NPS Form 10-900
(Rev. 10-90)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Stevens Linen Works Historic District

other names/site number Stevens Mill; Stevens Linen Mill

2. Location

street & number 8-10 Mill Street, 2 West Main Street, 2 Curfew Lane, Ardlock Place ☐ not for publication

city or town Dudley ☐ vicinity

state Massachusetts code MA county Worcester code 027 zip code 01571

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, 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. I recommend that this property be considered significant ☑ nationally ☑ statewide ☑ locally. (☐ See continuation sheet for additional comments.)

Brona Simon July 20, 2010

Signature of certifying official/Title Brona Simon, State Historic Preservation Officer Date

Massachusetts Historical Commission

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional Comments.)

Signature of certifying official/Title Date

State or Federal agency and bureau

4. 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 the Keeper Date of Action

5. Classification

Ownership of Property
(Check as many boxes as apply)

- x private
- x public-local
- __ public-State
- _ public-Federal

(Check only one box)

- _ building(s)
- x district
- _ site
- _ structure
- _ object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
8	2	building
		sites
5		structures
		objects
13	2	Total

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)

NA

Number of contributing resources previously listed in the National Register

None

6. Function or Use

Historic Functions
(Enter categories from instructions)

Industry/Processing/Extraction:Manufacturing facility (textile factory)
Transportation: Road-related (vehicular bridge)

Current Functions
(Enter categories from instructions)

Vacant/Not in use
Commerce/Trade:Specialty Store (pet grooming& boarding);Business (offices)
Transportation: Road-related (vehicular bridge)
Industry/Processing/Extraction:Waterworks (reservoir, dams

7. Description

Architectural Classification
(Enter categories from instructions)

Romanesque Revival, Classical Revival, No style
Other: Stone-Arch Bridge, Stone Dam

Materials
(Enter categories from instructions)

foundation Stone – granite, Brick
walls Stone – granite, Brick, Concrete Block/Panel
roof tar & gravel, asphalt shingle, built-up
other

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets.)

Please see continuation sheet

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

X **A** Property is associated with events that have made a significant contribution to the broad patterns of our history.

_ **B** Property is associated with the lives of persons significant in our past.

X **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

_ **D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

Property is:

_ **A** owned by religious institution or used for religious purposes.

_ **B** removed from its original location.

_ **C** a birthplace or grave.

_ **D** a cemetery.

_ **E** a reconstructed building, object, or structure.

_ **F** a commemorative property.

_ **G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions)

Industry
Architecture
Engineering

Period of Significance

1859–1960

Significant Dates

Significant Person
(Complete if Criterion B is marked above)

Cultural Affiliation

Architect/Builder

Henry H. Stevens, Charles T. Main, Fiske-Carter Construction Co., George F. Hall, Warren B. Lewis, J. W. Bishop Company, Irwin Regent, Cutler Associates

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

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

Primary location of additional data:

X State Historic Preservation Office
_ Other State agency
_ Federal agency
_ Local government
_ University
_ Other

Name of repository:

10. Geographical Data

Acreage of Property 24.32 acres

UTM References See continuation sheet.
(Place additional UTM references on a continuation sheet)

1.	19 Zone	260420 Easting	4659100 Northing	3.	19 Zone	260920 Easting	4659240 Northing
2.	19 Zone	260800 Easting	4659300 Northing	4.	19 Zone	260900 Easting	4659020 Northing

_ See continuation sheet

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Sara E. Wermiel, PhD with Betsy Friedberg, National Register Director, MHC

organization Massachusetts Historical Commission date July 2010

street & number 220 Morrissey Blvd. telephone 617-727-8470

city or town Boston state MA zip code 02125

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items (Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name multiple

street & number _____ telephone _____

city or town _____ state _____ zip code _____

7. DESCRIPTION

Portions redacted

Overview: Stevens Linen Works Historic District

Stevens Linen Works Historic District in Dudley, Massachusetts, is the site of the first, and last, factory in the United States to spin flax and weave linen cloth by machine. The focal point of the District is the large, granite mill built during the Civil War by the pioneer American linen manufacturer, Henry Hale Stevens. The mill complex had several names during the 150+ years it operated as a textile factory, but it was known as Stevens Linen Works for the longest time, ca. 1865-1939, and the district takes its name from this period of its history.

The District is located on the east side of Dudley, at the border of Webster, Massachusetts. It is roughly bounded (going clockwise) by the French River on the east; Ardlock Place, Curfew Lane, and the southern shore of Low Pond on the south; Merino Pond Dam on the west; and the northern shore of Low Pond and the northern side of the Stevens Linen Mill site on the north. (See the sketch map and verbal boundary description.) Topographically, the District rises east to west: from the French River on the east, to Merino Pond Dam on the west, so water flows by gravity from the ponds to the mills in the District and then on to the river. The main landscape feature in the District is Low Pond, a manmade pond that served as a reservoir for the mill. Merino Pond is outside the district.

The District has 15 resources, all of which were part of Stevens Linen Mill's operations. The resources include ten industrial and storage buildings and five structures, 13 of which are contributing. (See the data sheet.) The two noncontributing buildings—(see map) M7A Infill and the Weaveshed—were built in the late 20th century. They are described below, but are scheduled to be demolished as part of the adaptive reuse of the mill complex.

The resources are roughly clustered in two areas. Most are located near Stevens Linen Mill: East Mill, M7A Infill, Engine House, Storehouse No. 5, the Weaveshed, and Carding & Hackling Mill. To the west, on the west side of Mill Street, is another group: the Dye House and Bleachery, Storehouse No. 2, the two dams (Low Pond Dam and Merino Dam), and Low Pond. Running between these two areas is the Raceway, which passes under the Mill St. Bridge. A third location is south of Stevens Linen Mill at West Main Street, site of Storehouse No. 4. (See the sketch map.)

