



## **Storm Water Phase II Public Outreach, Education, Involvement and Participation**

### **Progress Report University of Rhode Island February 8, 2008**

Reporting Period:	January 1, 2007 to December 31, 2007 (Year 2)
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Project Period:	10/1/05 – 3/31/09



## ***Progress Summary***

### **Storm Water Phase II Public Outreach, Education, Involvement and Participation**

***January 1 – December 31, 2007***

#### **Project Description**

Under this project the University of Rhode Island Cooperative Extension is developing public education materials, outreach methods and related tools to assist the RI Department of Transportation (RI DOT), Rhode Island municipalities, and other groups implement effective stormwater management programs. With RI Department of Environmental Management oversight, this education and outreach project will directly support RIDOT and participating municipalities in complying with Phase II permit requirements.

The major project objectives are to:

- Promote public awareness of storm water impacts and control actions through a statewide media campaign;
- Develop educational materials and outreach methods for use by municipalities, state agencies, community organizations and others, in a readily accessible format;
- Provide model ordinances for local storm water management with related training; and
- Train government staff, local officials, and others in updated storm water management practices.

#### **Accomplishments**

- Project initiated February 2006 with final grant agreement between URI and RI DOT. Developed subcontract with the Southern Rhode Island Conservation District (SRICD) for training assistance.
- Completed a local needs assessment based on review of municipal stormwater management program plans and annual reports submitted for the first two years of the Phase II program.
- Organized project advisory committee and held project kickoff meeting June 1, 2006.
- Conducted an extensive review of national stormwater outreach efforts. This review was summarized in the document, "RI NEMO Review of National Stormwater /NPS Outreach Efforts" and in a PowerPoint presentation, "Caution! Cute Can Be Dangerous," presented to at the first meeting of the Advisory Committee.
- Developed a Request for Proposals for assistance in developing a statewide media campaign, and organized a review committee to evaluate bid received and prepare contract.

- With RIDEM and the URI Geospatial Extension program, co-sponsored a set of GIS workshops for municipal officials to support use of GPS in stormdrain mapping “Introduction to GPS for Stormwater Managers”, June 2006 and “Pictures, Points, and Places”, July 2006.
- Created a Stormwater Management Resource Center website (<http://www.uri.edu/ce/wq/RESOURCES/STORMWATER/index.htm> ), which acts as an informational hub for members of the Project throughout the life of the Project.
- Continued to update and maintain the Stormwater Management Resource Center website.
- Started working with Connecticut NEMO to develop a web-based inventory of RI LID projects. This will highlight practical LID applications in RI and CT as an education tool for local officials and others. CT NEMO will host the RI case studies at [http://clear.uconn.edu/tools/lid/bmp\\_by\\_town.asp](http://clear.uconn.edu/tools/lid/bmp_by_town.asp)
- CT NEMO has suggested that the LID inventory be associated with the new The University of New Hampshire Stormwater Center web-based inventory of LID project. RI NEMO input several projects into this database, but there have been some technical issues with this site that are currently under review.
- Worked with DEM to develop step-by-step instructions for creating GIS maps to support better site design. This led DEM to further simplify the mapping process by creating a set of interactive maps on CD for site assessment. Expected release date is March 2007.
- Collected educational materials, model ordinances, and drafted training outlines for several training topics in coordination with DEM, DOT and the SRICD.
- Drafted requirements for municipalities to demonstrate compliance with Phase II minimum measures for public education and outreach and related requirements through participation in this program.
- Completed three workshops:
  - Making an Impact with Low Impact Development, April 24, 2007
  - TR-55 for Plan Reviewers, May 10, 2007
  - Stormwater Management at Your Public Works Facility: Employee Training, December 12, 2007
- Statewide campaign:
  - On-going meetings with Clarendon, chose logo and tagline with Advisory Committee Input. Chose “Know where it goes” as the tagline. Working on survey and focus groups to refine message.
- Advisory Committee
  - Meeting September 28, 2007 to provide initial drafts of each outreach strategy and present creative concepts of logo and tagline for State outreach campaign.
  - Sought input for the development of the workshop: Stormwater Management at Your Public Works Facility: Employee Training

