

The Case for Introducing Wastewater Treatment in Yarmouth

The UMass Donahue Institute study team spent a day and a half touring Yarmouth and meeting with town officials, property owners, developers, and other stakeholders to document first-hand about the challenges they confront due to the lack of wastewater treatment and the opportunities that may emerge with the advent of improved wastewater infrastructure. The in-person interviews were followed-up by a number of telephone conversations between the research team and additional stakeholders. Findings from these discussions are summarized in the next sections.

What Are the Options?

1) The Costs of Doing Nothing – The Do-Nothing Alternative

One option the Town of Yarmouth could choose is to simply do nothing to advance wastewater treatment in the town. Having been rebuffed by voters at the 2011 Town Meeting vote on a previous attempt to pass and implement a sewer plan, the town could consider that a mandate from the voters to leave municipal wastewater treatment aside and not address it any further. While the “do-nothing alternative” is theoretically possible, there a number of costs that would accrue to the town for doing nothing.

Effects on Businesses and Tourism

There is a sense that Cape Cod, and Route 28 in particular, needs quality redevelopment and reinvestment in order to both maintain and strengthen its status as a first class vacation destination for the Northeast and beyond. Cape Cod already has an onerous traffic situation and people can choose to vacation in numerous other destinations, with locations in Maine, New Hampshire, and the New Jersey Shore being the primary competitors for tourism.

Without a municipal wastewater treatment system, owners of large commercial properties are forced to provide their own on-site treatment systems. In many cases a septic system cannot handle the volume of wastewater generated, forcing developers and property owners to build package treatment plants, which are essentially miniature wastewater treatment plants. Depending on the size and design, the installation of a new system can cost anywhere from \$500,000 to \$750,000 and, depending on the size of the project, rise further still. Furthermore, operating and maintaining these systems is costly, with annual maintenance, operation, and equipment costs of up to \$100,000. Much of these costs would be avoided with municipal and wastewater treatment and replaced instead with a monthly sewer bill.

One shopping center in Yarmouth has had a consistent number of vacancies for more than seven years. Despite constant efforts to lease the space, wastewater restrictions have limited the pool of potential tenants. Space limitations due to the lot size prevent the owner from upgrading and expand the on-site septic system to handle the needs of potential tenants, meaning the spaces simply remain vacant. The vacant spaces translate to lower property values (and, thus, lower property tax revenues for Yarmouth),

connote blight, and stymy investments for improvements. The evidence for this negative dynamic and its effects on real estate investment in Yarmouth can be clearly seen in **Figure 15** on page 15.

One property owner summed it up thus “it is definitely a detriment to commercial development to not have sewer, 100%”.

An oft-repeated concern is about the current state of Route 28 and the number of commercial properties and motels that give the strip an obsolete and shabby appearance that does not make a compelling option even for price-conscious visitors. Accommodations are a major expense for travelers, along with transportation and meals, and if people do not perceive value it is an impetus to go elsewhere. It is widely recognized that today’s tourists expect a level of accommodation that exceeds the level of service that is provided by the exterior corridor motel business model – a building type that is largely pre-1970. Hotel/motel guests, today, also expect larger rooms and some level of on-site food service. Full-service hotels with larger rooms and restaurants would also help Yarmouth achieve another economic goal – increasing business during the spring and fall shoulder seasons.

The poor condition of Yarmouth’s hotel stock also translates, negatively, to their Yelp and TripAdvisor ratings, where properties frequently receive low ratings – a deterrent for people who are researching their trips. An interviewee indicated that, “Overall occupancy is down; now there are 6-8 sell-out days per season, as opposed to 60+ days in the ‘good years’” and this could be a reflection of the condition of many of Yarmouth’s hotel/motel offerings. Many Yarmouth motel properties are also likely to remain derelict without wastewater investments as they are very difficult to sell without it.

Upgrades of hotel properties poses a challenge in Yarmouth as it is very hard to capitalize the costs of a new or upgraded on-site disposal system for a renovation or expansion. Generally, the total investment needed to bring a hotel/motel property up-to-date greatly exceeds the added value if the owner cannot add extra rooms and/or a restaurant. In some cases, lodging establishment owners must make a choice when upgrading as to whether they reduce the total number of rooms on-site (and related water consumption) in order to provide enough wastewater “flow” in order to adequately accommodate the needs of a restaurant on-site. Given these conditions, without wastewater infrastructure in Yarmouth, motel owners are in a pincer where the economics of their property neither supports improvements or an expansion.