In general, alterations to the complex are minimal. Perhaps the most notable losses have been the former Merino Mill and its wheelhouse, the bridges that connected the Merino Mill to the Main Mill and the Carding & Hackling Mill to the Main Mill, and a tall chimney, demolished after the mill switched from steam to electricity as a source of power and to oil for heat in the 1960s. Other changes, described more fully below, include replacement of many of the windows and alterations to the rooflines of the Main Mill and East Wing, and floors added to the East Ell.

The centerpiece of the district is the large, Civil War-era Stevens Linen Mill. With its granite walls and pair of tall towers with Romanesque Revival details, the mill looks less like a factory than a medieval fortress. All of the original sections of this mill survive, although there have been additions and modifications to the building, detailed below.

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The setting of the mill is typical of textile mills in the southern Massachusetts/eastern Connecticut/Rhode Island triangle, where mill villages dotted the region's small rivers with their accordingly small waterpowers. Waterpower for Stevens Linen Mill was supplied by a series of ponds on land owned by H. H. Stevens, located west and northwest of the mill. This land continues to be sparsely developed today. Development in the neighborhood is concentrated east of the mill, on the Webster side of the French River; and to the northeast and south. West Main Street, on the southern border of the District, is a commercial street, as it was in the 19th century, and it contains modern commercial uses today (e.g., a gas station in front of Stevens Linen Mill). The area between West Main Street and Stevens Linen Mill, outside the District, was largely residential in the 19th century and remains so. Some of the extant residential property was once owned by Stevens Linen Works and may have served as housing for mill workers.

Apart from the commercial buildings on West Main Street, there has been little modern encroachment immediately around the District. With Merino and Low ponds on the west side of the mill, and the river bordering the site on the east, Stevens Linen Mill continues to have a relatively rural setting: a "machine in the garden" ambiance. The setting of the mill today retains the feel of the District's period of significance.

Descriptions of the District's Resources

In 1858, Henry Hale Stevens began a decade-long expansion of his manufacturing plant. Before he began, Stevens was using several old mills on his property, including the Merino Mill, a woolen mill built around 1812 (demolished in the 1990s). The five structures in the Stevens Linen Works Historic District, along with a new wheelhouse (demolished) were the first to be built during this period of expansion (1859-1862) and were designed to increase waterpower for the Merino Mill, which Stevens continued to use. But more importantly, the five structures provided the waterpower for the new mill he erected in the 1860s, Stevens Linen Mill. None of the buildings and structures from the period before 1859 survive in the District.

Buildings

Stevens Linen Mill

Stevens Linen Mill is a former linen textile factory comprised of connected buildings, extensions, and additions. (See Appendix A data sheet and Appendix B for a plan showing the building's sections).

The parts of Stevens Linen Mill that date from 1862-1865, when the factory was erected, form a U-shaped plan, composed of the large Main Mill and wings extending perpendicularly from its ends. Rising at the juncture of the wings and the Main Mill are the most striking features of the design: two identical towers, each seven stories above their basements, with pyramidal roofs (Photos 1, 2; see Appendix C for historic images and plans). Completing the original group of buildings are two floors (the first floor and basement) of the present East Ell, which served as the mill's wheel and engine house. All of the 1862-1865 parts have granite walls, made of stone quarried near the site.[1] They share these architectural features: stone walls, quoins at the corners, arched window

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[1] The stone is usually called granite, but gneiss, a metamorphic stone that resembles granite, is also found in Dudley. It is called granite in this nomination.

openings with stone sills, stone jambs and lintels at the doorways, and stone cornices. At the foundation level, the stones forming the wall are somewhat smaller and less finished than those in the upper part of the walls, and their color is a more uniform gray than the multicolored blocks in the upper walls. The arches over the window openings are a distinctive shape: very shallow, with long skewbacks (Photo 3).

The Main Mill (M 2) [This and subsequent references are map numbers. See the District Data Sheet.] measures 70 feet wide and 208 feet long, with five floors (four stories on a high basement), and a flat roof. It has plain walls on its four sides with no projections apart from a shaft attached to its north wall. This shaft, with a date-stone "1863" on its west side, rises the full height of the mill and is topped with a nearly flat roof (Photo 16, north wall, shaft on the right side of the picture). In 1905, the mill's original pitched roof was removed and replaced with the present flat roof; this roof is supported on steel trusses that span from wall to wall across the narrow width of the building (Photo 5). The roof is covered with tar and gavel. Most of the windows are modern replacements or blocked up. Some old windows remain on the west side; they are triple-hung, 8/8, wood sash. Inside, the building has an open plan, with two rows of columns running longitudinally down the length of the mill (eight feet on center), except on the top floor, which has no posts (Photos 4, 5).

The West Wing (M 4) is two stories with a basement and attic. Its roof, covered with asphalt shingles, retains the original pitched profile. All but one of the original dormers have been removed; this change happened after 1905, although exactly when is unknown (Photos 6, 2). Old windows on the west and south facades remain and are 6/6 in wood sash. The doorway on the west side of this wing has served as the mill's public entry, near what had been the mill's office area. The door opening is formed of tooled stones, and covered with a wooden canopy that is old but not original to the building. Over the canopy is a smaller window with a segmental-arch top (Photo 6). There are no supporting posts in this wing. Because the first floor contained offices, it is partitioned into rooms and is the only part of the mill with historic interior finish. The wall surfaces are plastered and scored to suggest stone blocks. The windows have decorative wooden tops, in the form of arches with keystones (Photo 13). A doorway through a partition has a decorative frame made of a semicircular arch with a keystone and door jambs ending in capitals that serve as imposts for the arch. A chimney is located within the walls on the south end of the building. The finishes of the second floor have been removed.

