

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Inventory—Nomination Form**

For NPS use only

received OCT 24 1986

date entered DEC 3 1986

See instructions in *How to Complete National Register Forms*

Type all entries—complete applicable sections

1. Name

historic Wilcox, Crittenden Mill

and/or common Wilcox, Crittenden Mill Historic District

2. Location

street & number 234-315 South Main Street; Pameacha, Highland Avenues N.A. not for publication

city, town Middletown N.A. vicinity of

state Connecticut code 09 county Middlesex code 007

3. Classification

Category	Ownership	Status	Present Use	
<input checked="" type="checkbox"/> district	<input type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture	<input type="checkbox"/> museum
<input type="checkbox"/> building(s)	<input checked="" type="checkbox"/> private	<input checked="" type="checkbox"/> unoccupied	<input type="checkbox"/> commercial	<input type="checkbox"/> park
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input checked="" type="checkbox"/> work in progress	<input type="checkbox"/> educational	<input checked="" type="checkbox"/> private residence
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment	<input type="checkbox"/> religious
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government	<input type="checkbox"/> scientific
	<input type="checkbox"/> being considered	<input type="checkbox"/> yes: unrestricted	<input checked="" type="checkbox"/> industrial	<input type="checkbox"/> transportation
	N.A.	<input type="checkbox"/> no	<input type="checkbox"/> military	<input type="checkbox"/> other:

4. Owner of Property

name See continuation sheet.

street & number See continuation sheet.

city, town _____ vicinity of _____ state _____

5. Location of Legal Description

courthouse, registry of deeds, etc. Town Clerk's Office, Municipal Building

street & number De Koven Drive

city, town Middletown state Connecticut

6. Representation in Existing Surveys See continuation sheet.

title State Register of Historic Places has this property been determined eligible? yes no

date 1986 federal state county local

depository for survey records Connecticut Historical Commission, 59 South Prospect Street

city, town Hartford state Connecticut

7. Description

Condition		Check one	Check one
<input type="checkbox"/> excellent	<input type="checkbox"/> deteriorated	<input type="checkbox"/> unaltered	<input checked="" type="checkbox"/> original site
<input checked="" type="checkbox"/> good	<input checked="" type="checkbox"/> ruins	<input checked="" type="checkbox"/> altered	<input type="checkbox"/> moved date _____
<input checked="" type="checkbox"/> fair	<input checked="" type="checkbox"/> unexposed		

Describe the present and original (if known) physical appearance

The Wilcox, Crittenden Mill contains four brick and masonry industrial buildings dating from 1814 to 1917. Archaeological remains in the complex include two brownstone dams and the standing ruins of building foundations of brownstone and concrete. The complex is located in the historic industrial section of Middletown, occupying more than 16 acres of land along Pameacha Creek ravine. South Main Street (Route 17), which runs from north-south, divides the complex into two roughly triangular sections. The southwestern section is bounded on the south by Pameacha Avenue and Pameacha Pond, a former millpond for the complex, and on the west by Highland Avenue. The northeastern section is bounded by Burr Avenue on the north, Pameacha Creek on the south, and Mill Street to the east. (See Figure A for a schematic diagram of the complex.) *

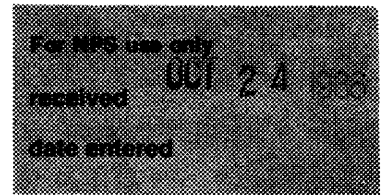
The mill complex is extensive.¹ The buildings themselves cover more than 82,000 square feet of land. Two of them are located in the northeastern section. Mill A, an 1814 former textile mill constructed of brick (40' x 40') where the company began production, was later used as its office. Mill B, immediately to the north of this small building, also constructed of brick (60' x 247'), was built between 1901 and 1912 and served as the machine and finishing shop. Deep in the ravine to the south of these buildings is a functioning stepped brownstone dam with the remains of a foundation of the same material, running perpendicular to the dam at its northern end (Photograph #1). Other standing ruins of foundations are located on both banks of the ravine immediately to the east of the dam.

