

United States Department of the Interior National Park Service

DEC 02 1988

National Register of Historic Places Registration Form

NATIONAL REGISTER

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in Guidelines for Completing National Register Forms (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name Ernest Street Sewage Pumping Station

other names/site number

2. Location

street & number Ellis Street (corner Ernest & Ellis Streets) n/a not for publication

city, town Providence n/a vicinity

state Rhode Island code RI county Providence code 007 zip code 02905

3. Classification

Ownership of Property

- private, public-local, public-State, public-Federal

Category of Property

- building(s), district, site, structure, object

Number of Resources within Property

Table with 2 columns: Contributing, Noncontributing. Rows for buildings, sites, structures, objects, Total.

Name of related multiple property listing: Historic and Architectural Resources of Providence, 1636-present (Sewage Treatment, 1895-1935)

Number of contributing resources previously listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register criteria. See continuation sheet.

Signature of certifying official (Handwritten signature)

Date 22 Nov 1988

State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria. See continuation sheet.

Signature of commenting or other official

Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

- entered in the National Register, determined eligible for the National Register, determined not eligible for the National Register, removed from the National Register, other (explain:)

Signature of the Keeper (Handwritten signature)

Date of Action 1-13-89

Signature of the Keeper

Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)

GOVERNMENT: Public Works

Current Functions (enter categories from instructions)

GOVERNMENT: Public Works

7. Description

Architectural Classification
(enter categories from instructions)LATE 19TH AND EARLY 20TH CENTURY
REVIVALS: Colonial Revival

Materials (enter categories from instructions)

foundation concrete

walls brick

roof slate

other

Describe present and historic physical appearance.

The Ernest Street Pumping Station, as the name suggests, is located on Ernest Street in southeast Providence. It is set below street level within an irregularly shaped block bounded by Ernest Street, Allens Avenue, Terminal Road and Ellis Street, and lies less than one-half mile west of the Fields Point sewage treatment plant operated by the Narragansett Bay Commission. The station was built in 1895-97 as a key element in the city's "improved sewerage" program. The station pumps raw sewage through an 88-inch main to Fields Point, where the sewage then enters the treatment process.

The Ernest Street Pumping Station includes two structures: the pump house itself and adjacent screen house. The original complex also contained a boiler/coal house, demolished in July 1987, and tall chimney, demolished in the late 1930's. The entire complex shared a monolithic foundation of poured Portland cement concrete.

The pump house measures 48 feet by 90 feet (exterior dimensions) with walls rising 34 feet from grade to a steep, slate-shingled hipped roof. The screen house is nearly square (24 feet by 27 feet), with 19-foot walls and slate hipped roof. The exterior walls of both structures are constructed of red Barrington brick. Indiana limestone is used for the raised water tables, to create broad belt coursing and wide modillion cornices, and to form modified Gibbs surrounds on the windows and tall round-arched main entrance of the pump house. That entrance is set in a very slightly projecting frontispiece centered in the symmetrical, tripartite south elevation. The frontispiece rises to a small dormer with shoulder parapets. On the roof ridge of the pump house are two metal ventilators, and, set high on the north slope, a small triangular dormer serves the same function. Gutters, spouts, flashing and small finials are of copper.

The interior of the pump house is divided into two levels. The lower level, or substructure, features a barrel-vaulted corridor running along the south side, off which is a "gallery" of four deep, similarly-arched bays, in each of which is located a pump which discharges into the 88-inch main leading to Fields Point.

See continuation sheet

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The upper level (contained in the brick superstructure) consists of one large room, with painted brick walls, oak woodwork, and concrete floor inset with glass block. The tall window openings are fitted with 1/1 wooden double hung sash, surmounted by square transom lights. The high ceiling, plaster on metal lathe, encloses steel trusses that carry the roof.