The East Wing (M 6) is three stories and a basement. It is a little longer than the West Wing, and the stonework on its end wall is less finished than that of the rest of the mill. It originally had the same profile as the West Wing, but around 1905, a third floor was added. The walls of this new level are brick, and the roof is a shallow pitch, held up by timber trusses and covered with tar and gravel (Photo 1, right side). Two buildings, the Weaveshed on the west (M 10) and M7A Infill on the east, cover its long sides up to the top floor. Thus only the top floor has windows, which are triple-hung, 8/8/8 in wood sash. A door on the south wall at this level gives access to an outside fire escape. There is a loading door on the west wall that has been closed off. The interior frame of the first three levels consists of a row of wood posts carrying transverse girders; the top floor is unobstructed.

The East Ell (M 5) today is the same height as the Main Mill after floors were added in 1900 and 1922; the roof is flat and has a built-up covering. The original walls are stone at ground level, and later stories are brick but were built around the stone peak of the original gable; this can be seen on the east side of the building. The window

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openings of the new floors have segmental-arch tops with double or triple rowlock brick arches and brick sills (Photo 7). Inside, there are two rows of wood posts, spaced eight feet apart on center, running longitudinally on all floors except the top floor, where two rows of metal posts carry longitudinal girders supporting transverse roof girders (Photo 8). A metal fire escape at the southeast corner serves four floors of the building; the windows in this corner were cut down to give access to the fire escapes. Most of the window openings have been blocked or have replacement sash. The two floors added in 1900 were designed by the engineering firm of Charles T. Main.

Henry H. Stevens spent a fortune on the granite mill, and he produced a building that is extraordinarily impressive visually and with respect to workmanship. The beauty of the architecture lies not in styled decoration, but rather in its proportions and aesthetic reserve. The walls of Stevens Linen Mill, although plain and flat, form an important architectural feature of the building. They are made of blocks of varying sizes, but all blocks are squared and laid partially in courses.2 Within this field are subtle courses of smaller, flat stones that run between the ends of the window arches and sills. In addition, the blocks (above the foundation) are multi-colored, in shades of gray and brown. All the openings in, and edges of, the buildings are articulated with contrasting color and patterns of stonework: lighter-colored, or more uniformly gray, stone was used for the quoins, window arches, window sills, jambs and lintels of the doorways, and the cornices (Photos 3, 6). The varying sizes of stone, laid in broken ranges, with their varying colors, create a mosaic effect. Another distinctive architectural feature of the mill is the tooling on the stones that form the sills, jambs, lintels, and cornice blocks; these are all tooled with prominent rows of grooves. This treatment creates texture and visual interest in these monolithic blocks, which would otherwise be plain slabs of granite (Photos 9, 3). As far as can be learned, no other example of this particular pattern of tooling is known in New England. Such tooling was not uncommon in Great Britain, where it was called “droved, broached, and striped.”[3]

The two towers, decorated in Romanesque Revival style, are the only styled parts of the mill. This revival style is manifested on each tower in the bull’s-eye and round-arch openings; narrow, round-arch topped windows; low, pyramidal roofs; and stone cornices and band courses. At the top of each tower, below a projecting band course that circles them, are round windows on four sides, formed by voussoirs with projecting keystones at the top and bottom. On all four sides below the round windows, are large openings with round-arch tops formed by voussoirs with projecting keystones and imposts; below the imposts, quoins define the sides of the opening and projecting flat sills finish the bottom. Flanking the round windows, and lined up in tiers below, are small, narrow windows with round-arch tops. The tiers correspond with the floor levels in the tower. On the Mill Street side of the West Tower is a date stone “1864” over a large stone block with the word “STEVENS” (Photos 10, 11, 6). The towers have a number of features that suggest their architectural models were the Norman-style buildings of Great Britain (Britain’s version of Romanesque) rather than continental Romanesque buildings: e.g., the walls are solid with few, small openings; ornamentation is simple; and the roofs lack projecting eaves and brackets.

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2 The first parts of the mill to be built – the end wall of the East Wing and the lower floor of the East Ell – have walls made of rubble, not squared, stones.

[3] Joseph Gwilt, *Encyclopaedia of Architecture* (London: Longmans, Brown, Green, and Longman, 1842), 519. In Boston, large slabs of granite used for sidewalks sometimes were scored with parallel lines to make them less slippery for pedestrians. However, no one I have contacted can cite a building in which this finish was used in the superstructure. In fact, some of the sills of Stevens’s 1859 wheelhouse (demolished) were tooled in this fashion, although the tooling on the lintels (which can be seen in an old photo) was a more common bush hammer finish.

Romanesque-style decoration was popular for mill towers; many New England mills had towers with arched windows. The east tower originally held the mill bell, which rang out curfew. In 1905, a water tank for the mill's fire protection system was placed in this other tower, and the bell was moved to the west tower.

The mill's interior structural system was thoroughly American: a characteristically New England form that came to be known as slow-burning construction. Features of slow-burning construction found in Stevens Linen Mill include masonry bearing walls, timber posts and girders, and thick plank floors (made without joists). However, the mill was built *before* the slow-burning system was codified, which happened in the late 1870s.[4] It therefore was a forerunner, an example of a first-class mill for its time. Some features of its original construction, such as the iron wall anchors and original pitched roof, would later be rejected by the fire insurance companies that insured textile factories, on fire safety grounds (Photo 6, iron wall anchor ends are the line of round objects between the windows). The owners of Stevens Linen Mill updated their mill to meet the standards of safe construction as these evolved. Some standards were aimed at making the factories better workplaces. One feature of Stevens Mill, which became part of the standards, was angling the walls at window openings (at the sides and top) to increase the natural light in the mill (Photo 14). The interior finish was also designed to protect the mill from fire. Thus, there are no hollow spaces inside. Plaster, whitewash, or paint is applied directly on the interior face of the walls.[5] The ceilings of the rooms are finished with boards placed directly under and against the plank floors (Photo 12).

There is no record of who designed the mill, or what tradesmen or builder constructed it. But based on evidence of H. H. Stevens's involvement, it is very likely that he was the designer.