- **Municipal Strategies**
  - Outlined 4 strategies for outreach to municipal audiences and created associated supporting documents:
    - Pet waste
    - Business outreach
    - Used oil and household hazardous waste
    - Stormdrain marking

## **Future Activities**

- Expand project website to offer a “toolbox” of materials for municipalities seeking to further public education, outreach, and involvement in community stormwater management. (goal in 2008 as well)
- With the invitation for municipalities to participate in the program sent in January 2006, and responses due March 2007, we expect to begin working closely with both the project advisory committee and municipalities in this next year. The local needs and interest survey will provide a baseline for evaluating effectiveness of future educational activities.
- Training outlines, draft educational modules, and updated workshop schedules accommodating deferred release of the DEM stormwater standards manual, to be reviewed with the advisory committee and municipal work group in early 2007. Expect to begin conducting workshops in Spring 2007.
- Workshop scheduled for February 28<sup>th</sup> and March 10<sup>th</sup> on Erosion and Sediment control for municipal and state officials. This workshop will focus on common erosion and sediment controls installation and inspection. Workshops also planned on maintaining municipal storm sewers and erosion and sediment control ordinances.
- The proposal for outreach services from the Clarendon Group Inc. was considered acceptable and a recommendation was made to award the bid. URI will develop the contract and invite advisory committee members to participate in an ad hoc group to guide development of the statewide media campaign.
- Conduct the pre-survey on statewide message
- Obtain from Clarendon Group templates for municipal outreach materials developed under the municipal strategies.
- Continue to coordinate with Advisory Committee and municipalities on program objectives.

## Storm Water Phase II Public Outreach, Education, Involvement and Participation Project Progress by Task January 1 – December 31, 2006

### A. Local Needs Assessment and Advisory Committee Development

#### Tasks

#### Progress 2006

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|--|--|
| <p>1. Form and facilitate an advisory steering committee with input from DEM and DOT</p> <p>a) Maintain communication by email, mail and web, meetings.</p>                        | <p>Advisory committee organized in May, 2006. Solicited for members of advisory committee and received 55 positive responses. Composition: 28% state agency, 14% municipal, 11% consultants, 37% non-profit and academic.</p> <p>First advisory committee meeting held in June, 2006. Meeting minutes provided to all attendees. Minutes, agenda, attendance record, presentations and handouts posted on project web-site.</p> <p>Developed project web-site located at:<br/><a href="http://www.uri.edu/ce/wq/RESOURCES/STORMWATER/index.htm">http://www.uri.edu/ce/wq/RESOURCES/STORMWATER/index.htm</a></p> <p>Stormwater message ad hoc committee formed to assist in developing message for statewide media campaign. Task completed in June 2006.</p> <p>Continued to maintain the web-site and advisory committee list.</p> <p><b>Continued to maintain the web-site and Advisory Committee list. Continue to solicit comments from Advisory Committee.</b></p> <p><b>Met with Advisory Committee September 28, 2007 to discuss four outreach strategies (business, pet waste, used oil and household hazardous materials, and stormdrain marking). Also presented statewide messages and logos for comment.</b></p> |
| <p>b) Organize a work group of municipal and non traditional stormwater managers (local groups) responsible for implementation of Phase II measures.</p>                           | <p>Worked with DEM staff to determine level of participation in this initiative to meet required minimum measures as qualifying local program.</p> <p>Prepared draft materials for mailing to inform municipalities of the education and outreach program and solicit their participation.</p> <p><b>Continued to work with local group generally by contacting them about training opportunities.</b></p>   |
| <p>2. Conduct a needs assessment.</p> <ul style="list-style-type: none"> <li>▪ Review available sw mgt plans</li> <li>▪ Survey municipal stormwater management capacity</li> </ul> | <p>Obtained limited available needs assessment information but found insufficient due to small sample size and/or age of data.</p> <p>To obtain baseline information on local accomplishments and needs without asking local officials for information previously submitted, we reviewed all annual reports submitted for the first two years of the Phase II program, and a representative sample of Storm Water Management Program Plans (SWMPPs).</p> <p>Summarized results of this review of SWMPPs and annual reports. Completed this task June, 2006.</p>  |

