



# WATER REUSE

## Long Island Nitrogen Action Plan (LINAP) Water Reuse Initiative

**Introduction.** Water reuse is a process where wastewater, stormwater, or graywater (non-sewage wastewater from sinks, baths, and laundry) is treated to an appropriate level and used for another purpose, such as irrigation, before being discharged to the environment. Reusing, or recycling, water is an effective way to conserve water, and can even reduce nitrogen pollution when nutrients in the water are used by plants.

### LINAP Water Reuse Advisory Workgroup

The LINAP Water Reuse Advisory Workgroup formed in November 2017 to discuss the potential opportunities and challenges for water reuse on Long Island, as it relates to nitrogen removal. This workgroup is not a decision-making body but works to advise the LINAP Project Management Team on the direction of the water reuse component of LINAP.

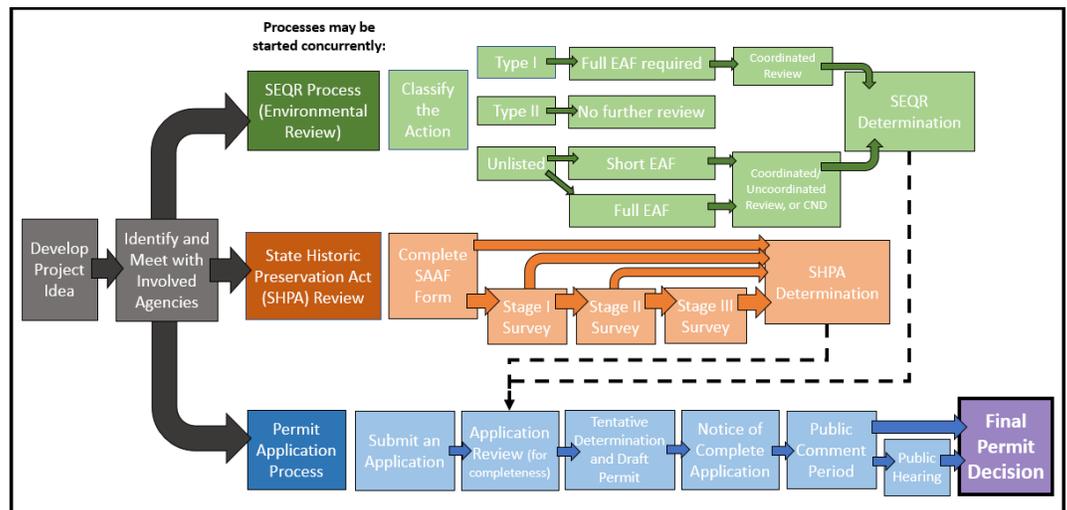
### Treated Wastewater Reuse Roadmap

**Purpose.** Water reuse is not common practice on Long Island due to the relative abundance of rainfall and low cost of water. However, reuse projects can be approved and permitted within the existing regulatory framework of the state on a case-by-case basis. The LINAP Water Reuse Advisory Workgroup identified the need for a guide to explain this permitting process, and how agencies other than the DEC may be involved.

**Product Description.** The [roadmap](#) is an interactive pdf document where users can step through the regulatory process using a navigation toolbar. Pop-up text boxes for each step give details and links to additional information.

**Intended Audience.** This roadmap is for any entity that is interested in pursuing a water reuse project, whether they will be acting as the water supplier or the water user.

**Contributors.** This document was developed in consultation with the New York State DEC Division of Water and Division of Environmental Permits, and the LINAP Water Reuse Advisory Workgroup.



