

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

1. Name of Property

historic name: Brown & Sharpe Manufacturing Company Complex

other name/site number: Darling, Brown & Sharpe (1868-1896); Capital Industrial Center (1968-1986); The Foundry (1986-present)

2. Location

street & number: Promenade, Bath, Calverly, West Park, Holden, and Brownell Streets, and I-95

not for publication: N/A

city/town: Providence

vicinity: N/A

state: RI county: Providence code: 007 zip code: 02908

3. Classification

Ownership of Property: Private

Category of Property: Buildings

Number of Resources within Property:

Contributing Noncontributing

<u>8</u>	<u>4</u>	buildings
<u>—</u>	<u>—</u>	sites
<u>2</u>	<u>1</u>	structures
<u>—</u>	<u>—</u>	objects
<u>10</u>	<u>5</u>	Total

Number of contributing resources previously listed in the National Register: none

Name of related multiple property listing: NA

Property name : Brown & Sharpe Manufacturing Company Complex, Providence County, Providence, RI

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this nomination X 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 X meets ___ does not meet the National Register Criteria.

___ See continuation sheet.

Frederick Williamson 16 Dec 2002

Signature of certifying official

Date

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

___ See continuation sheet.

___ determined eligible for the

National Register

___ See continuation sheet.

___ determined not eligible for the

National Register

___ removed from the National Register

___ other (explain): _____

Signature of Keeper

Date of Action

Property name : Brown & Sharpe Manufacturing Company Complex, Providence County, Providence, RI

6. Function or Use

Historic: INDUSTRY/PROCESSING/
EXTRACTION

Sub: Manufacturing

Current: COMMERCE
HEALTHCARE
GOVERNMENT
VACANT/NOT IN USE

Sub : Business

Sub : Medical Business Office

Sub : Government Office

7. Description

Architectural Classification: NO STYLE

Other Description:

Materials: foundation STONE/granite, BRICK, roof ASPHALT
CONCRETE
walls BRICK, CONCRETE, METAL/ other
steel

Describe present and historic physical appearance.

See continuation sheet.

8. Statement of Significance

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

Applicable National Register Criteria: A, C

Criteria Considerations (Exceptions):

Areas of Significance: INDUSTRY, INVENTION
ARCHITECTURE, ENGINEERING

Period(s) of Significance: 1872 to 1940

Significant Dates: 1872

Significant Person(s):

Cultural Affiliation: n/a

Architect/Builder: Thomas McFarlane, Frederick Howe

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

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See continuation sheet.

9. Major Bibliographical References

See continuation sheet.

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 # 19 298980 4633392

Primary Location of Additional Data:

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

Other -- Specify Repository: Brown and Sharpe collection, RI Historical Society Library, Hope Street, Providence, RI; The Foundry Associates, Holden Street, Providence, RI

10. Geographical Data

Acreage of Property: 25

UTM References:	Zone	Easting	Northing	Zone	Easting	Northing		
	A	19	298890	4633800	B	19	299140	4633640
	C	19	299200	4633540	D	19	299250	4633280
	E	19	298640	4633460				

See continuation sheet.

Verbal Boundary Description: See continuation sheet.

Boundary Justification: See continuation sheet.

11. Form Prepared By

Name/Title: Edward Connors*

Organization: Edward Connors and Associates

Street & Number: 14 Brook Street

City or Town: Barrington

State: RI ZIP: 02806

Date: April 2002

Telephone: 433-2871

Property name: Brown & Sharpe Manufacturing Company Complex, Providence County, Providence, RI

**Note: This nomination was compiled from several sources noted in the bibliography. Much of the significance statement was adapted from a memorandum by Wm McKenzie Woodward of RIHPHC and a 1977 draft National Register nomination (for Building No. 1 only) prepared by George Adams. Some descriptive data was adapted from an undergraduate paper on Brown & Sharpe prepared by Katherine Alexander, Brown University, ca 1995.*

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Description

The large, red brick, multi-story industrial buildings of the Brown & Sharpe Manufacturing Company lie north of the Woonasquatucket River in the Smith Hill neighborhood of Providence, Rhode Island. Brown & Sharpe vacated most of the complex in 1964 to move to a modern facility in North Kingstown, RI. The buildings line three city blocks along Promenade Street and spread north about two city blocks to West Park Street. They were constructed between the years 1872 and 1941. The complex includes twelve buildings (eight contributing, four non-contributing) and three structures (two contributing, one non-contributing).

The complex occupies an area of slightly more than twenty-five acres. This area is defined by Promenade Street to the south, Bath and Calverly Streets to the west, West Park and Brownell Streets to the north, and Interstate Route 95 and Holden Street to the east. Before the construction of Interstate Route 95 the site comprised thirty-two acres. At the time of the highway construction, approximately six acres of land to the east of Buildings No. 1 and No. 4 were taken for the highway right-of-way. The present complex consists of buildings, overhead connectors, paved areas (some on the sites of demolished buildings) and interior roadways, two structures related to demolished foundries, and one building foundation.

