

*Drawing by Jan C. Porinchak*

A nitrogen-reducing wetland has replaced decades-old cesspools at the office and residential complex at The Nature Conservancy's Uplands Farm Sanctuary in Cold Spring Harbor, Long Island. The plant-based wastewater treatment system will convert harmful nitrogen in raw wastewater into harmless gas. Nitrogen pollution is to blame for numerous water quality issues on Long Island including harmful algal blooms that kill fish and make it unsafe to use affected ponds and lakes for recreation and shellfishing.

## **INNOVATION AT WORK**

Designed in partnership with the Stony Brook Center for Clean Water Technology, the wetland relies on natural, microbial processes to remove nitrogen pollution and other contaminants from wastewater.

The installation includes several different species of plants, the roots of which provide habitat for beneficial soil microbes. Effluent is then pumped over woodchips and routed into a shallow drainfield for further treatment. Students from Stony Brook University will monitor the effluent to measure the nitrogen reductions.

The project was supported by grants from the Long Island Sound Futures Fund and Suffolk County.

# 90%

**of nitrogen in raw wastewater will be removed by natural processes—including soil microbes**

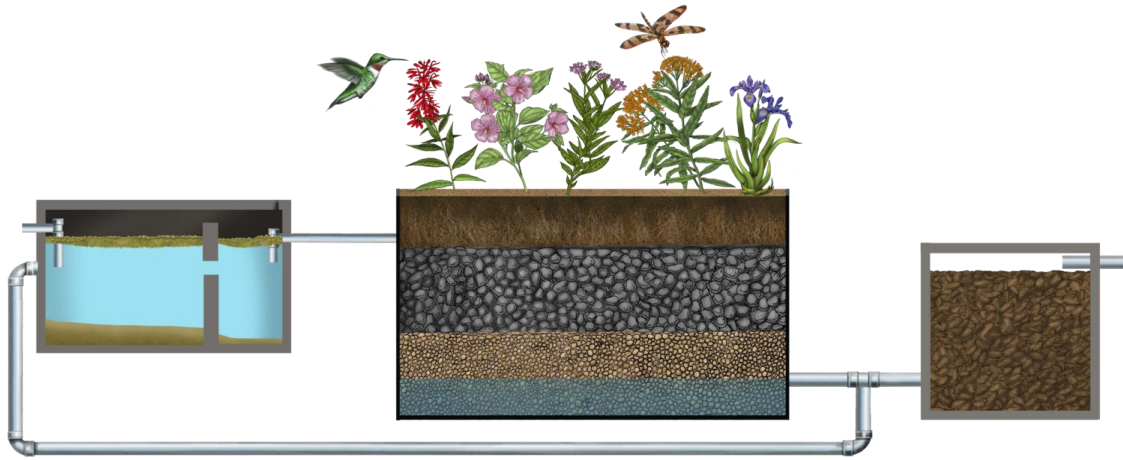
# OUR WORLD

The Nature Conservancy 

## **OUR WORLD DEPENDS ON CLEAN WATER**

The Nature Conservancy is working across Long Island and throughout New York to reduce the nitrogen pollution that leads to harmful algal blooms—in both fresh and marine waters. The goal is to restore swimmable, fishable and drinkable waters using science, new technology, advocacy and public funding.

For more information, visit [nature.org/newyork](http://nature.org/newyork)



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*Underground view of the treatment process and components. Along with two nitrogen-reducing septic systems installed elsewhere on the Cold Spring Harbor property, the project replaces six cesspools.*

## **WHY IT MATTERS**

The project is the first of its kind in western Suffolk. It is intended to demonstrate a cost-effective, natural means to protect Long Island’s groundwater and bays, which have experienced a dramatic increase in nitrogen levels as the island’s population has grown.

P. W. Grosser Consulting served as engineer. For information or to arrange a tour, contact Chris Clapp, [cclapp@tnc.org](mailto:cclapp@tnc.org) or 631-329-7689.



*The barn at Uplands Farm Sanctuary, a former dairy farm donated to the Conservancy*

*Photo by Derek Rogers*