

### Nassau County's Septic Environmental Program To Improve Cleanliness (S.E.P.T.I.C.) Grant Program

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### Nassau's S.E.P.T.I.C. Program – Project Team

#### NCSWCD Board

- Tara Schneider-Moran Chair
- Meagan Fastuca- Vice Chair
- Eric Swenson Treasurer

#### NCSWCD Staff



CONSERVATION DISTRICT

- Derek Betts District Manager
- Olivia Calandra Conservation Technician
- Sean Rooney -- Conservation Technician
- Tom Parisi Conservation Technician

#### NCSWCD IA Consultant

• Justin Jobin - Environmental Scientist



#### Nassau County Support

- Joe Cuomo- Nassau County DPW
- John Capece- Commissioner Consumer Affairs

#### Additional Support Provided from The Nature Conservancy and North Shore Land Alliance

Nicholas Calderon – Marine Scientist Kat Coughlin – Water Quality Improvement Coordinator



### **DISCLAIMER:**

THE OPINIONS REPRESENTED IN THIS PRESENTATION BELONG SOLEY TO THE AUTHOR AND HIS DOGS & DO NOT REFLECT THE OPINIONS OF NOWRA, OR ANY OTHER COMPANY OR ORGANIZATION







### Agenda

Background and Environmental Need for Nitrogen Reduction in Nassau County, NY

Incentivizing Upgrades to Nitrogen-Reducing Systems

Lessons Learned & Next Steps

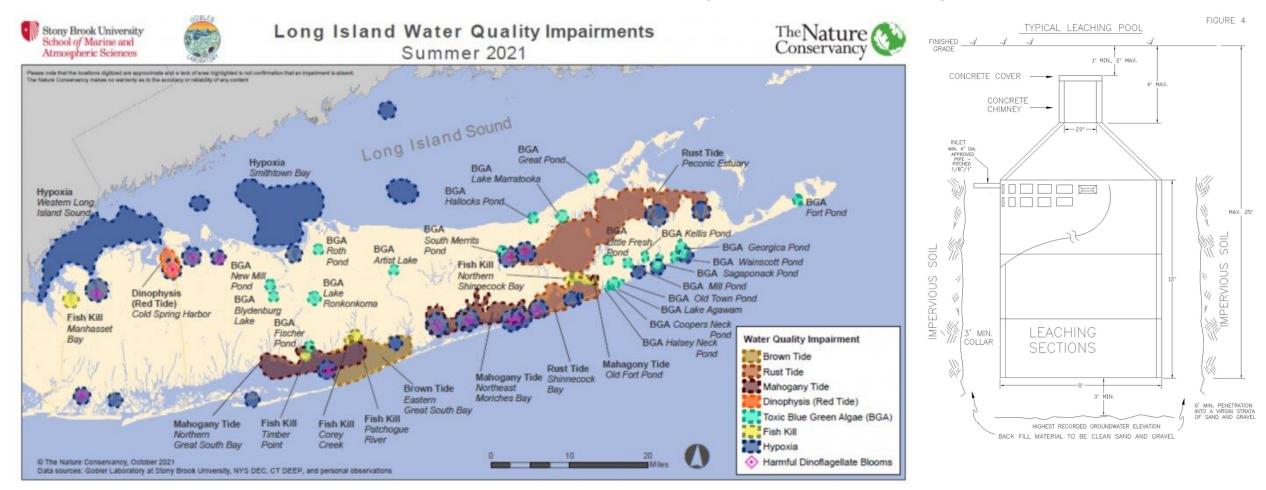
Questions



# Effects of Nitrogen Pollution on the North Shore of Long Island

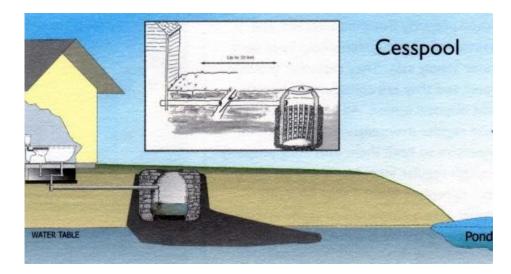


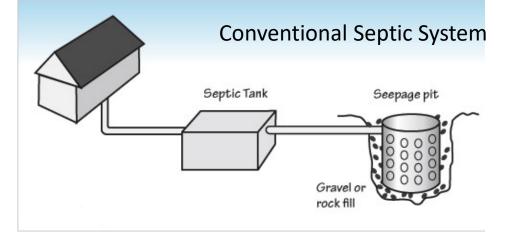
#### The Need for Clean-Water Septic Systems on Long Island



- Over 425,000 On-Site Systems on LI, Hundreds of thousands of cesspools
- 74% of Suffolk County is unsewered, 90 % of Nassau's North Shore is Unsewered
- HAB's, Shellfishing Impacts, Coastal Resiliency, Public Bathing Beaches

### Typical Septic Systems and Cesspools Found on Long Island







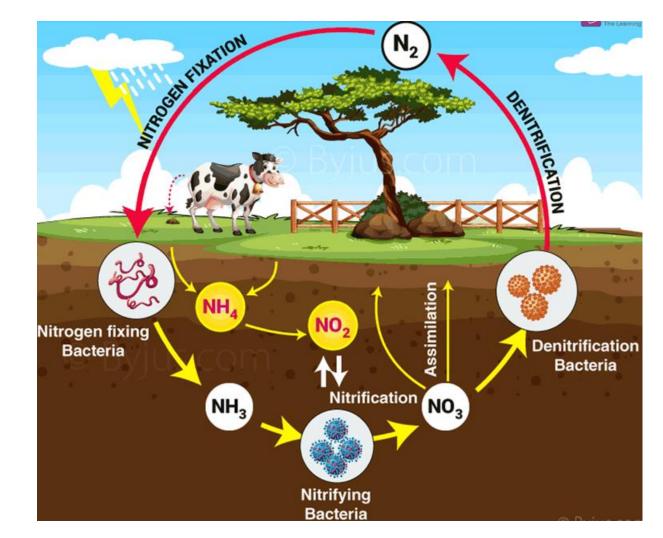


Collapsed Cesspool

Failed Block Cesspool

### What is Nitrogen Pollution?

- 78% of atmosphere comprised of harmless, unreactive N<sub>2</sub> gas
- Excess reactive nitrogen:  $CH_4N_2O$ ,  $NH_3$ , and  $NO_3$
- Too much of a good thing