This room was originally designed to contain four direct-acting triple-expansion steam engines from the Holly Manufacturing Co. of Lockport, NY. The height of the room is a direct reflection of the space required to house these large steam engines, which were erected with the aid of a 10-ton travelling crane still present within the room. In 1910, the vertical plunger pumps originally installed in the substructure were replaced with new pumps of a horizontal, double suction volute type with enclosed empellers. The Holly engines were retained, and made to power the pumps by means of rope drives from the flywheels. Currently, the sewage pumps (which date from 1979) are powered by GE synchronous electric motors installed in 1960.

The interior of the screen house (originally called the filth hoist house) has painted brick walls and concrete floor. In the concrete substructure are positioned metal screens through which sewage flows to the wet well (which lies on either side of the north wall of the pump house and is part of the substructure), debris and rags; the superstructure above contains the mechanism by which this filth is literally "hoisted" by a long rake or mechanical comb out of the screens. Originally, the filth was trapped in semicircular cages made of steel rods. These cages were hoisted to the "ground floor" and their contents removed manually.

As noted above, the Ernest Street pump station originally included a boiler and coal house, necessary for the operation of the facility's steam engines. The boiler house itself measured 70' x 50', and the adjoining coal vault approximately 21' x 69'. Both functions were subsumed within one structure, located directly north of the engine house and connected to it by means of a covered, enclosed passage. Like the pump house, the boiler/coal house had red brick walls and limestone trim, but was surmounted by a slate-clad gable roof with monitor. The chimney, set west of the boiler/coal house, was 150 feet high, octagonal in section above a 16-foot-square base.

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Although neither the pump house nor screen house contains original machinery, they continue to perform their original functions. The structures themselves retain a high degree of integrity, having experienced no material alteration since their completion in 1897.

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The need to include a pump station in Providence's "improved sewerage" program was recognized at the outset of planning, as indicated by City Engineer Samuel Gray's 1884 "Proposed Plan for a Sewerage System..." The reason was essentially topography: while some areas of Providence were at a sufficiently high elevation to permit collection and conveyance of sewage by gravity to the treatment plant proposed for Fields Point, other areas of the city lay below the 25-foot contour which Gray specified as the dividing line between the use of gravity and the need for pumping.

Designs for the Ernest Street Pump Station were generated in the office of the City Engineer under J. Herbert Shedd. The first contracts for the foundations were let in 1895, and the facility put in service on September 30, 1897. At that time, the plant at Fields Point was still under construction, and thus the city could not yet provide treatment for sewage. However, the system of interceptors was in place, so the Ernest Street pump station performed an interim service of discharging the collected waste into the harbor off Fields Point, thus providing "the long looked for relief from a large amount of filth in the river near the centre of the city" (see Providence City Documents for the Year 1898, p. 10). With completion of Fields Point in April 1901, Ernest Street pump station began to pump directly to the facility, a function it has maintained for 90 years, through several changes in machinery and equipment, and through periodic reconstruction of the original treatment plant to meet the evolving sanitary needs of the city. Under current plans, a new pump station will be erected at Ernest Street, the existing structures retained for re-use as a stand-by power generation facility.

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Verbal Boundary Description:

The resource is bounded on the north by Terminal Road, on the east by Ellis Street, on the south by Ernest Street, and extends perpendicularly in a northerly direction to the lot line on the south side of Terminal Road, this line between Ernest St. and Terminal Road corresponding to the location of an 18-inch sanitary sewer line running from Ernest St.

Boundary Justification:

The block within which this resource is located is owned by the City of Providence and includes several buildings used for municipal purposes in addition to the Ernest Street pump station, which since 1982 has been under the jurisdiction of the Narragansett Bay Commission. None of these other buildings contribute, wither visually or in terms of historical association, to the significance of the Ernest Street pump station. Therefore the boundaries of the historic property are established to include the pump house, screen house, subterranean wet well and the area formerly occupied by the boiler/coal house and chimney, plus the remainder of the easterly portion of the block which conveys the historic siting of the pump station below the level of the streets to the north, east and south. These boundaries therefore encompass all elements that contribute to the historical significance of the Ernest Street Pump Station, and exclude no features related to its historical importance.

