Landmarks Preservation Commission
June 8, 1982, Designation List 156
LP-1128

BRONX GRIT CHAMBER of The Ward's Island Sewage Treatment Works (now the Ward's Island Water Pollution Control Plant, N.Y.C. Bureau of Water Pollution Control), 158 Bruckner Boulevard, Borough of the Bronx. Built 1936-37; N.Y.C. Department of Sanitation, with firm of McKim, Mead, and White, consulting architects.

Landmark Site: Borough of the Bronx Tax Map Block 2546, Lot 15.

On March 11, 1980, the Landmarks Preservation Commission held a public hearing on the proposed designation as a Landmark of the Bronx Grit Chamber and the proposed designation of the related Landmark Site (Item No. 10). The hearing had been duly advertised in accordance with the provisions of law. One witness spoke in favor of designation. There were no speakers in opposition to designation.

DESCRIPTION AND ANALYSIS

The Bronx Grit Chamber is a primary component of the Ward's Island Sewage Treatment Works, New York City's first major project to alleviate the pollution of the city's waters. A handsome industrial structure, the neo-classical Grit Chamber was designed in 1933 by the firm of McKim, Mead, and White and was built in 1936-37 by the New York City Department of Sanitation. Its exterior design makes the Grit Chamber one of the city's most unusual industrial structures.

History of the Project

By the beginning of the 20th century, pollution of the New York region's waters had become a topic of concern, as domestic sewage and industrial wastes were dumped directly into the rivers. The rapid growth of the urban population resulted in increased pollution and growing danger to the public health. New York's polluted waters had had adverse effects on the seafood industry and bathing beaches, and created a need for the constant re-dredging of the port's shipping channels. By the 1890s only Brooklyn had plants for the partial treatment of sewage. Beginning with the New York Bay Pollution Commission of 1903, new commissions were appointed every several years to study the problem. The Metropolitan Sewerage Commission (established in 1906) in its final report of 1914 made a recommendation that a sewage plant be constructed on Ward's Island in the East River. Thirteen years later a Joint Legislative Committee (established in 1924) reiterated this recommendation in its report of 1927. The New York Legislature authorized the use of 52 acres on Ward's Island that same year.

The sewage treatment project, which had several components, was constructed in phases. The sewers already existing in Manhattan and the Bronx were to be connected to a new "intercepting" sewer system that was to channel the sewage into the new treatment system. The first stage of treatment was at the Grit Chambers: in Manhattan on East 110th Street near the river, and at the southern edge of the Bronx on Bruckner Boulevard. Sewer tunnels were then to conduct the sewage to the treatment works on Ward's Island.

Interest in this type of project had been aroused by the Metropolitan Sewage Treatment Plant begun in 1919 in Milwaukee, Wisconsin. The earliest large-scale "activated sludge" type municipal sewage treatment plant in the U.S., it was considered a major advance in municipal sanitary engineering and was to have a great influence nationally. In the "activated sludge" process, the sewage is passed through tanks in which large quantities of air are forced through it in the form of fine bubbles present in already treated sewage.

The design for an activated sludge plant on Ward's Island was begun in 1928 by the engineering firm of Fuller and McClintock, and the Borough Presidents of Manhattan and the Bronx were authorized to begin the preliminary work on the intercepting sewer system. In December, 1929, control of the project was placed under the newly created New York City Department of Sanitation. The initial construction on Ward's Island was begun in June, 1931, and was completed by the beginning of 1933. The engineering design work for the intercepting sewers, sewer tunnels, and the Bronx and Manhattan Grit Chambers and their mechanical equipment was also completed in 1933 by the Division of Engineering of the Department of Sanitation, under Deputy Commissioner Walter D. Binger. William L. Sylvester was the designing engineer and Richard H. Gould was engineer of sewage disposal and intercepting sewers. The firm of McKim, Mead, and White was hired as architectural consultants to design the exterior of the Bronx Grit Chamber, which was its only involvement with the project.

The project was forced to a temporary halt by the financial condition of the City in the midst of the Depression. Work resumed late in 1935 with a federal grant from the Public Works Administration that covered roughly 45% of the project. Construction also began on the miles of large intercepting sewers. However, completion of the Ward's Island project was preceded by the opening of the city's first full-treatment sewage plant in 1935 -- a small chemical precipitation facility at Coney Island. The Bronx Grit Chamber was finally constructed in 1935-37.