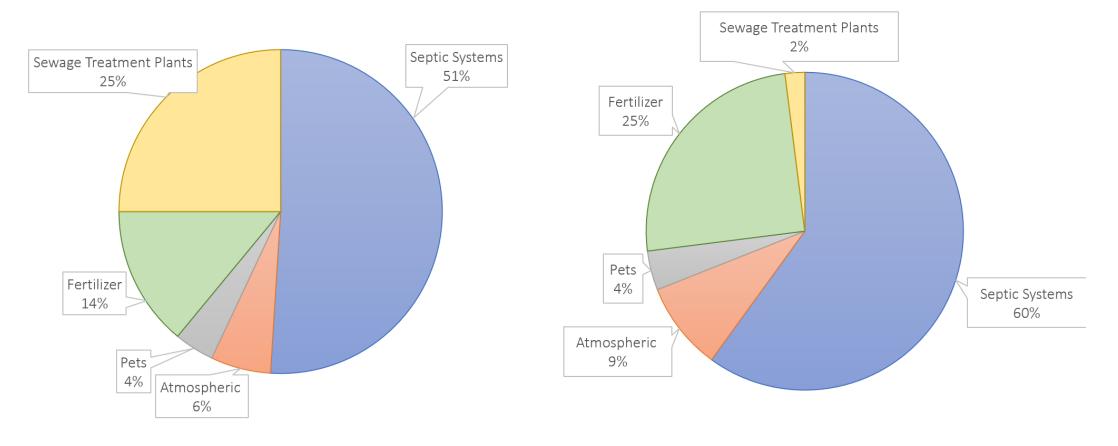
#### Effects of Excess Nitrogen on the Long Island Sound

- Fish Kills
- Harmful Algae Blooms (HAB)
- Invasive Seaweed
- Paralytic Shellfish Poisoning (PSP)





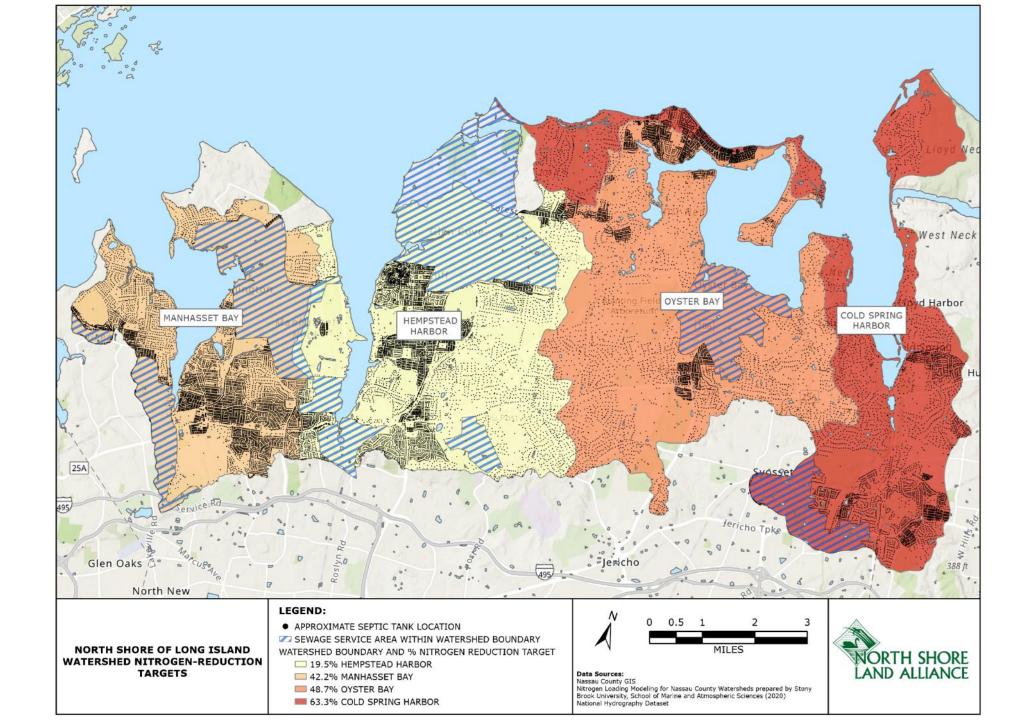
#### **Distribution of Nitrogen to North Shore of Long Island**

