

COHASSET WWTP UPGRADE AND EXPANSION, COHASSET, MA

Client: Board of Sewer Commissioners
Cohasset, MA

Project Manager:
Daniel J. Coughlin, P.E.

Mr. Coughlin was the Project Manager for the evaluation, design and construction of the upgrade of the Town's existing 72,000 GPD activated sludge treatment plant to a 300,000 GPD membrane filtration activated sludge treatment system. The use of the membrane filtration system allowed the facility to produce a very "high" quality effluent (BOD<3 mg/l, TSS<1 mg/l, Total N<10 mg/l and fecal coliform<14 MPN at end of pipe) while allowing the plant's capacity expansion on the same foot print area. The effluent quality also resulted in no increase in pollutant loadings to Cohasset Cove, a shallow marine embayment with recreational and commercial uses which is also proximate to shellfish beds. Work was conducted under a Judicial Judgment with tight time constraints.

The upgrade was conducted on the wetland encapsulated site while maintaining full treatment. The upgrade and expansion included influent grinding and pump station upgrading, a new grit and screening unit, an anoxic tank with mixer, aeration tank extension with retrofitting for diffused aeration and membrane components, membrane mechanical and pumping components, aeration blowers, UV effluent disinfection, effluent pumping, a new horizontal projecting outfall diffuser using rubber "duck-bill" orifices to maximize dilution, sludge thickening and holding facilities, electrical upgrading, controls, emergency power and two buildings to house the facilities. The \$6.0 million SRF funded project was the first municipal membrane facility on the East Coast.

The total value of proposed facilities was over \$6,000,000.



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