



Photograph by Fabian Bachrach.

Samuel S. Bosta

SAMUEL SERSON BAXTER

1905-1982

BY EDWARD J. CLEARY

SAMUEL S. BAXTER, consulting engineer, died at the age of seventy-seven in Philadelphia on February 7, 1982. He was in private practice for ten years following almost half a century of service as Municipal Engineer and Administrator in his native city of Philadelphia.

Among his peers Sam Baxter was regarded as a versatile practitioner who combined innovative thinking with energetic leadership in a variety of public works undertakings. National recognition of his performance found expression in election to the presidency of three professional organizations: the American Public Works Association (1947), the American Water Works Association (1966), and the American Society of Civil Engineers (1971).

Samuel S. Baxter was born February 6, 1905, in Philadelphia. He lived and worked in that city his entire life except for a four-year period of military service during World War II. Preparation for his career began at the Drexel Institute of Technology Evening College where he obtained a diploma in municipal engineering in 1926. One of his instructors, a senior city engineer, encouraged him to take a civil service examination for a surveyor's position in the Philadelphia Department of Public Works in 1923.

This episode initiated employment with the city that spanned a period of forty-nine years. His pragmatic engineering skills and managerial talents attracted recognition for promotion to greater responsibilities. Many challenging tasks were entrusted to him,

including renovation of the exterior of Independence Hall in his role as coordinator of all federal work-relief projects in Philadelphia. Reflecting on these coordinator experiences he said, "It was complicated and frustrating work, but it turned out to be important because at that time I had more money to spend than practically all department heads in the city."

His administrative capabilities in handling this program attracted the attention of the Mayor, and at the age of thirty-five, Sam Baxter was designated Assistant Director of Public Works. A singular aspect of this appointment was that he was chosen despite the seniority status of several other competent candidates. Traditionally the assistant directorship had been reserved for a politician who handled only patronage matters. But the newly elected Mayor in 1940 concluded that this post should be occupied by a professional engineer who would be responsible for improving operation of all water, sewage, streets, highways, airports, public buildings, and street-lighting facilities. **Mr.** Baxter had no problem in accommodating to these various tasks .

At this time preparations for war claimed nationwide priority, and Sam Baxter, an Army Reserve officer, was called to duty in 1942. His first assignment with the U.S. Corps of Engineers was construction of a military airfield, which today is the Northeast Philadelphia Airport. Impressed with his experience in public works management, the Corps soon reassigned him to supervising the design, construction, and operation of a brand-new community to accommodate 70,000 people. This was Oak Ridge, Tennessee, where facilities were to be located for building the atomic bomb.

After military service he returned to Philadelphia in late 1945. With the title of City Projects Engineer, later Chief Engineer, he was charged with reducing a tremendous backlog of deferred public works. This included design and construction of water treatment, sewage disposal, airport terminal, and bridge facilities. In connection with the latter, he assembled a team of Belgian consultants to explore the feasibility of building a prestressed concrete girder bridge, which was a low-cost technique new to the United States. His boldness in undertaking this structural innovation , using a number of very small prestressed wires embedded in concrete, in building the Walnut Lane Bridge, is today a widely employed practice.

In 1952 political reform in Philadelphia led to the Democratic party's taking control of the city, which had been a Republican stronghold since the 1880s. With this change came a new city charter, one provision of which created several new departments to administer public works functions. One of these was a Department of Water, in which were consolidated the design, construction, and operation of all facilities associated with water supply, sewage disposal, and storm water drainage. A unique feature of the arrangement was the financing of operations. The Commissioner of the Department was empowered to establish appropriate service charges to ensure sufficient revenue to satisfy all funding requirements. This established the Commissioner as a powerful, independent member of the Mayor's cabinet.

Mr. Baxter promptly accepted the invitation of the new Democratic administration to serve as Commissioner. It was a further tribute to confidence in his competence and integrity by all factions in Philadelphia. Although he was a registered Republican voter, he was reappointed five times for four-year terms by Democratic Mayors.

By the mid-1940s Philadelphia's water system facilities had greatly deteriorated and were inadequate for the city's needs. Its streams were heavily polluted, and its drinking water bad tasting and malodorous. Commissioner Baxter changed all of this during his tenure. He quickly launched what became a \$500-million modernization program and on the first anniversary of his appointment announced that for the first time in ten years Philadelphia's drinking water had received an unconditional certificate of approval from the U.S. Public Health Service.

Sam Baxter left a legacy that included three modern water treatment plants, fifteen new or improved water pumping stations, several large storage reservoirs, three new water pollution control plants, and sanitary and storm water pumping stations. Also, 1,500 miles of new water mains and sewers were constructed. He introduced a number of concepts into his organization, including automation or computer control in Water Department plants, stream studies (including microstraining of storm water overflow, retention of such flow, distribution of rainfall, bottom sludge blankets, and effects of photosynthesis on streams), use of the computer for many

operational reports and engineering studies, and he contributed much to the theory and practice of fixing water and sewer charges, since he was one of the few utility heads in the country with the power to fix these rates and charges. He established a financially self-supporting utility service organization that ranked among the best in the Nation.

A test of the Commissioner's achievements came during the Northeast draught of 1965. While other communities (including New York City) suffered water shortages, there was no shortage in Philadelphia.

Mr. Baxter was selected for important national assignments. In 1967 he was named by Secretary of the Interior Udall as a member of a special federal commission sent to Europe to observe technical progress in water resources and wastewater fields. In 1968 he was commissioned by the President as a member of the National Water Commission.

He received many honors in recognition of his distinguished career in public works: an honorary Doctor of Engineering from Drexel Institute of Technology; the Public Works Man of the Year from the American Public Works Association in 1960; the Engineer of the Year Award from the Pennsylvania Society of Professional Engineers in 1959; and numerous awards from Philadelphia, including the Robert K. Sawyer Good Government Award, Philadelphia Junior Chamber of Commerce, 1967; the George Washington Medal, Philadelphia Engineers Club, 1967; and the Man of the Year Award, Philadelphia City Business Club, 1965.

Sam Baxter was elected to the National Academy of Engineering in 1970. He cherished this honor and served as a member of the Committee on Public Engineering Policy and most recently as a participant in the round table on engineering and technical aspects of urban infrastructure.

Supplementing his devotion to engineering and management of public works, Sam Baxter was indefatigable in lending support to local community activities. He served as President of the Philadelphia Council, Boy Scouts of America; Chairman of Disaster Services, American Red Cross; Board Member of the Methodist Hospital; Chairman of the United Fund Community Services; and

Director of the local Rotary Club. An important interest was promoting development of the East Gerard Savings Association of Philadelphia. He first became a Director of this institution in 1929, and from 1964 until his death he was Chairman of the Board that guided investment of assets totaling \$375 million .

He was married to Norma Winter and was the father of two children, Richard and Linda. The family was planning a fiftieth wedding anniversary when he died. Norma was well known among his professional colleagues because she accompanied him on most of his travels.

In seeking further characterization of Sam Baxter, what comes to mind is the recent assessment of a former City Councilman of Philadelphia, Thatcher Longstreth, now President of the Greater Philadelphia Chamber of Commerce. Mr. Longstreth's views may be summarized in this fashion: "Baxter had prestige that few public officials can ever command . This stemmed from his competence, integrity and discipline as an engineer. In his appearances before city council we were in awe of him . He was highly respected and deserved it because he was a person of extraordinary stature."