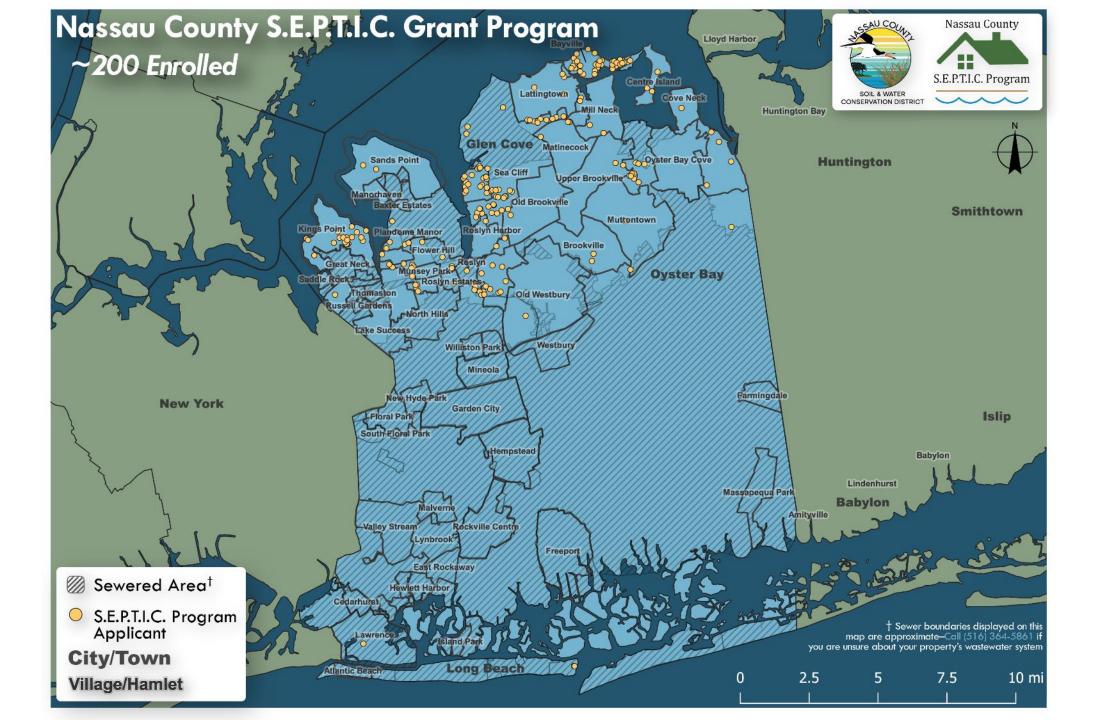


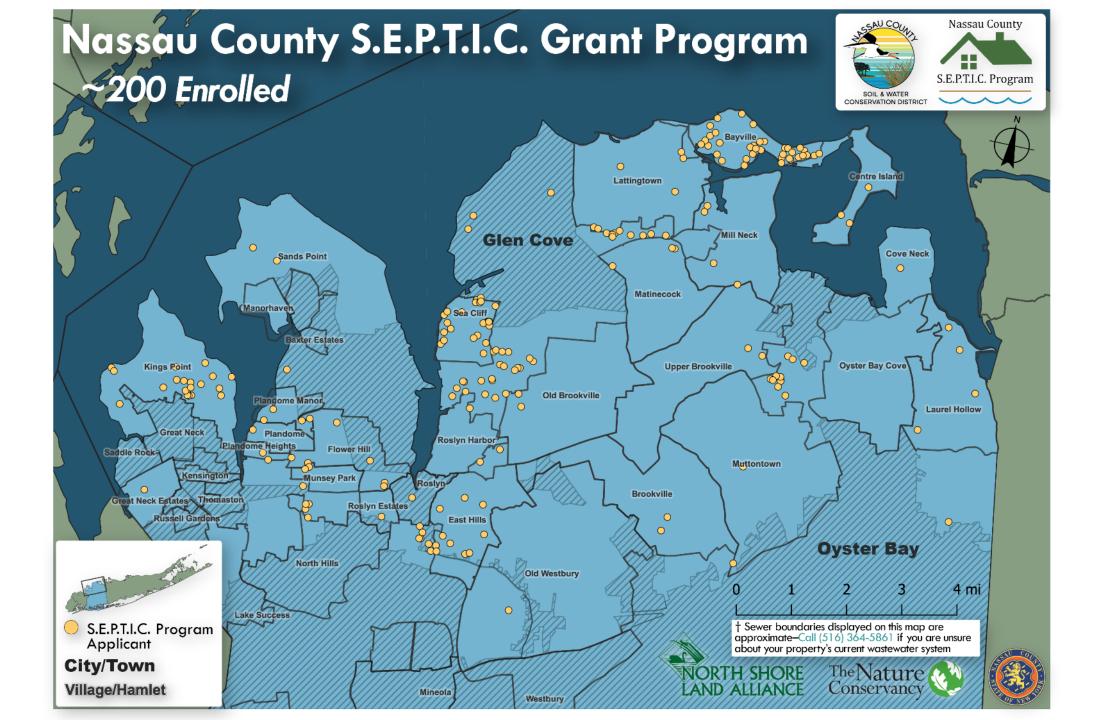
#### Hempstead Harbor, Manhasset Bay, and Little Neck Bay

Cold Spring Harbor, Oyster Bay, and Long Island Sound

Data from Stony Brook University's Nitrogen-Loading Modeling for Nassau County Subwatersheds.

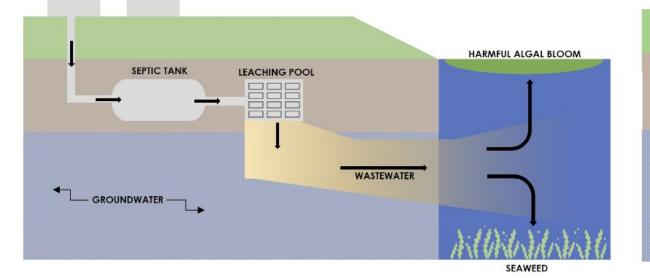






## *"Innovative Advanced (I/A) OWTS" can reduce nitrogen outputs into groundwater by up to 80%.*





NITROGEN-REDUCING IA SEPTIC TANK

WASTEWATER

70% REDUCTION IN NITROGEN

DRAINFIELD

1111

BIOLOGICAL

TANK

SEPTIC PROCESSING

TANK

GROUNDWATER

#### **CONVENTIONAL SEPTIC TANK**



#### Value of Nitrogen-Reducing Septic Systems

- Restore commercial fishing, boating, and recreation.
- Can last more than 30 years after installation.
- Improve overall property value.



Fuji Clean IA Septic System During Installation



Hydro-Action IA Septic System Prior to Installation







### Nassau County's Septic Environmental Program To Improve Cleanliness (S.E.P.T.I.C.) Grant Program

Derek Betts, District Manager – Nassau County Soil and Water Conservation District Justin Jobin, Environmental Scientist – Coastal Wastewater Solutions, LLC



### Nassau's S.E.P.T.I.C. Program – Overview

- Nassau County Septic Environmental Program to Improve Cleanliness (S.E.P.T.I.C.)
- Provides State and County grant funding of up to \$20,000 to eligible property owners
- Program is administered by the Nassau County Soil and Water Conservation District
- Provide support and program modifications to incentivize and streamline the upgrade from traditional Cesspools and Septic Systems to nitrogen reducing IA OWTS
- The Nature Conservancy and North Shore Land Alliance have secured a grant to provide staff assistance to Property Owners who may need additional help

## **State Funding**

- ✓ The Clean Water Infrastructure Act of 2017 established the "State Septic System Replacement Fund" and allocated \$75 million to support a multi-year program.
- ✓ \$2,000,000 has been awarded to Nassau County as of the date of these Rules and Regulations. If the SEPTIC Initiative is successful, the County is hopeful to receive additional SSRP over the next several years.