Two other factories are located at either end of Pameacha Avenue in the southwestern section, which runs between South Main Street and Highland Avenue. The first (Mill C) is an extensive galvanizing and forge shop constructed of masonry block and concrete in 1907. The main block is 60 feet wide and extends for 350 feet from Pameacha Avenue along South Main Street to the north. Across the ravine of Pameacha Creek to the west is Mill D (42' x 80'), the last building constructed by the company, also of masonry block. It served as the brass moulding shop and later as the brass and iron foundry. An extensive addition was added to the south and east sides of this building and extends along Pameacha Avenue. Constructed of brick (50' x 183'), it was built in the late 1930s. The millpond and dam which served the 1907 factory and possibly the 1917 foundry, as well, are located to the south across Pameacha Avenue approximately halfway between the two buildings (Photograph #18). Two standing structures of concrete, roughly cylindrical in shape, are downstream of the dam at its northern end; a concrete structure which formerly contained the gate valve to control the flow of water to a race can be seen from the edge of the pond just above the dam.

The site of the Wilcox, Crittenden Mill has been used for industrial purposes since the seventeenth century. Because of the depth of the ravine and the steep slope of the terrain, it was the best natural mill site in Middletown. Originally the area was known as the South Farms, and the first gristmill in Middletown (ca. 1660) was located along the creek very near Mill A. Between this site and Middletown's main business district, a mile to the north, where the original settlement took place in 1651, were scattered farms on "the road to Durham" (a colonial farming community to the south), today's South Main Street. In the nineteenth century, Mill Hollow, as the area came to be known, was the site of the first woolen textile mill in Middletown (Mill A). A spinning mill was founded here by John Watkinson, an English immigrant, to manufacture broad cloth. During the course of the nineteenth century brownstone dams were constructed or enlarged

* All four buildings and three archeological sites contribute to the historical significance of the factory complex.

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Owners of Properties:

Map 26, Lot 21,22.
234 South Main Street

Hilon Development Corporation
Suite 1502
One Devonshire Place
Boston, Massachusetts 02109

Map 26, Lot 16
315 South Main Street

Forge Associates
c/o LWB Development Company
118 Washington Street
Middletown, Connecticut 06457
Attention: Leonard W. Bonalsky

Map 26, Lot 16A
corner of Pameacha Avenue
and Highland Avenues

North and Judd Holding Compnay
699 Middle Street
Middletown, Connecticut 06457

Representation in Existing Surveys:

Historic Preservation: A Plan for Connecticut, Vol II, The Inventory.

Mill A,B, and D are listed as category IA.

Middletown, Connecticut: Historical and Architectural Resources, Greater Middletown
Preservation Trust, 1979.

Repository for Survey Records: Connecticut Historical Commission
59 South Prospect Street
Hartford, Connecticut 06106

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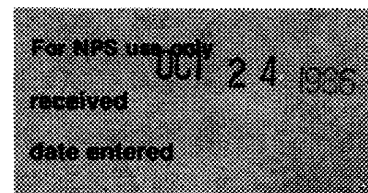
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across Pameacha Creek, forming three mill ponds. From south to north they were Pameacha Pond, the gristmill pond in the ravine, immediately to the east of South Main Street, and Stroud's Pond (no longer extant). Because of the rapid drop-off of the hollow, there was a differential of 40 feet between the upper and lower millponds. Where South Main Street crosses the ravine a modern steel and concrete bridge has replaced a nineteenth-century stone-arched bridge, which was still standing in 1948.³ Earlier, wood and iron structures bridged the ravine. The neighborhood surrounding the complex was also transformed in the nineteenth century, particularly after the Civil War. Although a few colonial farmhouses remained, most of the existing houses there were built in this period as rental housing for factory workers at Wilcox, Crittenden.⁴ By the time the company entered into its major twentieth-century building program, the neighborhood was fully established.

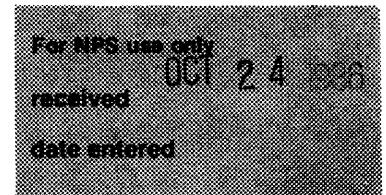
Mill A is currently vacant. A gable-roofed, two-and-a-half story building with interior end chimneys (one is missing above the ridge), it displays tall windows with brownstone sills (Photograph #3). The doors and some of the windows on the end elevations also have brownstone lintels. Most of the south gable wall remains in place, with the original window openings bricked in (Photograph #4). The mill is supported by a brownstone rubble foundation, visible above grade at the north end of the facade. The removal of a late-nineteenth-century addition on the south side in 1982 has revealed the original form of the building. As can be determined from a comparison of Photograph #3 with the copy of an 1886 photograph (Figure B), the cupola has been modified or replaced, but the wooden double-hung sash (four-over-four) set in segmental-arched openings are original.

