

The Shaw Professional Landscape Series Stormwater Workshop

BMP Compliance Inspections: What to Expect

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Overview

- MSD Inspections
- BMP Owner Maintenance Requirements
- BMP Compliance Enforcement
- BMP Education



Why is BMP Maintenance Important

EPA – “Too frequently, however, BMP maintenance is not completed, particularly when the BMP is privately owned. Improper maintenance decreases the efficiency of BMPs and can also detract from the aesthetic qualities of the practice. ”

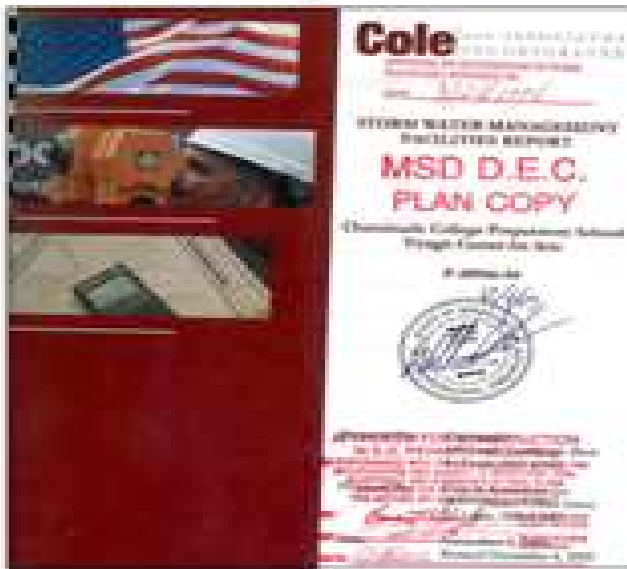
Why Does MSD inspect?

- To ensure BMP O&M with Maintenance Agreement
Maintenance Agreement between
MSD and Property owner
 - “1. To **build and construct stormwater management facilities**, including Best Management Practices (BMP)...The stormwater management facilities are to be perpetually located within the dimensioned and reserved area.
 - 2. To **maintain and operate the stormwater management facilities** in conformity with the approved stormwater management design, maintenance and operation plan.
 - 3. To **maintain** all pipes and drains in good working order and maintain all walls, dikes, vegetation, filter media, and any other requisite appurtenances and improvements for the retention and management of stormwater in good repair....
 - 4. This agreement is **irrevocable and shall continue forever**”

MSD Design Rules and Regulations

- Plans require a Storm Water Facility Management Report (Plan)...this is the BMP owners manual, like the one with your car

Typical Storm
Water Facilities
Management
Report



MSD Inspections

What are we looking for?

- Facility is:
 - Maintained per Plan
 - Still in place per Maintenance Agreement
 - Operable



MSD Inspections - Frequency & Load

- MSD has authority to inspect under MSD Ordinance 12559
- MSD inspections conducted on 3 yr. frequency
- ~ 300 Water Quality BMPs items to complete by end of 2013 calendar year
- Non Water Quality BMPs – 5 yr. frequency, ~2000 items; Next inspections anticipated to begin in FY 2015 – inventory completed in 2010
- Results stored in MSD database
- Number of inspections reported to State

MSD Inspection Checklist

- Inspector should contact site contact
- Inspection checklist based on type of BMP
- Ratings 0, 1, 2, 3; Overall Rating
- Photos of site are taken

C. Splitter Structure		Inspected	<input type="checkbox"/>	Not Inspected	<input type="checkbox"/>	Comments
Item						
1.	Condition of structural components	0	1	2	3	N/A
2.	Excessive trash/debris/sediment around office	0	1	2	3	N/A

D. Pretreatment		Inspected	<input type="checkbox"/>	Not Inspected	<input type="checkbox"/>	Comments
Item						
1.	Maintainance access to pre treatment facility	0	1	2	3	N/A
2.	Excessive trash/debris/sediment	0	1	2	3	N/A
3.	Evidence of standing water:	0	1	2	3	N/A
a.	Ponding	<input type="checkbox"/>				
b.	Noticeable odors	<input type="checkbox"/>				
c.	Waste rocks	<input type="checkbox"/>				
d.	Presence of algae or floating aquatic vegetation	<input type="checkbox"/>				
4.	Evidence of clogging	0	1	2	3	N/A
5.	Dead vegetation exposed soil	0	1	2	3	N/A
6.	Evidence of erosion	0	1	2	3	N/A