## Nassau County's S.E.P.T.IC. Grant Program – Funding Breakdown

Item	Amount
Total Amount of funds allocated to Nassau County	\$4,000,000.00
Total amount of funds Reimbursed as of 9/01/2022	\$380,000.00
Total Amount of pending payments as of 9/01/2022	\$200,000.00
Total Amount of Funds Allocated as of 9/01/2022	\$1,080,000.00
Total Amount of Unallocated Funds Allocated as of 9/01/2022	\$2,492,000.00
Average Grant Award	\$20,000.00





- On June 14, 2021, the former Nassau County Executive proposed additional funding as part of her Economic Recovery and Community Investment Plan.
- The plan was approved on July 12, 2021 and provides for an additional County grant of up to \$10,000 that could be coupled with the \$2,000,000 in SSRP funds previously awarded to Nassau County.
- The hope is that this additional funding will provide further incentives and a streamlined process to property owners looking to upgrade their existing cesspools and septic systems

### Nassau's S.E.P.T.I.C. Program – Qualifying Properties

- Single family or two-family homes, not-for profit organizations, and small businesses
- Organizations with a sanitary design flow less than or equal to 1,000 gallons per day (GPD)
- Replacement of an existing septic system or cesspool with a new nitrogen reducing IA OWTS
- The IA OWTS must have been installed after March 1, 2018
- Determinations of eligibility will be made by the District based on the criteria in Program Rules
- Both design and construction of any rehabilitation or replacement must have been approved by the local permitting authority.

### Nassau's S.E.P.T.I.C. Program – Eligible Costs

Costs must be reasonable and necessary, and include but are not limited to:

- the total cost of the purchase of I/A OWTS materials and necessary components;
- the purchase of electrical components;
- Site access restrictions
- labor costs incurred in connection with the installation of the I/A OWTS and any necessary leaching fields and structures;
- a three-year warranty for the I/A OWTS;
- excavation and backfilling;
- Design costs are eligible, limited only to work needed to complete an approved design, including needed site investigation, as-built drawings, and inspections.

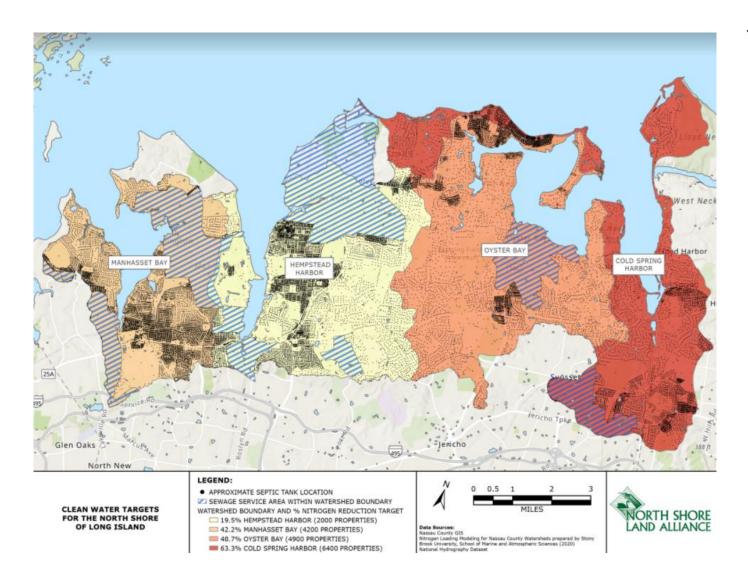


### Nassau's S.E.P.T.I.C. Program – Ineligible Costs

- Irrigation repairs & non-essential site beautification
- Improvements unrelated to the I/A OWTS (i.e. plumbing &electrical)
- Administrative Work, Taxes, Interest, Fees, Fines, or Penalties (includes Permit fees)
- Pumping, Decommissioning, Inspection, and Maintenance expenses
- Any expenses that are not appropriately documented
- Government permit fees, including but not limited to fees assessed for building permits, zoning permits, construction compliance certifications, and floodplain disturbance permits.



### Nassau's S.E.P.T.I.C. Program – Qualifying Properties



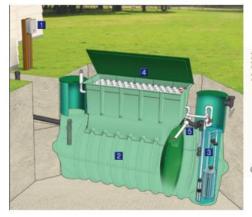
#### ✓ In addition, participating properties MUST:

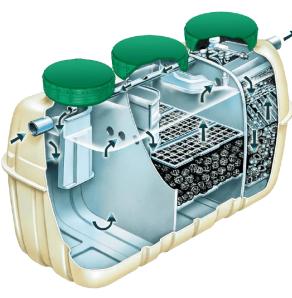
- ✓ Have a valid certificate of occupancy or existing use issued by the pertinent city, town or village.
- ✓ Be served by an existing septic system or cesspool and not be connected to a public or private sewer or located within an existing or proposed sewer district.
- ✓ If the property is located in an existing sewer district but is unable to connect due to site constraints documented by the Sewer District in question, the property may be eligible, provided the applicant meets all other eligibility requirements.
- ✓ Not have any outstanding or open real property tax liens.

### Nassau's S.E.P.T.I.C. Program – Accepted Technologies



Hydro-Action AN Series





Fuji Clean CEN Series

Norweco HydroKinetic

Typical backyard configuration of an AdvanTex<sup>®</sup> Treatment System. The system has five main functional parts: VeriComm<sup>®</sup> web-based monitoring system<sup>†</sup> Processing tank

Biotube<sup>®</sup> pumping package
 AdvanTex filter

 Recirculating splitter valve † MVP digital programmable panels available as an option in some markets.

Other configurations and models available.



