WHY A CONSTRUCTED WETLAND SYSTEM?

CLEANER
The natural processes of constructed wetlands scrub wastewater twice as clean as that of a traditional septic system and are capable of removing pathogens and contaminants. Research suggests wetland plants may even be able to neutralize pharmaceuticals and pesticides.

SAVES MONEY
A constructed wetland system requires less maintenance than traditional systems and can have long-term cost savings, especially when used in concert with rainwater capture and solar components.

ECOLOGICALLY BENEFICIAL
The wetlands encourage plant and animal biodiversity, providing habitat for butterflies, bees, birds and other wildlife.

RESEARCH
Research studies on small constructed wetland systems such as this one are few and far between. Our team of scientists collect and test water samples from each section of the wetland and from the soil surrounding each area. Extensive analysis of the water tests for various biological contaminants and ensures that the water leaving the system is scrubbed clean and safe to release into the surrounding landscape. Because this system adds at least two additional cleansing steps to water that would normally be released from a traditional septic system, the end product is much cleaner.

WATER QUALITY
Bi-monthly water samples are analyzed for nitrate, organic nitrogen, nitrogen, carbonaceous biochemical oxygen demand (CBOD), fecal coliform count, total phosphorus, dissolved oxygen, and total dissolved solids.

SOIL QUALITY
Soil samples were collected from the site at the beginning of the project as a baseline measurement of soil quality in the area. Annual sampling around each component of the wetland and from the irrigated soil tests for nitrogen, phosphorus, fecal coliform, and pH. More frequent testing will take place if indicated by water quality results.

Healthy Soil, Healthy Food, Healthy People®

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Contact Rodale Institute at 610-683-1400 or visit our website at www.rodaleinstitute.org

VISIT
To schedule a custom tour call 610-683-1481. Self-guided tours are also available.

OUR MISSION
Through organic leadership, we improve the health and well-being of people and the planet.

RODALE INSTITUTE

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RODALE INSTITUTE is a 501(c)(3) nonprofit dedicated to pioneering organic farming through research and outreach. For more than sixty years, we've been researching the best practices of organic agriculture and sharing our findings with farmers and scientists throughout the world, advocating for policies that support farmers, and educating consumers about how going organic is the healthiest option for people and the planet.

WATER PURIFICATION ECO-CENTER

RODALE INSTITUTE™

WATER PURIFICATION ECO-CENTER

WPEC

WATER PURIFICATION ECO-CENTER

The project is funded by the Federal Environmental Protection Agency, Pennsylvania Department of Environmental Protection and Rodale Institute.

The Water Purification Eco-Center is a revolutionary on-site wastewater treatment system that captures rainwater and uses it several times before returning it to the soil as clean water. The pilot project located at Rodale Institute in Kutztown, PA is a learning tool that dramatically changes the way we think about and treat wastewater.

The system uses constructed wetlands for wastewater treatment. Constructed wetlands are a little-known, yet incredibly efficient way to deal with all those things we flush down our pipes. This method of sewage treatment cycles nutrients and water through the landscape, creating greater fertility, ecological vibrancy and cleaner groundwater.

HOW IT WORKS

Our system works by collecting rainwater from the building's roof and storing it in a cistern underneath the building. The rainwater is then used to flush toilets after which it flows into another storage tank where water and solid waste are separated. The water is sent into a wetland area where the plants and surrounding microbes scrub and clean the wastewater. Finally, the clean water flows through a drip-irrigation system to nearby perennial gardens.