

Water Pollution Control Facilities Saratoga County Sewer District No. 1



Water Pollution Control Facilities

After more than two decades of discussion, consideration, studies and planning, Saratoga County, N.Y. has an operating sewer district, with 44 miles of new sewers, 9 new pumping stations, and a modern activated sludge wastewater treatment plant. The cost is \$50.7 million of which the federal and state governments contributed \$42.6 million with \$8.1 million being financed by Saratoga County Bonds. Debt service and operating costs of the new system will be paid by residents and industries within the District.

Subsequent to a comprehensive sewerage study, the County Board of Supervisors in 1968 created the Saratoga County Sewer Agency. The Agency with the assistance of Malcolm Pirnie, Inc. undertook a series of investigations and reports. In 1971 upon the recommendation of the Agency the Saratoga County Sewer District No. 1 was formed.

This District No. 1 encompasses 186.2 square miles, 23 percent of the total area of the County, and includes the cities of Mechanicville and Saratoga Springs; all, or parts of, the Towns of Ballston, Clifton Park, Greenfield, Halfmoon, Malta, Milton, Stillwater, Saratoga, and Wilton; and the Villages of Ballston Spa and Round Lake.

At the time of its formation, wastewaters generated within the District were treated at five outmoded municipal wastewater treatment plants, nine small plants owned by developers, or by individually owned on-site septic systems. Inadequately treated wastewaters were discharged into many of the area's streams and threatened to destroy Saratoga Lake and Lake Lonely, two of the County's most important recreational water resources.

Design of interceptor and treatment facilities began in February 1973. Bids for construction were received in late 1974 and early 1975. Actual construction began in early 1975 and the facilities were completed and went into operation in late 1977.

In the spring of 1976, when federal funding for the construction of collection sewers was made available in New York State, the Sewer District embarked on an ambitious program to provide sewer service to populated areas where failing septic systems caused a severe problem and to homes and commercial establishments along the shorelines of Saratoga and Ballston Lakes. Approximately 116 miles of collection and subtrunk sewers and 19 pumping stations were designed during the fall of 1976 and the spring of 1977. State and Federal grant offers for the construction of portions of these facilities were received in September 1977. Contracts for the construction of 20 miles of collection and subtrunk sewers and four pumping stations were awarded in the spring of 1978. Construction funding of the remaining portions of these facilities is expected over the next three years.

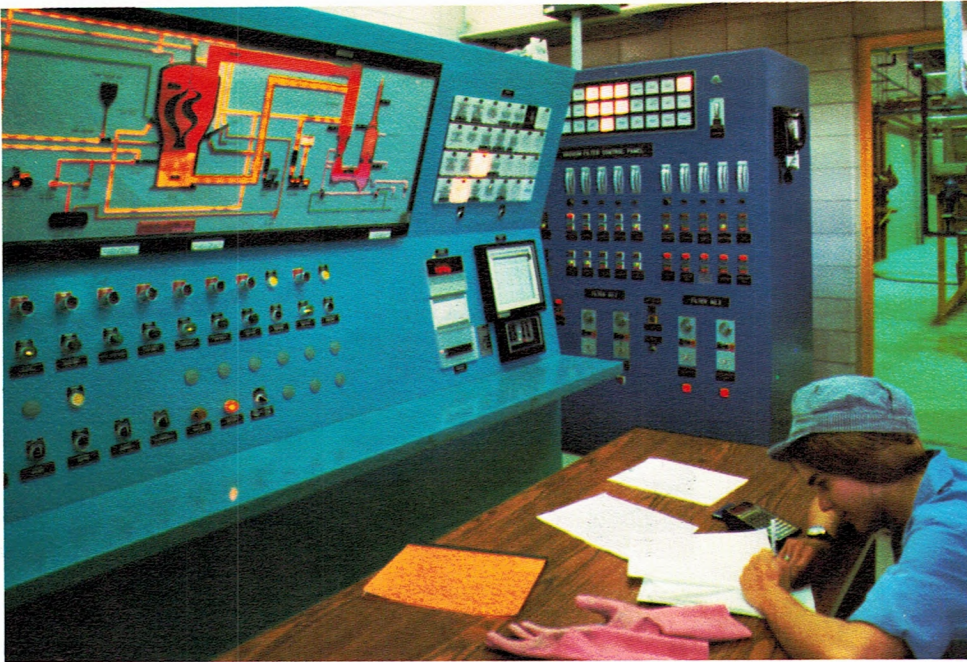
In addition to the treatment plant process facilities, sewers and wastewater pumping stations, the project includes District Administrative Offices, maintenance facilities, and an operations control laboratory, all located at the wastewater treatment plant site in the Town of Halfmoon.