### Task A Issues and Future Activities

Invitation for municipalities to participate in the program was delayed pending resolution of expectations for qualifying local program. With notices sent in January, and responses due March 2007, we expect to begin working closely with both the project advisory committee and municipalities in this next year. The local needs and interest survey will provide a baseline for evaluating effectiveness of future educational activities.

## B. State, Municipal and Private Sector Training Curriculum Development

### Tasks

### Progress 2006

1. Prepare a list of training needs based on 7 training topics (listed below) and the local needs assessment. Solicit review and comment from the advisory committee.

The scope of work and training topics were reviewed and accepted by the advisory committee.

Met with RIDEM, RIDOT, and SRICD to refine training needs and approach. Coordinated with DEM, SRICD, NRCS and CRMC and CRC staff on Metro bay and Greenwich bay training programs to identify current training opportunities and gaps. Staff attended metrobay training programs.

Executed a subcontract with SRICD for training on selected topics.
  2. Prepare outlines of training modules and solicit review and comment from the advisory committee on the following training topics:
    - 1) DEM Stormwater manual:
      - Overview of manual and standards;
      - Proper use of LID mgt practices; and
      - TR55 for LID application.
    - 2) Public Outreach
      - Scope of the stormwater problem and impacts on local waters in urban, suburban and rural areas;
      - Methods for effective community education and outreach by municipalities.
    - 3) Pollution Prevention and Good Housekeeping for Municipalities to include:
      - Public works facilities O&M;
      - Roadway stormwater system maintenance; and
- Developed draft training outlines on following training topics in cooperation with DEM and SRICD.
- DEM Stormwater Manual training**
- Overview of manual and standards. Drafted training outline based on DEM updated standards but decision later made to delay training until manual is finalized.
  - Proper use of LID practices. Investigated training options available with nationally recognized LID professionals including Center for Watershed Protection, LID Center and Larry Coffman. Mr. Coffman was considered the best choice given training emphasis on use of soils in LID design and selection, flexibility to customize for Rhode Island conditions, and cost. Draft training outline developed and planning initiated for March training with Mr. Coffman. DEM decision later made to delay technical training on LID practices until DEM standards are finalized.
  - TR55 for LID application. Based on discussions with DEM staff, identified need for two-level training: 1) basic use of TR55 for local officials and others responsible for plan review, and 2) use of TR55 in LID planning and design. Outlined topics for basic TR55 training based on DEM staff input. The SRICD established an agreement with the NRCS to conduct this training. Specialized training in use of TR55 for LID practices to be offered separately, possibly with LID training.
  - Training on the RI Stormwater Manual is still on-hold until the new manual is available.
  - TR-55 training was developed with input from???????
- Model ordinances on post construction stormwater control and related Public Outreach**
- Collected materials for public education on extent of stormwater impacts.
  - Collected post-construction stormwater control ordinances adopted by RI municipalities and examples from other areas.

