

## **Adaptive Management**

### MS4 Phase II Permit Language

#### **Schedule A.3 - Adaptive Management**

Adaptive management is the process for assessing and implementing new opportunities for improving program effectiveness in controlling stormwater pollution to the maximum extent practicable. The permittee is required to use adaptive management to assess options for improving controls on stormwater discharges. In assessing these options, the permittee must use the monitoring information and analyses as described in the Department-approved SWMP, as well as applicable information from other sources in the adaptive management process.

Adaptive management requires the permittee to assess and modify, as necessary, any or all existing SWMP components and adopt new SWMP components to optimize reductions in stormwater pollutants to the maximum extent practicable, through an iterative process. The iterative process includes an annual assessment of the need to further reduce stormwater impacts and protect beneficial uses, review of available technologies and practices to accomplish the needed improvement, and evaluation of resources available to implement the technologies and practices.

### MS4 Phase I Permit Language – Portland Group example

#### **Schedule D.4 – Adaptive Management**

Each co-permittee must follow and adaptive management approach to assess annually and modify, as necessary, any or all existing SWMP components and adopt new and revised SWMP components to achieve reductions in stormwater pollutants to the MEP. The adaptive management approach must include routine assessment of the need to further improve water quality and protection of beneficial uses, review of available technologies and practices, review of monitoring data and analysis required in Schedule B, review of measurable goals and tracking measures, and evaluation of resources available to implement the technologies and practices. The co-permittee must submit a description of the process for conducting this adaptive management approach during the permit term by November 1, 2011.

#### **Schedule D.8 – Definitions**

a. Adaptive Management: A structured, iterative process designed to refine and improve stormwater programs over time by evaluating results and adjusting actions on the basis of what has been learned.

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For additional information about the adaptive management approach and structured decision-making process, please see the following information:

- Adaptive Management: The U.S. Department of the Interior Application Guide
  - Citation: Williams, B.K., and E.D. Brown. 2012. Adaptive Management: The U.S. Department of the Interior Application Guide. Adaptive Management Working Group, U.S. Department of the Interior, Washington, DC.
  - [\\deghq1\TMDL\Article\\_repository\Adaptive Management\DOI-Adaptive-Management-Applications-Guide-2012.pdf](\\deghq1\TMDL\Article_repository\Adaptive Management\DOI-Adaptive-Management-Applications-Guide-2012.pdf)
- Structured Decision Making (SDM) Fact Sheet:
  - [http://www.fws.gov/science/doc/structured\\_decision\\_making\\_factsheet.pdf](http://www.fws.gov/science/doc/structured_decision_making_factsheet.pdf)