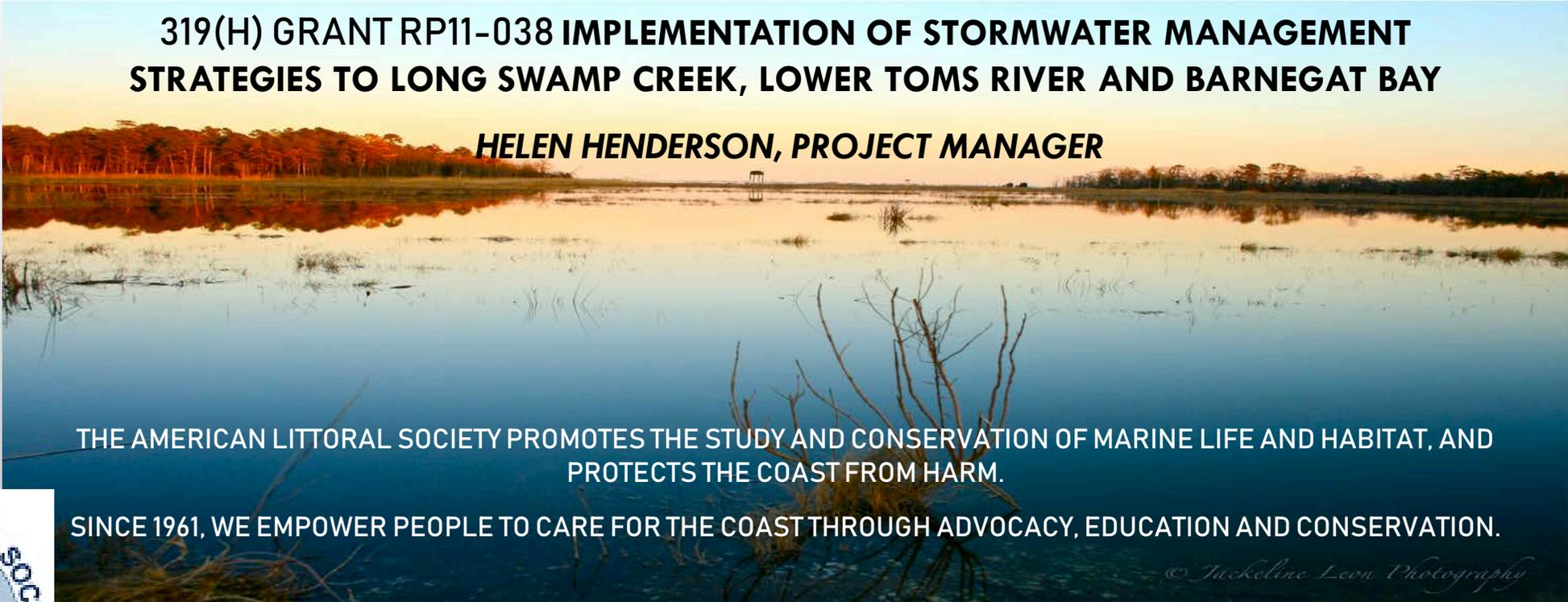


STORMWATER STRATEGY PROJECTS IN ACTION

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
2018 WATER QUALITY RESTORATION GRANTS FOR NONPOINT SOURCE POLLUTION
PUBLIC INFORMATION SESSION – JUNE 2018

319(H) GRANT RP11-038 IMPLEMENTATION OF STORMWATER MANAGEMENT STRATEGIES TO LONG SWAMP CREEK, LOWER TOMS RIVER AND BARNEGAT BAY

HELEN HENDERSON, PROJECT MANAGER



THE AMERICAN LITTORAL SOCIETY PROMOTES THE STUDY AND CONSERVATION OF MARINE LIFE AND HABITAT, AND PROTECTS THE COAST FROM HARM.

SINCE 1961, WE EMPOWER PEOPLE TO CARE FOR THE COAST THROUGH ADVOCACY, EDUCATION AND CONSERVATION.

© Jacqueline Leon Photography



319(H) RP11-038

PROJECT GOALS

- **DEVELOP** A STORMWATER BASIN “PRIORITIZATION MATRIX” RANKING PROCEDURE FOR STORMWATER FACILITIES
- **REDUCE** NON-POINT SOURCE POLLUTION GOING INTO BARNEGAT BAY **BY IMPLEMENTING** STORMWATER BASIN RETROFITS VIA SOIL RESTORATION, BIO-RETENTION OR OTHER ENGINEERED SOLUTIONS AND/OR IMPLEMENTING “PRE-DISCHARGE” WATER QUALITY TREATMENTS, SUCH AS PARKING LOT IMPROVEMENTS
- **TRAIN** STORMWATER MANAGERS SUCH AS MUNICIPAL ENGINEERS AND DEPARTMENT OF PUBLIC WORKS EMPLOYEES TO UTILIZE THE PRIORITIZATION MATRIX TO IMPLEMENT BASIN RETROFITS AND OTHER “POLLUTION SOLUTIONS”
- **EDUCATE** A WIDE VARIETY OF AUDIENCES ABOUT NON-POINT SOURCE POLLUTION AND GREEN INFRASTRUCTURE OR LOW IMPACT DEVELOPMENT “LID” POLLUTION REDUCTION MEASURES AND PROPER BASIN MAINTENANCE TO IMPROVE WATER QUALITY
- **EMPOWER** INDIVIDUALS TO MAKE POSITIVE CHANGE