A single-story foundry, built in 1880, fronted on Promenade west of Holden Street. This building was demolished ca. 1972 and is now a parking lot. An arcade of brick segmental arch openings defines the northern and western edge of this parking area, a survival of the foundry's storage bins. Ca. 1900 the company built a larger foundry west of the storage vaults and Building No. 9 on the north side of Edith Street. A single structure of twenty four concrete and brick hemispheric arch storage bins and tiered retaining walls (also serving as building foundations) defines the eastern side of the former foundry site. This area is now a parking lot. Early twentieth-century insurance drawings identify the original Promenade Street foundry as the Light Foundry and the later construction as the Heavy Foundry. Although forging also took place in these facilities, the two former buildings will be distinguished in this way.

The present owners, Foundry Associates, purchased the complex in 1986. This company has undertaken renovation of a number of the buildings. Buildings No. 1 and No. 3 are complete and occupied by a number of businesses and state government offices. Buildings No. 2 and No. 5, vacant for over twenty-five years, are in the process of being rehabilitated.

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Inventory

Contributing buildings are defined as those built during the period of significance which retain sufficient physical integrity to convey their historic appearance.

Holden Street

- 25 BUILDING NO. 4 (1896 to 1917): This complex building is actually a group of buildings dominated by a 6-story main east-wing fronting on Beach Street and two perpendicular 6-story wings extending north to Edith Street. Set along the steep incline of Holden Street, it is notable for its oversized granite cornice and its curved brick piers. The earliest part of this building dates from 1896; a number of additions were made up until 1917. The components of this building include the main wing (293' x 51'), of steel beam and brick arch construction; an east wing (112' x 51'), also of steel beam and brick arch construction; and a west wing (83-95' x 41'), of steel frame and concrete construction. Floors in these wings are wood planks laid over concrete subflooring. A square chimney that flares at its cap rises from the rear of the main wing. Foundations are of granite, with concrete for later modifications.

Because of their similarity in size and detail, the main wing, the east wing, and the west wing will be described in common. The main wing is six stories; the Edith Street elevations of the east and west wings are five stories. They were used for the most part as machine shops. Windows are 24/24 double-hung wood sash. The sills and lintels are quarry-faced granite, matching the cornice. These windows occupy the entire space between brick pilasters. A 2-bay, hemispheric arch entryway is at the east end of the Beach Street elevation.

A 2- and 3-story center wing (72' x 60') with a floor below grade (visible from Edith Street), and a single-story shipping wing (95'-107' x 43') occupy the area between the east and west wings. The center wing has a heavy granite cornice similar to that of the larger wings, with minimal corbeling. Monitor windows extend the length of the center wing's roof. The Edith Street elevation consists of three bays defined by two hemispheric arch entrances (now modified or filled) and a matching window that appears to be of original design. This wood frame window consists of a pair of 8/12 sashes and two 9-light transoms. A 1-story shipping area

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Holden Street (continued)

(ca. 1917) wraps around three sides of the center wing. The shipping area has five bays of 15/15 metal frame windows.

A concrete and stucco elevated walkway with 9-light metal frame windows is supported by iron columns and connects to the rear of Building No. 1. A copper-clad elevated walkway connects to the older section of Building No. 5. The wrought iron fence of Building No. 1 continues around the west and north elevations of the building. An alley of stone pavers extends in the form of an L along the north of the main wing to the east wall of the east wing.

- 50 BUILDING NO. 9, CARPENTER SHOP (ca. 1919): This 148' x 88' brick and concrete pier and spandrel building served as a carpenter shop, and also housed pattern making and paint shops. Set on the incline of Holden Street, it is three stories on the south elevation and two stories on the north. It retains 12/12 replacement metal frame windows. The building has a molded concrete cornice and brick parapet wall. A molded concrete beltcourse is integral with the lintels. The foundation is concrete. A modified entrance is set at the building's northwest corner. At one time a connector spanned Edith Street to Building No. 5. An entryway to Edith Street is now located in the bay that provided this connector.

Leland Street

- 1 BUILDING NO. 12, POWERHOUSE (ca. 1908, 1912, 1918): This brick building is one of the most attractive of the Brown and Sharpe buildings. It is of asymmetrical design, the western section defined by a stepped parapet and skylighted roof. A stepped gable defines the main entryway (below grade) of recent construction. The main portion of the building housed eight boilers in 1921. A flat-roof engine and dynamo room is set to its east. These boilers, originally used for steam generation, later fed dynamos for electrical generation. None of the power generation equipment survives.

The cornice is brownstone with elaborate corbeling. Windows on the east and north elevations are grouped in pairs of 12/12, double hung with a common round arch head. These wood frame windows appear to be original. The west elevation is three stories with 12/12 double-

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Leland Street (continued)

hung, segmental arch, wooden frame windows more in keeping with other buildings in the complex. The raised basement windows of the west elevation are brick-filled.