On October 16, 1937, the Ward's Island Sewage Treatment Works was put into operation:

> the regulators connected to the Bronx trunk sewers were opened and the flow passed through the interceptors and grit chambers and was pumped through the preliminary settling tanks on Ward's Island and thence to the river.[1]

Designed to be one of the world's largest and most modern activated sewage disposal plants, the Ward's Island facility was able to treat around 1/5 of the city's sewage flow (up to 180 million gallons a day) and thus to greatly improve the condition of the Harlem and East Rivers.

The function of the Bronx Grit Chamber is to accept the flow from the intercepting sewers and then to screen out the larger solids and remove the heavy grit:

> Fine screens for sewage treatment usually consist of slotted plates having openings not more than 3/16 of an inch wide through which the sewage flows. These screens are mechanically operated and mechanically cleaned. A plant of this character will remove solids that would float on the surface or which are over 3/16 of an inch in diameter...the screenings are usually carted away for burial.[2]

After this process the sewage is conducted southwest to Ward's Island through a mile-long tunnel constructed through solid rock 150 feet below tidewater, located under the Bronx Kills, Randall's Island and part of Ward's Island. The Bronx Grit Chamber originally received the drainage from a 4314 acre area in the Bronx between St. Ann's and Jerome Avenues. Since the entire Ward's Island project was constructed for $2.5 million less than the appropriated $30 million, in 1938 these funds were then used to extend the 2¼-mile Bronx intercepting sewer system to drain an additional 3025 acres. The severest test of the functioning of the Grit Chamber occurred during the first several weeks of its operation, when it was forced to handle "an amazing and diverse amount of

material,"[3] the accumulation of years of debris in the older Bronx sewers. The Grit Chamber was able to operate efficiently throughout.

The Architectural Design

The exterior design of the Bronx Grit Chamber was by the firm of McKim, Mead, and White, the successor to the original firm known nationally for its neo-classical and neo-Renaissance buildings, including Low Library (1895-98) the University Club (1897-1900), and the Morgan Library (1903-07), designated New York City Landmarks. In 1906, three younger men became partners in the firm: William Symmes Richardson, who retired in 1921; Bert Leslie Fenner, who died in 1926; and William Mitchell Kendall, who first joined the firm in 1882 and later served as the senior partner until his death in 1941. In 1909 another partner was admitted: Teunis J. van der Bent, who died in 1936. With Kendall as principal designer, these men were responsible for such buildings as the Municipal Building (1909-13) and U.S. General Post Office (1909-18). Both of these buildings are designated New York City Landmarks. Lawrence Grant White (son of Stanford White) and James Kellum Smith became partners in 1920 and 1929 respectively. The firm continued the tradition of working mostly with a neo-classical architectural vocabulary for a wide range of residential, educational, institutional, commercial, and industrial commissions. These included the American Academy and Institute of Arts and Letters (1921-23), in the Audubon Terrace Historic District, and Casa Italiana (1926-27), a designated New York City Landmark.

The Bronx Grit Chamber stands as a later example of the firm's classically-inspired work, and is fully within the tradition of monumental public buildings. The handsome architectural expression in this case is unusual for so utilitarian a structure as a grit chamber of a municipal sewage system, and is of a more distinguished architectural quality than the other structures of the Ward's Island project, which were not designed by McKim, Mead, and White. The facades of the Bronx Grit Chamber are reminiscent of the creative neo-classical work of visionary French architect Claude-Nicholas Ledoux (1736-1806), particularly of Ledoux's saltworks at Arc-et-Senans (1775-79) and the barrières (tollhouses) in Paris (1785-89). The expressive geometrical simplicity shown in the work of Ledoux has been flattened and abstracted in the Bronx Grit Chamber, falling as it does within the context of 1930s architectural expression and materials.