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:

nationally statewide locally

Applicable National Register Criteria A B C D

Criteria Considerations (Exceptions) A B C D E F G

Areas of Significance (enter categories from instructions)
Community Planning & Development
Architecture

Period of Significance
1895-1935

Significant Dates
1897

Cultural Affiliation
N/A

Significant Person
N/A

Architect/Builder
Office of the City Engineer,
Providence

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The Ernest Street Pumping Station is significant in the area of Community Planning and Development under Criterion A for its association with the historical development of sewage treatment facilities in Providence. It is also significant in the area of Architecture under Criterion C as an example of the manner in which aesthetic considerations were incorporated into the design of highly utilitarian structures, thereby allowing them to contribute visually as well as functionally to the quality of Providence's urban environment. Ernest Street Pump Station represents a property type associated with the historic context Historic and Architectural Resources of Providence, 1635-present (The Making of a Metropolis, 1865-1945; Public Works and Utilities: Sewage Treatment, 1895-1935). This property type consists of buildings and structures designed and built to function in the processing and treatment of sewage, constructed under City auspices between 1895 and 1935. Ernest Street Pump Station conforms to this property type definition, having been built in 1895-7 for the purpose of pumping sewage collected from large areas of Providence to the Field Point plant for treatment and disposal. The pump house and screen house retain a high level of structural and design integrity. Although the original pumps, engines and other equipment are no longer present, the structures continue to convey the nature of the functions for which they were designed and built, as well as maintained, for 90 years. Removal of the boiler/coal house and chimney, once integral elements of the station, does constitute a diminution of the historic integrity of the facility. However, the qualities of association, design, workmanship and materials evidenced in the two remaining structures merit an evaluation of significance under Criteria A and C.

See continuation sheet

9. Major Bibliographical References

Pike, Lynne M. Historical Background of Ernest Street Pump Station. Ms on file at Narragansett Bay Commission, October 1985.

City Engineer, Providence. Annual Report for 1896.

Narragansett Bay Commission, Drawing Files: "Buildings for Ernest Street Pumping Station," three sheets dated August 1895; also FP-65, FP-79, FP-104, FP-146-149.

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

See continuation sheet

Primary location of additional data:

- State historic preservation office
- Other State agency
- Federal agency
- Local government
- University
- Other

Specify repository:

Narragansett Bay Commission

10. Geographical Data

Acreeage of property approximately 1 acre

UTM References

A 19 300780 4629570
 Zone Easting Northing

C _____

B _____
 Zone Easting Northing

D _____

See continuation sheet

Verbal Boundary Description

See continuation sheet

Boundary Justification

See continuation sheet

11. Form Prepared By

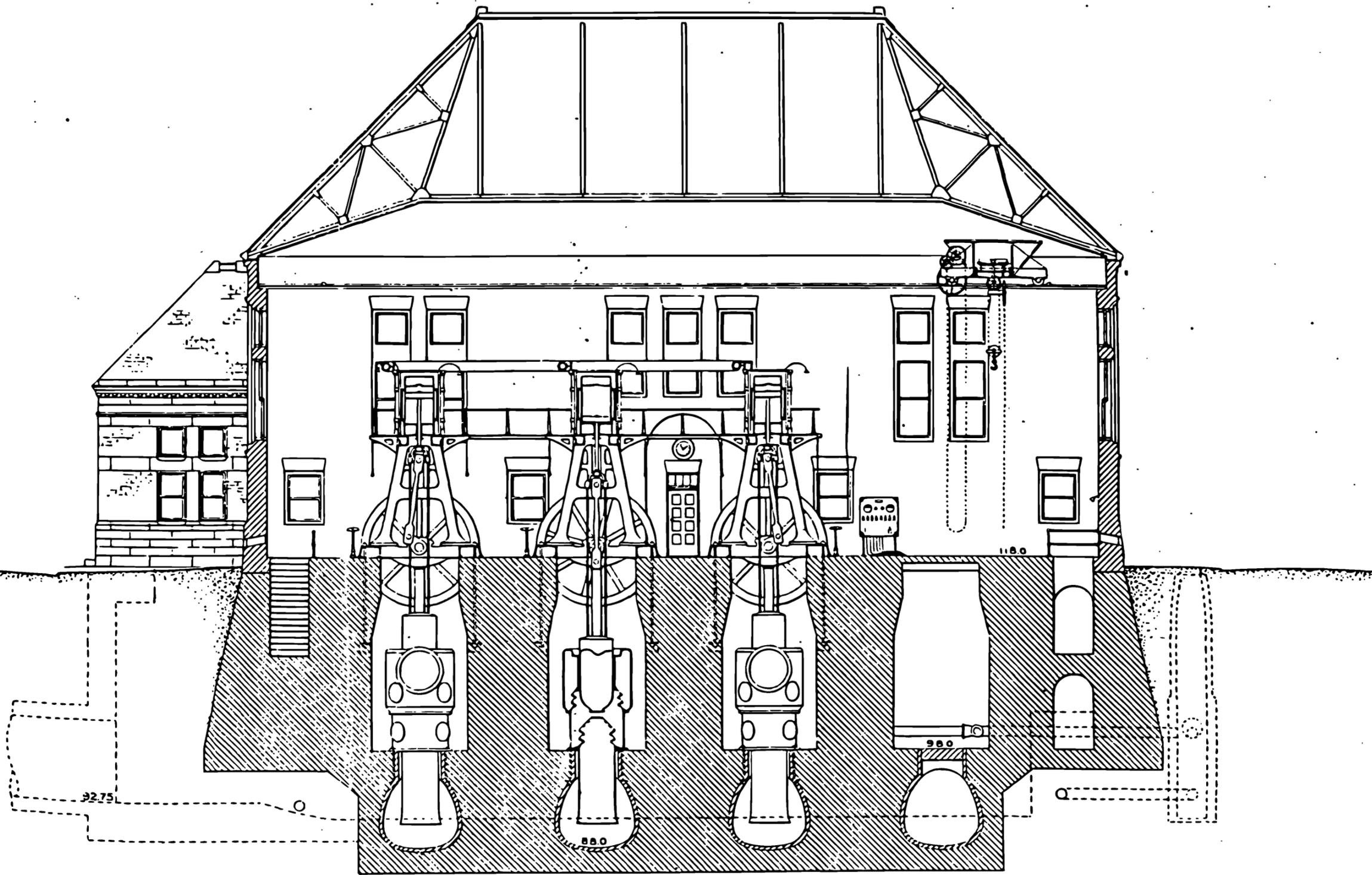
name/title Martha H. Bowers, Architectural Historian

organization Louis Berger & Associates, Inc. date Sept. 1987

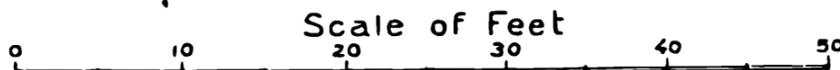
street & number 20 William Street telephone 617-235-5874

city or town Wellesley state MA zip code 02181

From: Annual Report of the City
Engineer for 1896, Providence, RI.