While the exterior of the building retains much of its original appearance, an elaborate oak entryway of recent construction is found on the Edith Street façade. Extensive interior renovation was carried out for its most recent use as a restaurant, including a series of exterior gargoyle lamps attached at the pilasters. The overhead crane system of the open eastern chamber of the Powerhouse survives, now painted in bright colors. A large skylight (part of the original) runs north to south. A stained glass oculus (likely a replacement of an original window) is centered over the modified entryway. A brick chimney rises from the rear of the building. A side entryway opens onto Leland Street.

Promenade Street

- 235 BUILDING NO. 1 (1872 to 1916): This complex brick building of 4 to 6 stories was built as a series of additions to an original 3-story structure sited along Promenade and Holden Streets in 1872. Because Holden Street is a steep hill descending from Smith Street to the Woonasquatucket River, the building presents varying elevations and varying exposures of basements. The pattern of three hollow squares that exists today result from new wings and infill added to the original construction over four decades. Brick piers define each bay, windows occupying almost the full area between piers.

The first construction, three wings in the form of a flattened Z, was three stories. The main wing is now the eastern half of the Promenade Street elevation. A fourth floor was added before 1908. At the rough center of the Promenade Street façade another central wing was aligned north and south. A third, west wing fronted on Holden Street and today forms about 1/3 of that façade. By the mid-1880s the company had expanded the main wing to occupy the entire block, presenting the thirty-six bays visible today. By 1916, six wings and infill eventually occupied the entire block defined by Promenade, Holden, and Beach Streets and an alley now below earthworks associated with Interstate Route 95.

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Promenade Street (continued)

An original Promenade Street entryway occupied the fifth bay from the eastern end of the main wing. In construction that appears to date from the 1930s, that entryway was expanded to occupy the sixth bay and modernized with the use of chrome, plate glass, and glass brick. Another 2-bay entryway at the center of the Promenade Street façade appears to be of relatively recent construction. A large east elevation entryway accessible by way of an unnamed alley provides access to the easternmost interior courtyard. The main entrance to the building is provided by a modern, 2-bay entrance along Beach Street. There is also a 1-bay Holden Street entrance as well as three Holden Street doors.

The foundation is granite ashlar, which is also used in the cornice of the older parts of the building and in a belt course separating floors 4 and 5 on part of the north façade and floors 3 and 4 on the south facade. A similar granite beltcourse separates the basement from the first floor on the south façade. On some wings, metal coping sits on top of the cornice. A square-section ornament is welded to this coping, defining each bay. Variations of this design appear on buildings throughout the complex.

With the exception of the rectangular basement windows visible along Promenade Street, windows are mostly segmental arch with 12/12 modern metal sash replacing the original 20/20 double-hung sashes. Sills are of brownstone in the older parts of the building and concrete in the most recent. An original wooden doorway and transom is found along Holden Street.

The cornice on most wings is granite with brick dentiling and corbeling below. The original pattern of corbeling remained unchanged through most of the additions except for the most recent (1916) wing at the northwest corner (Holden and Beach Streets). In this wing the corbeling is simplified, like the corbels on the parts of Building No. 5 that were built around the same time.

The roofs of the various wings (except for the most recent) are nearly flat with skylights (now covered) to provide light to the upper story. Fire-proof construction includes brick arches fitted into steel or iron beams with a wood plank floor and supporting iron columns. In the most modern (northwest) wing the company departed from previous construction in using concrete-encased steel beams. Floors are predominantly wood and concrete. Two smokestacks rise from the central wing, one in the southwest corner and one in the northwest corner.

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Promenade Street (continued)

A wrought iron fence in good condition is found along the Promenade Street façade and, in varying conditions, at other points in the oldest parts of the complex. A stairway of brick and granite provides access from the level of Beach Street to the western alley below. It is in poor repair and now inaccessible.

Historically this building contained machine shops and a drafting room, with offices on the upper floors. Since 1964, it has housed a number of tenants including Rhode Island Junior College (now Community College of Rhode Island) and the RI Department of Labor. It is now occupied by the RI Department of Environmental Management and the Narragansett Bay Commission as well as the office of the Foundry Associates. The interior design is characteristic of modern office buildings: suspended ceilings, commercial carpeting, and drywall partitions. Areas of original brick construction are revealed throughout the building.

- 255 BUILDING NO. 2 (1896): This L-plan, 4-story brick building fronts on Holden Street, its larger wing extending westward to a connection with Building No. 3. The main east-west wing is 192' x 51', the north-south wing is 51' x 40'. The cornice is granite with brick corbeling and dentiling similar to that of Building No. 1. A beltcourse of granite separates the first and second floors on the south elevation. This elevation is dominated by six round arch, 1½-bay freight doorways, now covered with plywood or filled with cinderblock. The principal, 1-bay entryway is located on Holden Street. The foundation is granite. The roof is nearly flat; the interior construction is similar to the early parts of Building No. 1, with brick arches set in I-beams and resting on iron columns. Windows are double-hung, wood frame, 20/20 sash set under segmental arches. Many sashes are damaged; some windows are covered with plywood. Sills are of brownstone. The upper lights of surviving windows conform to the segmental arch above. This window design is found in only one other building in the complex, the adjoining old section of Building No. 5.