319(H) RP11-038 PROJECT PARTNERS

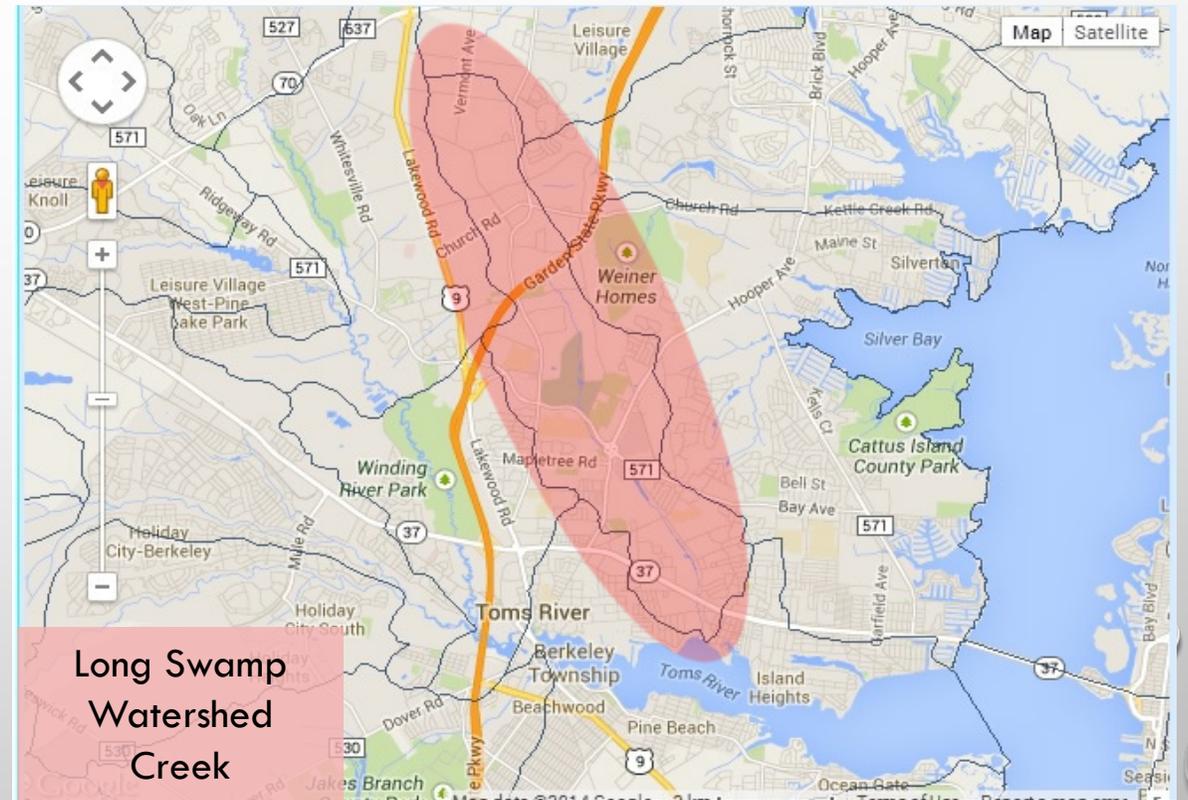
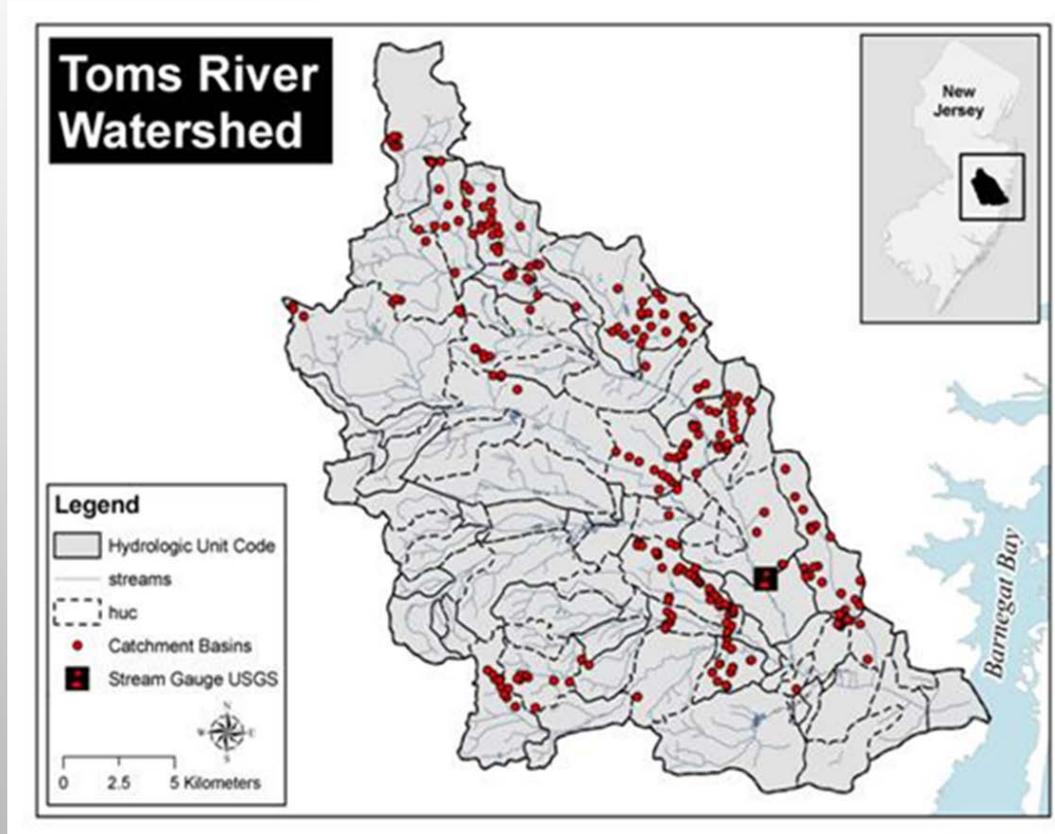


