PLUM ISLAND VACUUM SEWER VALUE ENGINEERING, NEWBURYPORT, MA

Clients: **Town of Newbury and City of Newburyport, MA**

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

Mr. Coughlin was Project Manager for the Value Engineering of the Plum Island wastewater collection system including over 1200 proposed vacuum sewer and grinder pump service connections. Due to Mr. Coughlin's knowledge and experience with innovative wastewater collection systems he was hired to review, evaluate and assess the designs of Camp Dresser and McKee (CDM) and to devised alternate cost effective methodologies, materials and techniques to improve system reliability while reducing overall costs to the two communities. The Value Engineering effort generally required by the state for SRF funded projects over $10 million was conducted over a tight time frame mandated by Administrative Consent Order.

The $23 million project included over 78,000 linear feet of pipeline, the use of innovative vacuum sewers, including a central vacuum pump station with biofilter odor control, four directional drillings below salt marsh and tidal basins and numerous low pressure sewer grinder pump installations. The Value Engineering efforts review numerous documents, plans and specifications and identified more than $2.4 million of potential savings to be realized by alternate design strategies. Special emphasis on the design review dealt with the sandy subsurface conditions, the potential for island erosion impacting the useful life of the system, the tidally influenced groundwater tables, seasonal traffic concerns along the narrow streets, maintaining emergency access during construction, reducing the impacts to the community, and reducing environmental impacts, all at a lower cost.

Courtesy of AIRVAC

The total value of proposed facilities was over $23,000,000.
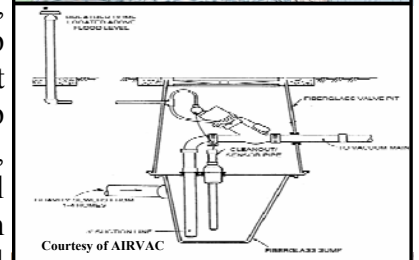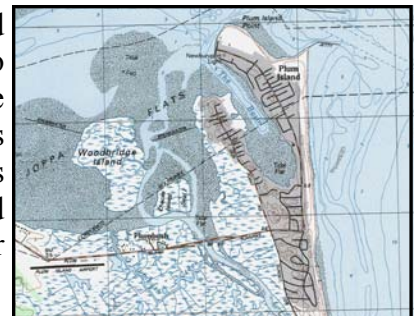
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