This building served as a machine shop. By 1908 the company, needing more shop space, had extended this building to the north in the vicinity of its eventual connection to Building No. 5, also L-plan. The connection of these two buildings created an enclosed courtyard. There is an underground tunnel to Building No. 1.

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Promenade Street (continued)

- 255 BUILDING NO. 5 (ca. 1905, 1919): This 6-story, L-plan building consists of an older brick section (ca. 1905), the exterior treatment of which is more in keeping with Building No. 2 (to which it is connected), and a newer (1919, extended to the west in ca. 1926) concrete and brick section that extends along Edith Street. Along Edith Street at Holden Street the ground floor is below grade; it is eventually exposed as the topography changes along the 360' Edith Street elevation.

The older section, fronting on Holden and connected to Building No. 2, of brick arch and I-beam construction, presents a complex façade of mixed treatments. The portion of the building adjacent to Building No. 2 is two bays wide. Windows are segmental arch, 20/20 wooden frame and double hung. Sills are brownstone.

A 7-story projecting tower provides, at ground level, the main entrance to Buildings No. 2 and No. 5. Windows in this 3-bay tower are segmental arch, 12/12, double hung, wooden frame with quarry-faced granite sills. Foundations are granite.

The newer (1919 and ca. 1926) construction begins at the 7-story tower. Here the building is of flat-roofed, pier and spandrel construction with 20/20 double-hung, wood frame windows (grouped in threes) on the upper five floors. The first floor has 20/20 double-hung windows (also grouped in threes) with a fixed 8-light transom. Part of the Holden Street elevation has 36-light, metal frame windows.

Sills are quarry-faced granite in the 1919 construction and concrete in the ca. 1926 construction. Cornice and foundations are concrete. The cornice has a metal coping. A bridge that originally connected this building to the Building No. 9 to the north no longer exists, but its location is still visible. This building was used for the erecting and assembling of machines.

- 255 BUILDING NO. 7 (ca. 1911, remodeled 1916): Fronting on Leland Street, this 3-story, brick and concrete building once housed machine shops; it is connected to Buildings No. 5 and No. 3. It is a flat-roof, 163' x 50', of steel frame, pier and spandrel construction. Some first-floor windows have been closed; second-floor windows are wood frame, predominantly 20/20, and double-hung with an 8-light transom. Third floor windows are 8/12. All windows are grouped in fives. First floor

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Promenade Street (continued)

sills are concrete (integral with the foundation) as are the lintels. On the second floor the sills are brick, and the lintels are integral with a concrete beltcourse that extends around the visible facades of the building. On the third floor the sill is concrete, and the lintel is integral with the concrete cornice. The Leland Street elevation has two large bays.

- 275 BUILDING NO. 3 (1891, 1903): This 3-story, brick, L-plan building lies west of Building No. 1 along Promenade Street. Its modern entryway (at the angle of the two wings) faces into the parking lot created by the razing of the Light Foundry. A 3-story wing perpendicular to Promenade Street is 266' x 57'; another 3-story wing (originally 2-story) parallel to Promenade Street is 97' x 51'. It connects to Buildings No. 2 and No. 7. Its cornice is granite with brick dentiling and corbeling below. The foundation is granite.

Windows are set under segmental arches with brownstone sills and are separated by brick piers. The window openings are now filled with metal; its frame 1/1 replacement sash. There is a projecting 3-story tower of early twentieth-century construction rectangular windows are 9-light metal frame with concrete sills. Minimal corbeling is carried over into this addition. A square chimney dominates the building's northwestern corner. This building was used primarily as a warehouse and for pattern storage for the neighboring foundry.

The east-west wing is of brick arch and I-beam construction with wood plank floor laid over concrete subfloors. The north-south wing is of steel frame construction with a concrete floor. The fireproofing for this building differs from the other buildings in that it uses hollow tiles above the brick arches for added insulation. Similar to Building No. 1, the interior has been remodeled to include carpeting, drywall partitions, and suspended ceilings.

- 291 BUILDING NO. 10 (1940): This roughly L-plan, pier and spandrel, single-story brick building (270'-261' x 75') is a steel frame construction with a flat, gypsum roof. The foundation is concrete. Industrial windows have been replaced with stuccoed panels containing small 1/1 modern windows. There is a metal coping on the cornice.
- 295 BUILDING NO. 8 (1916): Building No. 8 is a single-story, steel frame, 170' x 72' building once used for wet grinding. Its 28-bay façade has been significantly altered. Cornice and sills are concrete. Windows are 12/12 metal frame replacement. A raised skylight (which appears to be of
- NC

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Promenade Street (continued)

original construction) is set on the flat roof; it runs almost the length of the building. The concrete cornice has metal coping. There are two modern metal and plate glass entryways. The building has been extensively renovated on the interior.

- 299 BUILDING NO. 11 (1940) and SHED NO. 30 (1928, 1930): This roughly 450' building, a
NC former warehouse, has two distinct sections: a front, 2-story, heavily modified section (Building No. 11, 245' x 132') and a rear shed (Shed No. 30, 188' x 132').

