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# After 10 Years – Officials Celebrate Results of Important Water Monitoring Project

## *Effective Stormwater Management in Residential Development Shown to Greatly Improve Water Quality*

BOSTON – Federal, state and local officials celebrated the completion of a ten-year stormwater study in Waterford, Conn. today. The study concluded that effective stormwater management practices and design features, when implemented in a residential subdivision, greatly improved water quality of receiving waters when compared to a similar subdivision that did not implement the comprehensive stormwater measures.

The Jordan Cove Urban Watershed National Monitoring Project has generated national interest among water quality management professionals who have waited since 1995, to see if "best management practices" or "BMPs" that were used at the 18-acre Glen Brook Green subdivision significantly reduced the amount of pollution coming from the development through its stormwater discharges.

The one-of-a-kind project involved building two distinct neighborhoods – one with traditional design features built on conventional half-acre lots, the second with clustered housing and numerous BMPs installed to reduce stormwater pollution. Researchers then monitored runoff from the two neighborhoods to compare pollution levels.

Ten years after pre-construction monitoring began at the experimental subdivision and nearby "control" neighborhood and three years after completion of construction at the "green" neighborhood, the results are in. The data prove conclusively that reducing the amount of impervious surfaces such as road and driveway surfaces, and infiltrating the remaining runoff, significantly reduces the amount of polluted stormwater entering local streams and other waterways. In fact, monitoring of rain events after installing the BMPs indicate that the amount of stormwater runoff generated by the green neighborhood is similar to that generated by an undeveloped, forested parcel of land.

The study also examined relative costs of the two different development styles and found economic benefits associated with

the "green" development over the "control" neighborhood. The BMP neighborhood designed with less pavement, grass-lined ditches, and infiltration practices was significantly less expensive to construct than the traditional wide roads, curbs and storm drain systems found in the control neighborhood.

The project was funded with $980,000 in federal grants from the Environmental Protection Agency and was administered in coordination with the Connecticut Department of Environmental Protection. Monitoring and Research for the project was conducted by Professor John Clausen of the College of Agriculture and Natural Resources at the University of Connecticut. The project is one of 25 nationwide approved under EPA's Clean Water Act National Monitoring Program.

"By building two distinct neighborhoods and carefully evaluating pollution runoff from these sites, the Jordan Cove project has greatly improved our understanding of the impacts of new development on the environment and how we can reduce those impacts," said Ira Leighton, deputy regional administrator of EPA's New England Office, who attended the ceremony. "By showing that proper stormwater management practices can reduce water quality impacts to such an extent that the stormwater runoff generated by the green neighborhood is similar to that generated by an undeveloped, forested parcel of land, is a remarkable finding."

"The Jordan Cove monitoring project is a real life example of neighborhood-level environmental stewardship where innovative land use practices have been applied to reduce pollution and improve the quality of life of the residents who live in this urban subdivision," said DEP Commissioner Gina McCarthy. "Not only will the residents of this subdivision benefit from this national project, the ideas and practices utilized at Jordan Cove can be applied across Connecticut and the country to improve water quality, becoming the standard for the design and construction of residential neighborhoods nationwide."

Polluted runoff accounts for over fifty percent of the nation's remaining water quality problems. Runoff from both urban and agricultural land carries with it bacteria and pathogens that cause beach and shellfish bed closures, excess nutrients that cause eutrophication of streams, lakes, and estuaries – including Long Island Sound, and sediment that damage fish habitat and require more frequent dredging of our coastal ports and harbors.

To learn more about EPA's Water Quality Monitoring Programs visit: http://www.epa.gov/NE/lab/biology/watermicro.html

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