One interviewee indicated that Yarmouth is not going to get a new, full-service hotel without sewers. These types of hotels, to be operated with adequate returns for their investors, need more than 150 rooms plus on-site restaurants/food service and other large water-consuming uses (spas, fitness clubs, laundry), which is not possible on septic and frequently not economically feasible with miniature on-site wastewater systems. Major branded hotels would likely become much more interested in redeveloping Route 28 properties if municipal sewer hookups were to become available.

While it is much easier to accommodate the significant costs of on-site wastewater treatment during a total redevelopment of a property, the wastewater restrictions coupled with the Cape Cod Commission limitations mean that it is still difficult to be able to build a large enough hotel to make back the investment in a timely manner. The returns for a new hotel/motel investment in Yarmouth and

elsewhere on Cape Cod are often likely to stretch out many more years than is the norm in other areas, a waiting period that many hotel developers will not tolerate. This is exacerbated by the seasonal nature of Cape Cod, where the bulk of a tourist-oriented business's profits are made in the course of a short summer season.

Additionally, the lack of investment can also take a visual toll on Route 28 as older properties slowly deteriorate. Like other Cape Cod communities, Yarmouth needs to maintain its appeal for both residents and visitors, and any property degradation can erode the town's ability to draw the people it needs to sustain its economy and provide opportunities for growth.

In 2017 the Urban Land Institute Boston/New England chapter convened a Technical Assistance Panel (ULI TAP) of experts to assist the Town of Yarmouth to develop a strategy and recommendations to re-invigorate the Route 28 corridor. That report corroborated that the lack of wastewater treatment represented a large-scale detriment to future investment on the corridor:

“the number one impediment to any significant redevelopment for the Town of Yarmouth is clearly the absence of a wastewater treatment facility – or even an actionable plan. There is virtually zero probability that any large-scale developers will invest in a community without wastewater treatment, and smaller businesses are reluctant to redevelop properties until a plan is in place.”⁵

Limitations in septic system capacity also constrain small businesses in Yarmouth. Function and special event space is currently fairly limited in Yarmouth. New and existing conference and meeting venues that could otherwise accommodate larger groups are prevented from reaching more optimal or maximum capacity due to septic systems and inadequate wastewater treatment capacity. In some instances, the lack of wastewater treatment creates the unintended consequence of increased trash and landfill volumes. Some restaurants and bars, particularly in the Zone II/wellhead protection area near Exit 8 must serve food with disposable plates and utensils because they do not have adequate septic system capacity to handle the wastewater generated by commercial-volume dishwashing. The costs for restaurants to add their own wastewater treatment systems can reach \$200,000 to \$300,000 which many operators find economically prohibitive. Owners of restaurant properties can also find it difficult to secure long-term leases or to sell their properties without being able to offer adequate wastewater capacity.

Effects on Residential Property

Businesses are not alone in bearing the side effects of not having municipal wastewater treatment. Because of the high cost of bringing older septic systems up to code, many homeowners have found that they cannot substantially renovate or expand their homes without incurring prohibitive costs. The cost burdens for updating residential septic systems discourages property owners from investing in their properties. Without the ability to add an extra bedroom or an in-law suite, many families find it hard to stay on Cape Cod when they have another child or need to move their parents into the same home.

⁵ “Yarmouth, Massachusetts: A Technical Assistance Panel Report” Pg. 20

Further, residential properties within the Zone II/wellhead protection area are restricted to the existing volume of their on-site septic systems. This means that even if zoning allowed a homeowner to add another bedroom, they would not be able to do so as it would necessitate additional septic treatment capacity. Additionally, wastewater concerns have led to an increasing number of residential properties being required to add deed restrictions limiting the number of bedrooms a house can legally have, essentially locking them from future expansions or conversions.

Regulatory Ramifications of the Do-Nothing Alternative

Finally, besides all the demonstrated costs of inaction and corresponding lost opportunities, the “do-nothing” pathway which has also been referred to as the “sticking our head in the sand” option, may not be even viable given the political, regulatory, and legal context surrounding the issue of water quality and wastewater treatment on Cape Cod.

