



VILLAGE OF WESTHAMPTON BEACH

Sewer System Feasibility Plan
Talking Points & Discussion
September 2017

Overview:

The Village of Westhampton Beach with assistance from H2M Architects + Engineers has been conducting a comprehensive Sewer Feasibility Study for the purpose of defining the goals and objectives of the Village with respect to water quality objectives, scope of sewerage and project costs. The Village and H2M have identified and quantified the required wastewater infrastructure requirements and the infrastructure's capital and operating costs. Cameron Engineering & Associates, LLP working as a subconsultant to H2M has provided assessment of environmental impacts of sewerage in accordance with SEQRA. Dr. Chris Gobler, PhD of SUNY Stony Brook University School of Marine and Atmospheric Sciences has provided scientific data on both existing conditions and post-sewerage conditions as they relate to excess nitrogen within the watershed (Village of Westhampton Beach). The following sections provide a discussion of the highlights of the studies and findings as they stand today.

Water Quality Objectives:

Numerous studies conducted by recognized scientific institutions, State and Federal agencies and Suffolk County has identified the surface water bodies of Eastern Moriches Bay, Quantuck Bay and Moniebogue Bay as scoring extremely high amongst the list of distressed and impaired water bodies on Long Island and within NY State. Moniebogue Bay watershed is entirely within the Village boundaries. Further confirmation of these findings is the increased degradation of the local surface waters due to annual harmful algal blooms that are returning on a more frequent and sustained basis. The degradation of the bays has been directly connected to the excess amounts of nitrogen that enter the waterways via both groundwater and runoff from land. Of all the nitrogen inputs, effluent from on-site wastewater systems (cesspools and septic tanks) is the greatest single source and the focus of the Village's sewerage efforts.

A preliminary plan for addressing the bulk of the nitrogen from sewage has been identified by the Village and its consultants and now the plan is being presented to the Village's residents as part of a comprehensive outreach program.



Scope of Sewering:

The draft comprehensive plan that has been developed has identified a total of four (4) phases of implementation. The ability to implement and the timing of the phasing will be directly connected to financial capacity of the Village and potential to obtain grant funding. For these reasons, the Village has focused on the initial phase (Phase 1) of the proposed plan.

Phase I targets the areas of the Village that have the highest recorded concentrations of nitrogen in the groundwater. As one would expect, these areas are where the population density is the greatest. Downtown commercial and high density residential housing are included in the first phase. Most important and not to be understated, is the availability to existing excessive capacity at an existing permitted wastewater treatment facility owned and operated by Suffolk County at Gabreski Airport. Typically the planning, siting, permitting, financing and construction of a modern wastewater treatment can take a minimum of five (5) years or more to complete. The current capacity that is being made available (60,000 gpd) by the County covers the projected flow from the Phase 1 area with a modest amount of excess to account for minor growth such as apartments over storefronts.

Subsequent phases (2 through 4) will require either expansion of the County's Gabreski's treatment facility or the construction of new treatment plant combined with replacement of homeowner on-site systems with Innovative & Alternative (I/A) treatment systems. These subsequent phases could only occur upon the Village first establishing a Sewer District and upon completion of Phase I. While some individual homeowners may either voluntarily elect or be required (pending new legislation) in the near future to upgrade (new construction or major renovation to residence) their existing on-site system on their own, the total amount of these systems likely would be minimal and would have no substantive influence on overall nitrogen reduction.

Assignment of Responsibility

While there is no doubt that the Village residents likely conclude and agree that the quality of the local water bodies is degrading and somehow connected to sewage from their septic systems. They may have a more difficult time with assigning responsibility for the problem and then along with the responsibility, assigning the cost for fixing the situation. This is likely the single greatest challenge that the Village Board has to overcome as this has the potential to pit factions of the Village's residents against one another.



Let's look at some typical statements and understandings shared by the average Long Island resident living in a non-sewered area. These are typical questions that we have previously fielded from the public in other sewer studies performed here on Long Island.

1. "My septic system is "fine" and I have never had any problems with it"

"Fine" means that they may have not had to have the system pumped out or repaired while they have occupied their home. The fact is that despite the system physically working (no overflows or backups) the system (cesspool or septic tank) is discharging nitrogen with a concentration of approximately 45 mg/l of total nitrogen. This concentration is more than 4.5 times the concentration allowed by the NYSDEC for groundwater discharge.

2. "Why doesn't the State or County go after those residences whose on-site system does not meet the NYSDEC groundwater discharge standard of 10 mg/l?"

Residential on-site sanitary systems have never been regulated for their discharge and do not require a State Pollutant Discharge Elimination System (SPDES) discharge permit for their use. There is no mechanism in place and no intention of regulatory agencies in pursuing homeowners for the performance of their on-site systems. However most recently, the County is changing long standing regulations and requirements governing on-site systems that may require the use of I/A treatment systems and the phasing out of the current accepted septic tank systems under certain conditions. This will occur for new developments and for homeowners that are seeking to significantly expand their existing residence. The legislation has not been implemented at this time.

