

Upper Neuse Site Evaluation Tool (SET) Task Group

May 12, 2004 Meeting Summary

Prepared May 17, 2004

The fourth meeting of the Upper Neuse Site Evaluation Tool (SET) Task Group took place at the Triangle J Council of Governments office on Wednesday, May 12, 2004. The objectives of the meeting were to:

- Review decisions made at the May 6th DWQ meeting between local governments and the NC Division of Water Quality Stormwater Section (dry detention and permeable pavement);
- Review and discuss the Tetra Tech technical memo: Proposal for BMP Components in the SET Cost Estimation Subroutine; and
- Briefly discuss beta testing the SET.

Meeting attendees are listed below.

Name
Kimberly Brewer
Mike Coughlin
Chris Dreps
Heather Fisher
Bill Hunt
Kevin Lindley
Laura Lombardo
Terry Stephens

Summary of DWQ Meeting on Dry Detention and Permeable Pavement

Kimberly thanked Bill for his efforts in making recommendations to the state. Kimberly briefly reviewed the recommendations made at the May 6 meeting. These are listed below.

Recommendations for dry detention (from DWQ meeting summary)

- Well-maintained dry detention do worse than "poorly maintained" in terms of pollutant removal functions
- Dan Lines's study showed that well maintained dry detention had zero removal (preliminary results)
- Other studies show removal generally reflects pseudo-wetland conditions (soggy bottom)
- Potential for some removal even for well maintained dry detention
- Bill recommends 25% removal for TSS, 10% for TN, 10% for TP for extended dry detention
- Bill recommends 0% for standard (not extended) dry detention

Next steps for extended dry detention (from DWQ meeting summary)

- Work with Bill to define the design and maintenance for extended dry detention
- Work with Bill to define the scope (i.e., what's involved) and cost of a monitoring project and recommended time period for monitoring

- Work with local governments and Bill to establish a realistic trial period after which the assumptions for the SET would be revisited

Bill – NCSU may be able to come up with funds to define design and maintenance

Recommendations for permeable pavement (from DWQ meeting summary)

(apply to Piedmont only)

- Give no pollutant removal credit for TSS, N, or P
- Permeable pavement should be scoured annually using a street sweeper
- No credit should be given for use of permeable pavement on new residential development
- Credit for large installations, providing a conservative "intermediate" rational coefficient of 0.45–0.5 (grass = 0.25 and regular pavement = 0.9). Bill believes this is conservative. He has not come up with a CN yet, but has a graduate student working on it. The rational coefficients recommended reflect "not perfect" maintenance.
- There is some threshold where a parking lot is small enough for high risk of clogging. Bill feels 100 stalls are large enough for a good comfort level, but 20 stalls could be problematic
- Give credit for urban redevelopment far away from active development sites (i.e., downtown redevelopment)

Mike discussed the Birklands example to illustrate that if some credit is not given for permeable pavement in the watershed, certain developments will not be able to be approved.

Bill discussed results of an extensive study of more than 30 sites across NC, including Birklands. If they are properly located, sites that had been in for 3 years were performing at 1–2 inches per hour. In clay soil, long-term infiltration rates were far less (1/10th of an inch per hour). This is true for large lots but not small lots. Based on these findings, Bill does not feel comfortable allowing numerous scattered small driveways. These lots will provide some peak flow control even when sediment forms a layer (a process referred to as "seep off").

Next steps for permeable pavement (from DWQ meeting summary)

- Work with Bill on the design and maintenance requirements for different technologies (e.g., underground storage v. permeable/grass pavers)
- Work with Bill on the installation requirements for different technologies, including testing methods and criteria
- Work with Bill to define the scope (i.e., what's involved) and cost of a monitoring project and recommended time period for monitoring
- Provide written explanation of how we would treat pp in the SET tool

Bill agreed to continue working with the group on these recommendations.

Mike inquired whether someone in the group had investigated grass paver-type cover. Bill said that they had, and found that they don't perform that well, especially under higher traffic conditions.

Bill will talk with Bradley Bennett on 5/13/04 about a monitoring scheme for permeable pavement and the maintenance requirements for both permeable pavement and dry detention.

SET Cost Estimation Subroutine

Kimberly introduced the topic and went over the Tetra Tech memo generally. The idea is to make the cost subroutine available to interested developers and other users.

There are two possible approaches for BMP cost estimation: provide them or let the developer do it.

Mike suggested a few people who could provide some numbers. Tetra Tech will provide some values from the literature for reviewers to react to.

Kimberly – said that assumptions for buffers in the cost subroutine would reflect the Neuse Rule requirements

Bill – has numbers for maintenance requirement frequencies for different BMP techniques

Kimberly – Tetra Tech is using the NC manual to cost out BMPs included in that. To the extent feasible, the MD Manual will be used to define maintenance practices for those practices that are not included in the NC manual. Also, Tetra Tech will work closely with Bill to try to fill gaps on maintenance requirements and costs.

Mike and Bill – discussed the dry detention maintenance issue of cattail removal

Mike – in Wake County, bioretention and similar measures are not allowed in perimeter buffers. This is something that should be changed. The group agreed.

Chris – commented on how SET users are to interact with the cost values, e.g., using base costs and changes in costs

Kimberly – The Cary Skin Center project provides an example of how project costs can vary. The stormwater developer was able to use bioretention cells with landscape plants purchased at wholesale prices to meet the Town of Cary's landscape requirements. This significantly reduced the costs for installing the bioretention cells. Therefore, the bioretention costs were lower than for those who have a large retail markup on landscape plants and who are not able to offset existing landscape requirements.

Heather – base cost needs to be adjusted for inflation

Kevin asked how the program is going to be assessed. Is there a possibility that the UNRBA and local government websites can be used for feedback?

Terry – maybe have a cost “estimator light” version? The group agreed that general cost estimates based on area would be worth investigating further.

Chris asked if the detailed approach was worthwhile/helpful.

Terry – didn't think that this level of detail was necessary, because sites are so specific. By the time details of this nature are determined, design decisions have already been made.

Heather – will work on approach and feels comfortable using cost range

Chris requested that Kimberly let him know if there are any changes in cost estimates for developing the cost estimation subroutine.

Beta Testing the SET

Chris discussed possible options for testing the SET. One approach includes pilot LID sites with site monitoring for comparison. Another approach is to test the SET on conventional projects by having local stormwater reviewers compare calculations the SET and the Neuse nitrogen estimation tool.

Miscellaneous

The group liked the idea of linking the SET web page to the NC Green Building web site, which generates 8,000 hits a month.

Bill wants to allow 30 minutes at the BMP academy for teaching students about the SET.

Next Steps for Task Group

Tetra Tech sends methods memo to SET Task Group

SET Task Group responds to the methods memo

Tetra Tech programs and develop tool to be beta tested