

Rethinking Sewers on Cape Cod: Better, Faster, Cheaper Alternatives

**Saturday, December 5, 2009, 9 to 4
Mashpee Senior Center, 26 Frank Hicks Drive**

Sponsors: Representative Matt Patrick, Clean Water Action, Clean Water Fund, Cape Cod Clean Water Coalition for Cost Effective Alternatives, Chatham Concerned Taxpayers, Decentralized Wastewater Options for Orleans

The projected costs of traditional centralized sewers are staggering for Cape towns, so it is important to take a more careful look at alternatives. Not only are conventional sewers very costly, they have adverse environmental consequences, such as disruption to and depletion of water tables and explosive development. They also take 20 to 30 years to complete – though taxes and other charges are being paid -- before they show the desired result of removing nitrogen from the Cape's coastal waters.

Cluster systems in particular offer superior alternatives. They can remove the nitrogen as required, are substantially cheaper to build, don't disrupt or deplete water tables and can be made operational in priority "hot spots" much quicker, resulting in faster recovery. That's a win for the homeowner and a win for the environment.

This workshop will provide Cape Cod residents and town leadership with information about how cluster systems in other states are doing the job with 21st century technologies and designs while Massachusetts has been lagging behind. We'll describe how a truly cost effective comprehensive wastewater management plan can address the full range of financial, environmental, and community concerns at far less cost than is being proposed by the designers and builders of conventional centralized sewer systems. The job can be done "Better, Faster, Cheaper."

Program

Introduction: Valerie Nelson, Coalition for Alternative Wastewater Treatment

National Environmental and Cost Concerns: Jim Kreissl, retired EPA top researcher.

Cluster System Case Studies -- cost, reliability, maintenance, public acceptance

Craig Goodwin, Northwest Cascade (State of Washington)

Mary Clark, Orenco Systems, Inc. (State of Oregon)

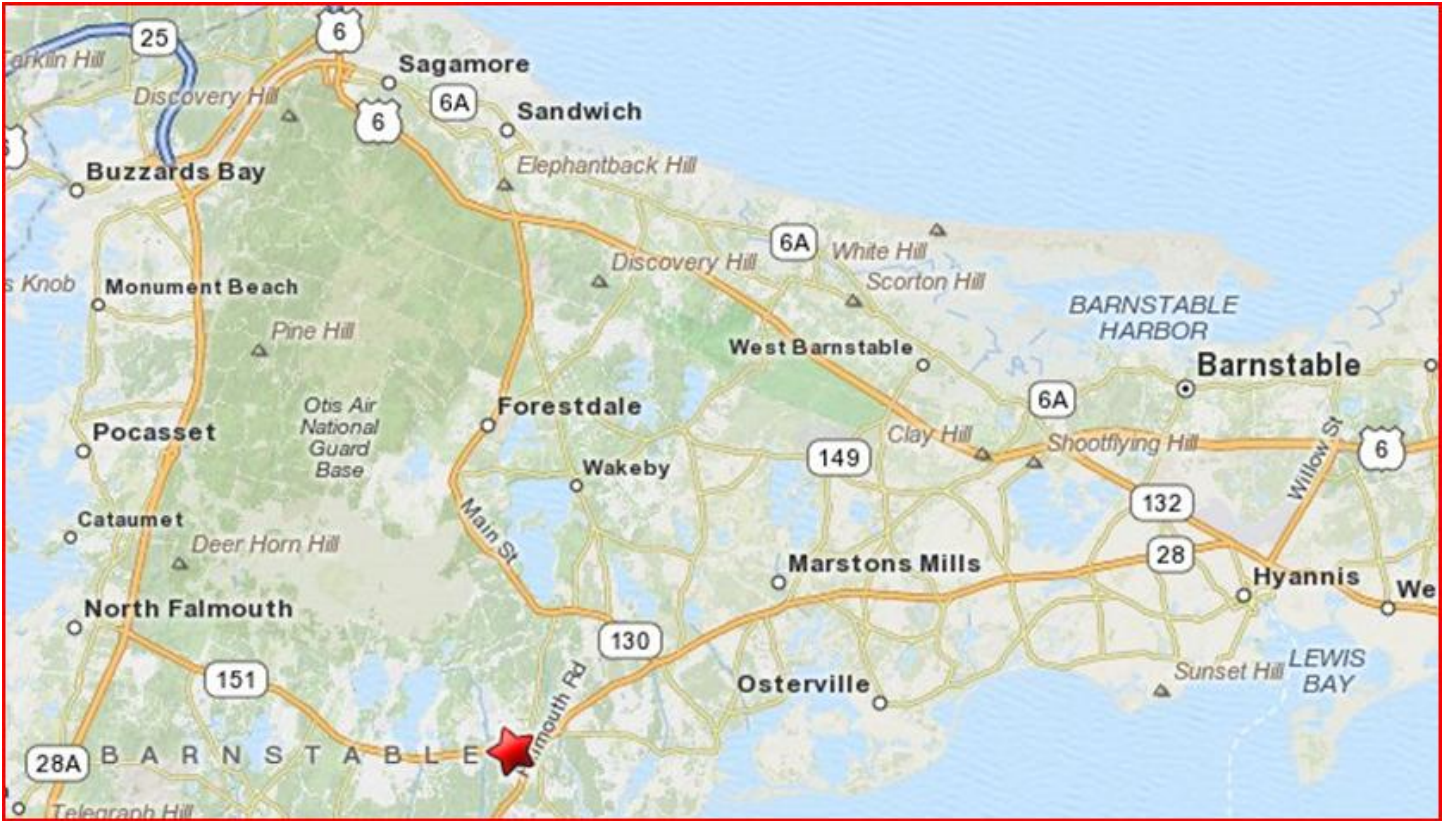
Craig Lindell, Aquapoint (National, HQ New Bedford)