Orenco Advantex AX-20

SeptiTech STAAR

### **Developing a Request for Expression of Interest**

*List of Septic System Designers and Installers who expressed interest to participate in the S.E.P.T.I.C. Grant Program* 

#### **Designers:**

- Curtis Taufman Design Group: 516-427-1602
- East End Coordinates: 631-591-1488
- Hayduk Engineering: 631-476-0600
- Nelson & Pope: 631-427-5665
- M.B. Mansouri Architect: 631-848-2769
- Misiurski Architecture PLLS: 646-831-8110
- Northcoast Civil Engineering: 516-922-3031
- Pacifico Engineering: 631-988-0000
- Sodano Architecture: 631-400-9173

#### Installers:

- Affordable Cesspool: 631-588-8400
- Cesspool Pros LLC: 631-254-1234
- Clear River Environmental Service Corp: 631-238-3684
- Discount Cesspool: 631-258-9890
- Izzo Excavation: 631-427-2454
- SND: 516-457-2910
- Tru Tek Construction: 516-785-2261

#### Notes:

- The District reserves the right to amend and/or terminate this list at any time
- Inclusion on this list does not constitute an endorsement from the District.



### **Average S.E.P.T.I.C. Installation Costs**

Note: these numbers are representative of all installations completed within our program to date.

## Average Cost - \$24,115.03

NOTE:

- this reflects only eligible reimbursable costs for the program. Does not include post installation landscaping or other site beautification.
- Grants are meant to offset and incentivize IA systems over conventional systems and cesspools.
- There will be out-of-pocket expenses

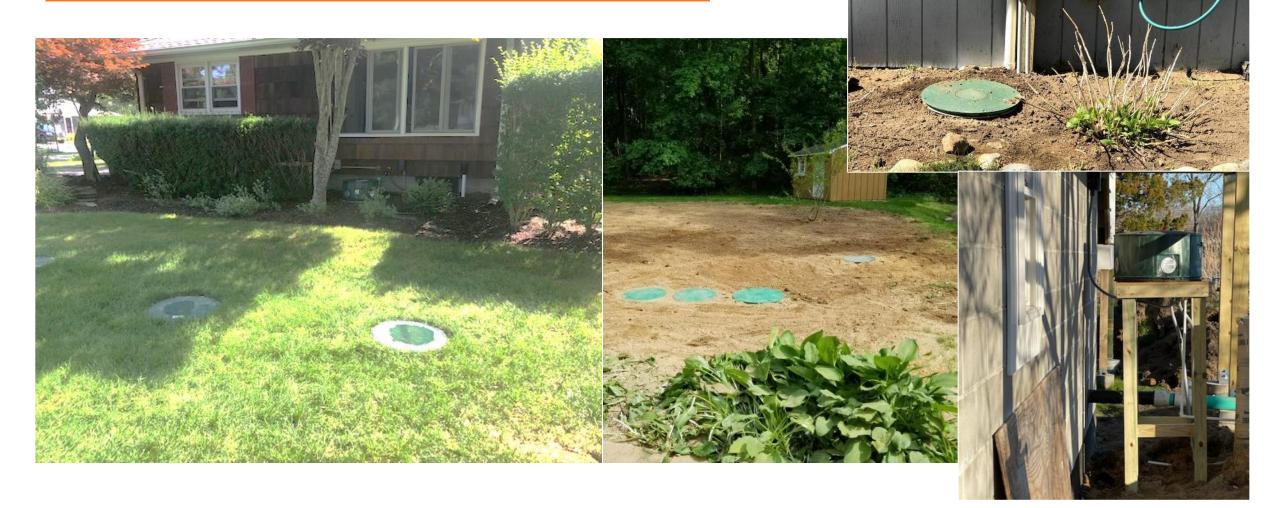


## Site Constraints & Costs

- Cost Range -\$20,850.00 \$40,950.00
- Individual costs are subject to site-specific challenges such as:
  - Deep Line Systems
  - Type of Leaching System
  - High Groundwater
  - Site Access
  - Plumbing, Electrical, or Utility Upgrades & Relocation
  - Town or Village Permitting Requirements
  - Driveway or Traffic Bearing Installations
- Property Owners could have significant out-of-pocket costs for these types of sites and should reach out to Designers and Installers to get a better cost estimate before deciding to move forward



### Visible System Components Control Panels, Air Vents, & Lids



### Nassau's S.E.P.T.I.C. Program – Operating Costs

#### Maintenance Costs Associated with Clean-Water Septic Systems

#### ANNUAL SERVICE DETAILS

🎸 \$300 - \$400.00 a year

✓ Site Visit every 6-months

First 3-years included with Project Participation

🧹 Check Controls and Panel Function

Inspect and Clean filters, floats, and pump intake

🖌 Inspect tank compartments and measure solids accumulations

SYSTEM MANUFACTURERS ARE RESPONSIBLE FOR IDENTIFYING, TRAINING, AND CERTIFYING SERVICE PROVIDERS IN NASSAU COUNTY, NY

> NOTE: FAILURE TO MAINTAIN AN ACTIVE SERVICE CONTRACT MAY RESULT IN THE VOIDING OF THE SYSTEM WARRANTY



Electric costs range from approximately \$60 - \$200 per year depending on the technology

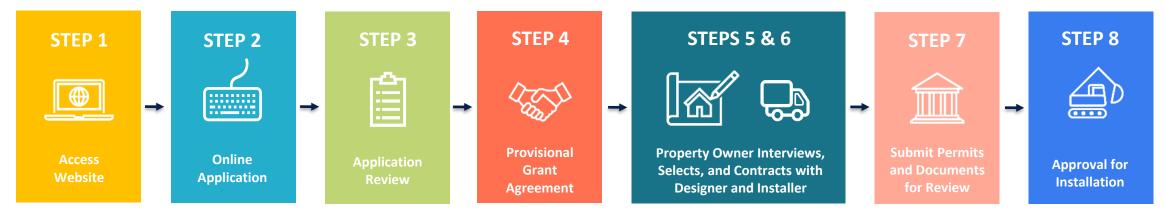
#### **Approximate Repair and Replacement Costs**

It is also important to note that the complete replacement of a control panel is very rare and usually associated with lightning strikes or power surges. The typical control panel cost is \$1,200 if it needs to be replaced.