- **Laurel Commons Homeowners Ass'n**
- **Community Medical Center**
- **Toms River Board of Education**
- **Toms River Township**
- **Bey Lea Golf Course**

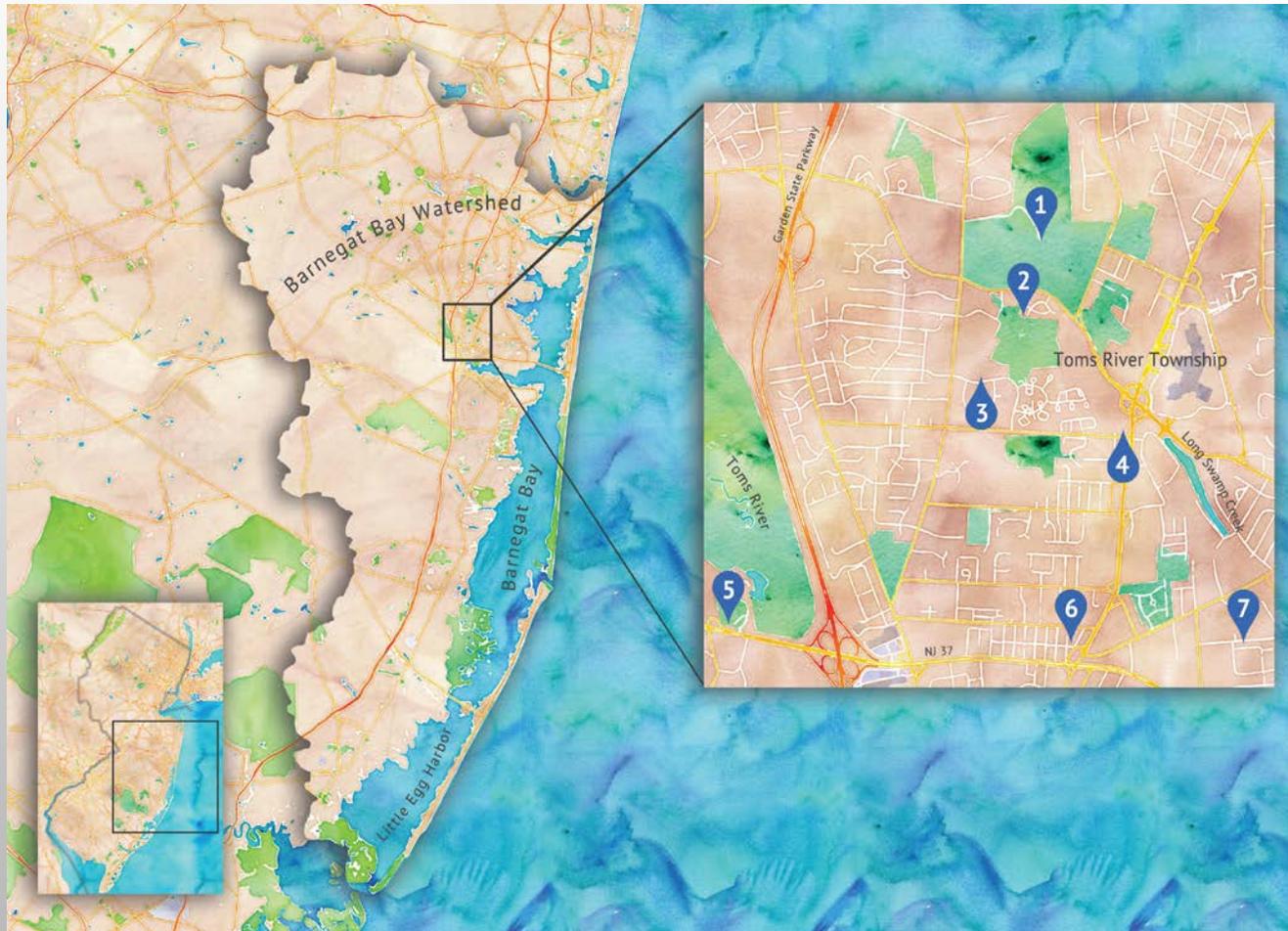


PROJECT GEOGRAPHIC AREA

LOWER TOMS RIVER AND LONG SWAMP CREEK WATERSHEDS



DEMONSTRATION PROJECTS



1. **Bey Lea Golf Course**

Land management program—Barnegat Bay-friendly certification

2. **Toms River High School North**

Rain garden, “Bayscape for Barnegat Bay” native plant garden, tree boxes, and manufactured treatment device

3. **Laurel Commons Homeowners Association**

Bio-retention basin retrofit

4. **Toms River Board of Education**

“Bayscape for Barnegat Bay” native plant garden, porous pavement, and manufactured treatment device