By 1921 Brown & Sharpe had acquired the former Laureldale Chemical Works, completing the acquisition of land that proceeded to the north and west of their initial land purchase in 1872. Unlike the rest of the Brown and Sharpe Complex, the Laureldale buildings were aligned at an angle to Promenade and this building retains that siting. A 1921 map shows Brown & Sharpe occupying the rear section as a storehouse; Franklin Processing Company occupied the front. By 1926 Brown & Sharpe occupied all of the former Laureldale Works.

Building No. 11 is heavily modified, surfaced in polychrome stucco and brick with a projecting entryway. Its side roofs are shallow-pitched; a central raised, flat-roofed section extends to the rear shed. Two horizontal bands of modern metal frame, single light windows wrap around the front and sides.

Attached to the rear of this building is Shed No. 30, a one-story, former storage shed that predates Building No. 11. A series of nine large entryways along the rear east wall are now filled, some are stuccoed. The east elevation of this rear shed retains much of its original appearance; the west elevation has received the same exterior treatments as the front section. The foundation is concrete. A parapet on the roofline separates the two sections of the building.

- NC FOUNDATION OF CLEANING BUILDING NO. 6-F (1920): Near the Powerhouse and Building No. 11, and to the north and east of Building No. 11 are a 180' x 140' concrete foundation and part of a first-floor deck, all that remains of a former Cleaning Building No. 6-F, which burned ca. 1980. This building consisted of an 8' raised basement with concrete deck supported by mushroom columns. A metal stairway now leads to the first floor deck.

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301 BUILDING NO. 34 (1941): This 161' x 76' building is a corrugated steel shed. A brick skin has
NC been built around this single-story, gabled roof structure. A series of low segmental arch windows are found on each elevation.

STEEL STORAGE BINS, RETAINING WALL, PAVED ALLEY (1880 to ca. 1910): Vicinity of Buildings No. 2 and No. 3, and located below Building No.2 and at the north end of the Promenade Street parking lot is a complex structure in the form of a flattened Z that includes storage bins associated with the original Light Foundry built ca. 1880 and demolished in the early 1970s. The roof of this structure is integral with an alley along the south elevation of Building No. 2. This alley is surfaced with stone pavers, one of two such locations within the complex (see Building No. 4). While mostly intact, there are some areas of asphalt fill in this paved alley, which ends in the vicinity of the former Building No. 6, now demolished.

Viewed from the parking lot, the storage bins form a series of ten segmental arched, brick-lined openings set in a handsome 12' high and roughly 180' long retaining wall of uncoursed granite ashlar and granite coping. The heavy voussoir stones are bound by oversize keystones. The bin openings are filled with plywood. A smaller wall with five arched openings runs perpendicular to the above-described wall extending to the vicinity of Building No. 3. A single, smaller arched opening to a tunnel below Holden Street to Building No. 1 is found on the Holden Street wall. This retaining wall along Holden Street tapers and connects to a modern solid concrete wall. Approximately 100' of wrought iron fencing survives along the alley (ending at the location of former Building No. 6) and then extends about 50' along Holden Street.

STORAGE BINS AND FOUNDATION, RETAINING WALLS (ca. 1900): To the north and west of Building No. 9 is a approximately 300' long structure of twenty-four hemispheric arch sand storage bins. This served as the ground floor of a former two-story frame building, the upper stories of which served as a flask shop and pig iron storage. This structure was associated with the 1900 Heavy Foundry that occupied much of this area of the complex. These bins are of concrete and brick, about 12' high and about 30' deep. Two tiers of former building foundations and retaining walls are set back from these arches, rising up to form a retaining wall for the north parking lot of Building No. 9.

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Photographs:

Photographer: Edward Connors

Date: April 2002

Negatives: Rhode Island Historical Preservation & Heritage Commission, 150 Benefit Street,
Providence, RI 02903

(The above information applies to all photographs)

1. Building No. 1 (1872-1916), view northeast
2. Building No. 2 (1896), view north
3. Paved alley and fence south of Building No. 2 (1896), view west
4. General view of wall, arches (Building No. 2 in background), view northeast
5. Connector from Building No. 4 (1896-1917) to Building No. 5 (ca. 1905, 1919), view north
6. Building No. 3 (1891, 1903), view west
7. Building No. 4 (1896 to 1917), view southeast
8. Foundation of Building No. 6-F (1920), view north
9. Building No. 7 (ca. 1911, remodeled 1916), view northeast
10. Building No. 8 (1916), view southeast
11. Building No. 9 (ca. 1919), view northwest
12. Storage Bins from Heavy Foundry, view northeast
13. Building No. 11 (1940), (and Shed 30), view north
14. Building No. 12 (ca. 1908, 1912, 1918), Powerhouse, view south

