Nutrient Scientific Advisory Board Meeting #43 Minutes

Friday, May 6, 2016
TJCOG- 4307 Emperor Blvd, Suite 110, Durham, NC 27703
9:30 am -12:00 pm

Attendees
Members: John Cox, Brian Jacobson (NCDOT Alternate), Josh Johnson, Andy McDaniel, David Phlegar

Non-Members: Andy Sachs (facilitator), Amin Davis, Rich Gannon, Jim Hawhee & John Huisman (DWR); Teresa Bobbitt (AWC&K), Annette Lucas (DEMLR), Alix Matos (Cardno), Haywood Phthisic (LNBA), Jon Pierson & Rhan Sutton (CONTECH); Sushama Pradhan (DHHS), Mike Schlegel (TJCOG), Sarah Waickowski (NCSU BAE), Sandi Wilbur (Durham)

Agenda Topics
- StormFilter Practice
- Practice Approval Procedure & SCM Crediting
  - DWR Measures Approval Process
  - DEMLR Stormwater Program Updates

Materials
- Meeting Plan
- DRAFT Nutrient Accounting for the StormFilter System
- DWR Measures Approval Process Flowchart
- New Stormwater Technologies (NEST) Program (15A NCAC 02H .1031)

General Updates
John Cox (NSAB) informed the group that Sandi Wilbur would replace him as an NSAB member and Michelle Woolfolk would continue as an NSAB alternate member after his retirement.

StormFilter Practice
Amin Davis (DWR) provided a presentation about the StormFilter Stormwater Treatment System which included DWR's regulatory mandate, DEQ's history with approval, the technical practice basis, minimum design criteria, technical guidance, crediting method and ranges of results. Below is a summary of comments and questions that were addressed by DWR and CONTECH staff, which can be broadly categorized as technical, operations & maintenance (O&M) and general.

<u>Technical</u>
- Several NSAB members requested that more information be included in the crediting document about how nutrient event mean concentrations (EMCs), hydrologic parameters and overall crediting for the Stormfilter was derived. This has significant relevance for determining if credit can be awarded for StormFilter design variants. Rich Gannon (DWR) clarified that the EMCs were derived from one study. DWR agreed to provide this additional information.
- An NSAB member asked who conducted the long-term monitoring studies. CONTECH indicated that their staff ran the studies and a member of NCSU's Stormwater Engineering Team oversaw the sampling.

- An NSAB member asked if the long-term monitoring study in Washington was approved through the Washington Department of Ecology's *Technical Assessment Protocol – Ecology* (TAPE) program. CONTECH indicated that this study sampling was approved through this program. This NSAB member pointed out to the group that the TAPE program is a very rigorous program. [*Editor's Note: The TAPE program certifies stormwater treatment technologies for use in the state of Washington.*]
- An NSAB member asked if monitoring studies had been conducted of cartridge media other than PhosphoSorb with the implication that partial credit could be obtained due to some level of nutrient reduction that would still occur. CONTECH indicated that the City of Charlotte was in the process of monitoring using Perlite cartridge media instead of PhosphoSorb.
- An NSAB member asked if influent concentration data was recorded. CONTECH indicated that this data was recorded, they would be happy to provide it and they have submitted their data for inclusion into the International BMP database.
- An NSAB member stated that the level of conservatism for crediting may not need to be as high as for more traditional stormwater control measures (SCMs) because the StormFilter functions primarily through the use of chemical processes, rather than the more biologically-mediated processes of more traditional SCMs.

<u>Operations & Maintenance</u> (O&M)

- A non-NSAB member asked who would be responsible for maintaining the StormFilter. CONTECH explained that the owner of the system is responsible for O&M, CONTECH has O&M agreements available for use, the systems are very easy to inspect and there are contractors who have received O&M training through CONTECH. Additionally, CONTECH explained that an O&M event for the StormFilter that contained eight cartridges at the Mooresville long-term monitoring site took approximately 35 minutes and cost around $3,000. CONTECH indicated that systems operate is if brand new after appropriate O&M activities have been performed.
- An NSAB member asked what would happen if the system became blocked and would stormwater overflow out of the system and into a parking lot? CONTECH explained that stormwater would be bypassed from the associated upstream detention device in the event the system was malfunctioning. This would be how flooding issues would be addressed.
- DWR asked if CONTECH has done any long-term studies of StormFilter systems that have operated without proper maintenance. CONTECH indicated that they have done failure mode modeling of StormFilter systems.

<u>General</u>

- An NSAB member requested that DWR provide a weblink to Appendix C of CONTECH 's *Design Methodologies for Projects in the State of North Carolina* document. He also mentioned that this document provides duplicative material found in other guidelines in the crediting document. DWR agreed to provide a weblink to this document.

- An NSAB member asked how long CONTECH has been working through the PEP approval process for the StormFilter and whether they think the current process has improved. CONTECH indicated that they started the PEP process back in 1999 but didn't start monitoring nutrient concentrations until 2005 or 2006. They indicated the PEP process has greatly improved over that time and things have been much easier moving forward.