5. **Community Medical Center**

Bio-retention, rain garden basin/inlet retrofit

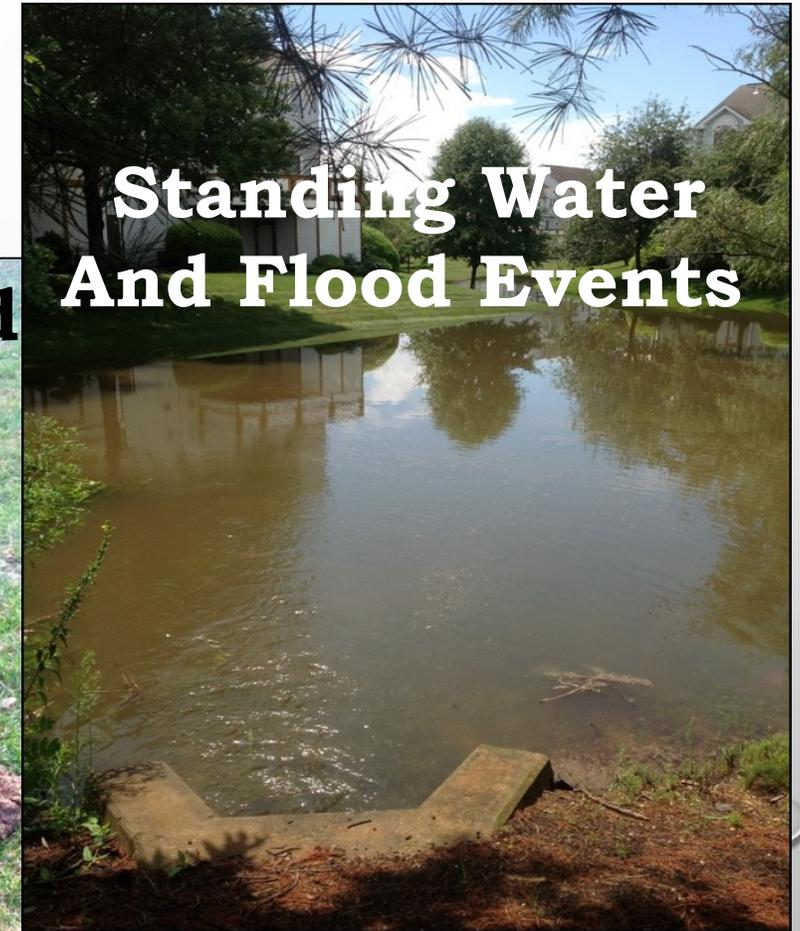
6. **Ocean County Basin**

Soil amendments, invasive plant removal – plans only

7. **Toms River Township**

Low-flow channel basin improvement – plans only

LAUREL COMMONS HOMEOWNERS ASSOCIATION TOMS RIVER, NJ



LAUREL COMMONS HOMEOWNERS ASSOCIATION



Before

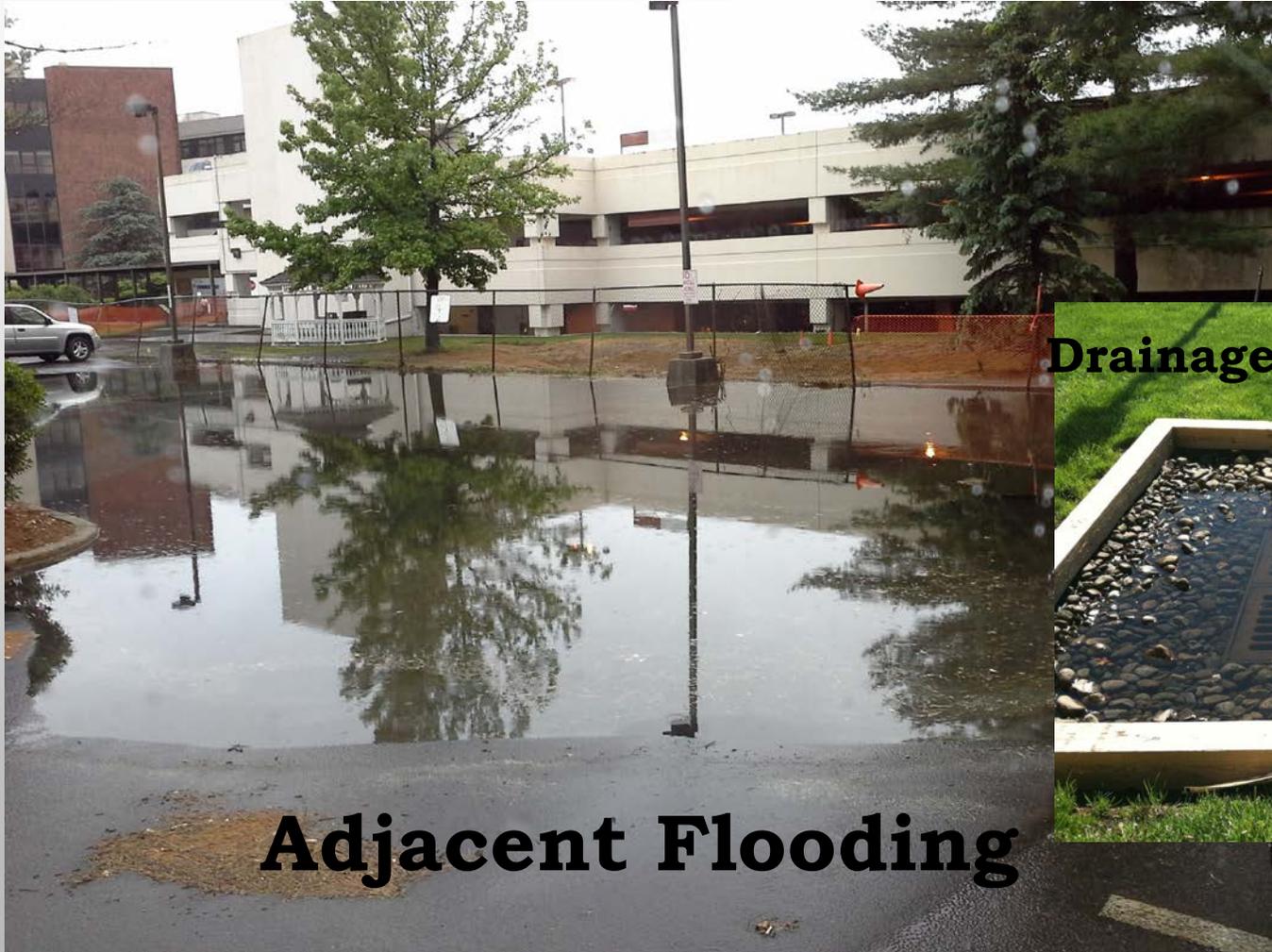


NATURALIZED
STORMWATER BASIN
 DO NOT
MOW
BEYOND THIS SIGN

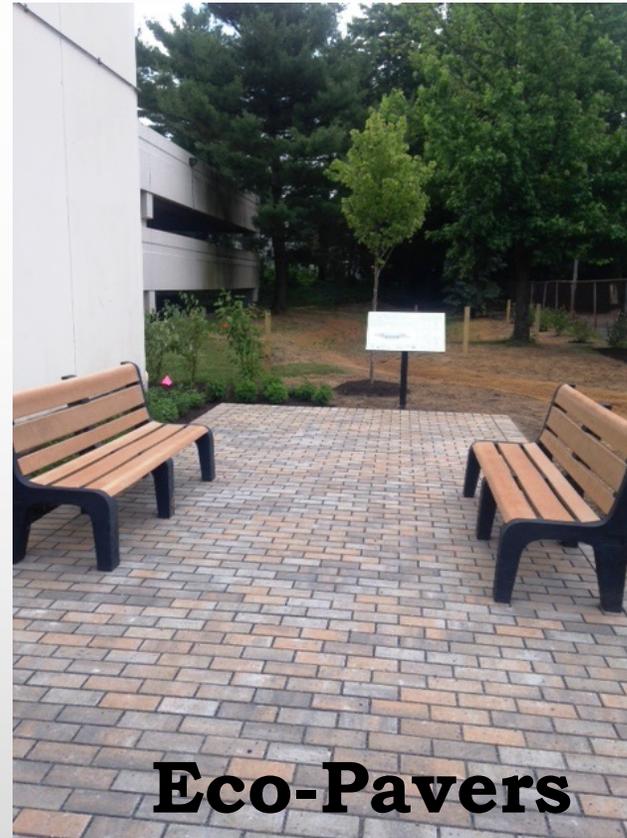


NATURALIZED
STORMWATER BASIN
 DO NOT
MOW
BEYOND THIS SIGN

COMMUNITY MEDICAL CENTER



COMMUNITY MEDICAL CENTER



COMMUNITY MEDICAL CENTER



COMMUNITY MEDICAL CENTER

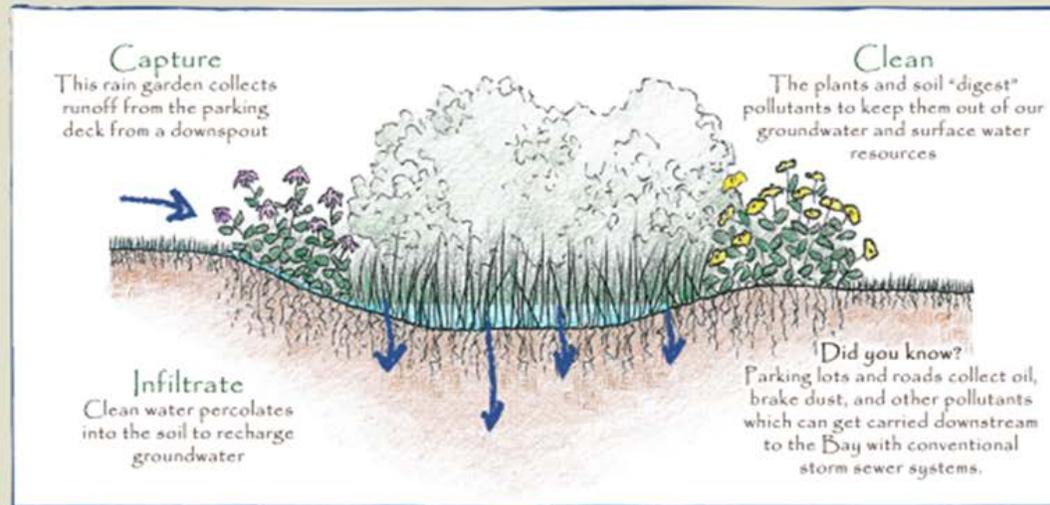
Community Medical Center Rain Garden

Presented by the
American Littoral Society
and Partners

Runoff Matters

Stormwater runoff is a leading cause of pollution in Barnegat Bay. Impervious surfaces like roads and parking areas prevent rain from being naturally filtered by the soil. Lawns can also become compacted, preventing groundwater recharge and sending polluted runoff to our streams and, ultimately, the Bay.

This rain garden is designed to capture, clean and infiltrate stormwater from the parking deck. Native plantings help treat pollution while providing habitat for wildlife.



Create a Rain Garden at Home

Creating your own rain garden is easy. Rain gardens help reduce runoff by collecting rain from a downspout or driveway.

Native plants are perfect for the job, and there are many beautiful native flowering perennials and shrubs available.