Major additions and alterations

At the end of the 19th century, pitched and double roofs of factories came to be considered fire hazards. In 1905, Stevens Linen Works removed the pitched roof on its Main Mill and installed the current flat one (Photo 2). A major addition was the long, one- and two-story warehouse extending from the end of the East Wing, which was built in phases: in 1878, 1891, and finally in the early 20th century. These East Wing extensions have stone foundations, brick walls, and shallow-pitched roofs covered with tar and gravel (Photo 15). There are openings in the walls for loading doors on the east and west sides and vents in the south end. Two smaller additions to the Main Mill are an elevator shaft near the East Tower and a four-story brick passage connecting the East Ell and East Wing (after 1914, exact dates unknown).

With respect to the grounds around Stevens Linen Mill, the areas south and north of the building are paved for vehicle access and parking. To the east, beyond the East Mill and Storehouse No. 5 to the boundary of the District, the ground has been moved around and is essentially a pile of rocks. This area was prepared in the early 20th century as the right of way of the Grand Trunk Railway (never built). Mill Street borders the west side of the mill (Photos 1 [south], 23 [north], 17, 18 [east], 2 [west]). There appears to be nothing historic in the land surrounding the mill apart from the Raceway that runs past the mill to the French River.

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[4] Slow-burning construction was the name given to a system of mill construction that the mutual fire insurance underwriters that wrote policies on factories considered most safe and functional. An early presentation of the features of this system was in Charles J. H. Woodbury, *The Fire Protection of Mills* (NY: John Wiley & Sons, 1882).

[5] In some cases, the walls under the windows have been finished with wood boards. It is unknown when this finish was put in.

Currently the building is partly occupied. The first floor, including its wings and East Ell, is occupied by a flea-market. The upper floors are vacant. Future plans call for converting Stevens Linen Mill and adjoining structures to rental housing. The redevelopment project is supposed to include 164 rental apartments, a fitness center and swimming pool, and 294 parking spaces.

2. **East Mill**

A new mill building, the East Mill (M7), stands east of the East Wing of Stevens Linen Mill. Built 1927-28, it is a rectangular structure, two stories with a basement, and has a concrete foundation, brick pier-and-panel walls, and a flat roof. The piers end in arches under the eaves, which corbel out, creating a cornice effect. The window openings are rectangular, with brick lintels and concrete sills. Most of the window openings on the south and north walls retain their steel sash and glazing. The openings on the east wall are rectangular except for the top level, which has arched openings; all these openings are blocked in. On the west side, most of the wall is covered by M7A Infill and, being inside now, the walls have been opened between the piers (Photos 17, 18, 21). Charles T. Main, Inc. designed the East Mill and it was built by J. W. Bishop Co., of Boston and Worcester.[6] A bridge connects it to the East Ell. This mill is scheduled to become rental apartments, but in the near term, the owner plans to use the first level for a self-storage facility and the second level for antique shows and auctions.

3. M7A Infill (noncontributing)

M7A Infill is one of two modern additions to the mill. Built 1983-84, it is located between the East Mill (M 7) and the East Wing. It is two stories with a brick end wall and a nearly flat roof (Photos 21, 17). The owner plans to use this building for antique shows and auctions in the near future, but when the property is converted to housing, this section will be demolished.

4. **Engine House (M 8)**

North of the Main Mill is a brick extension, the Engine House (1892), which bridges the Raceway (S 5)[7] (Photo 16). It is one story with grouped, arched window openings (two groups of three, then a group of two) between projecting piers, and has a shallow-pitched roof. It once housed a steam engine and connected a group of power-related buildings (demolished) to the East Ell. Remnants of the demolished buildings can be seen on its north wall. Today it contains a heating plant for the mill. It will continue to serve as the heating plant until the mill is converted to housing, at which point plans call for it to become a public room containing an historical exhibit about the mill and a library/lounge.

5. **Storehouse No. 5 (M 9)**

Storehouse No. 5, a small warehouse, stands east of the East Ell and is connected to the East Ell by a bridge.

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[6] Orra Stone, *History of Massachusetts Industries* vol. II (Boston-Chicago: S. J. Clarke Publishing Co., 1930), 1906; "J. W. Bishop Company Awarded Contract for Stevens Mill Addition," *Webster Evening Times* 4 (Sept. 6, 1927). Charles T. Main incorporated in 1926, and before then, the company was known as Charles T. Main. For information about Charles T. Main, see section 8.
[7] Date of structure, *Webster Times* 7 (April 15, 1892).

[The terms warehouse and storehouse are synonyms; the traditional term for the warehouses in the District was storehouse, and the two words are used interchangeably here.] It is one story with an attic and basement, and it has a stone foundation, brick walls, and a shallow-pitched roof. The window openings have arched tops, and most of the openings are blocked in. The north façade has been painted a dark blue, but the south and west sides are unpainted brick (Photos 19, 20). There are no posts inside; a stairway to the attic runs along the east wall. The date of the extant bridge is unknown. The storehouses originally would have been used to stockpile flax. The building is currently unoccupied. Future plans call for converting it to housing.

6. Weaveshed (M 10) (noncontributing)

The most recent addition to the complex is the Weaveshed (1998-99), an infill building that covers the courtyard between the East and West wings of Stevens Linen Mill. It is one story, with a stone veneer, concrete block, panel and glass envelope, and a flat roof (Photos 22, 1). This building replaced another modern addition – a small, one-story plus basement building that had been attached to the courtyard side of the West Wing. The Weaveshed is currently being used for a flea-market. When the mill is rehabilitated and converted to housing, this building will be demolished.