Installation of Main Interceptor Sewer through Stillwater

Process units include:

- **Liquid Fraction**
 - Mechanical screens
 - Grit removal tanks
 - Raw wastewater pumps
 - Primary settling tanks
 - Aeration tanks (mechanical aerators)
 - Secondary clarifiers
 - Chlorine contact tanks
 - Submerged outfall into the Hudson River
- **Solid Fraction**
 - Hydrocyclones and grit washers
 - Flotation thickeners
 - Combined sludge storage tanks
 - Chemical conditioning
 - Vacuum filters
 - Sludge incineration (fluidized bed)
 - Ash lagoons



Control Room for Sludge Handling System

Project Design Criteria

Initial Facilities

Area served	186 sq mi
Population served (2020)	156,000
Design flow (avg.)	13 mgd
Pollution removal efficiency	
Biochemical oxygen demand	90 %
Suspended solids	90 %
Bacteria	99+%
Length of new sewers	44 mi
No. of new pumping stations	9

Costs

(Work completed through 1978, only)

Sewer system	\$31,700,000
Treatment plant	\$19,000,000
Total	\$50,700,000
Federal and state share	\$42,600,000
Local share	\$ 8,100,000
Dedication of Project	Nov. 15, 1978

Project Contractors

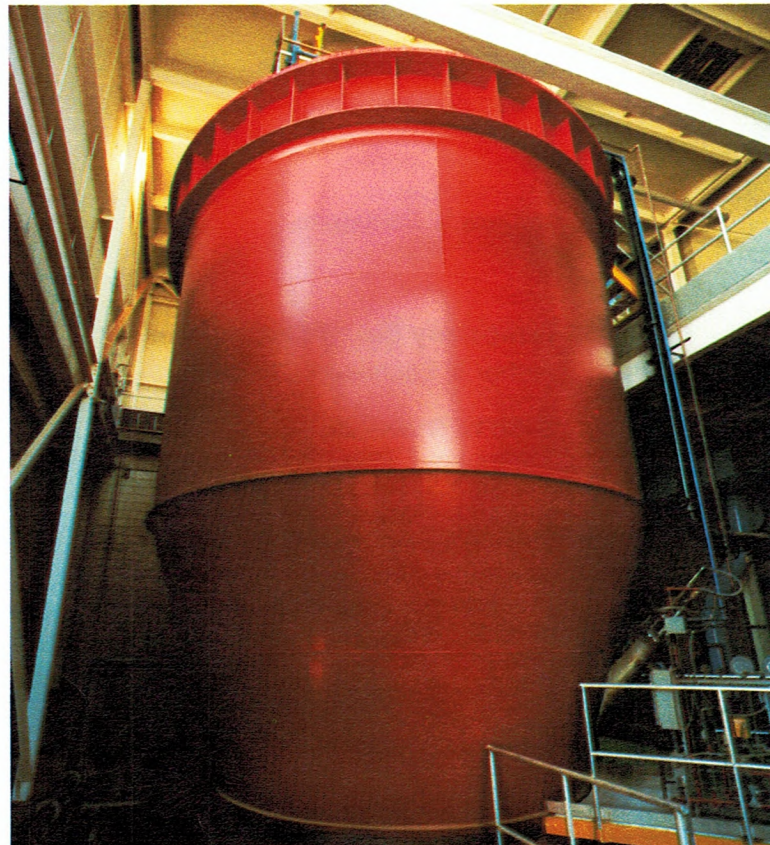
• Treatment Plant

Murray Walter, Inc.
Schenectady Hardware & Elect. Co., Inc.
Henry J. Noord and Son, Inc.
Campito Plumbing and Heating, Inc.