- Grounds management.
  - 4) Illicit Discharge Detection and Elimination
  - 5) Development and Amendment of Enforceable Policies:
    - Soil erosion and sediment control; stormwater utility districts.
    - Post-construction stormwater maintenance and re-development standards; pet waste.
  - 6) Budget Planning
  - 7) Additional DOT staff training
- Met with DEM and Narragansett Bay National Estuarine Research Reserve (NBNEER) to coordinate municipal outreach. Reached agreement to separate development of model ordinances and related training on post construction stormwater control into “nonstructural” methods (ex. land use, better site design, conservation development) vs. small scale upland controls and other structural techniques. Training on later to be developed based on DEM updated standards while allowing development of training on “nonstructural” site design issues.
  - Developed step-by-step instructions for creating GIS maps for site plan review, using Conservation Development design methods to promote use of GIS mapping for better site design. Met with DEM staff to review draft and discuss options. Consequently, DEM decided to further simplify the process by creating a set of interactive maps on CD. The CD, being developed by Paul Jordan, DEM GIS specialist, is expected to be completed in March, 2007 and will be distributed to all municipalities.
  - Participated in two regional LID workshops to present information on the URI Porous Asphalt Parking Lots and used these opportunities to gather current information for LID education and outreach: Comprehensive Environmental, Inc. sponsored workshop: Is LID for Real, 10/04/05, Taunton, MA; and National NEMO, Low-Impact In-Service Training, 11/02/05, Portsmouth, NH.
  - Partnered with the Blackstone River Coalition and Mass. Audubon to organize a workshop for municipal officials *Controlling Stormwater Runoff Through Better Site Design* (April 4), Cumberland, RI.
  - To enhance awareness of LID practices for municipalities and other groups, developed an agreement with the University of Connecticut NEMO to expand the web-based LID Inventory to include RI case studies. This web site will highlight practical LID applications in RI and CT as an education tool for local officials, state regulators, designers, installers and others. CT NEMO will host both CT and RI case studies at [http://clear.uconn.edu/tools/lid/bmp\\_by\\_town.asp](http://clear.uconn.edu/tools/lid/bmp_by_town.asp), making a broader range of case studies available to target audiences in both states. URI staff drafted several RI case studies based on limited available information.

Met with Stormwater Advisory Committee in September 28, 2007 to obtain input on draft outreach strategies (pet waste, Used oil and household hazardous waste, business outreach and stormdrain marking). (add in summary document?)

**Model ordinance on Erosion and sediment control and related public outreach**

- Collected existing soil erosion and sediment controls adopted by RI municipalities.
- Compared model soil erosion and sediment control ordinance in current enabling legislation with Phase II requirements to identify key updates needed to meet minimum measures for construction site stormwater control.

Drafted model ordinance on erosion and sediment controls for construction. Currently under internal review

**Pollution Prevention and good housekeeping for municipal facilities**

- Draft outline developed for municipal storm sewer system O&M.

Solicited comments on training developed on employee training module of stormwater pollution prevention plan. Comments were solicited from municipalities and advisory committee members.

#### **Illicit discharge detection and elimination and related public education**

- Facilitated the organization and planning of two workshops to support use of GIS/GPS in storm drain mapping in cooperation with RIDEM and the URI Geospatial Extension Program: Introduction to GPS for Stormwater Managers (June 2006); and Pictures, Points, and Places (July 2006). Participants at workshop 1 represented 12 RI municipalities. Attendees rated the workshop relevant and practical for their town work, with an average ranking of 4.25 on a scale of 1 to 5. Their self-rated ability to accomplish the tasks emphasized in the workshop increased significantly.

3. Draft training modules. To be developed following approval of training outlines.

Drafted training modules for three workshops on the following topics: Low Impact development, employee training as required under Stormwater Pollution Prevention Plans for DPW and DOT employees and TR55 for plan reviewers.

4. Finalize training modules and establish workshop schedules for each module. Workshop schedule to be revised and reviewed with advisory committee.

Training schedule for three topics determined:

Low Impact Development: April 24, 2007

TR-55 for Plan reviewers: May 10, 2007

Stormwater Management at Your Public Works Facility : Employee Training

5. Hold workshops for each module. Completed training:

Stormwater Management at Your Public Works Facility: Employee Training. 73 participants were registered to attend this workshop which was completed on December 12, 2007. The workshop focused on the employee training portion of a Stormwater Pollution Prevention Plan (SWPPP) specifically for public works garages and structures. The training included materials that can be used to train employees. Topics included: Introduction to a SWPPP, Spill Prevention & Response, Good Housekeeping, and Materials Management

Participants will gain after comments collected during the initial training are finalized: a CDs with the training modules, and scripts and suggested exercises

TR-55 for Plan reviewers. There were 54 registered attendees for this May 10, 2007 workshop. This workshop covered the fundamental uses and limitations of TR-55, including: submittal requirements for local/state development applications, appropriate inputs and assumptions, and use of results in stormwater management plans.

