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Rainfall to Results: The Future of Rainwater.

Evolving techniques for managing stormwater aren't only cost-effective. They hold the promise of multiple urban benefits.

It's been said that if you live on a street, you live on a stream: Water that runs off our streets when it rains ultimately makes its way into creeks, rivers and other waterways.

Impervious surfaces such as roadways and rooftops prevent rain and snowmelt from filtering into the ground as they do in natural landscapes. In most areas, storm sewer systems exist to collect this runoff. But that's not all they collect. Oil, dirt, industrial chemicals, lawn fertilizers and other pollutants that harm the quality of our waterways all find their way into the storm drain. Stormwater runoff and the pollution it carries with it can discourage recreation, degrade aquatic habitats and contaminate water supplies.

Now more than ever, increased urbanization and more intense rainfall caused by climate change are creating burdensome challenges for cities and towns. But within these challenges lie new opportunities to build systems that improve the vibrancy and climate resiliency of our urban areas.

Certainly the challenges loom large. Superstorm Sandy and other major weather events may come to mind when we think of flooded streets. But due to impervious surfaces, even small storms can generate vast amounts of runoff. The city of Baltimore, for example, could generate 1,060 Olympic-sized swimming pools' worth of runoff from a storm that produced only one inch of rain.

Stormwater is the only growing source of water pollution in many watersheds throughout North America. This is why stormwater regulations are growing increasingly strict. While no one argues the importance of protecting water quality for public health and the environment, city planners, government managers and elected officials must balance this responsibility with competing priorities and limited funding.

Just how can that be accomplished? A new report from the Water Environment Federation's Stormwater Institute, "Rainfall to Results: the Future of Stormwater," details how communities can address their growing stormwater challenges in ways that not only are cost-effective but also create multiple community benefits. Developed with input from the nation's leading stormwater experts, the report describes the challenges, opportunities and pathways to achieving sustainable stormwater management.

As the report makes clear, strong and vibrant communities rely on stormwater management techniques that continually evolve based on new science, experience, technical innovation and responsive regulations.

The report envisions a future in which stormwater is considered a reusable resource and managed through an optimized mix of affordable and sustainable green, gray and natural infrastructure. Green infrastructure, such as ground and rooftop rain gardens, combined with natural systems, such as wetlands and open spaces, can reduce the cost of and burden on the gray infrastructure of catch

basins, pipes and other engineered systems. Green spaces can provide value beyond stormwater management, improving human health and wellness, reducing crime and increasing property values.

As a complement to these green and gray stormwater controls, the sector also must cultivate new partnerships to focus on pollution prevention. Keeping pollutants out of stormwater is much more effective than trying to remove them after the fact.

However, paying for stormwater infrastructure is one of the top challenges facing communities. Sustainable stormwater management requires a dedicated funding source and governance structure best supported by stormwater utilities.

Essential to fully funding innovative stormwater initiatives is cultivating community understanding and appreciation for the value of this vital infrastructure. Achieving this vision requires attention and action from stormwater professionals as well as all others within the community — from the general public to city planners to elected officials. With the support of the full community, we can feel more confident facing the next storm.

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