Item	Cost	Life Expectancy
Blower / Aerator Replacement	\$400.00	10 years
Blower / Aerator Rebuild	\$150.00	10 years
Float Replacement	\$100.00	5 - 10 years
RecirculationPump Replacement	\$700.00	10 years

### Nassau's S.E.P.T.I.C. Program – Workflow

#### **Part 1: Application Process**



#### Part 2: Payment Process



Types of Payment: 1. Reimbursement 2. Two-Party-Authorization

### **Property Owner's Checklist**



#### Step #1 - Program Prerequisite Qualifications

Applicant must be the owner of the property

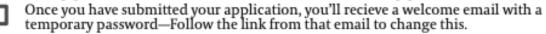
Must have no liens on the property (this does not include mortgage)

Must not be in a sewer district (whether current or proposed)

Property cannot produce more than 1000 gallons per day (to approximate, multiply 110 gallons by the number of bedrooms)

If you meet all of the above criteria, you can apply for the program at www.nassaucountyny.gov/septicreplace. Click the link on the left side menu titled "Apply Here". This application portal will be where you upload all documents required throughout the process. You may not be able to answer all questions on the application today, only the questions with red asterisks (\*) are required to enroll in the program. There may be additional requirements based on local regulations/application type-Call (516) 364-5861 to discuss.

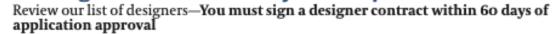
#### Step #2 - Application Review & Provisional Approval



DO NOT forget to write down your new username & password! This system ensures that your personal information is secure. Once this is updated, you will receive another email with a Grant Agreement.

Review & Sign District provided Grant Agreement (this contract with the county is neccessary for the allocation of grant funds)-Upload this signed document to the portal

#### Step #3 - Designer Selection & Project Blueprints



Upload Designer Contract and Project Blueprints to the application portal

#### Step #4 - Installer Selection & Permit

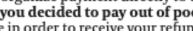
- Review our list of installers-You must sign an installer contract within 90 days of signing your Grant Agreement
- Upload Installer Contract to the application portal
- Apply for a permit with your town/village-Upload this to the portal

Schedule an installation date

#### Step #5 - Finalizing Payment



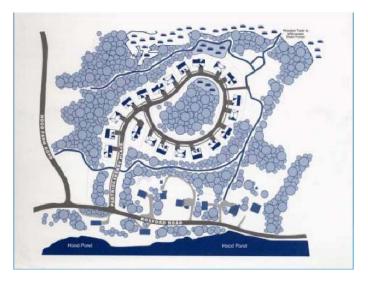
IF you opted for Two-Party Authorization, see the Reimbursement Work Flow document to organize payment directly to the installer



IF you decided to pay out of pocket, please call (516) 364-5861 to ensure all documents are in order to receive your refund

### **Regulatory Jurisdiction**

- The Nassau County Department of Health has jurisdiction over septic systems for developments (realty subdivisions) of 5 lots or more.
- For properties not part of a realty subdivision, or for repairs and retrofits of existing systems, the local city, town, or village has jurisdiction
- The New York State Department of Health (NYS DOH) Design Handbook for Residential Onsite Wastewater Treatment Systems, of which includes Appendix 75-A, identifies the need to develop an "approval and management program" for these IA OWTS that includes the following:
  - Define program goals and requirements
  - Educate engineers, contractors, and public on IA OWTS and Codes
  - Oversee site evaluation, design, construction, and maintenance
  - Provide system tracking, maintenance verification and record keeping
  - Confirm availability of service providers for products to be used to establish adequate authority, enforcement, and compliance incentives.
- The District is engaging with individual Towns and Villages to provide requested IA Guidance