First, the Massachusetts Department of Environmental Protection (MassDEP) has made it clear that it will designate certain portions of communities that are not moving forward to address wastewater treatment infrastructure in an expedient manner, as “nitrogen sensitive watershed” areas. These areas would then be subject to additional regulations that would likely require every property with a septic system to upgrade their system to full Title 5 compliance, and likely could also require more advanced systems that would mitigate and remove nitrogen from septic tank effluent before being discharged into leach fields. These on-site nitrogen removal systems are much more complex and sensitive than a standard Title 5 septic system and would require additional, costly operation, maintenance, and reporting costs to ensure the system functions appropriately and removes the necessary amount of nitrogen as dictated by the MassDEP. As part of its sewer planning effort, the Town of Harwich estimated the cost to a homeowner for an on-site nitrogen removal system upgrade to an existing Title 5 system would be approximately \$20,000 and would require an additional \$2,600 in annual operating and maintenance costs for a total annualized cost (amortized) of \$4,525, more than three times the comparable annual cost (\$1,335) of installing and hooking up to a municipal wastewater treatment system, amortized over 15 years, and including usage fees.

Based on the cost estimates provided by Harwich, UMDI approximated the burden to Yarmouth homeowners should on-site nitrogen removal systems become mandated. Utilizing geographic information systems (GIS) software, UMDI estimated the number of single-family properties (**Table 1**) in the three embayments (Bass River, Lewis Bay, and Parkers River) that would, otherwise, be able to connect to a municipal sewer and wastewater treatment system through a phased plan. Without these infrastructure improvements, approximately 9,680 single-family homes may confront a requirement to upgrade their septic systems to include on-site nitrogen removal. If the actual costs were similar to those estimated by Harwich, the combined up-front costs to these homeowners in Yarmouth would be \$193.6 million. After building the on-site nitrogen removal systems, homeowners would then incur, in total, almost \$26.5 million in operating and maintenance costs on an annual basis.

Table 1: Potential Costs for On-Site Nitrogen Removal Systems and Annual Operating and Maintenance Costs

Embayment	Single-Family Parcels	Average System Costs	
		Upgrade to On-Site Nitrogen Removal	Annual O&M
Bass River	5,137	\$102,740,000	\$14,049,695
Lewis Bay	1,676	\$33,520,000	\$4,583,860
Parkers River	2,867	\$57,340,000	\$7,841,245
Total	9,680	\$193,600,000	\$26,474,800

Source: UMDI analysis using data from MassGIS, Cape Cod Commission, CDMSmith, Town of Harwich. Note: analysis does not take into account the approximately 150 I/A systems currently in Yarmouth as it cannot easily be determined where in town they are located and the extent to which they would meet the need for on-site nitrogen removal.

Second, advocacy and legal organizations have begun to intervene where they sense the State or Towns are not being sufficiently assertive to address the water quality issue as well. The Conservation Law Foundation (CLF) filed the original lawsuit that led to a settlement agreement with MassDEP in 2014 that requires the towns and the Cape Cod Commission to develop plans to ameliorate water quality issues. Along the way, the CLF has warned that it would take further action if progress was not made soon, and in June 2018 the CLF filed suit against two beachfront resorts for not doing enough to reduce nitrogen pollution into nearby waters.⁶ This move was widely seen as an indication by the CLF that it was ready to move into a new phase of effort that could target more individual property owners in order to speed progress.

Lastly, without municipal wastewater treatment, the environmental ramifications of Yarmouth’s existing effluent flows and leakages will continue to compound, leading to deteriorating conditions in the waterways that are so important in making Yarmouth (and Cape Cod) an attractive place to live and visit.

2) Go It Alone

Another possible option is that the Town could decide to build an entire wastewater treatment system for just Yarmouth. This approach would give the Town the greatest control over the system, but also leaves the Town responsible for the entire cost of building out such a system. This is the approach that

⁶ <http://www.capecodchronicle.com/en/5326/harwich/3201/Resorts-Threatened-With-Lawsuits-Alleging-Pollution-Groundwater-protection.htm>