- A non-NSAB member asked about general cost information for a StormFilter system in NC. CONTECH explained that cost varied based on differing site conditions but provided relative costs for materials only being approximately $30,000 to $35,000 based on previous projects.

DWR Measures Approval Process

Jim Hawhee (DWR) provided the group an updated version of DWR's Measures Approval Process (MAP). He stated that the proposed MAP flowchart builds on previous MAP documents and was developed to clarify and improve the existing process. He then explained the intent of the five sequential steps of the MAP process and the publications/products that will be generated. A critical component of the first step is determining whether DWR or DEMLR will be the lead agency, while a critical component of the last step allows an appeals process for a measures proponent. The MAP will primarily have an Existing Development Stormwater (ED) application, but may have potential New Development Stormwater (ND) applications.

DEMLR Updates

Annette Lucas (DEMLR) provided the group an update of current DEMLR initiatives she is directly involved with. She began by stating that a primary goal of DEMLR's Stormwater Permitting Program associated with the MAP is streamlined coordination with DWR. Additionally, a proposed measure should be reviewed through one lead agency, either DEMLR or DWR but not both agencies. She then provided the group with updates about Minimum Design Criteria (MDC), DEQ's Rule-Making Schedule, the NC Stormwater Technical Guidance Manual (STGM), the New Stormwater Technology Program (NEST) and the SCM Crediting Team.

MDC are primarily for ND applications but can also be applicable for ED applications. She noted there are potential issues with SCM sizing constraints associated with existing developed areas. MDC will be codified in Rule, while the proposed STGM will provide guidance on how to meet MDC but will not be in Rule. The NEST is an updated version of DEMLR's Project Evaluation Period Program (PEP) and will also be codified into Rule. If MDC complies with NEST, it would not need to be codified in Rule. Annette stated that she would like NEST to have consistency with ED applications and is considering a public comment period during the NEST approval process and welcomes NSAB input. The SCM crediting team will be creating an SCM Crediting Document that will contain an explanation of how credits are determined for every State stormwater program. This document will be published by NC State University and will be housed under the purview of the American Public Works Association. Lastly, there are four practices currently enrolled in the NEST which include Advanced Drainage Systems' Isolator Row, Filterra, Silva Cell and StormFilter. Requirements for these and future stormwater practices will appear in MDC, as well as in the proposed STGM and SCM Crediting documents.

Rich Gannon stated that the DEQ Director will need to approve DWR's Catalog of Nutrient-Reducing Measures, hopefully by the end of 2016. [*Editor's Note: The APWA would publish the proposed SCM Crediting document*].

Joint DWR/DEMLR Question & Answer

Significant group discussion followed that was primarily focused on the distinction between Rule versus guidance requirements and administrative aspects of the proposed Measures Approval and SCM Crediting processes. Several NSAB members asked for clarification and expressed concern over

Rule versus guidance requirements. Other NSAB members expressed concern about the proposed MAP Process creating bureaucratic obstacles to progress and confusion among the regulated community; they recommended a simplified process. However, one NSAB member applauded DWR's efforts to offer collaborative approaches to assist local governments in meeting Jordan ED Rule requirements. An NSAB member expressed the desire that all stormwater BMPs should receive credit statewide. CONTECH suggested incorporating monitoring for other future pollutants of concern such as bacteria into the NEST. Specific questions and answers are provided below.

Rule versus Guidance:

- Can DWR legislate jurisdictional load allocations [*Jordan Lake NMS*] for existing development since they are not codified in Rule?

  DWR Response: Inserting load allocations in Rule would be a nightmare; a preferred approach is keeping as much information as guidance while including information in Rule where necessary.

- How does a local government determine what requirements they are mandated to meet because there is a disparity between ED & ND stormwater requirements? Concern that many ED requirements are in guidance, not Rule and that relying on guidance may be problematic.

  DWR Response: ED requirements are not as clear, are more variable and need an iterative process to create. Regarding DWR's non-stormwater measures: DWR will require minimum design expectations (MDEs) for varying options/credits and also refer to existing industry standards such as agricultural and wastewater. DWRs current tack with the RRC [Rules Review Committee] is to incorporate MDEs and MAP content into ED Rule Rewrites.

  NSAB Response: State Permitting Unit [DEMLR] ND requirements [i.e., SCMs] are more site specific while NPS [DWR] applications are more programmatic.

- *[Editors Note]: This note is intended to encapsulate the items above and provide further clarification: Generally, requirements for regulated parties must be well-anchored in legislation and rule. However, particularly where technical matters are concerned, it can be more efficient for the EMC to incorporate agency guidance manuals by reference, which can be routinely updated in response to improving science. DWR plans to consult with RRC staff and stakeholders during the rules readoption process to strike the right balance between regulatory certainty, efficiency, and fairness.*

Wrap Up

After general comments were provided by the NSAB and DWR staff, the meeting was adjourned.

Future Meeting Dates

- Unless specifically rescheduled, the first Friday of each month, 9:30 - 12:00 at TJCOG.