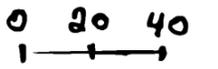
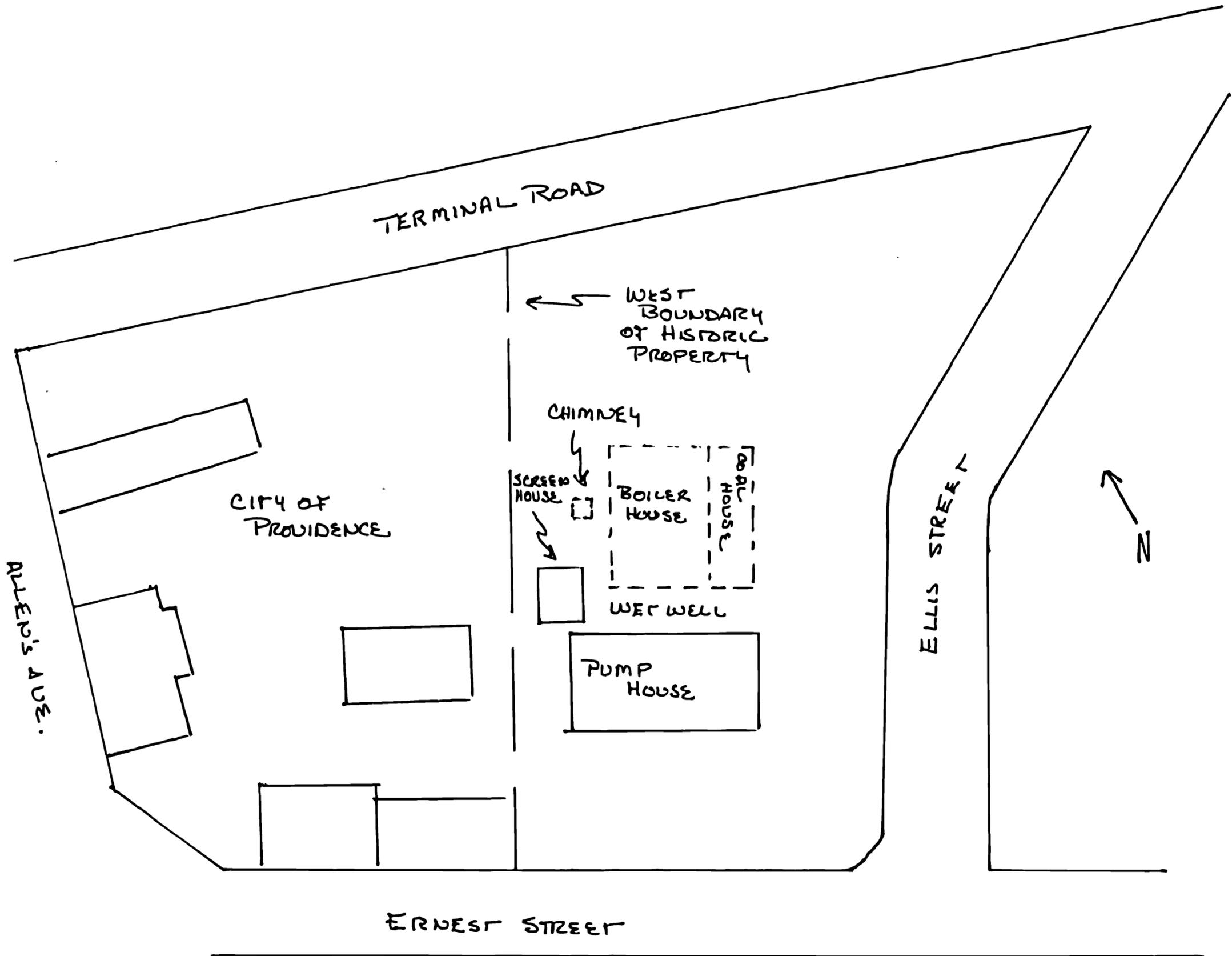


Sectional Elevation through middle of Engine House.