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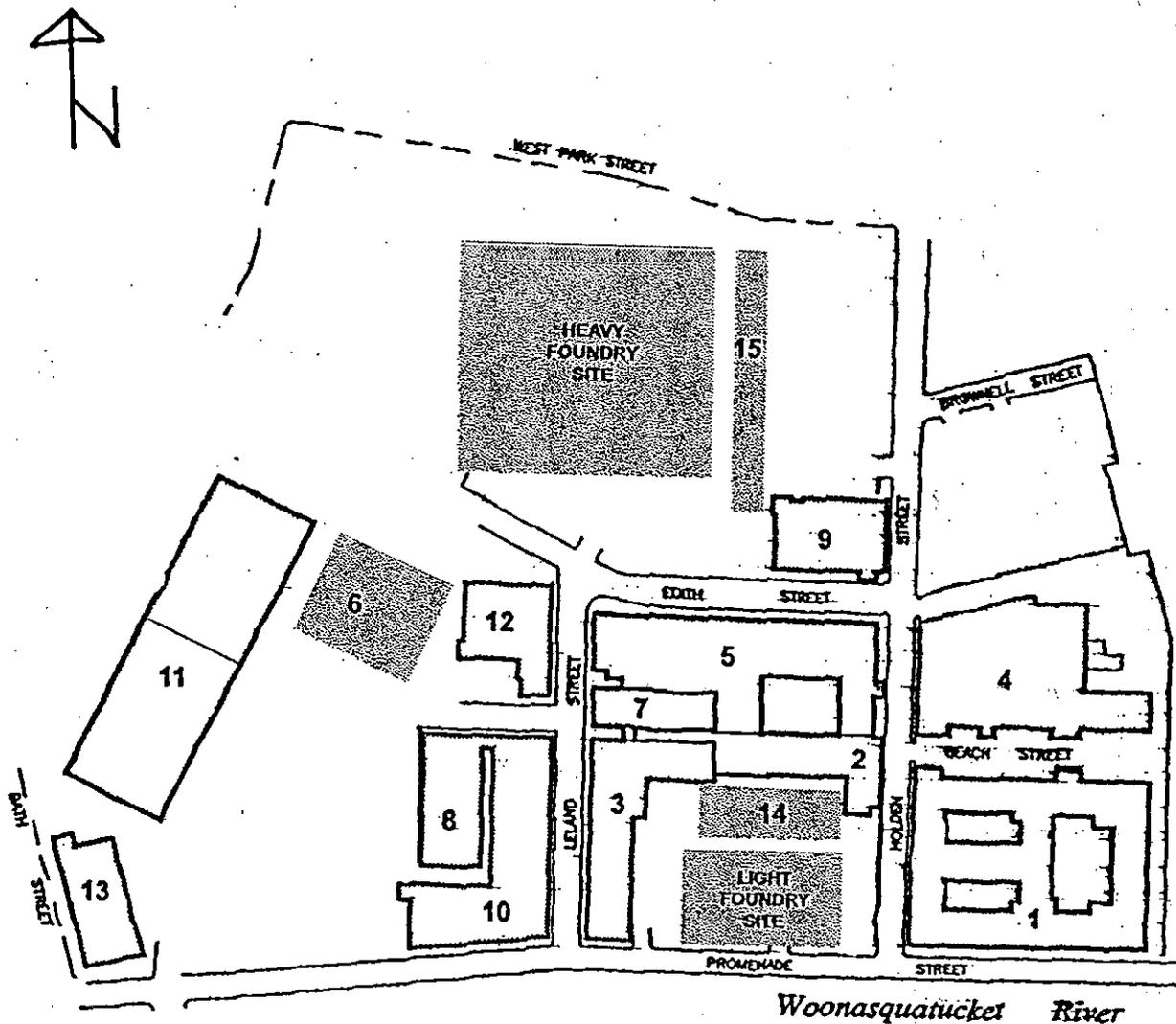
15. West elevation and rear of Powerhouse (ca. 1908, 1912, 1918), view northeast
16. Building No. 34 (1941), view northwest

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Sketch Map



Numbers refer to building numbers. Shaded areas show sites of demolished buildings.

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SIGNIFICANCE

Summary of Significance

The Brown & Sharpe Manufacturing Company Complex is significant as the physical expression of a company which was an international leader in the manufacture of machine and measuring tools and the development and promotion of precision machining standards used world-wide. The company's success in precision machining and manufacturing contributed greatly to the realization of true interchangeability in American industry. The importance of Brown & Sharpe extends beyond their mechanical innovations. The superior attention to efficiency and utility within their design and planning of the Promenade Street manufacturing complex ranks them among the most progressive of turn-of-the-century American manufacturers. During the almost one hundred years of occupancy at this Providence location, Brown & Sharpe's reputation as machine tool manufacturers was unparalleled locally, nationally, and globally.

The Brown & Sharpe Manufacturing Company Complex is eligible for listing in the National Register of Historic Places at the national level under Criterion A for its associations with the history of American machining and manufacturing. The present site reflects the 1872 relocation of the company from its original location in downtown Providence and its expansion through the mid-twentieth century. Because of Brown & Sharpe's national role as technical innovator, creator of precision machining standards, manufacturer, and employer, their manufacturing complex has had a profound effect on the region's economic and social history.

