



**Web Forum 4: Department of Transportation
Stormwater BMP Maintenance and Operations
Questions and Answers
October 18, 2018
2:00 p.m. – 3:30 pm (EST)**

A web forum was held for Departments of Transportation (DOT) stormwater practitioners to discuss DOT stormwater BMP maintenance and operations that promote surface water quality protection. Following is a transcript of the question and answer session following the webinar.

Pennsylvania DOT Stormwater Control Measure Maintenance

Presented by Richard Heineman, Stormwater Section Manager, Pennsylvania DOT

Question: Do you inspect and maintain only those stormwater control measures in urbanized areas, or is the program applied uniformly to all stormwater control measures regardless of location?

Answer: We apply the program uniformly across the state, regardless of whether it is in an urbanized area. We just focus on ones required by environmental regulations, what we refer to as 102 programs. We inspect all statewide stormwater control measures statewide the same.

North Carolina DOT's BMP Inspection and Maintenance Program: Past, Present, and Future

Presented by Andrew McDaniel, Manager, Highway Stormwater Program, North Carolina DOT

Question: If you had the opportunity to redesign the program today what would you do differently?

Answer: Hindsight is always 20/20. Reimagining the program with the benefit of what we know today, it would be emphasized to senior management the importance of establishing a dedicated funding source for our BMP inspection and maintenance program and associated cost tracking system. In the early days, we viewed BMP maintenance as really another flavor of roadside vegetation maintenance, rather

than a true asset management type of approach. While it is true that most of our BMP maintenance tasks are centered around vegetation management, it is understandable why we made the decisions we did initially. There is a lot more to inspection and maintenance than just vegetation management. So, taking a true asset management approach, with good cost tracking, would provide better data to work with and allow us to make the best possible decisions.

Managing Maryland's Stormwater – One Road at a Time: An Overview of the Maryland DOT State Highway Administration Drainage and Stormwater Assets Management Program

Presented by Kiona Leah, P.E., Drainage and SWM Assets Manager, Maryland DOT

Question: How do you collect data in the field?

Answer: Right now, it is just “boots on the ground,” sending inspectors out into the field with the new inspection tool. Basically, they go out there with a tablet loaded with the original plans for the BMP they are inspecting, as well as any other data they might need, and possible issues they can sometimes see past inspections. They just follow the checklist form, which walks them through all the specific parameters we are looking for. For something like a grass swale, there are not as many boxes to check. The tablet also requires they take at least an overall photo. If they rate anything a C (moderate problems), D (major problems), or E (severe problems), the program parameter requires them to conduct an inspection. So, observing the riser at the pond, if the riser is clogged, they would give the riser a rating of C (moderate problems), and the program will not move on until a photograph is taken and uploaded to the system. With the grass swales protocol that we just implemented, we are examining ways to increase that efficiency, especially for something along a roadside, and having that many facilities to implement and inspect.

General Questions

Question: Do any of the presenters use performance based contracts when remediating and maintaining BMPs?

Answer: Maryland DOT State Highway Administration has just put out the first of these in recent months. It includes approximately 200 lower priority facilities into a Design-Build contract with a specific performance measure of how many acres of restoration we want to see as a result. We have taken all facilities in the menu for the Design-Builder from all other contracts and will monitor their progress through the contract. It is a three-year contract.

Oregon DOT does not currently use outside contractors for BMP maintenance.

Question: Are any of the states under a consent decree?

Answer: AASHTO is in the process of getting the webinar participant list, to ask if they meant “maintenance activities” or “stormwater program.” This would go out to all CoP members.

Question: Could you please provide links to (or electronic copies for) the manuals (operation and maintenance, inspection and maintenance, etc.) discussed for Pennsylvania DOT, North Carolina DOT, and Oregon DOT?

Answer:

- Pennsylvania DOT Publication 888 – Stormwater Control Measure Maintenance Manual
- PennDOT Publication 23 – Maintenance Manual
- North Carolina DOT BMP Inspection and Maintenance Manual
- Maryland DOT State Highway Administration Manual(s)
- Oregon DOT does not have a manual specifically for stormwater BMP maintenance, instead relying on BMP type maintenance tables and facility specific operation and maintenance manuals. The requirements for the operation and maintenance manuals is in the Oregon DOT Hydraulics Manual. Oregon DOT does have a routine roadside maintenance manual that has as a major purpose defining how to perform maintenance activities in a way that avoids or minimizes water quality impacts. The operation and maintenance tables can be found at:
<https://www.oregon.gov/ODOT/GeoEnvironmental/Pages/Stormwater.aspx>.
The Oregon DOT hydraulics manual is at:
<https://www.oregon.gov/ODOT/GeoEnvironmental/Pages/Hydraulics-Manual.aspx>.

Comment: If you have a Phase I MS4, you must know how much money is spent in the program.

Response: Correct; however, it varies widely from state to state on what drives the maintenance fundable resources spent year to year. Due to winter conditions, fires, and other emergencies, other maintenance and operations activities may dictate the amount of resources available to be utilized for BMP maintenance in any given year.

Specific maintenance activities are often very difficult to track. Maintenance systems that track minor activities (such as mowing, trash pickup, and brush cutting) often are not compatible with systems tracking inventory, so an exact cost for maintenance of facilities is difficult to obtain.