Immediately to the north, the machine shop (Mill B), which is sited perpendicular to Main Street, is two stories in height at street level and four stories in height at the rear because of the slope of the land (Photograph #5, 6). This building, which was converted to residential use in 1983, has the typical design of a late-nineteenth-century mill with pilastered walls and evenly spaced fenestration. Its load-bearing brick walls of both sections (1901, 1918) are set on brownstone foundations. Along the north side, interior stone buttresses, which may date from an earlier (ca. 1880) building support a rubble wall in the basement of the older section (Photograph #7). Along the north, south, and west elevations, the windows have fixed transoms set in segmental arches at the top floor. The sash and the transoms are modern replacements but their configuration is similar to the originals. A stair tower is located on the south side. A dentil course of brick defines the rake of the slightly pitched gable roof, and corbelled brickwork is displayed at the top of each window bay of the 1912 elevation. The older section displays exposed wooden rafter ends. On the South Main Street elevation, a piece of millstone, reputed to be from the original gristmill, was incorporated in the brick wall during construction. When the building was converted to residential use, the monitor of the roof was extended in width and the mill floors were divided into apartments. A 1958 reinforced concrete addition located on the north elevation below the grade of South Main Street is presently utilized as a parking garage for the tenants.

Mill C, the forge and galvanizing shop (no longer in use), is an extended one-story gable-roofed building with a clerestory monitor raised five feet along its length

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(Photograph #8, 9). Stuccoed, pilastered walls of cement, or cinder block, contain along the east elevation multi-paned stacked awning windows which extend the full height of the building. Most of the fenestration at the south end of this elevation has been modified by the addition of glass and concrete blocks in the original openings. The gable ends contain similar multipaned windows which are irregularly spaced. The clerestory windows are presently covered with plywood. Large metal air scoops extend from the monitor roof above the galvanizing floor in the south end. Originally the interior of the entire building contained a steel framing system to support the roof and its monitor (Photograph #10). The steel framing of the south section deteriorated from corrosion and was replaced about 1940 by wood framing (Photograph #11).⁵ Single brick piers provide the central support in the south end; several rows of steel columns are found in the north end. Both sections have earth and concrete floors. There have been several additions to the original factory. A one-story addition for packing and shipping was added to the south end by 1913. At the rear a small wooden tinning room was extended out 40 feet at 90 degrees in the middle of the west wall. A low half-story addition along the west elevation of the north end of the building was raised a full story. By 1924, the existing double-pitched hip-roofed tower replaced an earlier ventilating tower (1913) for the galvanizing floor, one of the most distinctive features of the building (Photograph #12). Also in 1924 an open loading dock, now enclosed, and a free-standing storage building were added to the rear. About 1950 the rear storage building was joined to the south end of the main block by a roof. A small corrugated iron building for office space was added to the north wall of the storage building.

The moulding shop, Mill D, is similar to Mill C in its construction, although much smaller. Currently still used for industrial purposes, it too has a monitored roof and pilastered masonry block walls with tall metal-framed windows in each bay (Photograph #13). The later brick addition has brick pilasters along the southern elevation on Pameacha Avenue (Photograph #14). These bays are larger and contain metal framed, multi-paned windows with corbelling in each bay just below the roof line. After its construction, Mill D was used exclusively as a brass and iron foundry, and Mill C for forging and galvanizing.

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input checked="" type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input checked="" type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/
<input checked="" type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input checked="" type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input checked="" type="checkbox"/> other (specify)
<input type="checkbox"/> Criteria A, B, C, D				marine hardware industry
Specific dates	1650 - 1936	Builder/Architect	Unknown	

Statement of Significance (in one paragraph)

Wilcox, Crittenden Mill was the largest producer of marine hardware in the United States, with a manufacturing history that spanned the era of sail to nuclear power (1848-1975; Criterion A). The factory complex contains three early-twentieth-century brick and masonry buildings (1901-1917), each used for the specialized processes utilized for the production of marine hardware: casting, forging, galvanizing, and machining, and the oldest surviving textile mill in Middletown, built in 1814, which served as the company's office (Criterion C). Because of the presence of several brownstone dams and standing ruins of earlier buildings or structures in the ravine of Pameacha Creek, the complex has industrial archaeological potential dating back to the seventeenth century (Criterion D). The only industry identified with Middletown's distinguished maritime history as a riverport, the complex derives added local historical significance from its association with three generations of Wilcoxes, one of Middletown's leading families (Criterion B).

