

INTERIM REPORT

SATELLITE WASTEWATER TREATMENT AND DISPOSAL STUDY

Evaluation of Satellite Wastewater Treatment and Disposal options was initiated in 2006 for the Cohasset Sewer Commission by Coughlin Environmental Services, LLC (CES). The purpose was to evaluate areas within the Town which may be suitable for wastewater disposal for Town owned and operated satellite treatment facilities. Initial investigations utilized the MassGIS digital databases and mapping, Town Assessor mapping and the Assessor's lot database to examine and provided an initial rating of sites. Various tools were used to screen each site by lot area, soils, slopes, surficial geology, anticipated groundwater levels, location relative to water supply areas, location relative to wetland resource areas, existing residential densities, historical development potentials, suitable soil testing data (percolation and deep hole testing from Board of Health records) and proximity to sensitive receptors (ACEC areas, private and public wells, water supply sources, flood prone areas, etc.). All lots were analyzed regardless of ownership and/or known deed restrictions. After a lot-by-lot desktop screening, a field assessment program was instituted. Field investigations identified marginal soil and terrain conditions. Preliminary site visits were conducted often involving interviews of landowners and neighbors regarding the nature of subsurface conditions including soils, ledge and groundwater. Investigations also involved hand soil cores/augers of the surficial strata at selected sites to identify A and B horizon soils and seasonal high groundwater levels to assess the potential use of drip irrigation technologies. All data and attributes were summarized and high priority sites were identified for more extensive subsoil and hydro-geologic investigation. Based upon the minimal number of sites being identified as "feasible", minimal interest by land owners to allow more extensive testing, inability to access land locked parcels and in light of pending modifications to state groundwater discharge requirements then being assessed by MADEP, further field investigations were suspended. Emphasis was directed to assessing septic system failure rates and re-assessing the needs of the Town for decentralized wastewater treatment and disposal facilities.

In 2007, the Satellite Studies thus evolved into a new Facility Plan Update to better confirm needs, assess treatment and disposal options and evaluate Innovative and Alternative (I/A) technologies which could provide viable decentralized or on-site options. Board of Health records of existing septic systems were evaluated to define failing systems and those with excessive pumping requirements. Based upon this review three priority areas were identified. The first was an area loosely bounded by South Main Street, Route 3A, Beechwood Street and the Scituate town line. The second was an area along Doane Street near Aaron River/Bound Brook and the third was a section of North Main Street extending from Red Gate to Forest Avenue. There were also several commercial septic systems along Route 3A which exhibited frequent pumping; however, these appeared more indicative of the type of use and not necessarily complete system failure. Most of these commercial properties were also quite large indicating onsite options may be more readily feasible.

State regulatory policy has evolved in recent years to promote decentralized options which will recharge watershed aquifers. Groundwater disposal regulations reduced restrictions and promoted re-use alternatives designed to help aquifer and stream recharge. New technology options also emerged, especially in the area of smaller membrane facilities which made re-use options even more feasible. Other new disposal technologies such as "Presby" systems and drip irrigation expanded options for the use of upper soil strata for wastewater disposal, thus promoting construction in shallow ledge and shallow groundwater areas such as exist within many areas of Cohasset. In July 2007, CES met with MADEP regulators at the Southeast Regional Office and discussed various decentralized and high rate wastewater strategies which could be utilized within Cohasset. Based upon recent MADEP discharge permit approvals, new site evaluation criteria were formulated to encompass these new effluent disposal options. Given these new methods, CES will be re-assessing during the summer of 2008 previously infeasible sites for potential satellite facilities. A final report and Facility Plan Update will be issued in the fall of 2008.