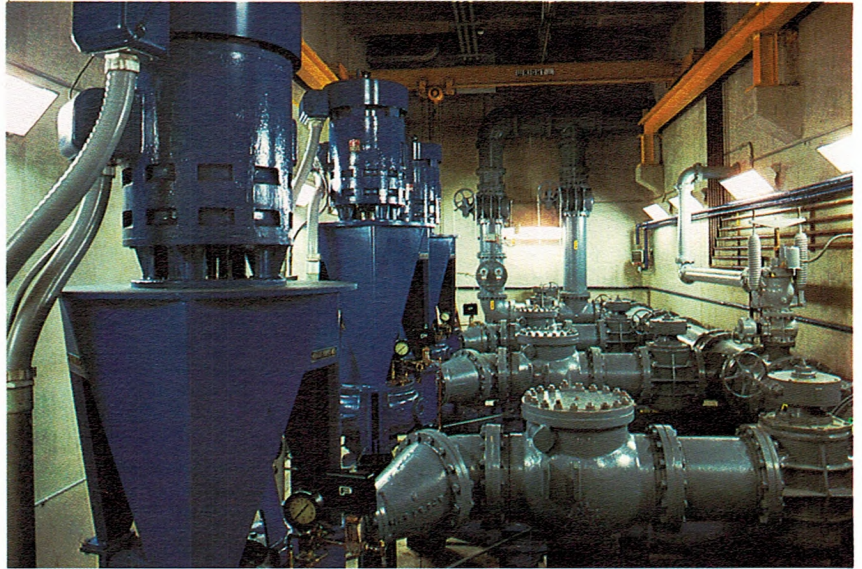
• Pumping Stations

D. Fortunato, Inc.
J.J. Keenan Construction Corp.
August Bohl Contracting Co., Inc.
Anjo Construction, Ltd.
Gamco Development, Inc.
W.J. Keller and Sons Construction Corp.

Fluidized Bed Thermal Oxidation Unit



Interior View of Milton Pumping Station



Sludge Dewatering Filter System



Operations Control Laboratory



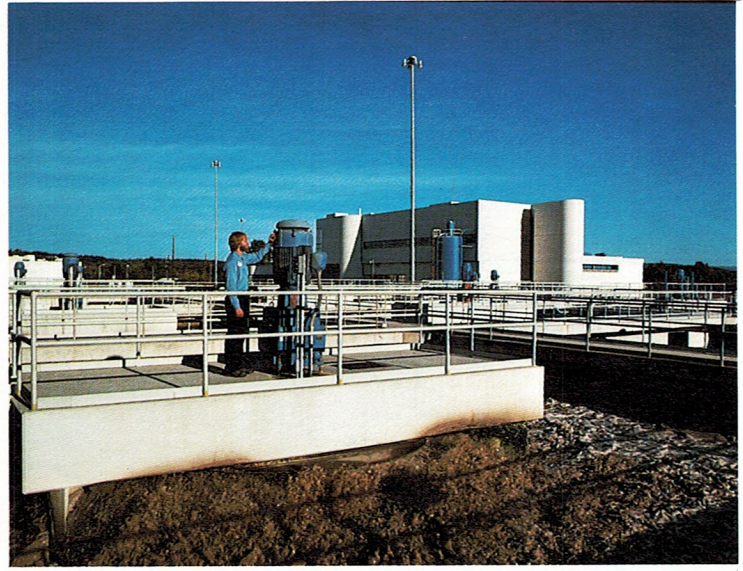
District Headquarters and Treatment Facilities

Milton Pumping Station





Interceptor Sewer Crossing Mourning Kill



Activated Sludge System Aerators

Saratoga County Board of Supervisors

Paul F. Brown, Chairman

**Saratoga County Sewer District No. 1
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Malcolm Pirnie, Inc.

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Photographs by George Silk