The Brown & Sharpe Manufacturing Company Complex is eligible for listing in the National Register of Historic Places under Criterion C as it embodies the distinctive characteristics and workmanship of a 19th- and early 20th-century industrial complex. It includes eight contributing buildings, four non-contributing buildings, two contributing structures and one non-contributing structure associated with its rise to national significance.

History

Brown & Sharpe began in Providence in 1833 as David Brown & Son, makers and repairers of clocks, watches, and light precision tools. Originally located in buildings no longer extant on South Main Street, the company flourished professionally and economically. Joseph R. Brown assumed control of the firm after his father's retirement in 1841 and by 1850 he had developed the first automatic machine for

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graduating rules. In 1853 Lucian Sharpe, who had joined the firm as an apprentice in 1848, became a full partner, and the firm became Brown & Sharpe. Sharpe conducted the business side of things and Brown continued to invent.

Inventions flowed constantly from the small shop, including the precision Gear Cutting and Dividing Engine in 1855 and the American Standard Wire Gage about the same time. Even more significant for the company's future, however, was the signing of a contract in 1858 to manufacture the single-thread Wilcox and Gibbs sewing machine. The sewing-machine contract consolidated the company's leadership position in the machine-tool industry by increasing company size and profits and setting the company's course toward development and refinement of interchangeable machine-tool products.

Interchangeable precision machine parts were the key to industrialization and mass production. Until the Civil War, when demand for artillery and small arms stimulated production of thousands of identical mechanical objects, interchangeability of component parts within machinery was seldom required on a broad basis. In the following decades, the machines to make and measure precision-tooled machine parts became Brown & Sharpe's market niche virtually to the exclusion of competitors. The company held this important industrial position for well over a century. The Universal Milling Machine (1861) and the Universal Grinding Machine (1876) were the foundations of Brown & Sharpe's business; both machines were refined over their many years of production but fundamentally little changed or challenged by competitors until the late twentieth century, when computer-based technologies superseded the mechanical. Also significant were the company's vernier calipers, pocket micrometers, the formed-tooth milling cutter (1864), and the automatic screw machine.

Brown & Sharpe's tremendous growth during the 1860s, including 300 employees working in fourteen different locations, created need for larger and more efficient quarters. In 1872 the company purchased land for immediate construction and later expansion at a site on Promenade Street just above the Woonasquatucket River at the foot of Smith Hill. The brick, cast-iron, and concrete Building No. 1 was designed by Brown & Sharpe employee Thomas McFarlane. McFarlane's plan was clearly in the vanguard of solid, "fireproof" industrial construction. The 66,000-square-foot building housed all of the company's facilities; it also included a Drawing Room, where engineers developed refinements to existing machinery as well as creating new ones.

By the time Brown & Sharpe occupied the new plant on Promenade Street, the company manufactured at least seven important precision and machine tools. By 1900, it had added at least six new

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products to its line. Brown & Sharpe's product mix made it by far the largest and most important machine-tool manufacturer in the world.

The company's expansion in the late nineteenth and twentieth centuries prompted the construction of a complex that eventually filled thirty-three acres with buildings closely linked with development of its product line. As each of the dozen product lines achieved a critical volume, new facilities appear to have been built to house its production. The complex was expanded regularly until the end of World War I.

By 1920, much of the physical plant had been built, but the firm's sales and production continued to grow. After 1920, the firm's growth is attributed to the increasing mechanization of virtually every aspect of daily life, including automotive, aeronautic, domestic, and commercial products. The continuing surfeit of new ideas for machine tools that characterized the firm's first half century diminished after 1900. Indeed, Henry Sharpe, Jr, noted in the 1950s that many of the company's most important products were refinements of machine tools made by the company for almost a century. In addition to the importance of the products that Brown & Sharpe manufactured, the company is also significant for its role in educating and developing professional machinists. The Apprenticeship Association, begun under the supervision of Richmond Viall in 1889, provided educational experiences, both at the plant and in local educational institutions (including Rhode Island School of Design), that made its employees among the country's most proficient. The program gave rise to the company sobriquet "Cradle of the Machine Tool Industry." The company's decision to move out of Providence in 1964 was an enormous blow to the city and, also, part of a regional trend toward industrial development on sites outside center cities.

Two foundry buildings, a former warehouse, a cleaning building, and a number of sheds in the west of the complex have been demolished. While these buildings played an important role in the complex, their absence does not compromise the complex's integrity sufficiently to compromise its significance.

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Kulik, Gary and Julia Bonham. *Rhode Island: An Inventory of Historic Engineering and Industrial Sites*. Washington, D.C.: Historic American Engineering Record, 1978.

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Alexander, Kathryn. *History of Brown & Sharpe Manufacturing Co.* Brown University research paper, ca. 1995. Brown & Sharpe file, Rhode Island Historical Preservation & Heritage Commission.