E. Facility		Inspected	<input type="checkbox"/>	Not Inspected	<input type="checkbox"/>	Comments
Item						
1.	Maintainance access to facility	0	1	2	3	N/A
2.	Condition of structural components	0	1	2	3	N/A
3.	Dewatering valve (if eq type d)	0	1	2	3	N/A
a.	Closed during normal operation	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	
b.	Working	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	
4.	Excessive trash/debris/sediment	0	1	2	3	N/A
5.	Evidence of erosion	0	1	2	3	N/A
6.	Evidence of blockage/bal accumulation	0	1	2	3	N/A
7.	Evidence of standing water (clogging)	0	1	2	3	N/A
a.	Ponding	<input type="checkbox"/>				
b.	Noticeable odors	<input type="checkbox"/>				
c.	Waste rocks	<input type="checkbox"/>				
d.	Presence of algae or floating aquatic vegetation	<input type="checkbox"/>				
8.	Underdrain system (if equipped)	0	1	2	3	N/A
a.	Broken	<input type="checkbox"/>				
b.	Clogged	<input type="checkbox"/>				

For scoring, use the following criteria:	
0 = Good condition. Well maintained, no action required.	
1 = Moderate condition. Adequately maintained, routine maintenance needed.	
2 = Degraded condition. Poorly maintained, routine maintenance and repair needed.	
3 = Serious condition. Immediate need for repair or replacement.	

MSD BMP Inspection Scoring

Rating system is 0 - 3

■ **0 = Good condition**

Description: Well maintained, no action required.

■ **1 = Moderate condition.**

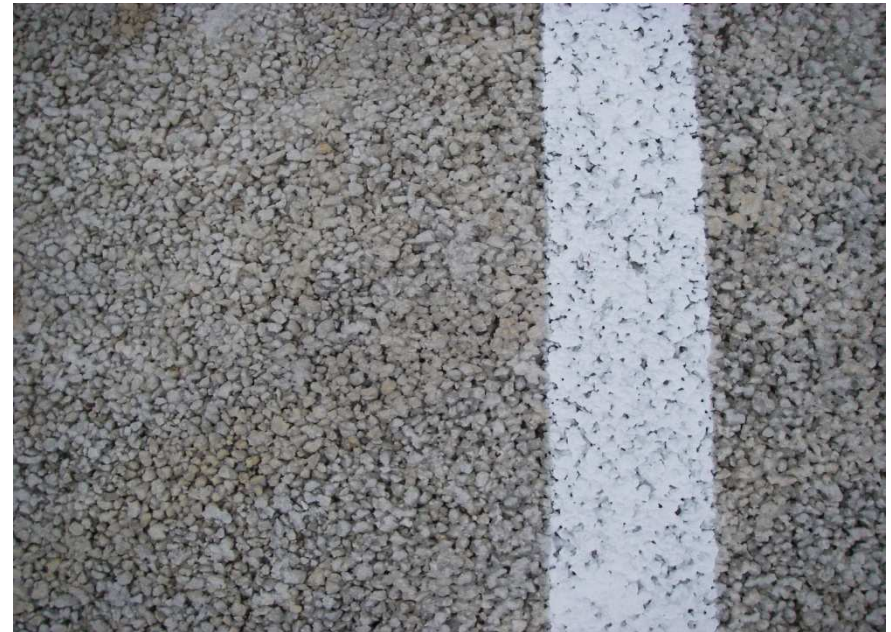
A potential problem that can be addressed in the future

Description: Although maintenance may not be required at this time, a potential problem exists that will most likely need to be addressed in the future. This can include items like minor erosion, concrete cracks/spalling, or minor sediment accumulation. This item should be revisited at the next inspection. Moving up the next inspection date should be considered.