Industrial History

Like other successful industries founded in the nineteenth century, Wilcox, Crittenden Mill followed a familiar historical pattern.⁶ An extended formative period as little more than a cottage industry was followed by rapid growth and development. Diversification and expansion in the twentieth century required a major building program. Until the company was absorbed by a conglomerate which eventually led to its closing, it had been controlled and directly managed by one family for more than a century.

William Walter Wilcox (1825-1903) was the driving force behind the company during the nineteenth century. Capitalizing on another man's invention of a brass sail grommet, a product which revolutionized the sailmaking industry, within ten years he was well-established in the ships' chandlery business.⁷ Because of his entrepreneurial skills as a manager, salesman, and inventor, the business survived to become an international leader in the marine hardware industry.

At first, journeymen sailmakers were reluctant to accept the grommet innovation, recognizing the threat to their livelihood. Prior to this time all sails used rope reinforcement for the grommet holes. Frequent repairs and replacement of sails was necessary. Recognizing that more reliable ships' hardware would become a necessity on the faster sailing ships of the day, especially the clippers that travelled around Cape Horn to California and China, Wilcox aggressively marketed the new product. Rejecting the custom of using "runners" (travelling salesmen who marketed on consignment), he made personal visits to the sail lofts of all the shipbuilding ports along the East Coast to demonstrate the new grommet.

He was so successful that the hand presses used to stamp out the grommets initially could not keep up with the demand. After Wilcox added new hardware of his own invention to the product line, including a sail thimble of malleable galvanized iron and an improved spur

9. Major Bibliographical References

See continuation sheet.

10. Geographical Data

Acreeage of nominated property 17

Quadrangle name Middletown

Quadrangle scale 1:24,000

UTM References See continuation sheet.

A

Zone	Easting			Northing					

B

Zone	Easting			Northing					

C

Zone	Easting			Northing					

D

Zone	Easting			Northing					

E

Zone	Easting			Northing					

F

Zone	Easting			Northing					

G

Zone	Easting			Northing					

H

Zone	Easting			Northing					

Verbal boundary description and justification

See continuation sheet.

List all states and counties for properties overlapping state or county boundaries N.A.

state code county code

state code county code

11. Form Prepared By

name/title Jan Cunningham, Consultant, edited by John Herzan, National Register Coordinator

organization Cunningham Associates

date 2/10/86

street & number 98 Washington Street

telephone (203) 347 4072

city or town Middletown

state Connecticut

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national state local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature

title Director, Connecticut Historical Commission

date October 17, 1986

For NPS use only

I hereby certify that this property is included in the National Register

Gatrick Andrus
Keeper of the National Register

date 12/3/86

Attest: Beth A. Buzge
Chief of Registration

date 12/3/86

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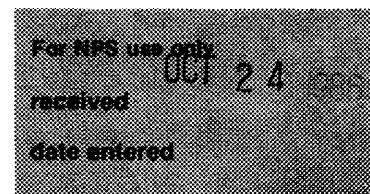
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grommet, a power source was a necessity. In 1857 space was leased in the basement of an old textile mill (Mill A), where an existing waterwheel could be utilized.

The business prospered under several names until in 1869 it became Wilcox, Crittenden and Company, a co-partnership consisting of Wilcox and his brother-in-law, Albert Crittenden, E. Bound Chaffee, and Homer Churchill. Wilcox had married Elizabeth Crittenden, Albert's older sister, in 1835. Their son William W. Wilcox, Jr. (1862-1940), joined the company in 1885, becoming president when his father retired in 1891. His son and namesake was born in 1901 and assumed control in 1940.