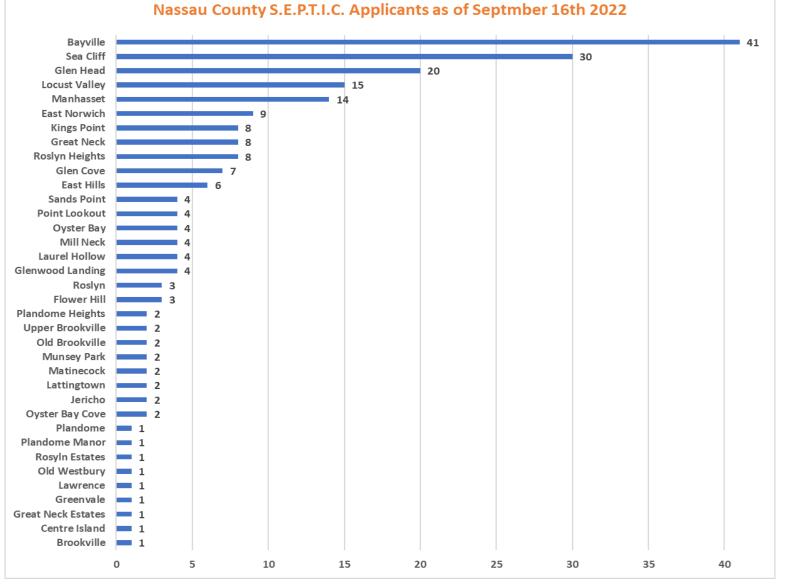




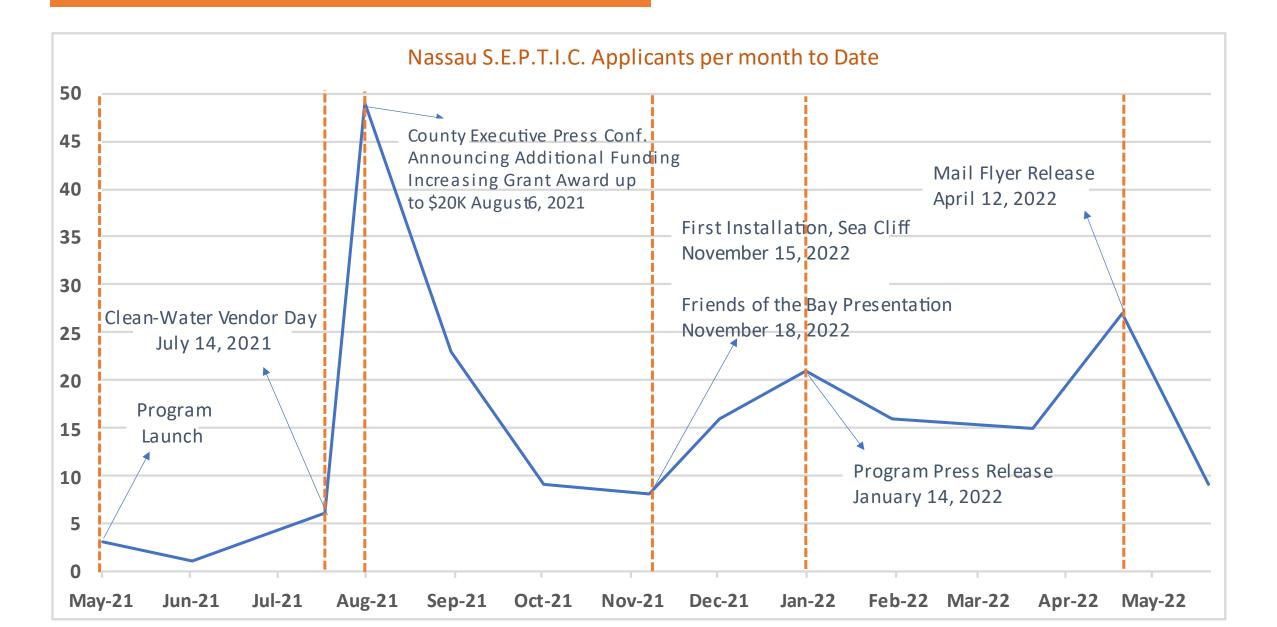
### Nassau's S.E.P.T.I.C. Program – Program Statistics

NCSWCD started accepting applications in May 2021

- 316 Applications Received
- 184 Active Applicants
- 116 Grant Agreements Issued
- 57 Grant Agreements Executed
- 29 Installations
- 11 Pending Installations



#### Nassau's S.E.P.T.I.C. Program– Program Statistics



### Nassau's S.E.P.T.I.C. Program – Lessons Learned

- ✓ Need to increase grant amount
- ✓ Need adequate staffing
- ✓ Need management / RME component
- ✓ Focus on applicant assistance
- ✓ Manage expectations
- Minimized out-of-pocket expenses by revamping process for "Provisional Approval" and Two-Party Authorization Process
- $\checkmark$  Simplified the online application
- ✓ Consolidated into one online Grant Agreement for both grants
- ✓ Online Request for Expression of Interest (RFEI) Portal
- ✓ Streamlined Permitting Process



### Lessons Learned – Streamlined Permitting & Guidance

- Guidance Memo #1 Program Rules for Administration of IA Grant Program
- Guidance Memo #2 Guidelines for the Acceptance, Use and Management of IA OWTS in Nassau County
- Guidance Memo #3 Guidance for relaxing NYS 75-A Setbacks in Certain Instances when Utilizing IA OWTS Tech.
- Recommended Minimum Guidelines Relating to Location, Design, and Construction of Innovative and Alternative Onsite Wastewater Treatment Systems (I/A OWTS) in Nassau County, NY (Nassau County / Soil and Water Conservation District)
- IA OWTS Installation Certification Packet (Nassau County Soil and Water Conservation District)



### Nassau's S.E.P.T.I.C. Program – IA Certification Form

	Leaching Structure(s) Installed:	INSTALLER CERTIFICATION OF NEW IA OWTS AND LEACHING STRUCTURE
NASSAU COUNTY SOIL & WATER CONSERVATION DISTRICT	Leaching Pool(s): Precast Manufacturer:	SKETCH FORM
SOIL & WATER CONSERVATION DISTRICT	# of Pools: Diameter: feet Depth: feet Other Leaching Structure:	Description of Work: System Sketch:
CERTIFICATION OF NEW IA OWTS AND LEACHING STRUCTURE This certification is not to be used as a substitute for inspections required by the State, County, Cities, Towns, or Villages. The purpose of this form is to provide necessary installation certification to comply with reporting requirements.	Type of Leaching Structure:	System sketon
Property Information:	Number of Trenches Width of Trenches:	
Property Address:	Total Linear Feet of Leaching Trenches:	
Owner / Point-of-Contact:		
Phone: Email:	Installer Certification:	
Owner's Name: Date Requested:	I hereby certify that the above information, described herein, has been installed by me in accordance with the State, County, City, Town, or Village Requirements and that I followed the Approved Plan. Any variations from the	
Abandonment Certification:	plan shown above were approved by the Design Professional of record and were necessary to complete the	
The first septic tank/leaching pool, from the foundation, was located and uncovered; AND If liquid sewage was noted therein, was pumped dry by a licensed sewage hauler, AND Tank/pool was inspected for outlet line to an overflow pool; AND	Installation. Installation Company Name:	
Overflow pool(s) was/were located, uncovered and items #2 and #3 were repeated until all parts of sanitary system were located: AND	Installers Name:	
All parts of sanitary system were removed or filled with clean backfill and remaining structures collaspe	Installers Signature:	
Please Indicate and Certify all components that were abandoned and removed or filled (circle item abandoned):	Date Signed: Date Installed:	
Septic Tank / Cesspool / Leaching Pool / Other Leaching Structure:		Sketch Checklist:
Material: Diameter (or Length if trench system): ft Depth: ft	Designer Certification (if required by permitting jurisdiction):	Building in area of installed IA OWTS Measurements from Building to IA Unit
Septic Tank / Cesspool / Leaching Pool / Other Leaching Structure:	As the Licensed Professional Engineer or Architect, I or qualified personnel under my direct supervision, have	Measurements from Building to Cleanouts
Material: Diameter (or Length if trench system): ft Depth: ft	inspected the work specified above in accordance with the New York State Education Law, and I hereby certify that all material and work conforms to approved plans and permit conditions, and/or standards issued, except as	Measurements from Building to Distribution Structure (if applicable)     Measurements from Building to Leaching Structure(s)
Septic Tank / Cesspool / Leaching Pool / Other Leaching Structure:	described in my attached addendum.	Location of utilities (water, electric, underground propane) if different from the approved plan
Material: Diameter (or Length if trench system): ft Depth: ft	INDICATE BELOW IF THIS PROJECT INVOLVED THE BEST-FIT REPLACEMENT/RETROFIT OF AN EXISTING SEWAGE	
Company which pumped out sanitary system if different from certifying company:	DISPOSAL SYSTEM	Company Name:
Name of Company:	I hereby certify that this sewage disposal system installation has been performed as a Best-Fit Replacement/Retrofit and conforms with the appropriate Standards to the greatest extent possible,	Installers Signature:
Nassau County Consumer Affairs License Number: ** Attach Pumping Invoice **	and that other alternatives are not environmentally feasible. I also certify that the protection of public	
IA OWTS Treatment Unit Installed: ** 3-year Inspection and Maintenance Agreement must be attached ** Make: Model #:	health and the environment was given priority over all other considerations, and this OWTS installation represents an improvement to existing sewage disposal conditions.	Nassau County Consumer Affairs License #:
Rated Daily Treatment Capacity: # of Bedrooms:	Engineer's / Architect's signature:	Date Signed: Date Installed:
covers and lids were installed with secondary safety device if the cover weighs less than 60lbs.	Print Name Date:	
CERTIFICATION OF NEW IA OWTS AND LEACHING STRUCTURE PAGE 1 of 3	CERTIFICATION OF NEW IA OWTS AND LEACHING STRUCTURE PAGE 2 of 3	CERTIFICATION OF NEW IA OWTS AND LEACHING STRUCTURE PAGE 3 of 3