7. **Stevens Linen Carding & Hackling Mill (M 1)**

In 1913, Stevens Linen Works added a large, brick mill, the Carding & Hackling Mill (M1), north of the Main Mill, bordering Mill Street. It is one story with a high basement on a rectangular footprint of 70 by 290 feet, and has brick pier-and-panel walls (Photos 24, 25). Because the site slopes down from west to east, the building is one story on Mill Street (west side) and two stories on the east side. It has a shallow pitched roof. Clerestory windows once ran down the center of the roof, but these have been removed. Inside, the building has two rows of posts. This mill ran on electricity, rather than water or steam power. Charles T. Main was the designer, and it was built by Fiske-Carter Construction Co. of Worcester, Massachusetts.[8] It was built for processing flax (hackling, or drawing prepared flax through combs to remove short fibers called tow) and tow (the short-fiber waste from hackling, which is carded) for spinning.

Although essentially plain, the architecture of the Carding & Hackling Mill draws on Classical Revival motifs that were popular at the time of its construction. The brick is a light, buff color, intended to suggest stone, which is often found on Classical Revival-styled buildings. The rectangular bearing piers that line its long walls are accentuated by the recessed panels with windows between them. The piers culminate in projecting corbels, spanned with segmental arches. This simple but attractive design creates the effect of an arcade surmounted with a plain frieze under projecting eaves. The arches over the window openings are triple rowlock and the sills are stone. The openings are filled with modern replacement windows or are blocked in (Photo 26).

Attached to, but projecting from, the south end of the Carding & Hackling Mill is an architecturally interesting structure: a narrow, three-story rectangular stair tower that contained an elevator and stairway. The tower shares the hints of classicism found on the Carding & Hackling Mill, but also suggests the form of the Main Mill in

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[8] *Webster Times* 54 (Sept. 18, 1913).

miniature. It achieves this through a recessed panel in its middle, which sets off the ends as vertical elements capped with pyramidal roofs – echoing the Main Mill's towers. Other classical elements on the stair tower are a frieze-like band projecting over rows of corbel brick surrounding its top, the more formal flat arches over some of the windows in the tower; and the projecting cornice. Some windows have segmental arch tops. On the south wall is a large opening from which a bridge once led to the fourth level of the Main Mill; the bridge has been demolished. There is an entrance to the tower from Mill Street. Over the entrance is a recessed panel with two windows, one above the other, and a date stone ("1913") between them (Photo 27).

The exterior of the building is well-preserved and little changed from its original form, except for the replacement and blocked windows, and the removal of the clerestory windows on the roof. It is connected to the Main Mill at ground level by a covered bridge. The date of the bridge is unknown, but it was built after 1914.

Mill Street runs along its length on the west, and a driveway and parking lot surround it on the east and north. On the south is the Raceway (S 5) between this mill and the Main Mill. The building has been converted to office use and is occupied by a social service agency that serves elderly and disabled people. There are no known plans to change this use.

8. **Stevens Linen Mill Dye House and Bleachery) (B 3)**

The Dye House and Bleachery is a collection of attached buildings standing approximately 1,000 feet west of Stevens Linen Mill at Merino Pond Dam (S 4). Construction on the building began in 1867 and continued into the 20th century. The buildings are completely utilitarian with no styled features, although there are touches of the workmanship that characterize the Main Mill.

The principal sections of the original Dye House and Bleachery complex survive. The main part is a long, one-story, rectangular stone mill, measuring about 175 by 35 feet. It rises to a shallow-pitched roof. It is an open room with high walls, lighted with windows in rectangular openings. The piers between the windows support roof trusses (Photos 28, 29, 30). The posts and lintels of the doorways and the window sills are made of monolithic stone blocks tooled with lines like those found in the original sections of Stevens Linen Mill. Extending from the south end of the mill, and divided from it by an interior wall, is a one-story boiler house with a pitched roof. A third original piece is a small ell, the former soda ash house, which projects from the south end of the west wall of the mill. It is also one story, and today it has a brick façade (Photo 31). Because the site slopes downward to the east, the floor of the ell is at a different level than the floor of the mill. All of these parts were built in 1867 and form the core of the Dye House and Bleachery.

The boiler house was extended on both its east and west sides: to the east in 1895 and to the west in 1910. The east extension is one story with stone and brick walls, rectangular window openings, and a shallow-pitched roof with the gable at the east end. The west end of the boiler house has brick and concrete block walls and a shallow-pitched roof with the gable on the west end (Photos 28, 31). Today, the original boiler room and its extensions form a single open room, with boilers still in place. These boilers probably date from the 1960s, when the older vertical tube boilers were taken out. Part of the roof over the east end extension has been destroyed, but the roofs on the center and west end are in place. The doorway on the south wall is framed with tooled, monolithic granite

(continued)

blocks. Outside, on the west façade, a covered concrete ramp runs along the west side and the adjacent small ell (Photo 31). Standing outside the east extension, at its southeast corner, is the stone foundation of what had been a large, round cistern (Photo 33, left).

The remaining additions to this mill date from the turn of the 20th century. Next to the small ell, projecting from the west side, is the former boiling building, with a stone ground story and timber clerestory, covered with a shallow-pitched roof (1900) (Photo 32). The last section of the complex is an ell attached to the middle of the east side of the building. This consists of a one-story, brick building with a pitched roof (1898) and a modern addition – a one story metal-clad shed on a concrete foundation (Photo 33). The interior of the Dye House and Bleachery was altered considerably around 1922-23, when a conveyor to transfer cloth between the Main Mill and bleachery was installed. Whether the exterior was changed during this renovation is unknown.

None of the wooden ells and outbuildings that surrounded the complex at times over the years survive. The tall chimney that stood adjacent to the boiler house was probably demolished when the plant converted to electricity. When the cistern was demolished is unknown.

The setting of the buildings, on the banks of Merino and Low ponds, at Merino Pond Dam, is picturesque. The grounds around the site are wooded, probably more so than they were when the factory was in operation. The Town of Dudley owns the property and uses the metal shed for storage, but the buildings are mainly vacant, unsecured, and unprotected. Parts of the roofs have collapsed, exposing the building to the weather.