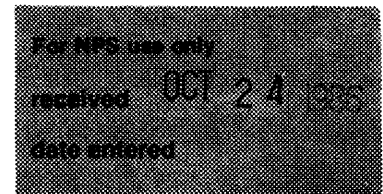
The company's growth under Wilcox Sr.'s leadership was phenomenal. By 1885 it was serving international markets, with an exclusive contract with the British Navy, supplying marine hardware for both steam and sailing ships.⁸ Wilcox, who had personally negotiated the Admiralty contract, arranged with Hipshaw and Bliss of Birmingham, England, to manufacture his patented hardware for the English and European markets. By the 1880s the company had built in rapid succession three additional buildings, all near the 1814 mill and each used for the specialized processes needed to produce forged, moulded, plated, or galvanized bimetallic brass, iron, and steel marine hardware. They included an iron and brass foundry (formerly Stroud's forge) with a blacksmith's shop, downstream from the original mill, the first machine and finishing shops north of the 1814 mill (they are no longer extant), and an extensive tinning and galvanizing shop built of wood which was supported by brick and stone piers over the ravine to the south. Products were shipped by steamboat from the riverport and after 1870 by rail. The company maintained its own livery stable for the teams of horses needed to pull the drays to deliver goods and pick up raw materials. A labor force of 200 were mainly skilled workers in the metal trades, such as machinists, galvanizers, tanners, and engravers.⁹ Although a few iron moulders came from England, most of the employees were German immigrants who came to Middletown after the Civil War. They rented single and multi-family houses in the neighborhood built by entrepreneurial developers. The federal census schedules of the period indicate that their daughters as well as sons worked at Wilcox, Crittenden, the young men often as apprentices in their fathers' specialized trades. By the late nineteenth century, women were employed exclusively in the core room.

A disastrous fire occurred in 1907. The galvanizing and tinning shops collapsed with their heavy machinery into the ravine. The interior of the old textile mill, then used as office space, was damaged, destroying hardware patterns and some of the company records. Firefighting efforts were directed towards saving the new 1901 machine shop, Mill B, the only building untouched by the fire. Within a few months the forge and galvanizing shop had been rebuilt at the new location (Mill C) and the interior of the office repaired.

Continuing as the national leader of the marine hardware business in the twentieth century, Wilcox, Crittenden made all types of ships' fittings, producing more than 8,000 items engineered for specialized uses, from grommets, swivels, and clews to steel anchors

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of 30 tons. The production line flowed in a logical sequence from Mill D through Mill C to the finishing and packing stages carried out in Mill B. A brief review of the processes carried out in the forging and galvanizing plant (Mill C) and the later iron and brass foundry illustrates the scope of the product line.¹⁰ The principal activities in Mill C were drop forging and hot dip galvanizing. In the drop forging process, steel and bronze articles are hot formed in dies under heavy hammers which shape and treat the metal at the same time. Products requiring tensile strength and shock resistance, such as turnbuckles and claw or drag anchors, were produced by the company with this process. Hot dip galvanizing is used to protect iron or steel from corrosion, especially from seawater. As the entire article was dipped in molten zinc, ten tons of molten zinc were kept available at all times for this process. Casting was used where the desired structural characteristic was resistance to compression, as in windlass bases and mushroom anchors. Custom cast marine hardware of iron, brass, and bronze was a specialty of Wilcox, Crittenden. In any given day on the pouring floor of the foundry (Mill D), as many as seven different compositions were cast.¹¹

Before the company dissolved in the 1970s, the firm provided marine hardware for both the merchant marine and the United States Navy in two world wars, and the new nuclear-powered submarines first being built in the 1950s. This period also saw the end of the Wilcox dynasty. W. W. Wilcox, III, the grandson of the original founder who took over after his father's retirement in 1940, died that same year at age 39.¹² Phelps Ingersoll, who had been general manager since 1929, became president.

After World War II, Wilcox, Crittenden bought out A. B. Sands Co. (New Jersey), manufacturers of marine plumbing, and National Marine Lamp Company (Connecticut) to become the leader in these fields as well. The stock and equipment of both companies was moved to Middletown. The company diversified further by producing custom marine hardware for the pleasure boat industry, becoming renowned in yachting circles for the quality of its product.

North and Judd, hardware manufacturers in New Britain, bought the company in 1955 but maintained the Middletown plant as the Wilcox, Crittenden division. After North and Judd (still operating in Mill D) was absorbed as a subsidiary of Gulf and Western in the 1970s, Mills A and B were vacated. Mill C continued to operate as the New England Forge until it closed in 1980.