### **Next Steps**

- Secure additional funding in 2023 for an additional 200 installation
- Implement Industry Training Rules and Regulations
- Implement Training for Building Officials and Inspectors
- Continue targeted outreach in priority areas
- Implement technology performance standards
- Implement additional management & tracking procedures
- Increase number of accepted technologies
- Continue to work with permitting jurisdictions to:
  - Continue to streamline permitting & Reduce overly burdensome permit requirements
  - implement a universal online permit and review process for upgrades
  - Change outdated practices (stop allowing cesspools, focus on soil treatment areas over deep leaching, eliminate low-line systems)



S.E.P.T.I.C. Installation Success Stories and Testimonials

### Nassau's S.E.P.T.I.C. Program – Testimonial

- Conventional septic system would have cost a minimum of \$16,000.00
- The total Design, Material, and Installation costs of the FujiClean CEN Series Clean-Water septic system was \$21,867.31.
- The Property Owner received \$20,000 in combined grants from Nassau County and New York State
- 'out-of-pocket' cost to Property Owner was \$1,867.31





'Our system is better than we could have hoped, and we have peace of mind knowing we are doing our part in keeping Bayville's water clean'

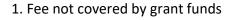


## **Hydro-Action AN Series**

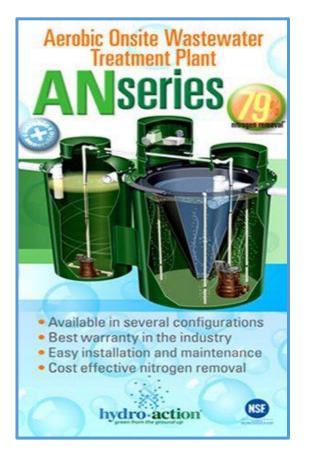
Locust Valley, NY 11560 Installed 03/31/2022

#### **Project Budget**

Design Costs <sup>2</sup>	\$2,500
Permits & Other Fees <sup>1</sup>	\$110
Total Installation Costs	\$19,825
Abandonment Fee <sup>1</sup>	\$750
Operation & Maintenance Contract <sup>1</sup>	\$900 (\$300/yr)
Total Cost Before Grant Funding	\$24,085
County & State Grant Contribution	- \$20,000
End Cost to Homeowner	\$4,085



2. The \$20,000 grant award first goes towards your installation cost, if any money is remaining, we will retroactively reimburse your design fee.



#### Designer: Curtis Taufman Installer: Affordable Cesspools and Drains Inc.





## **Fuji Clean CEN Series**

Bayville, NY - Installed 01/26/2022

#### **Project Budget**

End Cost to Homeowner	\$1,250
County & State Grant Contribution	- \$20,000
Total Cost Before Grant Funding	\$21,250
Operation & Maintenance Contract <sup>1</sup>	\$1,200 (\$400/yr)
Abandonment Fee <sup>1</sup>	\$0
Total Installation Costs	\$17,100
Permits & Other Fees <sup>1</sup>	\$50 (+\$400 Fill)
Design Costs <sup>2</sup>	\$2,500

- 1. Fee not covered by grant funds
- 2. The \$20,000 grant award first goes towards your installation cost, if any money is remaining, we will retroactively reimburse your design fee.

Designer: Curtis Taufman Installer: Discount Cesspools, Inc.





## **Norweco Singulair**

East Norwich, NY 11732 - *Installed 07/25/2022* 

#### **Project Budget**

•	•
Design Costs <sup>2</sup>	\$2,500
Permits & Other Fees <sup>1</sup>	\$185
Total Installation Costs	\$21,600
Abandonment Fee <sup>1</sup>	\$700 + \$2,000 Soil Disposal
Operation & Maintenance Contract <sup>1</sup>	{Included in Install Cost}
Total Cost Before Grant Funding	\$26,985
County & State Grant Contribution	- \$20,000
End Cost to Homeowner	\$6,985

- 1. Fee not covered by grant funds
- 2. The \$20,000 grant award first goes towards your installation cost, if any money is remaining, we will retroactively reimburse your design fee.

Designer: Curtis Taufman Installer: Clear River Environmental Service Corp













### **Questions?**

For more information, please contact

NassauSeptic@iaowts.com

https://www.nassaucountyny.gov/5191/Nassau-Septic

516-364-5861





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