A stormwater bioretention and infiltration facility was constructed at the intersection of Coastal Highway and Read Ave., near the Little Store Grocery, in Dewey Beach to improve water quality and mitigate flooding. Shown is University of Delaware student Austin Dill helping to plant a portion of the project.

Stormwater Bioretention Retrofit on Read Avenue, Dewey Beach

Project Status:
Completed in July 2020

Project Summary

Background

The Town of Dewey Beach's low elevation and high percentage of land covered by pavement, buildings, and other impervious surfaces make it particularly vulnerable to impacts from coastal storms and sea level rise. With a large 30-acre drainage area, combined with undersized and aging stormwater infrastructure, Read Avenue experiences some of the worst flooding in the town, and polluted runoff flows largely untreated to Rehoboth Bay.

Project Description

This stormwater retrofit project includes a combination of bioretention, infiltration, and porous concrete. Runoff directed to the facility from the adjacent roadways slowly soaks into the ground, and pollutants are removed by the plants and special bioretention soil mix.

Objective

The project will help reduce nuisance flooding on Read Avenue by reducing the total amount of runoff from nearly 3 acres of drainage area. The facility also is expected to reduce nutrient pollution to Rehoboth Bay by 1.3 pounds of nitrogen, 0.3 pounds of phosphorus, and 41 pounds of suspended sediment each year. Native shrubs and flowers planted in the bioretention area take up nutrients from runoff and also provide food and host plants for pollinating insects.

Project Contact:
Dr. Marianne Walch
Science & Restoration Coordinator
science@inlandbays.org

Project Partners:

- Town of Dewey Beach
- Delaware Department of Transportation (DelDOT)

Funding & Partners:

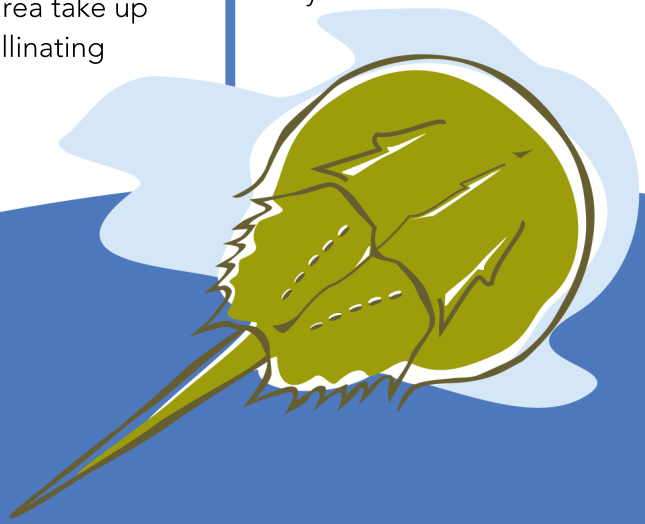
- DNREC Community Water Quality Improvement Grant
- Town of Dewey Beach
- DelDOT
- DNREC Nonpoint Source Program
- U.S. Environmental Protection Agency

Contractor(s):

- RK&K -- Design
- DelDOT and George & Lynch, Inc. -- Construction

Project Timeline:

Design began in late 2018. Construction was completed in early 2020.



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Native plants in the bioretention facility clean the water and support pollinating insects.

"This is the first of 18 bioretention practices identified in the Town's stormwater master plan to be installed. The incredible partnership between the Center, the Town of Dewey Beach, and DelDOT was key to its success."

- Dr. Marianne Walch, Center for the Inland Bays

CCMP Focus Area

This project fulfills objectives outlined in the Comprehensive Conservation Management Plan (CCMP) for the Delaware Inland Bays.

- Focus Area: Stormwater Management
- Objective: Reduce nutrient contributions from stormwater to help achieve Total Maximum Daily Load thresholds.

Project Highlights

- DelDOT agreed to include construction of the project in tandem with sidewalk upgrade work already being done at that intersection.
- Austin Dill, a landscape architecture student at the University of Delaware, designed the landscape plan for the bioretention facility and assisted Center staff with installation of the plants.

An infiltration pit covered with porous concrete stores excess runoff, reducing flooding, at Read Avenue. Here the pit is shown before the concrete was poured.

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The Delaware Center for the Inland Bays is a non-profit organization established in 1994 to promote the wise use and enhancement of the Inland Bays and its watershed. With its many partners, the Center conducts public outreach and education, develops and implements restoration projects, encourages scientific inquiry and sponsors research. To learn how you can get on board with the bays, please visit www.inlandbays.org and follow us on Facebook @deinlandbays!