Evaluation of Industrial Architecture

The Wilcox, Crittenden Mill illustrates the growth and development of the company for more than 100 years. Taken as a whole the complex has retained its essential structural integrity, with each building making an important contribution. Representative examples of industrial form and function, they collectively contribute to the understanding of the marine hardware industry.

The juxtaposition of Mills A and B, built 87 years apart, provides dramatic and tangible evidence of the long industrial history of the site, as well as the obvious changes in

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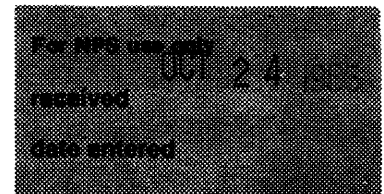
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industrial architecture during the nineteenth century. Typical examples of their respective periods, these two buildings exhibit very different architectural characteristics. Reflecting the building traditions that extend back to the eighteenth century, the earlier building (Mill A) reveals its residential design antecedents. Were it not for the cupola and the size and positioning of the windows, this building could be mistaken for a house of the period because of its similar form and scale. With its gable roof, ridge-to-street orientation, and twin end chimneys it has most of the characteristics of several Federal-style buildings in Middletown, including the house built by the original owner of the mill himself in 1812.¹³ In addition to its association with Wilcox, Crittenden, this mill is equally important as the oldest surviving textile mill in Middletown and the only one of its structural form and type. By contrast, the functional form of the neighboring factory is obvious and quite typical of mills built in the late nineteenth and early twentieth centuries. Although the clerestory monitor was altered when the building was converted to residential use, the essential form and fenestration pattern of the factory remain. Most notable are the pilastered, evenly spaced bays of the extended side elevations, enhanced by the use of segmental-arched openings for the windows, the latter feature more typical of mills built 20 or more years earlier.

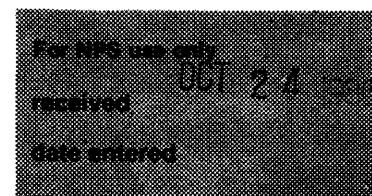
A comparison of the later buildings, the results of the company's twentieth-century expansion and diversification, reveals their more obvious differences in form and function as well as subtler differences in their architectural detail. Logical necessity dictated the design and materials used in Mill C, the most utilitarian of the buildings in the complex. Faced with a crisis after the fire that year, the company's production schedule was in chaos. It was important to have a location as soon as possible for the galvanizing process, a major component of their industrial program. It was necessary to quickly rebuild the simplest and fastest way, which was done by utilizing cement or cinder block walls and a very straightforward elongated structure. The company also took advantage of the opportunity to streamline its operation. Rather than rebuild in the ravine, where a conglomeration of sheds and buildings had been utilized on a piecemeal basis, the company relocated on level ground to facilitate the transporting of materials and finished products between departments. This relocation required a greater reliance on steam power although water power from the upper dam at Pameacha Pond was still utilized.

Alterations to the main block of building C over time produced several features of note. Ventilation apparently became increasingly a problem. Fumes from the galvanizing process were undoubtedly a health hazard, but this was not a major consideration in repeated attempts to improve the air quality of the building. More important was the corrosive effect on the structure itself. As the building's history makes clear, several modifications were attempted. The existing two-stage hip-roofed tower was first added in a much smaller form (1913) but proved inadequate and was enlarged to its present configuration by 1924. The Monel air scoops on the roof were added as late as the 1940s, as the corrosion resistant aluminum/steel alloy was not patented or manufactured until then. The necessity to replace all the steel framing of the southern section of this building because of the corrosion problem provides a vivid demonstration of the structural capacity of steel versus wood. Although the wood framing system is not necessarily well engineered, it should be compared with the light steel bracing

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accomplishing the same task in the northern section of the building. (See Photograph #10, 11.)

With the completion of the separate moulding shop in 1917, Mill D across the ravine, the complex was essentially complete, with each of the major processes carried out by the company contained in separate buildings. Casting, particularly in brass and bronze, which had been previously carried out in one section of Mill D, now had its own department, primarily because of the increased emphasis the company placed on custom casting of small articles which required a great deal of floor space. By the late 1930s or possibly even into the 1940s, the addition which more than doubled the size of the foundry makes it clear that as Wilcox, Crittenden moved into the postwar era, custom-engineered marine hardware for pleasure craft was an increasingly large part of its business operation.