9. **Stevens Linen Mill Storehouse No. 2 (B 2)**

Built in two phases (1890, 1901), Storehouse No. 2 is a rectangular brick building with its long dimension roughly paralleling Mill Street, but set back from the street. It is one story with a shallow-pitched roof. The building has styled features (Photo 34). The openings in the walls were designed for loading. On the west side, the seven original openings remain; they have arched tops and stone sills, and metal shutter-type doors (Photo 35). The east facade, facing Mill Street, has been more altered. The original arched openings are bricked in, and four new, rectangular openings have been created. There is a rectangular loading door on the south wall. Also on this wall is a small, modern, concrete block structure. On the north side is a new projecting entryway (2008) (Photo 40). Originally the warehouse had four compartments, each measuring 50 by 52 feet, separated by interior partitions. Whether these interior walls remain is unknown. The building has been adapted for use by a dog grooming and boarding business.

10. **Stevens Linen Mill Storehouse No. 4 (B 1)**

Located on West Main Street at the French River, Storehouse No. 4 is a rectangular building, 52 by 200 feet. It rises one story above a basement to a flat roof. The front, along the street, is faced with stone, but the walls are otherwise brick. Partition walls divide the interior, forming compartments, and the openings in the street façade correspond with these sections. These openings have been filled with glass doorways or windows to create a storefront. The building has no styled features, but the stonework on the façade was laid in a characteristic local pattern: courses of large blocks alternate with narrower bands of darker-colored stone, creating a striped effect (Photos 36, 37).

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The building was erected in 1904, as indicated by a date stone at the top west corner of the façade. It was an extension to another building, now demolished. The earlier building was two stories with an attic and somewhat narrower than Storehouse No. 4. It had a factory roof and was called Mill No. 3 on some plans; it may have been an old gristmill.[9] When the 1904 warehouse went up, the upper part of the old building was removed and its stone used to make the façade of the extension. The old building had striped stone walls, and the new one was built to harmonize with it. George F. Hall was the mason on the 1904 building.[10] It also appears that the warehouse was extended to the east, perhaps when the old warehouse was demolished.

Most recently Storehouse No. 4 was used as a mill outlet store. Now it is unoccupied. Future plans for the property are unknown.

Structures

11. **Mill Street Bridge at Stevens Mill (S 1)**

The 1859 Mill Street Bridge is a stone and concrete, segmental-arch bridge with an opening on its upstream (west) side measuring roughly 14.5 feet wide and 5 feet high.[11] It carries Mill Street over a tailrace that once flowed from an 1859 wheelhouse (demolished). Now, the Raceway flowing from Low Pond passes under this bridge. The west side of the bridge is original, with an arch formed of voussoir-shaped stones. The wall surrounding the arch is made of random-sized stones laid without mortar. Along the roadway on this side is a stone and concrete railing made of stones that are uniformly smaller than those of the wall surrounding the arch. Henry H. Stevens built this bridge and a railing. Whether the present railing dates from the 1860s or has been rebuilt is unknown (Photo 38). The east side of the bridge is not visible as it is under the Carding & Hackling Mill. The structure continues to function as a bridge.

12. **Stevens Linen Mill Low Pond (S 2)**

Created in 1859, Low Pond is the last in a series of reservoirs that stored water for powering Stevens's mills. It is a small (about 1,000 feet long), artificial pond formed by damming Powder Horn Brook and flooding the adjacent land.[12] It starts at the dam at Merino Pond and ends on the east at Low Pond Dam. Like the other artificial ponds (such as the larger Merino Pond), it looks natural, with tree-filled earth banks. The shape of Low Pond has changed over time, according to the needs of the mill (Photo 39). A report for the U.S. Army Corps of Engineers calculated the drainage area for Low Pond to be 3,675 acres (5.74 square miles), about 10 percent of which is covered with ponds.[13] It is a habitat for turtles.

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[9] It is shown, for example, on the "Atlas of Worcester County, Mass." NY: F. W Beers & Co., 1870. An 1831 plan of Dudley by Zephaniah Keach shows a gristmill approximately at its site. ("Map of the Town of Dudley, Mass.," Z. Keach, 1831.)
[10] "Stevens Mill Storehouse Contract Awarded," *Webster Times* (Aug. 25, 1904).
[11] Dimensions of opening: New England Division, Corps of Engineers, Dept. of the Army, *Phase I Inspection Report, National Dam Inspection Program, Lower Merino Pond Dam*, Waltham, Mass., Oct. 1978, 13. The Town of Dudley paid Stevens for building the Mill Street bridge on Nov. 17, 1859 (Dudley, Massachusetts Town orders 1816-1878, copied and indexed by Marilyn Labbe, Killingly Historical Society, Danielson, Conn.).
[12] An 1857 map of Dudley shows Powder Horn Brook flowing from Merino Pond, with two pools along its course to the French River, but no Low Pond. (Henry Francis Walling, "Map of Worcester County," Boston: William E. Baker & Co., 1857.)
[13] New England Division, Corps of Engineers, Dept. of the Army, *Phase I Inspection Report, National Dam Inspection Program, Lower Merino Pond Dam*, 5. In the report, the pond is called "Lower Merino Pond."

13. **Stevens Linen Mill Dam at Low Pond (S 3)**

Low Pond Dam is approximately 328 feet long. Made of dry-laid, random-sized stones, it is filled behind with earth and has a concrete spillway. It is built up to a maximum rise of 21 feet at the spillway, which is located at the east end of Low Pond.[14] The spillway is at a right angle to direction of flow of the water. At one time, water was channeled from the pond through pipes to the 1859 wheelhouse of the old Merino Mill. Today the water flows over the spillway into the Raceway. The crest of the dam is clear of vegetation and fenced. The fence and the fact that the land downstream of the dam is private property, make it difficult to get close to the structure (Photos 40, 41). It continues to function as a dam.