(insert photos of 0 and 1)

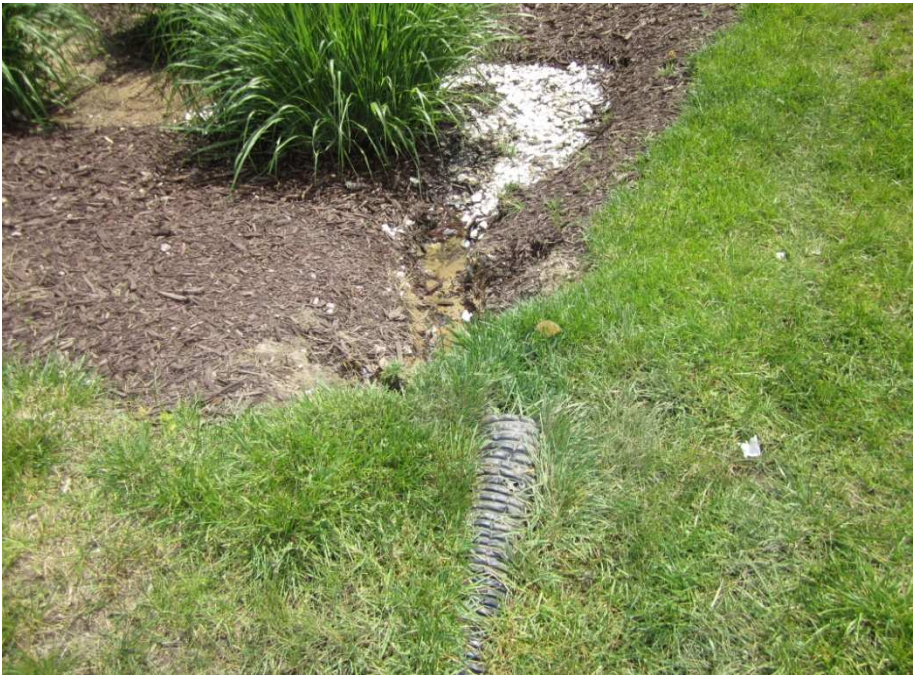
MSD BMP Inspection Scoring

- Examples of 0 – Good Condition



MSD BMP Inspection Scoring

- Examples of 1 – Moderate Condition



MSD BMP Inspection Scoring

■ 2 = Degraded condition.

Routine maintenance and repair needed.

Description: Inspection items that must be addressed through routine maintenance. This can include items like vegetation management, erosion repair, or debris/trash removal



