet for obstruction or damage.* Flush perforated pipe to remove obstructions. Remove and replace the first few inches of topsoil. Remove all the soil and inspect perforated pipe. Repair or replace perforated pipe, replace with new soil and regrade. 	
	Is there overflow due to excessive splashing/spraying?		<ul style="list-style-type: none"> Reposition splash block or dissipater to reduce or eliminate splash/spray overflow. 	
	Is water overflowing the sides of the planter unit during a high-intensity storm event?		<ul style="list-style-type: none"> Clean and/or remove any obstructions in and around the outlet. Check high-flow bypass inlet pipe for obstruction or damage. 	
	Is there evidence of under cutting or washouts around the inlet splash blocks?		<ul style="list-style-type: none"> Reposition the inlet splash block(s) or dissipater(s). Fill in eroded areas and regrade. 	
	Is there channelization (gully) forming along the length of the planter area?		<ul style="list-style-type: none"> Reposition the inlet splash block(s) or dissipater(s). Fill in eroded areas and regrade. 	
	Is there accumulation of sediment (sand, dirt, mud) in the planter?		<ul style="list-style-type: none"> Remove sediment and check the grading. Add replacement soil and/or mulch. 	
	Is the mulch unevenly distributed in the planter area?		<ul style="list-style-type: none"> Redistribute and add more mulch if needed. Regrade filter strip area. 	

*If perforated pipe is present.



Stormwater Planter Box Inspection Checklist

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is vegetation clogging the inlet/outlet flow areas?		<ul style="list-style-type: none"> Trim and/or remove the excess vegetation around the inlet/outlet areas. 	
	Are there dead or dry plants/weeds? Is the vegetation overgrown?		<ul style="list-style-type: none"> Remove dead and/or dry vegetation. Replace as needed. Remove or trim any vegetation that is causing a visual barrier, trip, and/or obstruction hazard. 	
	Is there trash/debris in the planter area?		<ul style="list-style-type: none"> Remove all trash and debris. 	
	Is the planter and/or surrounding area marked with graffiti?		<ul style="list-style-type: none"> Remove all graffiti from the area. 	
	Are there missing or disturbed aesthetic features?		<ul style="list-style-type: none"> Replace and/or reposition aesthetic features to original placement. 	
	Check for broken or damaged drain inlets/outlets, splash blocks, and grates.		<ul style="list-style-type: none"> Replace or repair all damaged features. 	
	Are there cracks, holes, and/or damaged sides, or top of the planter unit?		<ul style="list-style-type: none"> Repair or replace unit. Repairs must be watertight. 	
	Are the aesthetic features firmly secured in place?		<ul style="list-style-type: none"> Repair and/or replace loose or damaged features. 	

This checklist is to be used in conjunction with the maintenance plan developed by a certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.



Manufactured Devices Inspection Checklist

Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	If vegetated, are there dead or dry plants/weeds?		<ul style="list-style-type: none"> Remove dead and/or dry vegetation. Replace with appropriate plants as needed. 	
	If vegetated, is vegetation overgrown?		<ul style="list-style-type: none"> Trim and/or remove excess vegetation. 	
	Is there trash/debris clogging the inlet structure?		<ul style="list-style-type: none"> Remove all trash and debris from inlet areas. 	
	Is there trash/debris near the outlet structure?		<ul style="list-style-type: none"> Remove all trash and debris from outlet areas. 	
	Is the device clogged with debris/sediment?		<ul style="list-style-type: none"> Remove accumulated debris and sediment. 	
	Is there any evidence of cracking, subsidence, spalling, erosion, or other deterioration of structural components?		<ul style="list-style-type: none"> Repair or replace structural components as needed. 	
	Are oil absorption booms/devices clogged or saturated?		<ul style="list-style-type: none"> Replace oil absorption booms/devices as needed. 	
	Is oily residue on weir, overflow?		<ul style="list-style-type: none"> Remove and safely dispose of accumulated residues. Replace all oil absorption and/or oil separation appurtenances as needed. 	

This checklist is to be used in conjunction with the maintenance plan developed by a certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.