14. **Stevens Linen Mill Dam at Merino Pond (S 4**)

Merino Pond Dam (ca. 1859) is an earth-fill dam retained by a stone wall, about 285 feet long and 19.5 feet high at its maximum. The dam is located at the west end of Merino Pond. The walls of the dam at its center are vertical, dry-laid stone with a rectangular concrete spillway near the middle. There are metal supports in the spillway for flashboards. The sides of the dam around the crest have been covered with concrete and stones, and the spillway is spanned by a footbridge (Photo 42). The south side end of the spillway section abuts the wall of the Dye House and Bleachery, and at one time, water was channeled from the pond through a pipe to power this mill. Parts of the dam have been modified over time (i.e., the crest, spillway, and upstream stone wall.)[15] Access to the dam is restricted. It continues to function as a dam and the Town of Dudley has invested in maintaining it.

15. **Raceway (S 5**)

The Raceway, built in 1859-62, is the outlet from Low Pond[16] (Photo 41). It runs somewhat north from the dam, then curves sharply and continues east under Mill Street Bridge and past the north side of Stevens Linen Mill (Main Mill). It turns south at the East Ell and continues southeast in a pipe to a point outside the District, where it flows in a trench to the French River. Its water once drove waterwheels at the old Merino Mill and Stevens Linen Mill. This was once Powder Horn Brook, but the current channel of the Raceway is manmade. It continues to function as a spillway for the dam, although it has silted up.

Archaeological Description

While no ancient Native American sites are located in the district, sites may be present. One ancient site is located in the general area (within one mile) south of the district in uplands within 1,000 feet of the east bank of the French River. Environmental characteristics of the district represent locational criteria (slope, soil drainage,

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[14] New England Division, Corps of Engineers, Dept. of the Army, *Phase I Inspection Report, National Dam Inspection Program, Lower Merino Pond Dam*, 2. In the report, the dam is called Lower Merino Pond Dam.
[15] New England Division, Corps of Engineers, Dept. of the Army, *Phase I Inspection Report, National Dam Inspection Program, Merino Pond Dam*, Waltham, Mass., Sept. 1979, 1-2, 3-1, 6-1.
[16] Source of 1862 date, "Enterprise on the West Side," *Webster Times* 5 (March 28, 1863).

proximity to wetlands) that are favorable for the presence of Native sites. Well-drained, level to moderately sloping upland stream terraces are located in the district. In the western half of the district, both north and south of Low Pond, stones are present on the surface, and ledge outcrops are common. While stony land surfaces may reduce the overall ancient site sensitivity for this area of the district, In the eastern half of the district, in the area surrounding the main mill, soils are partially characterized by an urban land complex where filling or grading for buildings, parking lots, and other urban structures has altered soil areas. The entire district is located within 1,000 feet of wetlands including Merino Pond, Low Pond, and Powder Horn Brook; a stream that was converted into a raceway for the main mill from Low Pond to the French River. Given the above information, the potential for locating significant ancient Native American resources in the district is low to moderate. While ancient resources may survive in the district in isolated areas around mill buildings, most potential ancient Native American sites in the vicinity of the mills have been destroyed.

A high potential exists for locating historic archaeological resources in the district. Structural evidence may survive from the Old Merino Mill (1812), occupied by Stevens in 1846 and demolished in the 1990s. The Merino Mill, which actually included three mills and associated buildings, was located across the street from Stevens' new mill built at Village and Mill Streets. Structural evidence may also survive from waterpower-related structures and canals associated with the Merino Mill, including a wheelhouse (1859) separate from the Merino Mill. Archaeological evidence of an earlier dam associated with the Marino Mill may also exist.

While some buildings associated with the new Stevens Mill Complex have been demolished and others altered as the complex evolved, most of the major buildings and structures built in 1862 or later are intact. The Stevens Mill Complex is unusual for its physical integrity. Structural evidence may survive from the wheelhouse, tall chimney, wooden ells, and outbuildings associated with the new Stevens Mill complex. Construction features and structural evidence of the Stevens Linen Mill Dam and related water power structures may also survive. No pre-1859 buildings or structures are known to exist in the district. Archaeological evidence of occupational-related features (trash pits, privies, wells), especially industrial trash areas associated with the new mill, may also survive.

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8. STATEMENT OF SIGNIFICANCE

Stevens Linen Works in Dudley, MA, is the nation's sole remaining example of a linen manufacturing plant. It was the first and the last factory in the United States to spin flax and weave linen cloth by machine. A unique survivor, it is historically significant for its association with New England's and the nation's textile industry, and particularly for its manufacture of linen. As opposed to cotton and wool, the manufacturing of linen was a rarity in the nation. Stevens Linen Works is also significant for its exceptional longevity within the textile industry. Stevens Linen was founded in 1846 and continued as Stevens Linen Works, and then as Stevens Linen Associates, on this site in Dudley until 1993, and the plant continued to be used for textile manufacturing until 2003. Henry H. Stevens was to American linen manufacturing what Samuel Slater was to cotton and Arthur Schofield was to wool. All three men were the first in the nation to successfully manufacture products from a particular fiber using water-powered machines.

Stevens Linen Works is architecturally significant as an exceptionally well-preserved textile mill complex dating from the mid 19th century. Together, the stone factory buildings and the structures supplying the waterpower are an excellent example of a first class, water-powered, New England textile mill. Well built and displaying a high quality of workmanship, the Stevens Mill buildings range from examples of the Romanesque and Classical Revival styles to representative examples of mill construction. In addition, the Main Mill is a fine example of slow-burning construction—an early fire prevention effort that was distinctive to American textile mills.

While some buildings have been demolished and others altered as the complex evolved, the structures as well as most of the buildings (all the major ones) dating from 1862 on are intact (see section 7). The Stevens Linen Works Historic District retains integrity of location, design, setting, materials, workmanship, feeling, and association, and fulfills National Register criteria A and C at the local, state, and national levels. The period of significance begins in 1859, the date of the oldest resources, and ends in 1960, the standard 50-year cut-off for National Register eligibility.