MSD BMP Inspection Scoring

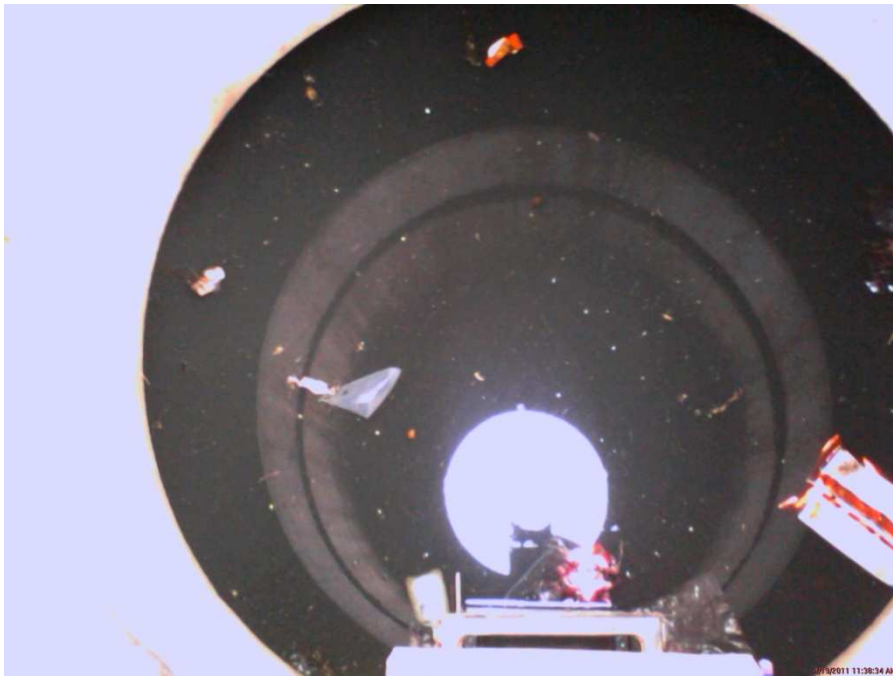
■ **3 = Serious condition.**

Immediate need for repair or replacement.

Description: This item needs immediate attention because failure is imminent or has already occurred. This could include items such as structural failure of a feature (outlet works, forebay, etc), significant erosion, or significant sediment accumulation. This score should be given to an item that can significantly affect the function of the facility.

MSD BMP Inspection Scoring

- Examples of 3 - Serious Condition



MSD BMP Inspection Scoring

- Examples of 3 - Serious Condition



Owner Responsibilities

Inspections & Annual Maintenance Report

- Routine inspections and maintenance conducted per facility Plan

- Annual Maintenance Report submittal

Documentation of maintenance conducted

- Completed inspection forms and/or maintenance log
 - Narrative description of corrective actions taken, if applicable
 - Photographs of site
- Currently due March 31st of the next year

BMP Compliance Enforcement

- Informal Enforcement
 - Typically for minor maintenance issues
 - Written Notification (Letter)
 - Telephone Notification
 - Meetings
- Formal Enforcement
 - Typically for failure of property owner to comply with informal enforcement responses
 - Notice of Violation
 - Administrative Order
 - Legal Action
 - Recovery of Costs

Lessons from the Field...

Common Compliance Issues/Considerations

- **Consider access for maintenance and inspections**
- **Coordination of construction and post -construction BMP installation**
 - Don't start installation until pervious areas stabilized



Lessons from the Field...

- Signage to ensure proper operation

GOOD...



Porous Pavement

With Signage – 1 yr later

NOT SO GOOD....



Porous Pavement

Without Signage – 1 yr later

Lessons from the Field...

Owner Inspection Frequency and Cleaning

- Varies dependent on drainage area and size of drainage area
- Nearby construction not stabilized
- Suggest quarterly 1st year to attain benchmark of performance



BMP Compliance Education

- Web site – BMP Toolbox Updates
- Presentations for Trustee Boards and HOAs
- BMP Ownership & Maintenance Brochure

Includes info on:

- What is a BMP
- Types of BMPs
- Do's & Don'ts
- Private BMP Owner Responsibilities
 - Maintenance
 - Inspections
 - Annual Report



Education – BMP Toolbox



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Maintenance Responsibilities

MSD compliance contact information

To ensure the maintenance of privately owned stormwater management facilities, MSD requires an Annual BMP Maintenance Report to be submitted to the District for all commercial and residential homeowner association maintained facilities. This Annual Report should provide documentation that maintenance was performed in accordance with the Stormwater Management Facilities Report (SWMFR) submitted to and approved by MSD for the development project. The Annual Report typically consists of a completed inspection checklist and/or maintenance log, narrative description of corrective action measures taken, photographs, and any other documentation appropriate for demonstrating compliance with the BMP Maintenance Agreement and the SWMFR.

The Annual BMP Maintenance Report should be submitted to MSD before March 31 of each year. A MSD inspector will also periodically inspect the BMP. The Annual Report should be sent to:



Well-Maintained BMP,
St. Louis County, MO

Related Links

[BMP Toolbox](#)

ABC's of Post-Construction Stormwater BMP Ownership

A Few Keys to Staying in Compliance

- **A**lways receive a copy of the Stormwater Management Facilities Report (Plan) and submit **A**nnual Maintenance Report.
- **B**udget for maintenance, routine and non-routine.
- **C**heck-up on your BMP.

Questions?

Post-construction BMP
Maintenance & Inspection Contact:

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