

Project Background

Suffolk County has a water quality crisis largely driven by nitrogen pollution created by inadequate sewage treatment. The County has been approved for substantial federal funding for its Coastal Resiliency Initiative to mitigate impacts associated with septic system failures in five areas:

- **Forge River Watershed**
- **Southwest Sewer District No. 3 (SSD #3)**
- **Carlls River Watershed**
- **Connetquot River Watershed**
- **Patchogue River Watershed**

How did we get here?

Decades of pollution caused by inadequate and failed septic systems

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graph TD; A[Decades of pollution caused by inadequate and failed septic systems] --> B[Heavy rainfall events such as Hurricane Sandy and Hurricane Irene lead to sewage backups and groundwater pollution resulting from septic system failures. These systems are also susceptible to future storm events.]; B --> C[Suffolk County met with numerous community members and worked with representatives of the Forge River Protection Task Force and the Sewer District Wastewater Treatment Task Force.]; C --> D[In 2013, a study was prepared for the Forge River Watershed to document the sewage collection and treatment/effluent discharge requirements, capital and operation costs, and environmental and economic benefits.];
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Heavy rainfall events such as Hurricane Sandy and Hurricane Irene lead to sewage backups and groundwater pollution resulting from septic system failures. These systems are also susceptible to future storm events.

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The Problem

- Decades of nitrogen pollution from septic systems, cesspools, agricultural uses and runoff have degraded surface and groundwaters
- Poor water quality hurts land values, recreation, tourism, the economy and coastal resiliency
- Tidal wetlands critical in protecting against storm surge
- Nitrogen pollution in Forge River and Great South Bay come from unsewered homes

The Solution

- **Suffolk County has been approved for substantial federal funding to construct a sewer system in Mastic-Shirley to cleanup groundwater and Forge River**
- **All construction costs are to be covered by federal funding**
- **Phases I & II of the Forge River Watershed are funded**
- **Significant reduction of nitrogen in project area is expected**
- **A public referendum may be held to establish a new sewer district in Mastic-Shirley**

Sewer Collection System

Low Pressure Sewer Grinder Pumps

- **Entire installation by Suffolk County's contractor**
- **Operation and maintenance by Suffolk County**