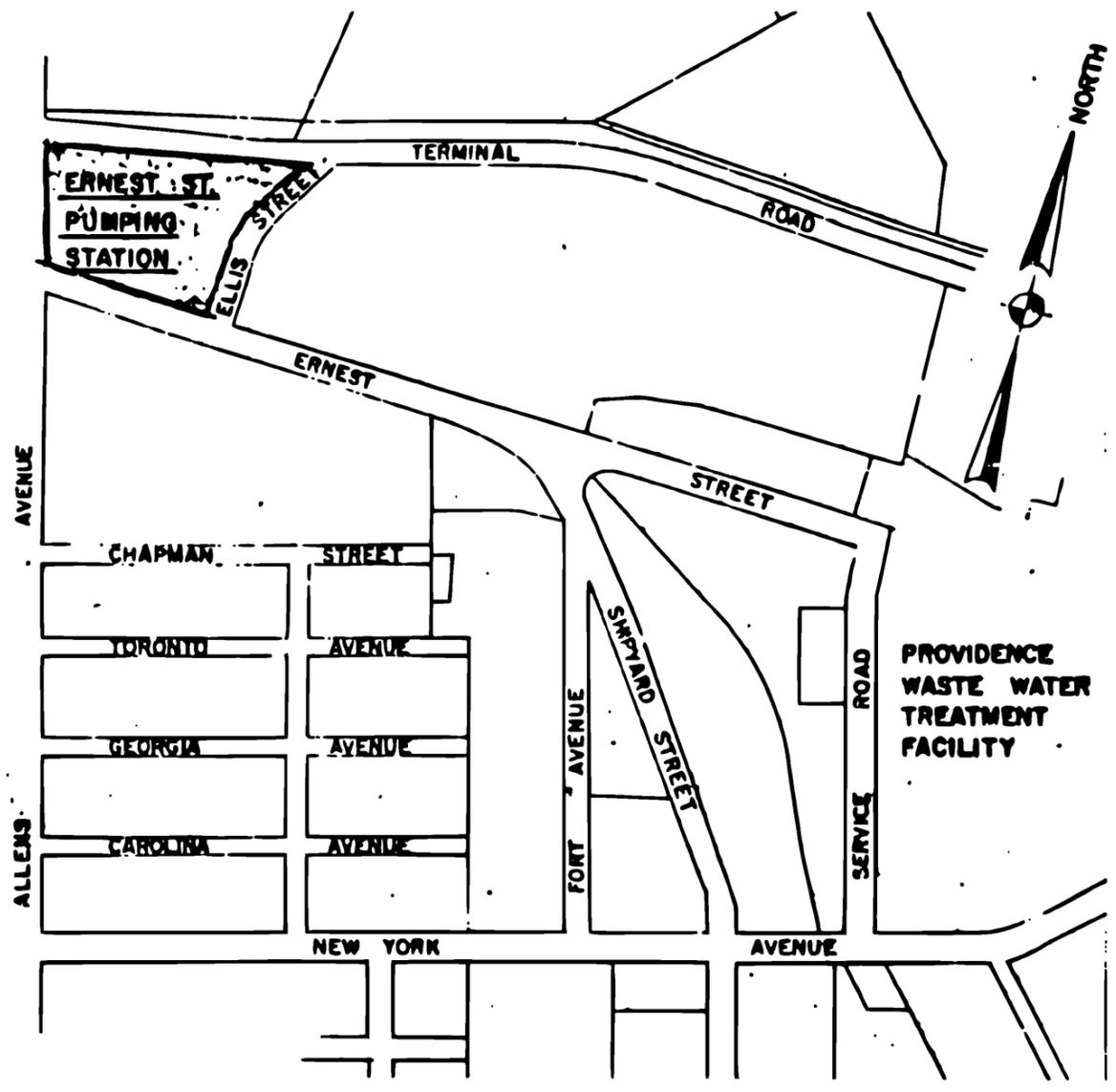
ERNEST STREET SEWAGE PUMPING STATION

SITE PLAN



Map adapted from Universal Engineering Corporation,
Facilities Plan Update, 1985. Source: Narragansett
Bay Commission

ERNEST STREET PUMPING STATION



LOCATION PLAN
NOT TO SCALE

Source: Narragansett Bay Commission