This garden features:



Orange Coneflower



New England Aster



Joe Pye Weed



Foxglove Beardtongue



Goldenrod



Beebalm

Brought to you by
American Littoral Society



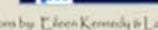
With Assistance from:
Ocean County, New Jersey
Ocean County Soil Conservation District
Jacques Cousteau National Estuarine Research Reserve



Special Thanks to:
Community Medical Center
Barnabas Health



Technical Support by:
Princeton Hydro



Funded by a Section 519(b) Nonpoint
Source Pollution Control Grant from the:

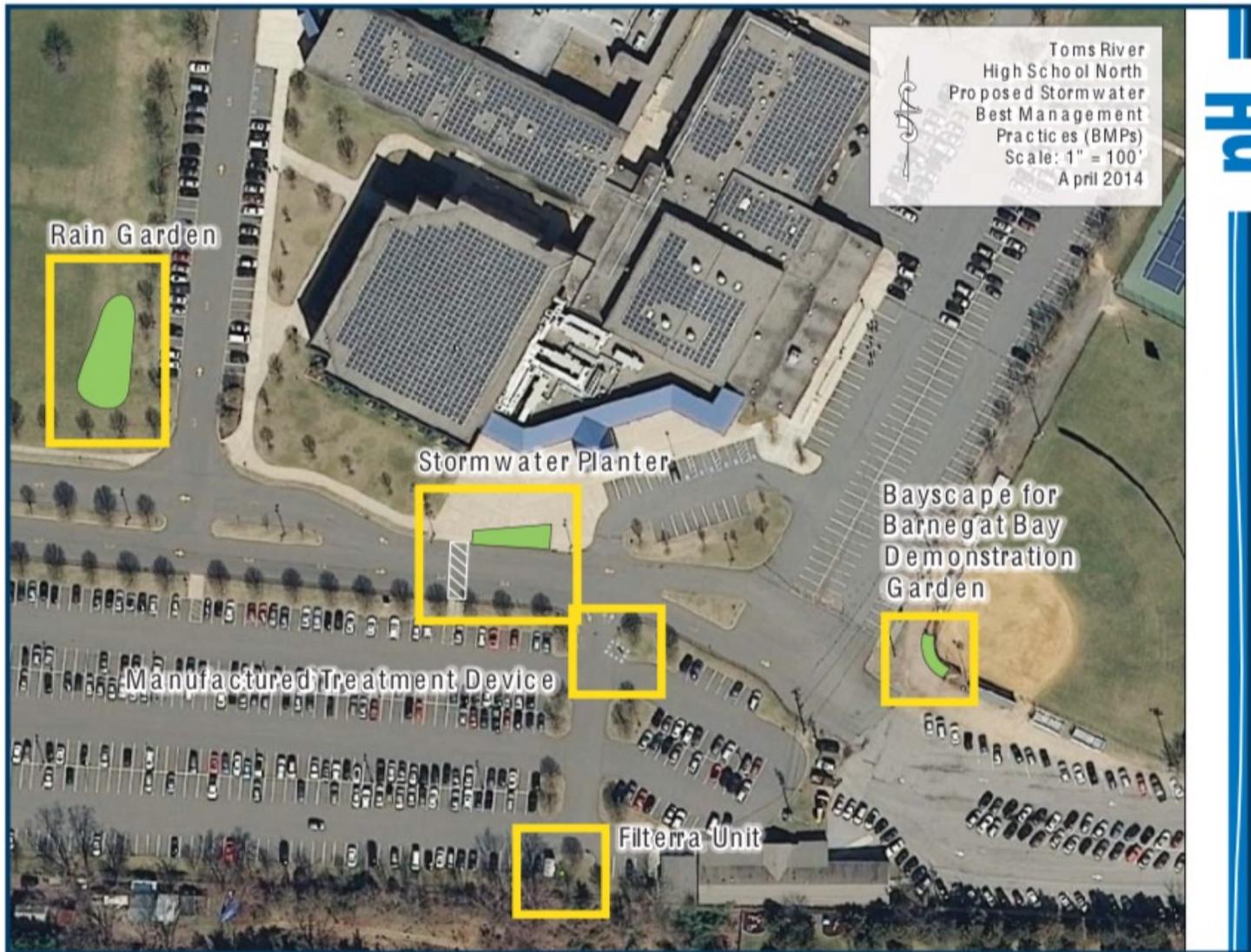
DEPARTMENT OF
ENVIRONMENTAL
PROTECTION



Illustrations by Eileen Kennedy & Lauren Kovacs

For more information, check out Bayscape for Barnegat Bay provided by the American Littoral Society at www.littoralsociety.org

TOMS RIVER HIGH SCHOOL NORTH



Stormwater Improvements

- Rain Garden
- Bayscape for Barnegat Bay
- Manufactured Treatment Device
- Stormwater Planters
- Filterra Unit Tree Boxes
- Porous Pavement

TOMS RIVER HIGH SCHOOL NORTH



TOMS RIVER HIGH SCHOOL NORTH



Manufactured Treatment Device



Filterra Tree Boxes



TOMS RIVER HIGH SCHOOL NORTH

STORMWATER RUNOFF

Non-Point Source Pollution

GOOD TO KNOW

Stormwater from roads, parking lots, and other impervious surfaces pollute Barnegat Bay. Lawns are a major pollutant source for the streams and rivers that flow into the bay.