5.3.13

Naturalized Basin Inspection Checklist

FORM

Inspected by: _____

BMP ID#: _____

Property Owner: _____

Date of Inspection: _____

Weather: _____

Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is there a high drawdown of water level over a short period?		<ul style="list-style-type: none"> Check outlet control valves and height of outlet/overflow channel. Repair and/or replace components as necessary. Review operational manual. 	
	Check the operation of the drainage system (valves, weirs, pipes, etc.)		<ul style="list-style-type: none"> Cycle the drainage system to verify operation. 	
	Is water overflowing the sides of the basin during a high-intensity storm event?		<ul style="list-style-type: none"> Clean and/or remove any obstructions in and around the inlet. Check high-flow bypass inlet pipe for obstruction or damage. 	
	Is there evidence of undercutting or washouts around the inlet/outlet of the basin?		<ul style="list-style-type: none"> Reposition the inlet splash block(s) or dissipaters. Fill in eroded areas and regrade. 	
	Is there channelization (gully) forming along the banks of the pond?		<ul style="list-style-type: none"> Fill in eroded areas, regrade banks, and replant area. Remove excess sediment from the pond. 	
	Is there accumulation of sediment (sand, dirt, mud) in the basin?		<ul style="list-style-type: none"> Remove sediment from the basin and regrade. 	
	Is there evidence of animal activity such as holes or dirt mounds from digging or burrowing?		<ul style="list-style-type: none"> Repair and fill in damaged areas. Regrade if needed. Implement rodent control activities where warranted. Activities must be in accordance with applicable laws. 	



Naturalized Basin Inspection Checklist

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Is vegetation clogging the inlet/outlet flow areas?		<ul style="list-style-type: none"> Trim and/or remove excess vegetation around the inlet/outlet areas. 	
	Are there dead or dry plants/weeds?		<ul style="list-style-type: none"> Remove dead and/or dry vegetation. Replace as needed. Remove or trim any vegetation that is causing a visual barrier, trip, and/or obstruction hazard. Remove any nuisance, dangerous plant species. Remove, trim, or mow all vegetation that may present a fire hazard. 	
	Is the vegetation overgrown or in excess?		<ul style="list-style-type: none"> Remove the excess vegetation and biomass. Regrade pond bottom if needed. 	
	Is there trash/debris in the basin?		<ul style="list-style-type: none"> Remove all trash and debris. 	
	Are mosquitoes present?		<ul style="list-style-type: none"> Contact vector control. 	
	Are the signage and fencing in place and in good condition?		<ul style="list-style-type: none"> Repair or replace signage and fencing. Add additional barrier signage to block access to hazardous areas. 	

This checklist is to be used in conjunction with the maintenance plan developed by a certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.



5.4.1	Recreate Natural Flow Patterns Inspection Checklist	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is This Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION				
	Are natural drainage features being utilized instead of engineered systems?		<ul style="list-style-type: none"> Verify that implemented drainage systems correspond with site plan. 	
	Are proposed natural drainage features being staked out on the site and protected with adequate site protection measures?		<ul style="list-style-type: none"> Stake out features in the field and delineate minimal disturbance areas. 	
	Are recreated drainage features being protected from sediment and stormwater loads during construction?		<ul style="list-style-type: none"> Install protection measures to prevent sedimentation and negative impacts from stormwater loads. 	
	Are erosion protection or energy dissipation measures being installed if the channel or swale can reach erosive velocity?		<ul style="list-style-type: none"> Verify whether erosive velocity can be reached in channels or swales. 	
	Are native vegetation buffers being installed around drainage features?		<ul style="list-style-type: none"> Consult planting plan and verify. 	
	Is the installation of stormwater features being monitored to ensure proper sizing?		<ul style="list-style-type: none"> Monitor before and during construction for signs of under or oversized systems and take corrective action. 	
	Is large machinery being used in minimal disturbance areas?		<ul style="list-style-type: none"> Smaller machinery should be used in these areas and work should be avoided on wet soil to protect soil structure and infiltration rates. 	
AFTER CONSTRUCTION				
	Is maintenance being performed once naturalized drainage features are established?		<ul style="list-style-type: none"> Twice yearly maintenance is required. Periodic inspections as well as targeted maintenance actions may also be important. 	

This checklist is to be used in conjunction with the maintenance plan developed by the certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.

5.4.1.1	<h1>Naturalize Swales and Drainage Ditches Inspection Checklist</h1>	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspection Category	Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION					
		Are natural drainage features being utilized instead of engineered systems?		<ul style="list-style-type: none"> Verify that implemented drainage systems correspond with site plan. 	
		Are proposed drainage features and channel configurations being staked out on the site and protected with adequate site protection measures?		<ul style="list-style-type: none"> Stake out features and configurations in the field and delineate minimal disturbance areas. 	
		Are drainage features being protected from sediment and stormwater loads during construction?		<ul style="list-style-type: none"> Install protection measures to prevent sedimentation and negative impacts from stormwater loads. 	
		Are erosion protection or energy dissipation measures being installed if the channel or swale can reach erosive velocity?		<ul style="list-style-type: none"> Verify whether erosive velocity can be reached in channels or swales and install protection measures where necessary. 	
		Are native vegetation buffers being installed around drainage features?		<ul style="list-style-type: none"> Consult planting plan and verify. Install vegetated buffers to stabilize the channel. 	
		Is small machinery being used to minimize soil damage?		<ul style="list-style-type: none"> Use small machinery and protect soil from construction traffic. Work should be avoided on wet soil to protect soil structure and infiltration rates. 	
		Are construction vehicles being driven across swales?		<ul style="list-style-type: none"> Do not drive construction vehicles across a swale unless a stabilized crossing is provided. 	
		Are check dams being installed in swales with slopes greater than 3%?		<ul style="list-style-type: none"> Verify swale slope and install check dams at a frequency appropriate for swale length, slope, and desired storage volume. 	
		Are check dam pools draining adequately?		<ul style="list-style-type: none"> Check dam pools should drain in 72 hours to prevent mosquito breeding. 	

