

ADVANCING ALTERNATIVE WASTEWATER TREATMENT ON THE EAST END:

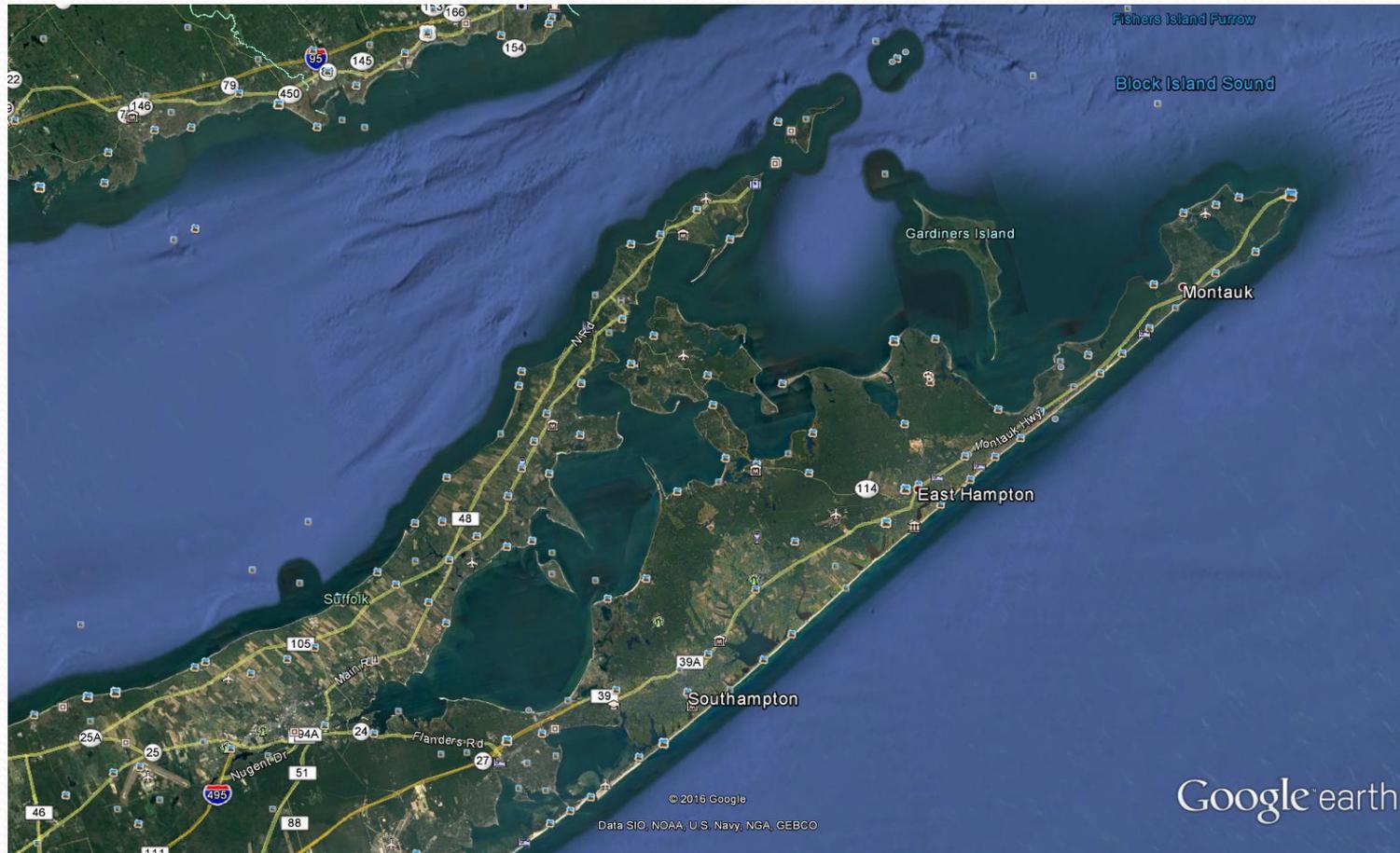
A CONSIDERATION OF PLANNING, PARTNERSHIP,
PATIENCE AND PERSISTENCE FOR
SHELTER ISLAND INITIATIVES STEMMING
FROM ADVANCED SEWAGE TREATMENT EFFORTS



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On behalf of the Town of Shelter Island I extend our thanks to the East End Planning Conference organizers for the opportunity to present our thoughts here this evening.