FIRST FLUSH

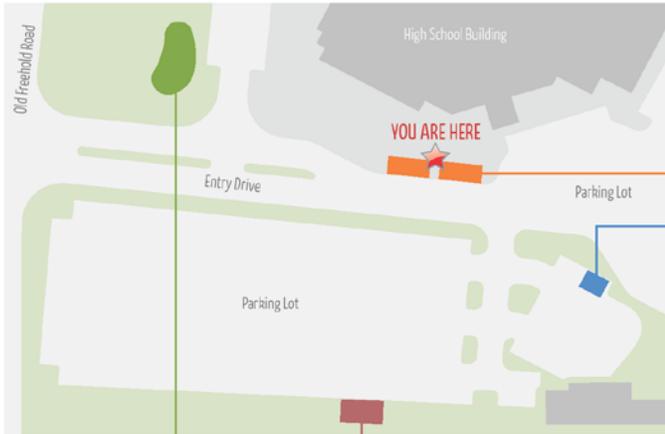
The "first flush" or initial surface runoff of a rainstorm tends to carry higher concentrations of pollution downstream compared to the rest of a storm. Capturing and treating the "first flush" can greatly reduce pollutants washing into our streams and the Bay.

SCRUBBING SOILS

Allowing stormwater to infiltrate through healthy soil allows microbes to "digest" contaminants and purify stormwater naturally before it reaches our underground drinking water aquifers.

Toms River High School North Clean Water Projects

Presented by the American Littoral Society and Partners



RAIN GARDEN

An existing low spot in the lawn was regraded to better allow stormwater inflow. The existing soils were aerated and amended with compost to improve both infiltration and the overall health of the soil. The garden area is planted with native shrubs which are key in reducing pollution and also provide habitat, cover, and food for song birds and butterflies. You can do the same in your own backyard!

STORMWATER PLANTERS

These planters capture and treat stormwater runoff from the road and plaza. The healthy soils in the planter filter runoff below, and the native perennial plants provide habitat for bees, butterflies, and birds above.

MANUFACTURED TREATMENT DEVICE (MTD)

The MTD is a large, underground concrete vault that collects stormwater runoff from the school's road, parking lot, and pathways. Debris, litter, sediment, and the nutrients and other pollutants that are often "absorbed" by the sediment, are removed and trapped in the MTD.

FILTERRA UNIT

This pre-formed concrete unit captures parking lot runoff. The tree and special soil mix placed in each unit remove pollutants from the stormwater.



Brought to you by:
American Littoral Society



With Assistance from: Ocean County, New Jersey, Ocean County Conservation District,
and the Jacques Cousteau National Estuarine Research Reserve



Funded by a Section 319(h) Non-point
Source Pollution Control Grant From:



Special Thanks to:
Toms River Regional Schools



Technical Support by:
Princeton Hydro



TOMS RIVER BOARD OF EDUCATION

Stormwater Improvements

- Manufactured Treatment Device
- Porous Pavement
- Rain Garden



TOMS RIVER BOARD OF EDUCATION



BEY LEA GOLF COURSE

BAY-FRIENDLY GOLF COURSE CERTIFICATION

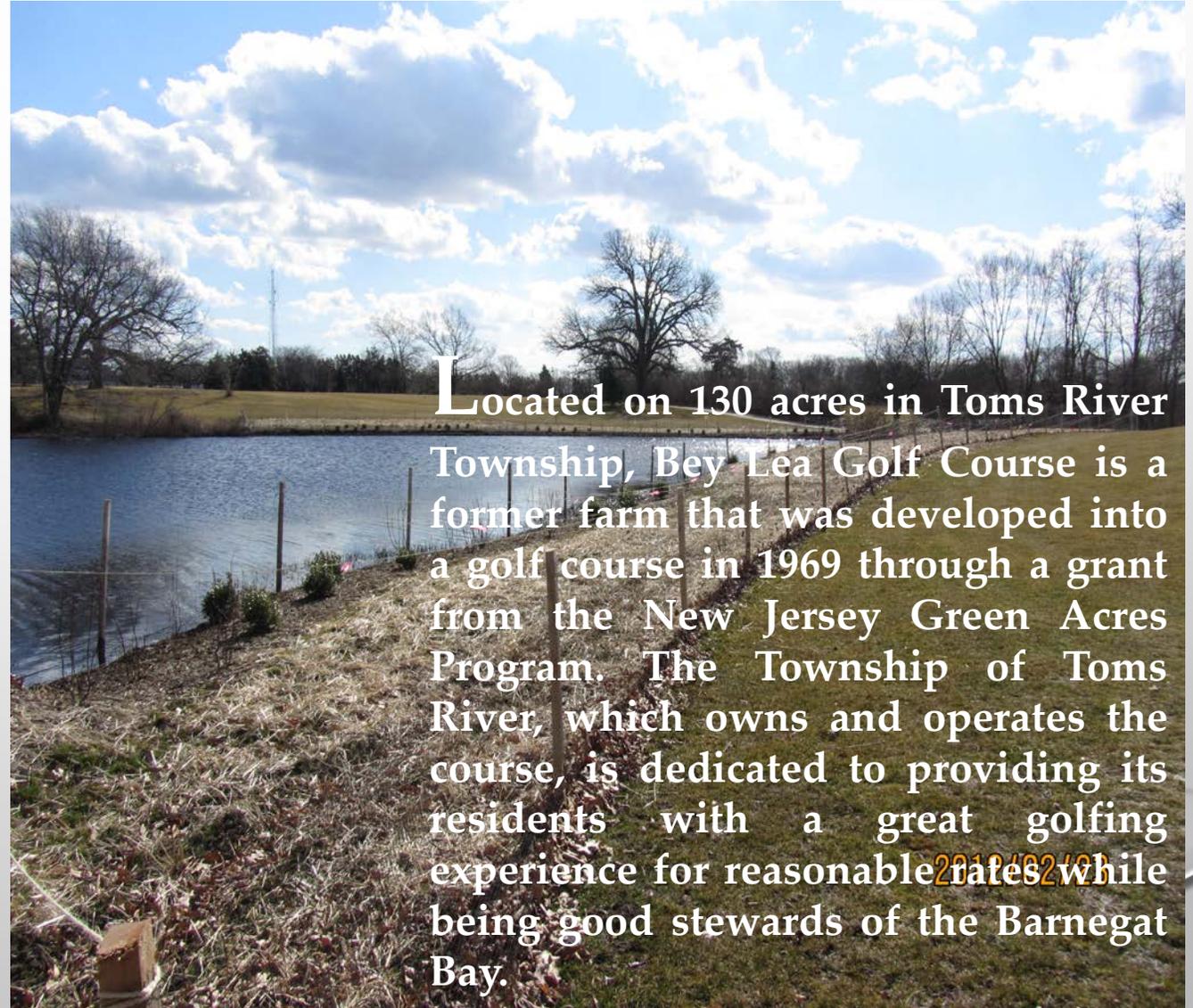
The *Bay-Friendly Golf Course Certification Program* is open to golf courses, public parks and lands and businesses grounds in the Barnegat Bay watershed and beyond. The certification contains three recognition levels: Gold, Silver, and Bronze. The certification process provides an opportunity for golf courses or other large “maintained” or disturbed land areas to reduce non-point source pollution going into Barnegat Bay and other waterways by implementing environmentally friendly land management practices.