Comprehensive Wastewater Management Done Right: Jim Kreissl (Kentucky)

Wastewater Management and Smart Growth: Juli Beth Hinds, VHB (Vermont)

The Cape Challenge: TMDL's and clusters: Pio Lombardo, Lombardo Assoc. (Mass.)

Integrated Resource Management Approaches: Bruce Douglas, Stone Environmental (VT)



26 FRANK HICKS DRIVE, MASHPEE, (FALMOUTH RD IS RTE 28), FROM NORTH, EXIT 2, ROUTE 130 SOUTH, FROM WEST, EXIT 5 TO DIRECTION MARSTON MILLS



A better plan for wastewater in Orleans (An example)

By **GARY P. CLINTON IN THE CAPE COD TIMES**

November 23, 2009

Nitrogen, the focus of wastewater management, is an essential element of existence, and is found everywhere; in fact it comprises 79 percent of the atmosphere. When an excess of nitrogen occurs in a water body as evidenced by the formation of algae, we believe it is totally appropriate, and also mandated by law, to reduce the amount that humans have added to the problem.

The evolution from outhouses to cesspools and currently to Title 5 systems, has brought us to consider the benefits of a more comprehensive approach to wastewater management. In general, the competing concepts are described as either "centralized," featuring a single wastewater treatment plant receiving sewage from throughout the town via an extensive piping system, or "decentralized," which is comprised of a number of smaller, independent treatment facilities.

The three elements of wastewater management are collection, treatment and disposal. The collection system, comprising the pipes and pumps which transport the wastewater from the connected homes to the treatment plant, is by far the largest expense, nearly three times the cost of the plant itself. The reasons are: 1) the size of the pipes needed to carry both solid and liquid waste from all parts of town; 2) the depth of the excavation for the pipes and the subsequent resurfacing of the streets; and 3) the size of the pumps and manholes needed to maintain the flow toward the plant. This is conventional, centralized thinking.

The decentralized approach may produce significant savings, tens of millions of dollars, by using the thousands of existing septic tanks, already installed as part of Title 5, for the separation of the solids from the liquids. As a result, only the liquids would have to be transported via pipe for treatment, thus allowing smaller pipes, transfer pumps and excavations. The separated solids in the septic tank would be pumped out as now, but the separation function at the treatment plant would have already been simplified, reducing the capital cost there as well.

Both centralized and decentralized approaches to the second cost center, the actual treatment, rely on bacteriological activity to reduce the nitrogen content of the wastewater. However, the smaller independent decentralized facilities are more adaptable in construction phasing and can be installed anywhere in town, as contrasted with a sequentially built "big pipe" system.

The third major element of wastewater management is effluent (treated wastewater) disposal. The current plan projects a summer flow of 1 million gallons per day into Namskaket Marsh, an Area of Critical Environmental Concern, the same status as Pleasant Bay. Alternatively, a decentralized approach would return the effluent to the individual watersheds close to where the treatment occurs, maintaining a better balance between watersheds while threatening none.

Finally, a decentralized approach provides superior environmental benefits because 1) it employs smaller-scale components, minimizing the damage to both the natural and built environments which would be the result of the requirements of a conventional centralized approach; 2) is more flexible in addressing both identified "hot spots" and topographical challenges, achieving the desired water quality improvements more quickly; and 3) does not treat the environmentally sensitive Namskaket Marsh as a convenient effluent disposal site.

All things considered, we need to utilize rather than abandon our current investment in Title 5 wastewater infrastructure, saving tens of millions of dollars. Factoring in our relatively low density, sandy soil and all the advantages, Orleans will be better served by going forward with a decentralized wastewater management plan.

Gary P. Clinton is a co-founder of Decentralized Wastewater Options for Orleans,