SHELTER ISLAND and the Peconic Estuary



PLANNING (from a Conceptual Vantagepoint)

- no Town Engineer position until 2012
- when created, done so at .25 full time equivalent (~ 500 hours per year)
- concept initiated by elected Highway Superintendent / Commissioner of Public Works and Town Board member
- appointed 3 weeks prior to Hurricane Sandy
- much of the first year was spent dealing with the effects of Sandy, some of which involved local damage and coastal issues related to surge
- among items on my own agenda were those related to contamination potential for septic systems to influence the aquifer, local kettle hole ponds, and coastal waters
- other areas related to care of Town infrastructure
- Town accomplishes much of its work with volunteer committees and very limited staffing

STARTING TO FINE TUNE THE CONCEPTUAL PLANNING

By 2013 algal bloom concerns began to evolve for Fresh Pond, a popular site on the island.

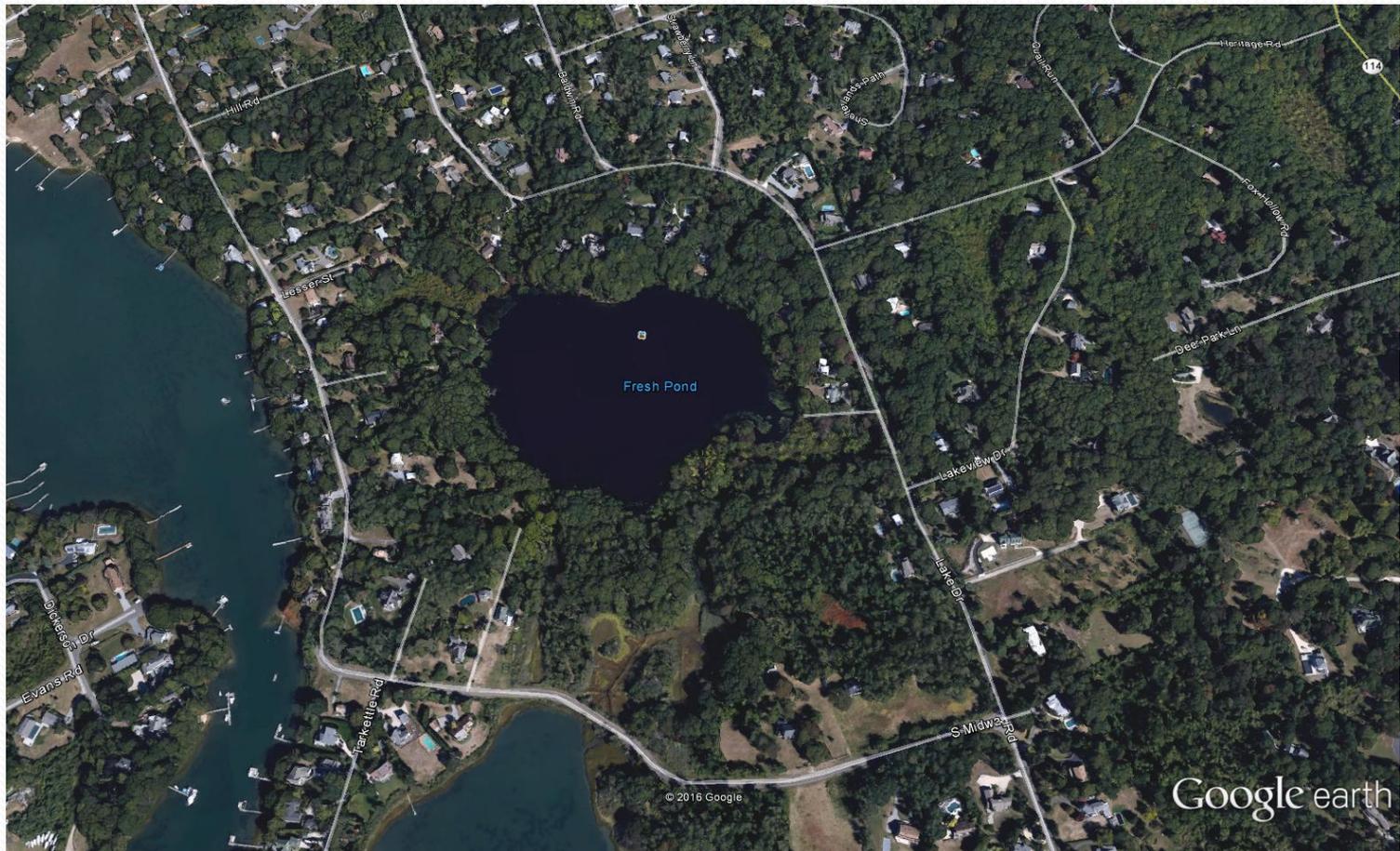
Various public issues surfaced from time to time during 2013 and heightened concerns were becoming apparent.