5.4.1.1	<h2>Naturalize Swales and Drainage Ditches Inspection Checklist</h2>	FORM
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AFTER CONSTRUCTION				
		Is maintenance being performed during establishment?		<ul style="list-style-type: none"> • Perform watering, weeding, mulching, replanting, etc. Remove undesirable species and replace.
		Is maintenance being performed once naturalized drainage features are established?		<ul style="list-style-type: none"> • Perform periodic inspections as well as targeted maintenance. Evaluate erosion, bank stability, sediment/debris accumulation, and invasive species presence. Correct problems in a timely manner.
		Are check dam pools draining adequately?		<ul style="list-style-type: none"> • Check dam pools should drain in 72 hours to prevent mosquito breeding.

This checklist is to be used in conjunction with the maintenance plan developed by the certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.

5.4.2	<h1 style="margin: 0;">Improve Native Cover Types Inspection Checklist</h1>	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION				
	Has vegetation onsite been preserved and have preservation areas been delineated?		<ul style="list-style-type: none"> Delineate preservation areas. 	
	Have problems within the enhancement area been identified and if so, are they being addressed?		<ul style="list-style-type: none"> Problems such as fill, bare or eroded soil, invasive species, trash, etc. need to be addressed in the restoration process. 	
	Are outside influences present beyond the site that may undermine enhancement efforts? If so, are they being addressed?		<ul style="list-style-type: none"> Develop a plan to address negative offsite influences. 	
	Have factors that suppress regeneration of native plants been identified and addressed?		<ul style="list-style-type: none"> Address these factors or efforts spent on enhancement will be wasted. 	
	Have desirable and sensitive species been protected?		<ul style="list-style-type: none"> Protect accordingly, paying particular attention to "keystone" species, replacing them where possible if they are absent. 	
	If present, have masses of aggressive exotics been removed?		<ul style="list-style-type: none"> Remove large tangles of aggressive exotic species to allow a clear evaluation of the site. 	
	Are improvement techniques being used that are appropriate to the landscape cover type?		<ul style="list-style-type: none"> Consult the Society for Ecological Restoration (www.ser.org) for specific directions for your site. 	
AFTER CONSTRUCTION				
	Is irrigation being utilized during the period of establishment and during severe droughts?		<ul style="list-style-type: none"> Monitor improvement areas and employ irrigation where needed. 	
	Is erosion being monitored?		<ul style="list-style-type: none"> Monitor erosion until the site has stabilized. 	
	Is the site being monitored for invasive species?		<ul style="list-style-type: none"> Monitor site regularly for invasive species. 	

5.4.2	<h2 style="margin: 0;">Improve Native Cover Types Inspection Checklist</h2>	FORM
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Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
			<ul style="list-style-type: none"> • Consider long-term monitoring/management. 	
	Are extra abundant herbivores being controlled (white-tailed deer, rabbits, geese, etc.)?		<ul style="list-style-type: none"> • Reference 5.4.2 Improve Native Cover Types for appropriate management strategies. 	

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5.4.2.1	<h1 style="margin: 0;">Change Cover Type Inspection Checklist</h1>	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION				
	Are visible transitions being created between cover types?		<ul style="list-style-type: none"> Maintain the edge of natural landscape cover so it looks orderly and attractive. 	
	Are invasive species being monitored?		<ul style="list-style-type: none"> Monitor and manage invasive species, especially for the first two years. 	
	Have areas identified for cover change been staked in the field?		<ul style="list-style-type: none"> Stake conversion areas. 	
	Has a soil scientist been consulted?		<ul style="list-style-type: none"> Soil conditions and the needs of different landscape types can vary greatly. Consult a soil scientist to assist in determining the correct course of action. 	
	Is post-planting protection installed?		<ul style="list-style-type: none"> Use the appropriate protection measures depending on cover type. 	
	Is initial planting being watered?		<ul style="list-style-type: none"> Water new cover types at a minimum rate of ½ inch per week for eight weeks after planting, unless there is adequate rainfall. 	
AFTER CONSTRUCTION				
	Are meadows being mowed?		<ul style="list-style-type: none"> Mow meadows during the first growing season to a height of 6 inches. If weeds exceed 9 inches, remove flowering heads. 	
	Are weeds and invasives under control?		<ul style="list-style-type: none"> As soon as detected and when these pest plants are large enough, pull (mechanically or by hand), mow, spray with spot chemical applications, burn or use a combination of techniques. Remove invasive species before seed formation to prevent reseeding. 	
	Is regular monitoring and maintenance taking place on highly visible landscapes?		<ul style="list-style-type: none"> Maintain all cover types. Maintenance includes watering, weeding, removing invasives, and replanting damages plants. 	