The symmetrical front facade on Bruckner Boulevard is dominated by four colossal rusticated pilasters flanking each side of a monumental arch. The bichromatic effect of the pilasters is achieved by alternating courses of Roman brick and limestone. The pilasters support a stone entablature which is interrupted in the middle by the round arch that springs from the two central pilasters and into the low brick parapet of the building. This parapet takes the form of a giant pediment framing the arch. The building is capped by a molded limestone coping. The voussoirs of the arch are also composed of alternating brick and limestone. A foliated console acts as the keystone, and the arch is surrounded by a limestone molding. Windows are placed between the pilasters from granite base to entablature and arch, and are divided by aluminum mullions. The two bays at each end of the facade contain simple geometric aluminum spandrel panels. The recessed pedimented aluminum entry is flanked by fluted colonnettes with pineapple finials. The seal of the City of New York is found in the pediment. A geometrically designed transom appears above the double aluminum doors. The inscriptions "Department of Sanitation," "City of New York" and "1937" are placed on the granite base of the building.

The rear facade is composed of seven rusticated bichromatic pilasters supporting an entablature, forming four main central bays and two smaller outer ones. Originally the central bays created a strong alternate rhythm of arches. A brick arch within

each bay surrounded an aluminum truck loading door, a brick panel above, and a semi-circular mullioned window. Alterations in 1972 changed the configuration of three of the bays. Roll-down doors were inserted that fill the space between the pilasters and rise partially into the brick panels. Minor changes included the placement of louvered ventilating panels in two of the semi-circular windows and a fourth central bay, as well as new entry doors. The outer bays contain transomed doors, brick panels, and brick roundels. A carved limestone seal of the City of New York appears in the parapet of the building's rear facade. The side elevations, rising above the adjacent structures, are of brick.

The Bronx Grit Chamber was designed by the noted firm of McKim, Mead, and White in the tradition of New York City's monumental public buildings. A distinguished component of the Ward's Island Sewage Treatment Works, the first major municipal sewage treatment plant in New York, the Grit Chamber still serves its original function, today under the jurisdiction of the N.Y.C. Bureau of Water Pollution Control.

Report prepared by R. Jay Shockley
Landmarks Preservation Commission Staff

Report typed by Barbara Sklar

FOOTNOTES

1. Walter D. Binger and Richard H. Gould,"Ward's Island Sewage Treatment Works," Municipal Sanitation,(December, 1937).

2. Interstate Sanitary Commission, Annual Report for 1937 (Trenton: MacCrellish & Quigley Company, 1938), 23.

3) Binger and Gould, op. cit.

FINDINGS AND DESIGNATION

On the basis of a careful consideration of the history, the architecture, and other features of this building, the Landmarks Preservation Commission finds that the Bronx Grit Chamber has a special character, special historical and aesthetic interest and value as part of the development, heritage and cultural characteristics of New York City.

The Commission further finds that, among its important qualities, the Bronx Grit Chamber is an important and unusual example of neo-classical design as applied to a twentieth century industrial structure; that it represents the later work of the nationally prominent firm of McKim, Mead, and White; that it demonstrates the firm's continuing interest in the classical tradition; that the design is reminiscent of the work of the noted 18th century French architect Claude-Nicholas Ledoux; and that the Grit Chamber is in the tradition of monumental public buildings, here expressed in a facility for New York's first major sewage treatment works.

Accordingly, pursuant to the provisions of Chapter 21 (formerly Chapter 63) of the Charter of the City of New York and Chapter 8-A of the Administrative Code of the City of New York, the Landmarks Preservation Commission designates as a Landmark the Bronx Grit Chamber, 158 Bruckner Boulevard, Borough of the Bronx, and designates Tax Map Block 2546, Lot 15, Borough of the Bronx as its Landmark Site.

BIBLIOGRAPHY

Binger, Walter D. and Gould, Richard H. "Ward's Island Sewage Treatment Works: An Activated Sludge Plant for One-fifth of the City's Population." Municipal Sanitation, (December, 1937).

Bronx Grit Chamber Blueprints. (November, 1933). Department of Buildings, Bronx, New York.

Interstate Sanitation Commission. Annual Report for 1937. Trenton: MacCrellish and Quigley Company, 1938.

McKim, Mead, and White. Recent Work by the Present Partners of McKim, Mead, and White Architects. Philadelphia: Beck Engraving Company, 1952.

New York City Department of Sanitation. Ward's Island Sewage Treatment Works. (October 23, 1937). Dedication pamphlet.

"Ward's Island Sewage Treatment Works, New York City." Architectural Record, 77, (May, 1935), 347-49.


DEPARTMENT OF SANITATION
CITY OF NEW YORK
1937