**Environmentally Sensitive Area
Entering this area is prohibited**

BEY LEA GOLF COURSE GOLD STANDARD CERTIFICATION

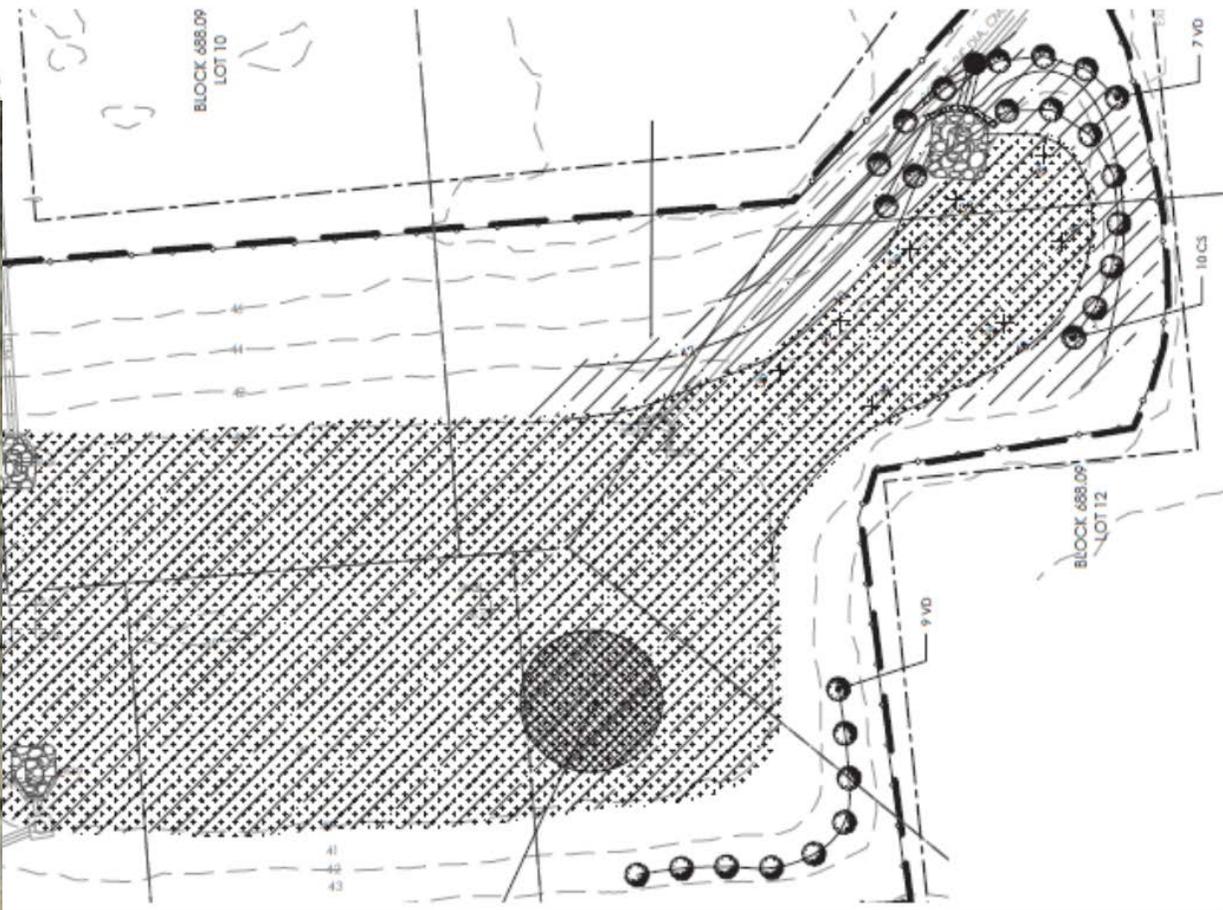
- 130 +/- Acre Site
- 25 Acres “No Mow” Naturalized Areas
- Native Plant Buffers around Water Features
- Fertilizer Applications and Turf Maintenance based on Turf Demands



TOMS RIVER TOWNSHIP LOXLEY AND HUGO BASIN DESIGN AND ENGINEERING PLANS



TOMS RIVER TOWNSHIP LOXLEY AND HUGO BASIN DESIGN AND ENGINEERING PLANS



THANK YOU



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