By early 2014 Town engineering conducted a study of septic systems in homes surrounding the pond and discovered that 53% of them had systems for which there were no records...leading to the conclusion these system likely pre-dated SCDHS standards. This became the inspiration to map all our septic systems and wells for which we had information.

Starting in the summer of 2014 we embarked on our Engineering Intern summer employment program and began to build a database that would allow us to map the location of every septic system and potable water well on Shelter Island for which we had records.

It would take three summers of intern effort to fully map all the systems for which we had records, and transfer the coordinates to GIS.

FRESH POND and Surroundings



PATIENCE surfaces as a key player

- As we mapped our private septic systems and wells we began to better define the impact on local environment and began to consider the aquifer as part of Town “infrastructure.” Legally there may be aspects of that which can be debated but seeing it as both our water supply and our waste sink emphasized its role as infrastructure.
- Soon we were noting how little funding was going to infrastructure and embarked on a program to extend our septic mapping efforts to a full blown effort to assess all Town infrastructure.
- GIS mapping of all storm water controls
- Cornell Local Roads program assessment of all Town roads
- GIS mapping of all irrigation systems
- Full facility condition needs assessment of Town real estate and marine related assets (landings, bulkheads, docks, etc.)
- These efforts were done incrementally over the summers of 2014, 2015, and 2016 by our college engineering interns...with some work continuing over winter breaks.

INCREASING THE DEPTH OF PLANNING

- no mechanisms in place within Town for appropriate cost analysis and infrastructure asset budgeting
- no Town Planning Department, or planners
- broached financial concepts for asset management such as time value of money, present and future cost analysis, and sinking fund analysis to be used in capital budgeting
- Cornell roads program showed \$8.5 million in needed road work
- Marine Facility needs assessment showed \$1.5 million needed in work
- Building Assets needs assessment showed \$1.7 million needed in work
- and while not truly defined as part of Town infrastructure, nearly 2500 septic systems discharging wastewater to the drinking water aquifer amounts to potentially a \$40 million investment (some of which may likely come through the pending CPF referendum and will require oversight by the Town)
- began to investigate municipal accounting practices that appeared to work to the detriment of properly funding various needs

The Great GASB...GASB 34 that is!