5.4.2.1	<h2 style="margin: 0;">Change Cover Type Inspection Checklist</h2>	FORM
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Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
	Are regular monitoring and maintenance taking place on less visible landscapes?		<ul style="list-style-type: none"> For less visible landscapes where the primary purpose of the cover type is erosion control and increased permeability, maintenance can be reduced to twice a year inspection for problems and immediate repair and once or twice yearly mowing for meadows. 	
	Are regular monitoring and maintenance taking place at the edges of natural landscapes?		<ul style="list-style-type: none"> Maintain the edges of natural landscape cover types so that these landscapes look orderly and attractive. 	

This checklist is to be used in conjunction with the maintenance plan developed by the certified professional and in accordance with the Operations and Maintenance Agreement on file with the City of Chattanooga. Please review those documents prior to performing field inspections.

5.4.3	Amend and Restore Disturbed Soils Inspection Checklist	FORM
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Inspected by: _____ BMP ID# _____ Property Owner: _____
 Date of Inspection _____ Weather _____
 Location Description: _____

Inspection Category	Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
DURING CONSTRUCTION					
		Has site work such as utility installation and paving been completed prior to commencing soil preparation?		<ul style="list-style-type: none"> Complete site work. 	
		If deep subsoiling is planned, are utility locations clearly marked?		<ul style="list-style-type: none"> Mark utility locations. Utility conflicts are the most common reason why methods such as subsoiling may not be appropriate. 	
		If decompacting soil around tree root, is care being taken to protect tree roots?		<ul style="list-style-type: none"> Use proper techniques to avoid root damage as outline in 5.4.3, Amend and Restore Disturbed Soils. 	
		Has a preconstruction soil test been performed?		<ul style="list-style-type: none"> Test soil texture, porosity, and water retention and perform a chemical analysis to determine what is needed to create a viable soil. 	
		If contaminants were/are present, has the site been remediated?		<ul style="list-style-type: none"> Assess and remediate contaminated land. 	
		Is soil being left bare and unprotected?		<ul style="list-style-type: none"> Minimize the length of time that soil is left bare and unprotected. Avoid bare soil during periods of seasonally high precipitation or wind. Provide special protection to critical areas such as steep slopes and stream borders. 	
		Are soil amendments being applied properly?		<ul style="list-style-type: none"> Follow guidelines noted in 5.4.3. 	
		Is installation occurring on steep slopes?		<ul style="list-style-type: none"> Installation should be performed during dry weather, and early enough in the year to permit the establishment of vegetation before the onset of winter. Protect seeded areas with slopes exceeding 1:4 with erosion-control blankets and/or erosion-control fiber mulch. 	
		Are designed soils being installed?		<ul style="list-style-type: none"> Ensure proper mixing. Install soil by horizon. Achieve greater uniformity by placing soil in 4- to 6-inch lifts, mixing lifts between horizons. 	

5.4.3	Amend and Restore Disturbed Soils Inspection Checklist	FORM
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Inspection Category	Inspector Verification (initial)	Maintenance Issue	Is this Issue Present? (Y/N)	Required Actions To Address Issues Present	Comments (Describe maintenance completed and, if needed maintenance was not conducted, note when it will be done.)
				<ul style="list-style-type: none"> • Test soil after installation. 	
		Is soil being stockpiled?		<ul style="list-style-type: none"> • Follow stockpiling guidelines noted in 5.4.3. 	
AFTER CONSTRUCTION					
		Is soil settling taking place?		<ul style="list-style-type: none"> • Backfill the areas in question with additional approved material, compacted to specified rates and restore any disturbed areas to an acceptable condition. 	
		Are drainage swales present on the site?		<ul style="list-style-type: none"> • Clean drainage swales periodically to remove sediment, trash, and invasive plants and to sustain functionality. • Maintain surrounding filter vegetation to reduce sediment deposition within the swales. 	
		Is monitoring taking place?		<ul style="list-style-type: none"> • After one year, collect soil samples in each of the various soil areas and submit them for laboratory testing for fertilizer and liming recommendations. • Sample each "type" of soil and planting area separately (similar areas can be grouped). Tailor fertilization and amendment needs to each area for maximum effect while reducing over fertilizing and possible contamination of groundwater and runoff. • Repeat soil sampling for these areas every two years after first sampling and fertilize and amend to test recommendations. 	

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