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Pa., Philly sign 25-year, $2 billion plan to clean water through 'green' infrastructure

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PHILADELPHIA — Pennsylvania and the city of Philadelphia have embarked on what environmental officials say is the largest project in the U.S. to reduce stormwater pollution through eco-friendly measures, such as porous asphalt and rooftop gardens.

The state and city, the country's fifth largest with 1.5 million people, signed a "Green City, Clean Waters" plan Wednesday, kicking off a 25-year, $2 billion effort to modify infrastructure to reduce the amount of rainwater tainted with road oil, litter and raw sewage flowing into rivers and streams.

Officials with the U.S. Environmental Protection Agency and national environmental groups said the initiative should serve as a blueprint for cities and towns nationwide. The changes are expected to reduce by 5 billion to 8 billion gallons the amount of sewer overflow going into the city's waterways each year, including the Delaware and Schuylkill rivers. That represents an 80 percent to 90 percent reduction.

"Philadelphia is setting the national model for how to clean up troubled waterways, and how to do it right," said Lawrence Levine of the Natural Resources Defense Council, one of several environmental advocacy groups that helped the city develop the plan.

Funding over the lifetime of the project will come from a combination of city water fees, state and federal grants and loans, as well as support from private investors and foundations. The Pennsylvania and the Philadelphia water departments are spearheading the project, which also includes roadside plantings and thousands of new trees.

The Philadelphia Water Department estimates the improvements would add $8 to a typical resident's monthly water bill over the next two decades. But Levine said the "Green City" plan is less expensive than other infrastructure expansions the city considered.

"Philadelphia's visionary approach ... is great for the environment, and for the economy," said Brian Glass of PennFuture, an environmental group. "It will save Philadelphians real money, while making the city of brotherly love a more vibrant place to live, work and play."

Sixty percent of Philadelphia has what is called a "combined sewer system," which allows runoff from

streets and wastewater from bathrooms and kitchens to flow through the same pipes. The drainage system can handle that in dry weather, properly sending wastewater to water treatment plants and storm water to streams, but during rains it overflows and sends storm water laced with motor oil, trash, and human waste pouring into surrounding waterways and raising bacteria levels.

More than a decade ago, officials ruled out separating storm water and sanitary lines as was done in newer parts of the city because that would mean reconfiguring 1,600 miles of pipes at enormous expense. Other traditional options — a huge expansion of the city's three sewage plants or construction of gigantic underground tanks to hold overflows — were less efficient and prohibitively expensive.

The city then began working with state officials and environmental consultants on a major departure from the conventional approaches. They crafted a plan to install green roofs on city buildings, plant trees and other vegetation along sidewalks, and repave streets, basketball courts and parking lots with porous asphalt and concrete that let rainwater flow through.

Water Department Commissioner Howard Neukrug said the goal is to improve the health of the city's creeks and rivers and "achieve a host of tangible environmental, social and economic benefits" from cleaner air, improved quality of life and the creation of jobs. The initial steps include a six-month citywide assessment to determine which neighborhoods to target first.

"We are thrilled and grateful that DEP has recognized the incredible environmental and public value of this plan, (which) makes significant progress toward Philadelphia becoming the greenest city in the country," Mayor Michael Nutter said.

The city has already begun to roll out some elements of the initiative. Last month, it paved a small Philadelphia street with porous asphalt, which looks like traditional impervious blacktop but has tiny spaces so storm water can drain through the surface into a bed of stones below, then seep into the soil underneath, instead of rushing into storm drains and sewers and creating potholes in winter.

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Online:

http://www.phillywatersheds.org