The workshop provided training on basic hydrologic analysis to support local use of proposed DEM stormwater design standards that emphasize control of stormwater volume, and offered a foundation for future workshops on the application of TR-55 for low impact development (LID) techniques.

Instructors demonstrated example exercises using the WIN TR-55 software.

Participants gained:

- A list of the basic factors related to runoff.
- Hands on practice using the WIN-TR-55 program or manual method.
- Ability to readily locate input factors and results in computer printouts.
- Ability to evaluate the appropriateness of input data for a specific site.
- Capacity to recognize program limitations, common errors, and "envelope-pushing."

- Knowledge to identify resources available for questions and complex designs.
- Credit towards meeting Phase II stormwater permit requirements for education and outreach.

Making an Impact with Low Impact Development. 100 people were registered for this event that took place on April 24, 2007. The workshop highlighted current research findings and successes of several Low Impact Development (LID) projects in New England, focusing on lessons that Rhode Island communities can apply to answer practical questions about how this technique can be realistically implemented.

It built upon introductory LID workshops to provide necessary background for future training on the updated RI Storm Water Design Manual and adoption of LID stormwater controls through municipal ordinances and regulations.

Registration lists and summaries of evaluations of these workshops are attached. Workshop materials are available on-line at [http://www.uri.edu/ce/wq/NEMO/Workshops-Support/Previous\\_Workshops.htm](http://www.uri.edu/ce/wq/NEMO/Workshops-Support/Previous_Workshops.htm)

### **Task B Issues and Future Activities**

The updated DEM stormwater standards manual is the keystone of local stormwater programs, essential for training in stormwater system design and maintenance, development of model ordinances for post-construction stormwater control, and related public education. As a result, delays in finalizing the manual have affected our schedule. With estimated manual completion date now fall 2007, we will be moving ahead with other training elements. This will include local stormwater management practices and related ordinances focusing on land use and site design methods that are less dependent on updated DEM standards.

The workshop schedule has been revised and will be reviewed with the advisory committee, with training module outlines.

The Rhode Island Stormwater Design Manual is still not completed, although the State has currently contracted with a private consulting firm to complete the manual by the end of 2008. Until this manual is completed, workshops on the use of the manual will be delayed.

## **C. Coordinated Stormwater Message for Use in Public Outreach**

### **Tasks**

### **Progress 2006**

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| 1. | Review and collect current outreach materials used in Rhode Island for stormwater management (especially, FHWA, EPA, DOT and DEM materials). | Reviewed library of stormwater outreach materials collected by DEM.<br><br>Identified outreach materials used by municipalities through review of Phase II annual reports. Completed this task June 2006.  |
| 2. | Review national literature for comparative purposes and identify other appropriate outreach materials, messages and delivery methods.        | Reviewed EPA library of stormwater outreach materials, initially as member of beta testing group.<br><br>URI staff attended the 4 <sup>th</sup> National Conference on Nonpoint Source and Stormwater Education Programs, Chicago, IL (Oct. 2005) and used information obtained in this review.<br><br>Conducted an extensive review of national stormwater outreach efforts |

focusing on educational campaigns that have been evaluated. This review was summarized in the document, "RI NEMO Review of National Stormwater/NPS Outreach Efforts." The conclusions of that review included suggestions for how to target the outreach message. The document was distributed to members of the project team at RIDEM and RIDOT.