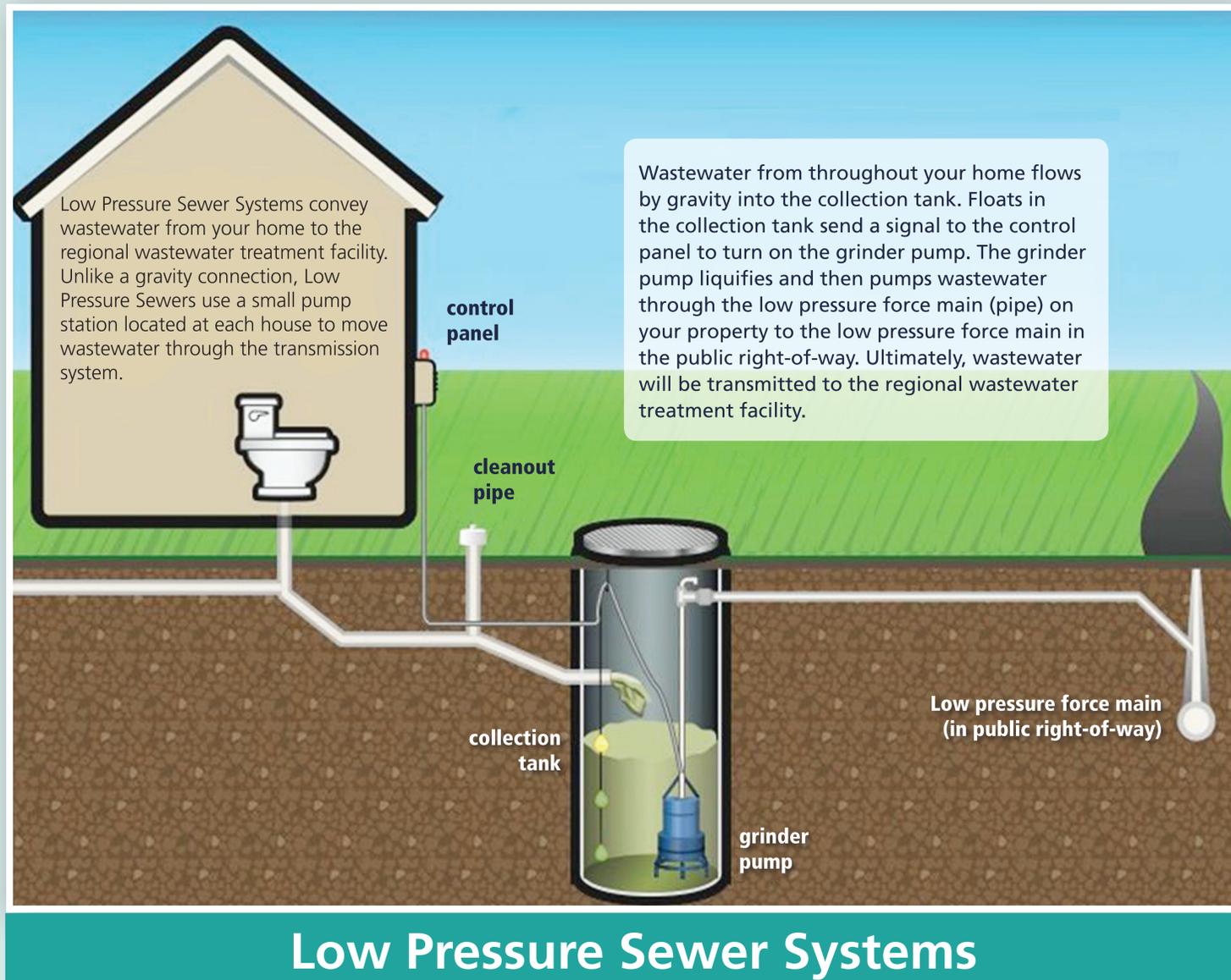
Connection to Home by Suffolk County

- **Complete connection of house to sewer line and grinder pump unit**
- **Make electrical connection from home to grinder pump unit control**
- **Perform restoration of disturbed surfaces**

Septic System Abandonment by Suffolk County

- **Abandon system-in-place by filling with sand**
- **Perform restoration of disturbed surfaces**

Low Pressure Sewer Systems



In the upcoming months surveyors will visit homes to take measurements and document existing conditions to be used in system design.



Top of Ground View



Unit Control Panel Mounted on House

Advanced Wastewater Treatment Facility

- **Town of Brookhaven Calabro Airport site proposed**
- **State-of-the-art advanced treatment system would remove nitrogen from wastewater**
- **All equipment fully enclosed inside buildings**
- **Odor control systems included to eliminate potential impacts**
- **Groundwater recharge using underground leaching structures**
- **Preservation of existing trees will limit visual impacts**