3. "Won't these new I/A treatment systems solve the problem? Why do we have to connect to a treatment plant?"

I/A treatment systems are currently being tested here on Long Island. They have been in use in other areas of the country (New England & New Jersey) where conditions are similar to those of Long Island such as sandy soils and high groundwater levels. Their ability to remove nitrogen is much greater than that of the standard septic tank and leaching pool system. The I/A treatment systems will be permitted here under a new Article 19 of the Suffolk County Health Code. The new I/A treatment systems approved for installation will have had to have demonstrated the ability to achieve an effluent quality of not greater than 19 mg/l of nitrogen. This is a 42% improvement over the typical 45 mg/l concentration of the typical on-site system yet approximately 2 times greater than the NYSDEC



groundwater standard of 10 mg/l nitrogen and 4 times greater than the 5 mg/l effluent nitrogen concentration from a modern wastewater treatment plant such as the treatment facility located at the Gabreski Airport.

4. “Why don’t all the Village residents purchase and install a new I/A treatment system?”

There presently is no required legislation or regulatory requirement to mandate the purchase and installation of I/A treatment systems for replacement of existing systems. Existing systems are grandfathered and can remain in place indefinitely. The seasonality of the community also presents a challenge for voluntary replacement of existing systems. Proposed legislation (Town of Southampton/ County Department of Health) may require replacement of existing systems under certain well defined conditions such as a major upgrade of a residence or new construction in a sensitive area. This legislation is not in place at this time and there is no timetable for its implementation. While there is a financial incentive (\$10,000 County grant) for those homeowners that have a “failed” system, there is no requirement to do so. Purely voluntary replacement of existing systems is not likely to happen on any great scale. Under one of the part of the proposed sewer plan, the Village would collect and manage funds to pay for Phase I infrastructure costs as well accumulate reserves for future phases. Future phases that would focus on homeowner systems could be financed by both Village sewer funds and grants available from the Town of Southampton, Suffolk County and/or NY State. The Village’s sewer plan with the associated funding could spur the replacement of existing systems with I/A treatment systems on a much broader and comprehensive scale than voluntary replacements.

5. “Will the I/A treatment system operation and maintenance be trouble-free?”

The I/A treatment systems will feature mechanical systems to manage active communities of bacteria (nitrifiers and denitrifiers). The mechanical components will require skilled and trained technicians to provide routine and corrective maintenance. Let’s look at some areas of concern:

- The new treatment systems will have pumps, valves, piping, and controls that will require routine preventative and occasional corrective maintenance not unlike other systems that homeowners may be more familiar with such as central air condition, oil and gas fired furnaces, and household appliances. When something goes awry, technicians and service providers will be contacted and the situation taken care of. There



will be a cost, estimated to be on the order of \$500-\$750 year to start to cover routine and scheduled maintenance. Like any other system that runs 24/7 system components and parts will wear out and require more maintenance as the system ages. With age, the annual operating and maintenance cost will likely increase. Power to the systems will be supplied from the homeowner's electric service.

- The I/A treatment systems rely on biological organisms to remove the nitrogen through nitrification and denitrification processes. Consider these miniature wastewater treatment plants. The addition of typical household liquids such as cleaners (bleach, paints, ammonia, detergents and sodium hydroxide used in unclogging of plumbing) can have a deleterious impact on the health of the biological organisms rendering them ineffective until such time they recover. During these times of system upset, the effluent quality with respect to nitrogen concentration would be similar in nature to the original septic system that the I/A system replaced.
- Servicing of these systems hopefully will be performed by a qualified technician but not necessarily by a certified wastewater treatment plant operator. Certified operators are required to be on staff at permitted wastewater treatment plants and are required to maintain their certification through recertification training on a regulated basis. It is too soon to gauge how the I/A maintenance program will work with respect to the skill levels of the technicians and with respect to overall system performance and O&M cost.

6. “The business owners should pay for all of the sewer improvements, why should we residents pay for something we won’t use?”

This is the classic us against them syndrome. Residents with an on-site system that has been working “fine” may not want to contribute to a sewer district that will allow business owners to prosper by being able to increase their business in some way. Residents may feel that the business owners are well off and can well afford any costs associated with the sewer plan. The Village’s character is what makes it attractive to residents, business owners and visitors. Businesses include a diversified mix of restaurants, boutiques, eateries, coffee shops, merchandise, etc. Coming to the Village to enjoy the beach, the shops and restaurants is what makes the Village of Westhampton Beach much different than those communities that are less diverse and have less to offer. The commercial tax base of the Village is what keeps the local school taxes well below adjacent communities.



Continued degradation of local waters combined with the commercial properties owners suffering economic hardship from the constant pumping of failed systems will no doubt have an overall negative impact on the Village. Tourism will likely suffer as well should water quality degradation continue unabated. Loss of the commercial enterprises will erode the tax base and further negatively impact the attractiveness of the Village. For the commercial sector of the Village to bear the total responsibility to reduce nitrogen to acceptable levels within the Moniebogue Bay watershed is patently unfair. It is unrealistic to have the commercial sector solely bear the cost – capital and annual O&M for sewer services whereby all residences will share in the benefits of improved water quality, continued high property values and a thriving downtown commercial district.