The results of the review were also summarized in a PowerPoint presentation, "Caution! Cute Can Be Dangerous," presented at the first Advisory Committee Meeting for the Stormwater Project on June 1, 2006. A response to questions generated at that meeting was prepared and circulated to the members of the Advisory Committee.

This task completed June 30, 2006,

Continuing to monitor national outreach materials through, the EPA library, NEMO national network, the EPA NPS listserv, and other sources.

3. Prepare a consistent message for state agencies, communities and watershed organizations regarding why the public should be concerned about the impacts of stormwater on receiving waterbodies. Solicit review and comment from the advisory committee.

Surveyed stormwater advisory committee members on major pollutants of concern as basis for statewide message.

Prepared a request for Proposals (RFP) for a Public Relations firm to assist in determining the state-wide message. This incorporated suggestions for targeting the outreach message based.

The RFP was processed through URI purchasing.

One bid was received in December, 2006 from Clarendon Group Inc. URI proceeded to organize review committee and evaluate proposal.

Contracted with Clarendon Group to provide marketing assistance with development of statewide message. During an Advisory Committee meeting on September 28, 2007, Clarendon presented its creative concepts for the statewide message. A tag-line and logo was chosen from those presented by survey of the advisory committee. Additionally, municipal outreach methods and messages were also presented and the advisory committee provided input on these messages as well.

4. Identify best available options for delivery of the messages and materials discussed in task 3 and 6.

Based on national review and advisory committee input, developed a suggested approach for statewide message and incorporated this into the RFP for consulting services. This task to be completed with assistance from outreach consultants.

Municipal outreach materials are currently in draft format. Awaiting creative information from Clarendon to "brand" materials before statewide release.

5. Deliver the consolidated state-agency message in task 3. Continue delivery of consolidated message.

To be developed with consultant.

This is part of the Clarendon contract.

6. Using the consistent message in task 3 as a starting point, develop source-specific contamination outreach messages and materials.

Collected materials for public education on extent of stormwater impacts, and education and outreach strategy for local businesses focusing on managing runoff from the site and compliance with IDDE minimum measures. Outreach message and delivery strategies to be developed with input from media consultant.

Draft outreach materials and messages for municipalities are completed, awaiting creative information from Clarendon to "brand" materials before statewide release.

7. Run a pre-survey followed up by post-survey after the outreach is conducted to see how effective the program was. Make adjustments to the outreach program as needed.

Survey design to be developed with input from the media consultant.

Design of pre-survey is progressing with expected date of implementation Jan/Feb of 2008

**Task C Issues and Future Activities**

The bid from Clarendon Group Inc. was considered acceptable and a recommendation was made to award the bid. URI will develop the contract and work with the advisory committee to develop the outreach strategy.

**D. Implementation Schedule, Evaluation and Assessment**

**Tasks**

**Progress 2006**

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| <ol style="list-style-type: none"> <li>1. Develop an implementation schedule each permit year for each set of tasks in the scope of work and solicit review and comment from the advisory committee.</li> <li>2. Incorporate comments from the advisory committee and present to DOT and DEM for final approval.</li> <li>3. Draft annual evaluation and assessment reports for this scope of work each permit year and solicit review and comment from the advisory committee.</li> <li>4. Incorporate comments from the advisory committee and present report to DOT and DEM for final approval.</li> <li>5. With assistance of advisory committee, adjust implementation schedule as needed based on annual evaluation. Provide any recommended changes to DOT/DEM for final approval</li> </ol> | <p>URI / DOT project agreement finalized February 14, 2006.</p> <p>Developed an detailed implementation schedule and completed this task April, 2006</p> <p>DEM and DOT comments incorporated.</p> <p>Drafted requirements for municipalities to demonstrate compliance with minimum measures 1 and 2 and education and outreach elements of other required measures through participation in this program.</p> <p>Annual implementation schedule developed April 2006 will be updated March 2007.</p> |
|---|--|

**Task C Issues and Future Activities**

Annual implementation schedule to be revised with updated training calendar with input from DEM, DOT and advisory committee.