Archaeological Significance:

Because of the long industrial history of the Wilcox, Crittenden Mill site and the presence of standing ruins and structures in the ravine, a potential for archaeological investigation exists. The archaeologically sensitive area (delineated on the schematic diagram of the complex, Figure A) extends from the South Main Street bridge for 500 feet downstream and includes the creek bed and its banks up to level ground at the top of the ravine on both sides.

Recent investigation of the area by the author confirms the presence of these standing ruins and the dam. The dam spans the ravine at the base of the gorge for 50 feet, running almost due north-south. The downstream face of the dam is stepped back in coursed rows of brownstone. It is capped with 30" of concrete except for four feet at the center for a spillway. At the north end, a riveted metal pipe (34" o.d.), which served as the flume of a water turbine system, projects from a brownstone foundation. The wall extends to the east along the creek bed for about 40 feet, obviously the ruins of a building that utilized the water power from the dam. The creek bed to the east of the dam at the present time is approximately 20 feet lower than it is on the upstream side, which indicates that either the creek itself has been silted-in above the dam, or that there was a natural falls in this area prior to the dam's construction. Further downstream on the northern bank are the remains of several other foundations, one of brownstone, the other of concrete, and a concrete foundation on the south side. The archaeological potential immediately to the east of the bridge may have been compromised. For a distance of about 100 feet on the south bank (next to Hunting Hill Avenue) there is evidence of recent grading by power equipment and riprap has been spread for an access road. The north side of the ravine directly opposite appears undisturbed. Stratigraphy under the bed of the creek may be protected by more than ten feet of silting between the dam and the bridge, the area directly below the galvanizing and tinning department of Wilcox, Crittenden, which collapsed into the ravine following the fire in 1907.

The least disturbed area extends from the vicinity of the dam on the upstream side to 500 feet downstream. It contains the highest concentration of standing ruins. Undergrowth and mature trees on both sides of the ravine there indicate that no construction or

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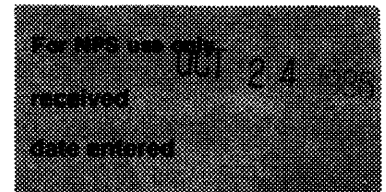
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grading has taken place in this area in recent years.¹⁴ An intact millstone, roughly four feet in diameter, was recovered from the creek bed just below the dam in 1980. It is displayed at Mill B. An intensive field survey, particularly adjacent to existing foundation ruins, is recommended for this area. Further downstream there was another dam and historic buildings which either predated or were associated with Wilcox, Crittenden. They have been replaced by two modern garage/storage buildings on Mill Street. The area around these buildings has been graded and paved.

An archaeological analysis of the area of greatest potential would clarify the utilization of water power at this site. Prior to Wilcox, Crittenden's taking over in this area, there had been almost 200 years of industrial activity, starting with the 1660 gristmill. Very little documentation exists about this period; what little is available may have produced some misconceptions. The company history indicates that its first stamping machines were powered by an existing water wheel in the basement of Mill A in 1857, presumably also the original source of power for the textile machinery. However, Mill A is located so far above the creek bed or any potential mill pond that this seems to be unlikely. The existing dam would have to have been raised another 40 or 50 feet to create such a mill pond. The possibility exists, however, that a race flowed from upstream on the other side of the bridge and passed under the road. An investigation of an archaeological nature would clarify this, particularly if it were accompanied by a careful inspection of the foundations and basement of the existing building.

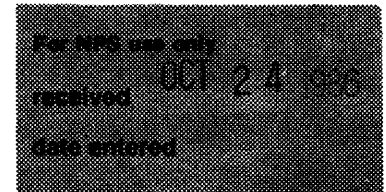
Archaeological investigation might also provide artifacts which would supplement knowledge of the nineteenth-century industrial processes at Wilcox, Crittenden, a period not well documented in the company's history. The destruction of so much of its building stock and engineering records at the time of the fire precludes tracing this period of development through standard sources. The only documents that survive from this period are primarily the company's financial records, daybooks, and ledgers. Most of the other documentary material¹⁵ stored in the company's buildings when it was absorbed by North & Judd was destroyed.