Costs

Following the topic above, let's discuss cost. At the end of the day, cost usually comes out at or near the top of the public concerns. For the Village, environmental responsibility and improvement is the number one issue that is driving the project. The comprehensive sewerage plan provides some initial detail on costs to the residents as well as provides typical examples of businesses that operate in the Village. The examples presented to date show that the commercial sector would be responsible for the bulk of the costs, with the residents contributing at a far lower percentage. It is important to note that there are over 200 treatment plants operating in Suffolk County. All of the costs of each of these treatment facilities are borne by those users located within the service area of that respective facility. The County is seeking to form a County-wide district that would have all Suffolk County residents contributing in some manner to all of the wastewater infrastructure capital and operating costs. This would be a much fairer system as all County residents benefit from wastewater treatment services being conducted within the County in one manner or another. Until that consolidation happens, the current requirements would have all costs supported by all properties within the defined boundaries of the Village of Westhampton Beach. Having the entire Village within the sewer district allows for all the costs to be shared over a larger base. Should the district be formed or acquired by the County, it would be a County owned and operated sewer district and they would retain responsibility for the system.

The sewer plan for the Village as it gets further developed, should be fair and equitable and have all properties within the proposed sewer district boundaries participating on some level. All could contribute on an assessed valuation of their respective property for the capital cost and the yearly O&M charge could vary by water usage based on the land use, again a fair and equitable way to assign cost. This particular option would be refined as the sewer plan



progresses and additional input is received from the Village's residents. The examples provided by H2M for typical businesses and a typical residence clearly showed that the commercial sector would be supporting the overall cost at a much higher level than a typical residence. Continued work by the Village and H2M will no doubt result in a comprehensive and equitable plan.

To provide some relativeness of cost, the average Suffolk County resident living in Sewer District No. 3 (Southwest Sewer District) is paying between \$550/year to \$650 per year*(1). This is the County's largest sewer district and therefore has the largest amount of users. Smaller districts (public and private) within the County pay varying amounts but would trend towards \$500 to \$1000 year, in some cases, the costs may be greater especially in the those districts that have a low number of users. The County has established a Sewer Stabilization Fund that tempers user fees throughout the various sewer districts within the County. The Village's preliminary plan discusses an option similar in nature that could stabilize costs to businesses and residences through the following measures:

- Maintaining and applying existing bond repayment funds currently going to bonds that will be retired in near future. These funds would be applied towards new debt service for wastewater treatment infrastructure
- Negotiate the waiving of the standard \$30/gallon connection fee charged by Suffolk County. For 60,000 gpd of capacity that fee would normally be the one-time fee of \$1.8M. This is a huge benefit to the Village.

The cost of the failure to protect the local waterways and commercial and recreational interests and economics associated with these interests is not within the scope of this project but would most likely far exceed the costs associated with the proposed Phase I of the sewer plan.

Grant Monies

There is going to be millions of dollars being directed to water quality improvement projects throughout NY State in the coming years. There is speculation that the amount of grants will be in the billions. Suffolk County communities are expected to be eligible for a good percentage of these grants. There will be significant competition for these funds and those communities that will succeed in being awarded grants will share common traits:

- A water quality need to be addressed by the infrastructure is identified and confirmed
- There is overwhelming local support for the infrastructure project



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- The planning stage has been completed and the extent of the needs well documented
- SEQRA and Historic Preservation processes are well along towards completion
- There is an environmental, economic, and social benefit to be derived within the communities
- Intangibles – housing opportunities, sustainability of local businesses, environmental protection, etc.
- “Shovel Ready” – an overused term however in order to score or rank high, the applicant must differentiate itself from other submissions by having; preliminary plans, studies, approvals, drawings, contracts, etc. Formation of the sewer district would be a major discriminator and result in a higher scoring of the application.

The Village has several of the above items well in hand. There is support for the project however additional outreach is recommended to more fully apprise the residents of the specifics of the project as they relate to benefits and costs. Consideration for forming a district is advised. The Village should continue on the development and refinement of the sewer plan with its consultant H2M who is well versed and highly qualified on these matters.

The author of these talking points is Mark Wagner, Partner, CEP, LEED AP of Cameron Engineering. Mr. Wagner has 39 years of experience in the environmental and wastewater fields. Mr. Wagner is a Partner at Cameron Engineering having worked for the firm for the past 32 years. He is a Certified Environmental Professional in Environmental Planning from the American Board of Certified Environmental Professionals. He is a Grade 4A Certified Wastewater Treatment Plant operator and a certified wastewater treatment operator certification instructor for NYSDEC required courses. He is an Accredited Professional in Leadership in Energy and Environmental Design (LEED). He has served as Project Manager for numerous sewer feasibility studies within Suffolk County.

Footnotes:

**(1) – author has lived in SWSD 3 for past 25 years and has paid to the County on average \$650-\$700 per year for sewer related costs (debt and O&M) over past 5 years*