

Final EPI Task Status Report September 19, 2005

Project Title: Development of a Software Decision Support Tool for Preparation of Industrial Storm Water Pollution Prevention Plans (SWP3)

Project Monitor: Bryan Rittenhouse (204) 564-0577

Task Funding:

Estimated Expenditures Through August 31, 2005 \$74,1691

Accomplishments in Third Quarter

- Completed Task 2: Research on Storm Water Pollution Sources, BMPs, and Factors Related to Suitability or Effectiveness of Each BMP. Efforts included additional research to clarify some BMPs and completion of mapping back to the software questions.
- Completed Task 3: Development of Software Program and Content. This included transfer of content related to decision points, criteria options, related BMPs, and additional state requirements to the software structure; and final development of software content, linkages, background databases, and text. The result was a beta version of the software and final output document.
- Completed Task 4: Initial user testing was completed by team members and several co-workers unfamiliar with the software and content. This testing centered on functionality of the software. (A copy of the questionnaire is attached to this report.) Problems were corrected and the software released to a sample of potential users (industrial and state storm water regulatory agencies), who tested functionality, usability, and applicability. During the week-long testing, our software developer was available by phone and e-mail to address technical difficulties and two subject matter experts were available to clarify any content questions. Results of the testing were very positive, but did reveal some additional problems pertaining to browser incompatibility and the desire for further detail on additional analytical monitoring requirements. These were addressed prior to release of the software.
- Completed Task 5: Software Installation and Testing. To provide easy access and avoid any difficulties with the Georgia Tech firewalls (which have been strengthened), we installed the software on an external domain site (<http://www.gatechstormwater.com>). Installation was completed prior to the user testing, but was verified after changes from the user testing were made. Over 25 potential search words and phrases were coded as metadata to maximize availability by search engines.
- Task 6: Implementation of the Communications Plan. An announcement with a link to the website was e-mailed to 288 federal and state storm water contacts. The announcement explained the project and the purpose of the decision support tool, and asked agencies to provide a link on their website and to publicize the availability of the software to potential users in their areas. (The announcement is attached.) Announcements to over 100 industrial (within the expanded EPA

definition) associations and trade journals will be released by September 21. (The announcement is attached.) An article and link to the software will be placed on the Georgia Tech website by September 23. A longer article has been written for placement in the Georgia Tech *Research News*, which is widely read. We began individual discussions on the availability of the decision support tool to engineers also involved in environmental issues who attended the *World Energy Engineers Congress 2005* held in Austin, Texas last week. We plan a presentation of the tool at our Environmental Network meetings across Georgia this fall and will be available for questions or webinars regarding the tool requested by EPA or any state storm water office. We plan a paper on the impact of the tool, to be presented at a major environmental conference (probably WESTEC) and will demonstrate the tool and provide materials at all conferences we attend.

Outstanding Deliverables

Final report, which will follow as soon as financials are through the Georgia Tech system.

Final Report
U.S. Environmental Protection Agency Office of Water
Water Quality Cooperative Agreement Allocation
December 1, 2005

Project Title: Development of a Software Decision Support Tool for Preparation of Industrial Storm Water Pollution Prevention Plans (SWP3)

Project Monitor: Bryan Rittenhouse (204) 564-0577

Task Funding:

Expenditures through August 31, 2005 \$74,169

Deliverables

The Georgia Tech Research Corporation developed and disseminated the availability of a software tool to support preparation of an Industrial Storm Water Pollution Prevention Plan. The six task areas, supported by overall project management (*Budget: \$2,893*), have been completed, as indicated below.

Task 1: Verified Plan Outline, Structure for the Software, and Detailed Software Template

Using EPA and a number of States' Industrial Storm Water Pollution Prevention Plan requirements, we developed a basic Plan outline reflecting these requirements, as well as the basic software structure to reflect the decision points required to meet requirements. Specific requirements for the Plan were gathered from EPA policy and guidance documents and from a selection of State Industrial Storm Water Pollution Prevention Plan documents.

Budget Expended: \$8,529

Task 2: Research on Industrial Storm Water Pollution Sources, BMPs, and Factors Related to the Suitability or Effectiveness of Each BMP

Personnel conducted extensive research on potential sources of industrial storm water pollution, best management practices designed to address these pollution sources, and the technical, economic, and organizational culture factors relating to the potential suitability or effectiveness of the BMP. Potential sources of storm water pollution, associated BMPs, and related decision criteria were mapped back to the detailed outline and structure notes.

Budget Expended: \$22,621

Task 3: Development of Software Program and Content

During this phase, we produced the code for the proposed software, including the structure for individual pages and matrices within the software, as well as the background databases to collect decision data and connect it with the ultimate output for the formal Industrial Storm Water Pollution Prevention Plan. During the same time period, staff completed the software tool content and linkages. The end result was a preliminary (beta) version of the software.

Budget Expended: \$20,100

Task 4: User Testing and Verification

Initial user testing was completed by team members and several co-workers unfamiliar with the software and content. This testing centered on functionality of the software. (A copy of the questionnaire is attached to this report.) Problems were corrected and the software released to a sample of potential users (industrial and state storm water regulatory agencies), who tested functionality, usability, and applicability. During the week-long testing, our software developer was available by phone and e-mail to address technical difficulties and two subject matter experts were available to clarify any content questions. Results of the testing were very positive, but did reveal some additional problems pertaining to browser incompatibility and the desire for further detail on additional analytical monitoring requirements. These were addressed prior to release of the software.

Budget Expended: \$3,634

Task 5: Software Installation and Testing

To provide easy access and avoid any difficulties with the Georgia Tech firewalls (which had been strengthened during the project period), we installed the software on an external domain site. Installation was completed prior to the user testing, but was verified after changes from the user testing were made. Over 25 potential search words and phrases were coded as metadata to maximize availability by search engines.

Budget Expended: \$2,522

Task 6: Implementation of the Communications Plan

An announcement with a link to the website was e-mailed to 288 federal and state storm water contacts. The announcement explained the project and the purpose of the decision support tool, and asked agencies to provide a link on their website and to publicize the availability of the software to potential users in their areas. (The announcement is attached.) A similar announcement was made to over 100 industrial (within the expanded EPA definition) associations and trade journals. (This announcement is attached.) An article and link to the software were placed on the Georgia Tech website. A longer article was placed in the Georgia Tech *Research News*, which is widely read, and in *Poultry Tech Newsletter*. We made individual contacts with energy engineers also involved in environmental issues during the *World Energy Engineers Congress 2005* and presented the tool at our Environmental Network meetings across Georgia this fall. We continue to be available for questions or webinars regarding the tool requested by EPA or any state storm water office. We have submitted papers on the impact of the tool to major environmental conferences, including the *2006 National Environmental Partnership Summit* (where we will also present a 90-minute hands-on workshop on use of the tool and suggestions for assisting users), the *NGWA Ground Water Expo*, the *2006 Ground Water Summit*, and *WEBTEK*.

Budget Expended: \$13,870