Notes:

1. The building history of the complex is derived from the Sanborn Fire Insurance Maps, 1884-1961, and "Industrial and Public Utility Properties," 1977, on file at the Tax Assessor's Office, Middletown, Connecticut.
2. The Watkinson Journal and Family Correspondence, MSS 1795-1797, contains information about their reasons for emigrating to the United States and search for a mill site in the East. Typescript on file Great Middletown Preservation Trust.
3. An aerial photograph taken in 1948 depicts the bridge. On file Greater Middletown Preservation Trust.
4. Federal Censuses, 1870, 1880, 1900; Middletown City Directories. 1875, 1885, 1901.
5. Personal communication, Armand Mazulli, September, 1985. Mr. Mazulli worked in the galvanizing department for over 25 years. He is retired at 68 Mill St., Middletown.

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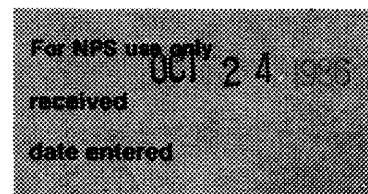
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6. The history of the company is compiled from several sources. See "A Century of Dependability." (Middletown, 1947); "Middletown Tercentenary." (Middletown, 1950); J.B. Beers, History of Middlesex County (New York: 1884); and "The Middletown Tribune: Souvenir Edition," 1877. See also company ledgers, journals, and daybooks, 1869-1914.
7. Eldrige Penfield (Portland, CT) is credited with the invention. E. K. & I. H. Penfield (a partnership of Eldrige and his uncle) employed Wilcox, who bought out the inventor's interest after two years. Wilcox, an orphan, was raised by I. H. Penfield, his uncle by marriage.
8. Combined steam and sail-powered ships such as the Atlantic packets were also supplied by the company. Hardware for steam vessels first appeared in the company's catalog in 1869. See "A Century of Dependability."
9. Federal Censuses, 1860, 1870, 1880.
10. Wilcox, Crittenden Division, North and Judd Manufacturing Company Catalog, 1956.
11. Ibid., p. 3.
12. Middletown Press, April 3, 1940 (Middletown, Connecticut).
13. The John Watkinson House, which stands on Main Street, Middletown, was originally orientated ridge-to-street. It was turned with its gable end to the street when it became the north wing of the National Guard Armory about 1920.
14. The ravine has been a convenient location for the installation of sewer and power lines in this century. Prior to 1955, engineering survey maps of the area show a sewer line running underground in the north bank and power poles at intervals. In the last two years a suspended sewer line was installed. Access to the original mill site was from Mill Street. An abandoned dirt road ran along the north bank at the base of the ravine.
15. According to William Batty, retired advertising manager for Wilcox, Crittenden, immediate destruction of company records and catalogs was carried out after Gulf and Western took over. Personal communication, February, 1986. The financial records in the possession of the Greater Middletown Preservation Trust were found in the attic of the 1814 mill in 1980 and turned over to the trust by the purchaser of the property.

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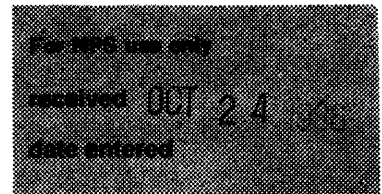
Watkinson Journal and Family Correspondence. Private collection. (Typescript on file with the Greater Middletown Preservation Trust.)

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Verbal Boundary Description and Justification

The Wilcox, Crittenden Mill Complex boundaries encompass all the property historically owned by the company and specifically the area of archaeological potential along the ravine in the northeastern section of the complex as shown on the map (Figure A). They are Lots 16, 16A, 21, and 22 on the Middletown Tax Assessor's Map 26, recorded in the Middletown Land Records as follows: 670:245; 692:91; and 632:101

UTM References:

- A 18 696100 4602290
- B 18 696120 4602210
- C 18 695940 4602190
- D 18 695900 4601950
- E 18 695840 4601960
- F 18 694830 4601910
- G 18 695720 4601950
- H 18 695750 4602000
- I 18 695720 4602040
- J 18 695820 4602040
- K 18 695950 4602210
- L 18 695960 4602290