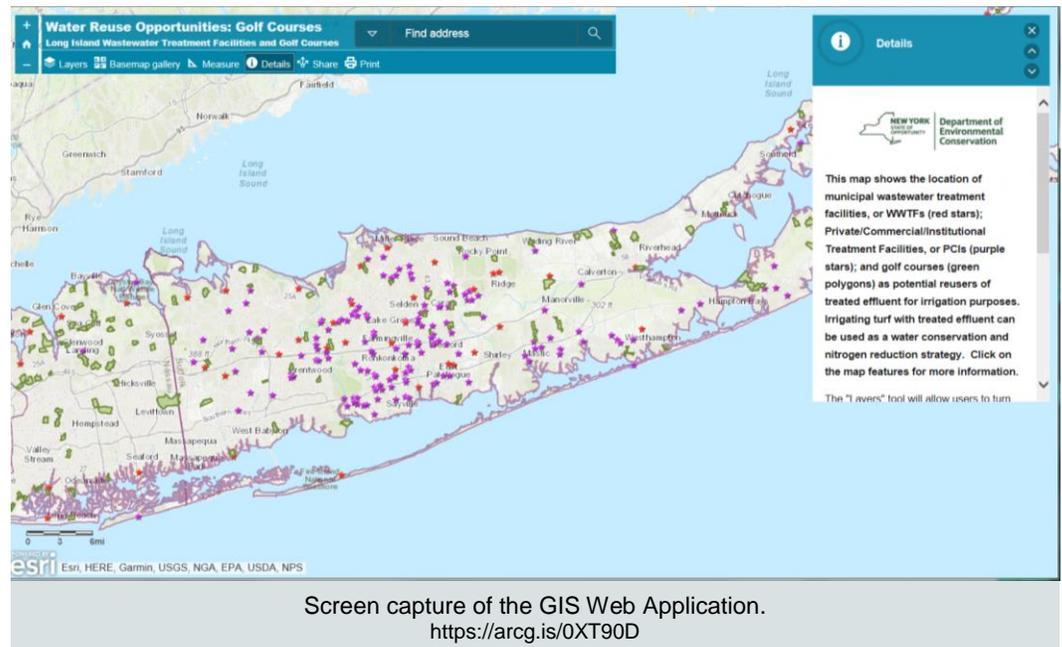
Overview of Treated Wastewater Reuse Roadmap.  
[http://www.dec.ny.gov/docs/water\\_pdf/wastewaterreuse.pdf](http://www.dec.ny.gov/docs/water_pdf/wastewaterreuse.pdf)

**Disclaimer.** This roadmap is intended to describe DEC’s general process for permitting requirements for water reuse projects using treated effluent from a centralized wastewater treatment plant (State Pollution Discharge Elimination System Program permitted facilities). It is not meant to encompass all possible reuse strategies. Requirements may vary due to the location and specific circumstances of the project.

## Potential Water Reuse Opportunities Interactive Map: Golf Courses

**Summary.** Treated effluent from centralized wastewater treatment facilities can be used as a source of non-potable water for various purposes. Using this water for golf course irrigation has multiple benefits:

- Potentially reduces the amount of nitrogen a golf course uses for fertilization
- Addresses nitrogen pollution by diverting nitrogen from waterbodies to properties where nitrogen can be used by turfgrass and other plants.
- Reduces the demand on Long Island’s sole-source aquifer



This [interactive map](#) shows the location of golf courses in Nassau and Suffolk Counties, as well as the location of wastewater treatment facilities, both municipal and private. Click on map features within the application to learn more about a treatment facility, including its design flow/flow limit and current receiving water. The layers tool on the map allows users to visualize a set range of distances from any wastewater treatment facility by displaying circles around these facilities. For example, users can see if any golf course (or other location of interest) falls within these circles to get a general idea of proximity, or users can use the measure tool to determine more accurate distances.

### Spotlight on Golf Course Reuse

**Summary.** Indian Island Golf Course is the first, and currently the only, golf course on Long Island to use reclaimed water from a wastewater treatment plant—the neighboring Town of Riverhead Advanced Wastewater Treatment Facility and Water Resource Recovery Facility (WRRF). The Town of Riverhead partnered with the Suffolk County Parks Department to initiate this project. The Town researched and adopted the most stringent treatment standards from other states and conducted a pilot study to demonstrate that these standards could be met. The facility is equipped with membrane biological reactors, ultrafiltration for solids/liquid separation and ultraviolet disinfection, which is designed to remove 95% of the nitrogen in the raw sewage. The WRRF can provide up to 450,000 gallons per day of reusable water to irrigate the adjacent Indian Island Golf Course. This equates to 100 million gallons of water no longer drawn from the ground. This project has the potential to provide all the irrigation needed throughout a typical summer season. The project, which included the installation of 1,000 feet for force main piping between the treatment plant and golf course, was completed in time for the 2016 irrigation season.

### CONTACT INFORMATION

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