DRY WELLS – SIMPLE AND EFFECTIVE FOR TREATING STORMWATER POLLUTION

In September 2014, the Soak Up the Rain (SOAK) Great Bay program installed a dry well at a property on the shore of Great Bay in Greenland. Before the installation, roof and driveway runoff from the property flowed through a pipe and into a pond that drains directly into the bay. Residents in the neighborhood reported increasing amounts of green algae in the pond in recent years – a sign that it's receiving too many nutrients.

The existing pipe drains to the pond and then to Great Bay.

The SOAK Great Bay team decided a simple and effective way to reduce pollution to the pond, including nutrients that make the algae grow, would be to capture the runoff in a dry well before flowing into the pipe. Now the dry well – basically a hole in the ground filled with crushed stone - collects the water and allows it so slowly soak into the ground.

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To install the dry well, the crew began by removing an existing grate and disconnecting the drain pipe that led to the pond. Taking turns with shovels, a pick axe, post hole digger, and pry bar they dug the dry well to roughly 3' by 3' by 3' in size. The soil contained more clay than the crew anticipated and so it was decided in the field to increase the size of the dry well to accommodate a slower infiltration rate. The sides were lined with cloth filter fabric to prevent soil from migrating into the dry well.

An overflow pipe is installed to drain excess flow during larger storms. Geotextile fabric prevents soil and sediment from migrating into the dry well.

Before filling the hole completely with ¾" drainage stone, an overflow pipe and a layer of the cloth filter were installed. If it rains enough to fill the dry well before all the water can soak in, the overflow pipe, attached to the existing drain pipe, allows the excess water flow to the

SOAK team with completed dry well.

pond. The cloth, installed about six inches below the finished surface, helps prevent soil and sediment from clogging deep down into the dry well. If the dry well shows signs of ponding on top, the homeowner can remove the top layer of stone and clean the sediment from the top of the cloth.

POLLUTION REDUCED

By directing the stormwater to flow into the dry well (also known as a "soak away" or "soak away pit") this property is now estimated to soak up 11,999 gallons of water each year, preventing 17.32 pounds of sediment, 0.13 pounds of nitrogen, and 0.04 pounds of phosphorus from entering the pond and Great Bay.

Soak up the Rain (SOAK) Great Bay is a pilot, residential stormwater management program under NHDES's voluntary SOAK NH program. SOAK Great Bay is focused on providing assistance to property owners in the Great Bay watershed to reduce stormwater runoff and pollution to the bay. In August 2013, the Great Bay Stewards partnered with NHDES to expand their knowledge of residential stormwater management, receive hands on training to identify potential stormwater issues, and assist homeowners with installing solutions.

The Stewards are currently searching for additional homeowners willing to have their property considered for a SOAK project.
Contact them at:
The Great Bay Stewards
Great Bay Discovery Center
89 Depot Road, Greenland, NH 03840
603-778-0015, ex. 350
info@greatbaystewards.org