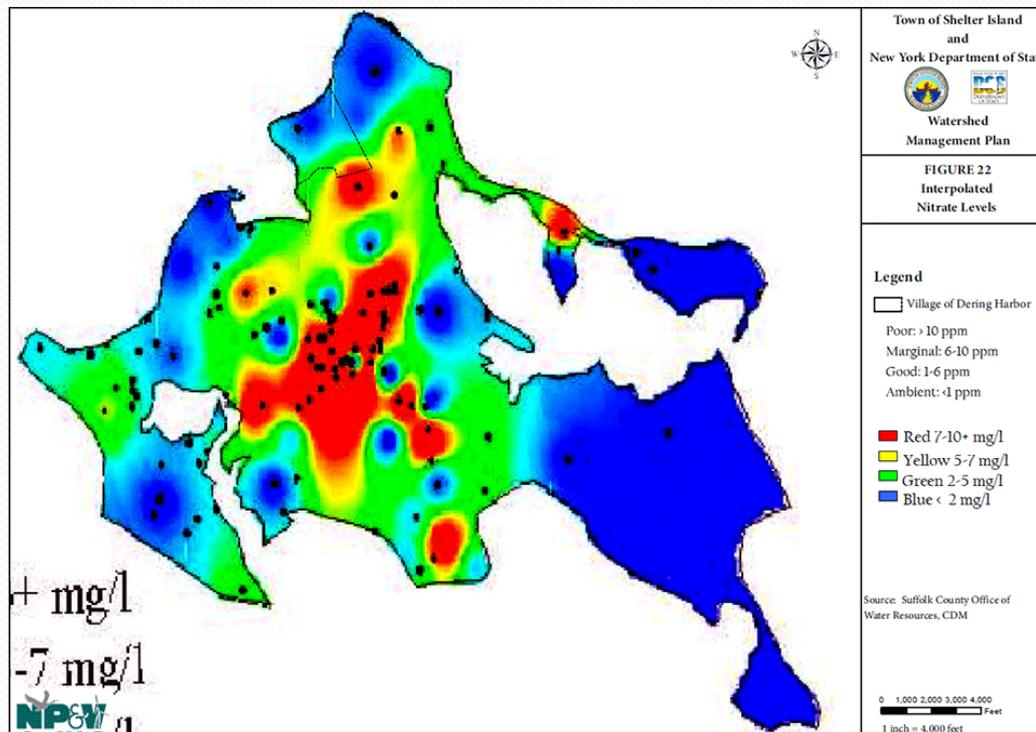
- valuing public infrastructure and inclusion on municipal financial statements
- public infrastructure built without regard for costs and difficulty of funding operations and maintenance
- GASB (Governmental Accounting Standards Board and its policy # 34) helps address this issue now
- GASB 34 provides for the use of one of two possible approaches:
- carry infrastructure on the books, depreciating it
- or report the cost and consequences of preserving infrastructure using the “Modified Approach”
- these are philosophical choices municipalities are free to make, but most on Long Island opt for depreciation to escape the need to effectively plan and finance the care of assets
- as long as the municipality carries out its accounting in conformance with GASB 34, their audits will result in a finding of compliance
- GASB 34 goal was to encourage accounting for the true impacts of deferring infrastructure repairs and promoting asset preservation, **PLANNING**, design, and construction

The PARTNERSHIP aspect

- with staff and financial resources in short supply, options must be found
- utilize volunteers from Town committees
- use college summer interns
- find shared service opportunities with other local agencies (school districts, fire districts, etc.)
- partner with the private sector
- seek grant opportunities
- boost interaction with other government entities for more insights