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Maps and Insurance Drawings

- 1875 City Atlas of Providence. G. M. Hopkins
- 1882 Atlas of the City of Providence and Environs. G. M. Hopkins
- 1895 Atlas of Surveys of Providence County. Everts and Richards
- 1900 Sanborn Fire Insurance Map
- 1908 Atlas of the City of Providence. L.J. Richards
- 1921 Sanborn Fire Insurance Map
- 1937 Plat Book of Providence, RI. G.M. Hopkins
- 1943 Associated Factory Mutual Map No. 15440
- 1951 Sanborn Fire Insurance Map

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Geographical Data

BOUNDARY DESCRIPTION

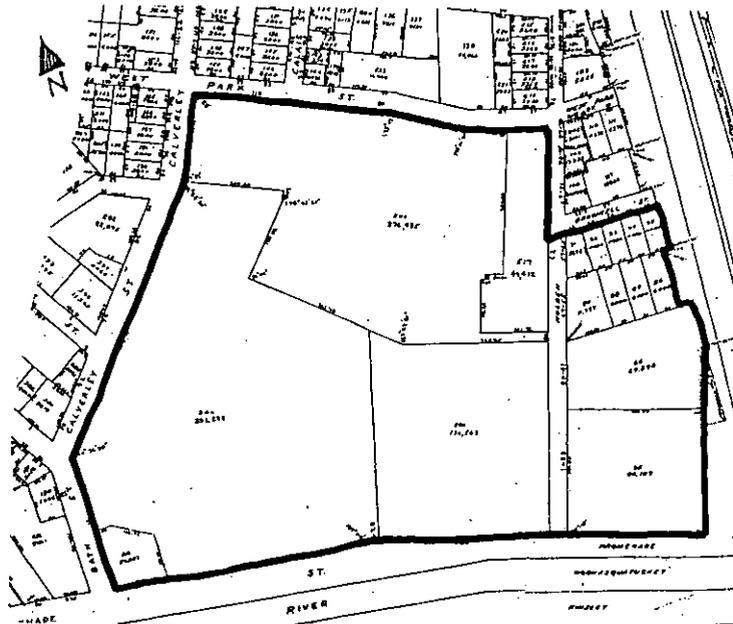
The boundaries of the Brown & Sharpe Complex comprise the following lots from Providence Tax Assessor's Plat Maps Nos. 4 and 67:

Plat 4: Lots 35, 66, 86, 87, 88, 90, 91, 92, 93, 94, 95

Plat 67: Lots 204, 205, 206, 517, 519

BOUNDARY JUSTIFICATION

With the exception of the approximately six acres taken for Interstate Route 95, these boundaries, comprising about 25 acres, define all of the land historically associated with Brown & Sharpe during its almost 100 years of occupancy and expansion. These boundaries include all standing buildings, structures, and foundation remains.





Brown & Sharpe Manufacturing Co. Complex
Providence County, Providence, R.I.
Photo #1 of 16



Brown + Sharpe Manufacturing Co. Complex
Providence County, Providence, R.I.
Photo # 2 of 16



Brown + Sherge Manufacturing Co. Complex
Providence County, Providence, RI
Photo #3 of 16



Brown + Sharp Mfg. Company Complex
Providence County, Providence, R.I.
Photo # 4 of 16



Brown + Sharpe Mfg. Co. Complex
Providence County, Providence, R.I.
Photo # 5 of 16



Brown & Sharpe mfg. Co. Complex
Providence County, Providence, RI
Photo # 6 of 16



Brown + Shargo mfg. Co. Complex
Providence County, Providence, RI
Photo # 7 of 16.



Brown + Sharpe mfg. Co. Complex
Providence County, Providence, RI
Photo # 8 of 16



Brown & Sharpe Mt. Co. Complex, Providence County, Prov., R.I. Photo # 9 of 16



Brown + Sharpe Mfg. Co. Complex
Providence County, Providence, RI
Photo # 10 of 16



Brown + Sharpe mfg. Co. Complex
Providence County, Providence, R.I.
Photo # 11 of 16



Brown + Sharpe Mfg. Co. Complex
Providence County, Providence, R.I.
Photo #12 of 16



Brown + Sharpe Mfg. Co. Complex
Providence County, Providence, R.I.
Photo # 13 of 16



Brown + Sharpe mfg. Co. Complex
Providence County, Providence, R.I.
Photo # 14 of 16



Brown & Sharpe Mfg. Co. Complex, Providence County, Providence, R.I. Photo # 15 of 16



Brown + Shapc Mtg. Co. Complex
Providence County, Providence, RI
Photo # 16 of 16



Brown + Sharp Manufacturing
 Company Complex
 Providence County,
 Providence, RI

- A-19-298890-4633800
- B-19-299140-4633640
- C-19-299200-4633540
- D-19-299250-4633280
- E-19-298640-4633460

TAUNTON, MASS. 16 MI.
 PLYMOUTH, MASS. 42 MI.
 RUMFORD 3.4 MI.
 8.9 MI. TO U.S. 1
 (EAST PROVIDENCE)
 6767 IV SE
 RIVERSIDE 4 MI.
 BARRINGTON 7.5 MI.
 SOUTH SEEKONK, MASS. 3.5 MI.
 FALL RIVER, MASS. 15 MI.

4634
 50'
 4632
 4631
 4630
 47'30"
 4629