Advanced Wastewater Treatment Facility/ Recharge Area Preliminary Site Layout



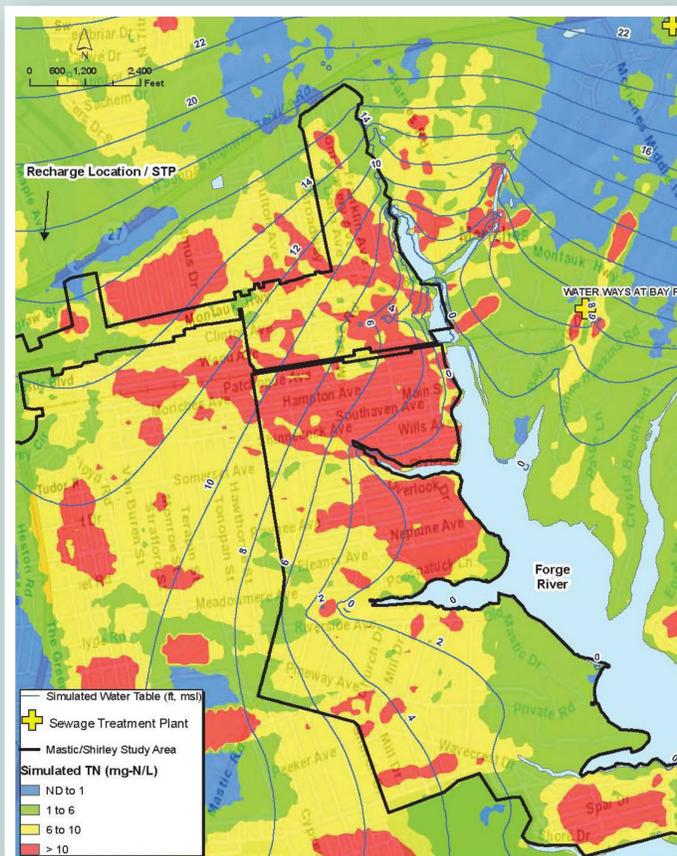
Projected Environmental Improvements

Existing Conditions

Forge River receives a total nitrogen load of 2,362 pounds/day

244 pounds/day of total nitrogen is attributed to OWTS within the project area

Modeling indicates total nitrogen concentrations in groundwater are expected to be higher than 10 mg/L



(Simulated) Baseline levels of Nitrogen within Water Table.

SOURCES:

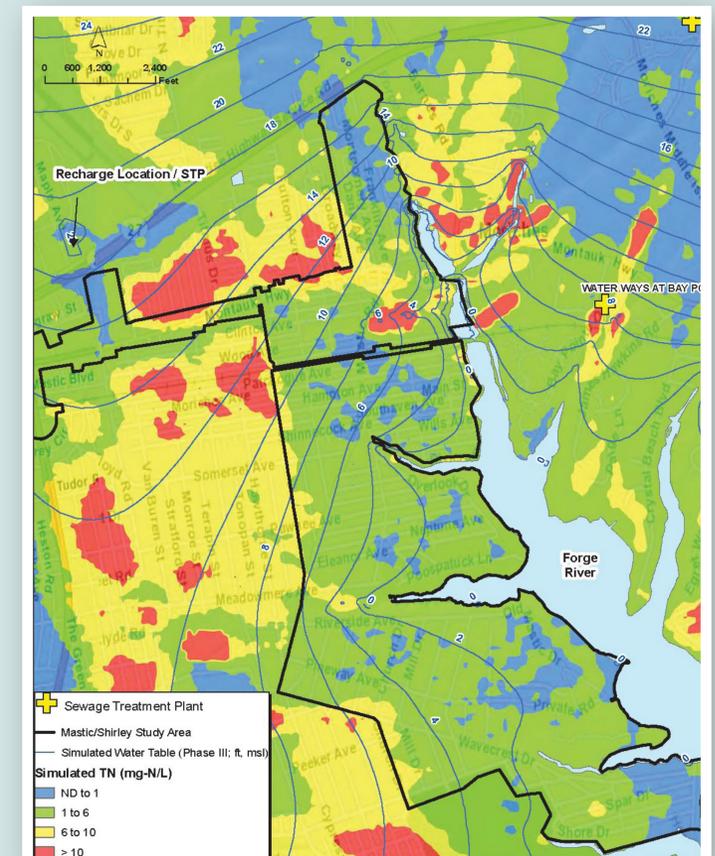
Swanson et al. 2009b
CDM Smith 2014
DEIS May 2018

Project Conditions

Total nitrogen entering Forge River from the project area would be reduced by 50%

Total nitrogen within the project area would be reduced by 58 pounds per day

Model results show that the total nitrogen concentrations in groundwater would decrease to mostly below 6 mg/L



(Simulated) Improved levels of Nitrogen within Water Table following project implementation.

SOURCES:

Swanson et al. 2009b
CDM Smith 2014
DEIS May 2018

FORGE RIVER Watershed Sewer Project

"Clean Water is Quality of Life"

Environmental Hearing on May 22

A public hearing on the Draft Environmental Impact Statement (DEIS) for the project will be held next Tuesday (May 22), from 7 p.m. to 9 p.m. at the Mastic Fire District, 1080 Mastic Road.

The New York State Governor's Office of Storm Recovery, which prepared the DEIS, will be seeking the public's comments on the report.

Comments on the DEIS may also be submitted by e-mail, U.S. mail, or telephone (see handout). Comments will be accepted through 5 p.m. June 1, 2018.

Public viewing of the DEIS is available online at: <http://www.stormrecovery.ny.gov/environmental-docs>.

The DEIS is also available for public viewing in person at numerous locations, including libraries and government offices, in the area (see handout).