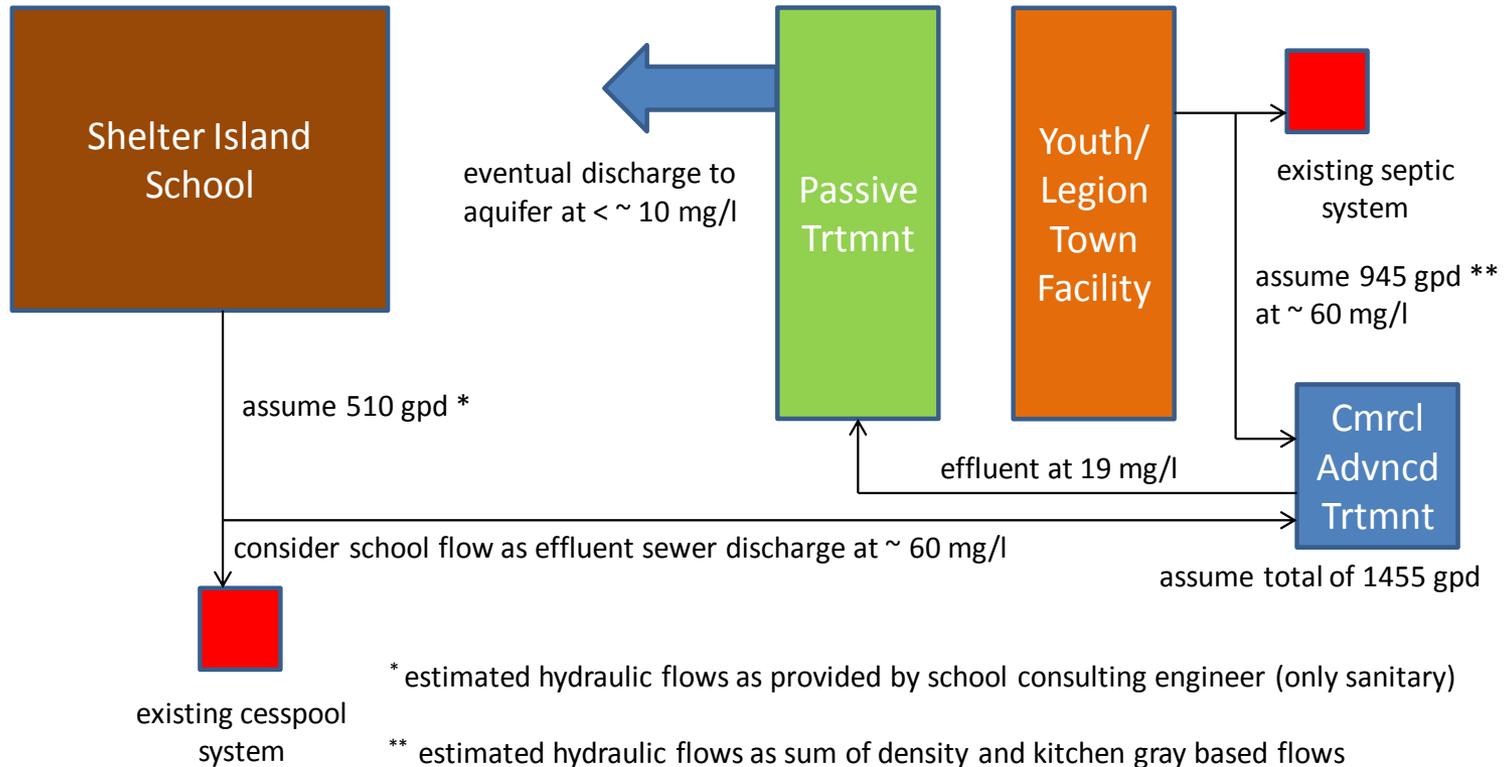
The PERSISTENCE payoff

- town wanted to upgrade its Youth Center/American Legion septic system
- central part of the island where nitrate levels in drinking water were known to be escalating



More on the **PERSISTENCE** payoff

- grant funding from Suffolk County made the Youth Center / Legion project possible
- but soon after, *partnership* benefits began paying off
- Suffolk County Director for Environment and Planning Sarah Lansdale and County Legislator Al Krupski approached the town about including the Shelter Island Union Free School District in the Youth Center / Legion project for an upgrade to their ~ 1925 septic system serving the north end of the facility
- County grant funding was found to assist the school in their effort
- State money began to materialize through the efforts of NY Assembly Member Fred Thiele, with some ~ \$250k for road work, and another ~ \$500k for both the school district and the Town
- In the last few weeks the Shelter Island Town Board enacted a policy addressing capital asset management; hopefully the first small step toward caring for what our taxpayers own



CONCEPTUAL APPROACH TO COMBINING SEWAGE FLOWS FOR ADVANCED TREATMENT

Suffolk County / Thiele-based Grant Funded Initiative

Joint Project Between the Town of Shelter Island and Shelter Island Union Free School District

May 2016 (rev. 9/17/16)

How the P⁴ Model Worked in the Town Preparation for the CPF Referendum

- committee of volunteers who worked more than 7 months (**patience**)
- drafted referendum (**persistence**)
- considered administration methods in conjunction with other entities (**partnership**)
- suggested evaluation paradigms including adherence to:
- STEEP philosophy (consider social, technical, economic, environmental, and political aspects) (**planning**)
- evaluation metric that considered cost, nitrogen reduction, and gallons of water affected (**planning**)

CONCLUSION

Today we've briefly examined how advancing alternative wastewater treatment strategies on the East End have impacted our overall approach to:

- **Planning** – achieving a particular end
- **Partnership** – leveraging limited resources with those from elsewhere
- **Patience** – needed when resources are limited
- **Persistence** – must be the foundation of all of the above

THANK YOU!