Historical Context

The textile industry was the most important manufacturing sector in the United States in the 19th century. In Great Britain, it was the substitution of power-driven machinery for hand labor in textile manufacturing that inaugurated the Industrial Revolution. America's industrialization likewise began with textile manufacturing at the turn of the 19th century. And at the end of that century, although mechanization had spread to all manufacturing sectors, the textile industry was still the dominant one. It was larger even than the iron and steel industry with respect to capital invested and annual value of output, when its subsidiary branches (e.g., clothing production) are included.[17] In short, it was a key sector in the U.S. economy and remained so into the early 20th century.

Within this vital sector, one branch that never got a foothold was linen manufacture. Linen and woolen cloth were the principal fabrics made in America in colonial times, when cloth was produced in households mainly for personal use

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[17] S. N. D. North, "American Textile Mills," Chauncey Depew, ed., *1795-1895; One Hundred Years of American Commerce* vol. 2 (NY: D. O. Haynes & Co., 1895), 475.

rather than for market. The days of homespun gradually came to an end, however, as factory-made cotton yarn and cloth became available. Even though factory-made cloth could replace linen for many purposes, Americans continued to purchase imported linen. Linen has advantages over cotton: it is less susceptible to rot, so was used for sailcloth and towels; it is sturdier, so works well for upholstery fabric; and it has a natural gloss, so makes beautiful tablecloths. Thus, a demand in the U.S. for linen persisted, but British and European manufacturers supplied it.

Before Henry H. Stevens began manufacturing linen in Dudley in 1846, no American had managed to break into this market. Stevens was the first entrepreneur in the U.S. to successfully produce linen cloth using machinery. But his single mill met only a fraction of the demand. The opportunity to get a piece of this market encouraged other entrepreneurs to try their hand at linen manufacture. In the second half of the 19th century, many large and small linen mills started on the East Coast and in the Midwest, the latter, near where flax was grown at the time. Some tried to weave using imported yarn rather than spinning their own. None succeeded for long. At the close of the century, there were a few mills that made cloth partly with linen thread, and a few more that made linen thread exclusively (e.g. for the shoe industry). Stevens Linen Works remained the only manufacturer in the U.S. to make all-linen cloth starting from flax.

The great stumbling block to success was obtaining the raw material: the flax. Americans grew this plant for the seed, not for the fibers. To produce fine fibers, the plants had to be the right kind, raised in the right environment, and cultivated with great care. But the real challenge came in extracting the commercial fiber ("harl") from the bark and woody center of the stalks. Traditionally, this was accomplished by rotting the plants ("retting"), a very tricky business. It took great skill and knowledge to decompose but not ruin the crop. After retting, the plants were broken ("scutching") to remove the woody heart, and then bundled and sold to spinners. This work was skilled, but at the same time unpleasant (smelly, dirty). Americans apparently did it in colonial times as a household handicraft, and Henry H. Stevens may have used some American-grown flax early in his career. During the Civil War, when cotton disappeared, farmers grew a greater quantity of flax than in the previous decade. The U.S. Congress put a tariff on imported flax at the time, to encourage the linen industry, The tariff remained in effect and was increased in later years. Stevens tried to encourage Worcester County farmers to grow flax in the 1860s, as his new mill was nearing completion. But his effort had no long-term results, and in the U.S., production dropped off sharply in the 1870s.[18] American farmers never grew flax for linen on a commercial basis. Thus, the flax used in American mills had to be imported, and the cost of transporting this raw material put American linen manufacturers at a competitive disadvantage with those in Europe (Belgium, France, Ireland, and Russia) where good flax was grown. Various inventions from time to time promised to promote linen manufacture by getting around the difficulties, but the revolution never materialized.

Linen mills did start up, but did not last long. Writing about the 1890 proposals for tariff revisions, an editor in *The Nation* concluded, "In spite of the tariff, no linen cloth, with the exception of a small amount of coarse toweling, is made in this country, and no flax fit for spinning into linen is grown here. Five or six large mills and as many small ones, engaged in making thread and twine, represent our linen industry.… This meagre [sic] showing is not due to any lack of enterprise on the part of our manufacturers, but the historian of the linen industry can point to some forty or

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[18] "Flax Culture," *Worcester Spy* 93 (April 27, 1864); F. W. Taussig, *The Tariff History of the United States* 5th edition (NY: G. P. Putnam's Sons, 1901), 366; William R. Cutter and William F. Adams, *Genealogical and Personal Memoirs* v. 2 (NY: Lewis Historical Publishing Co., 1910), 1020, writes that Stevens used American grown flax.

fifty mills that have sunk several millions of dollars in the vain attempt to make a profit in the manufacture of linen. The American Linen Company of Fall River, the Willimantic Linen Company, the Sprague Linen Company, not to mention others, are monuments of failure, and largely from the difficulty of getting their raw material."[19] The exception he noted, the manufacturer of the "coarse toweling," was Stevens Linen Works. In the early 20th century, American dry-goods importers protested the high tariffs on European linen fabrics, arguing that the attempt to foster a domestic linen industry was futile. As one protester wrote in a letter to the Ways and Means Committee in Congress during tariff hearings in 1908, "excepting an article of coarse grade of unbleached crash made by a Mr. Stevens of New England, and some half-cotton linen towels, there are not any linens manufactured in the United States." He went on to list the kinds of products that were imported and *not* made in the U.S., and it is worth quoting in full to appreciate the variety: "not any table damask, …; not any linen damask napkins; not any shirting linen; not any pillow-case linen or linen sheeting; not any towelings, such as 'diaper' or 'huckaback;' not any medium and better qualities of linen towels; not any linen 'Holland,' dowlas, or linen drills; not any linen furniture covering; not any linen cambric in its many varieties; nor any other kinds of linen fabrics that consumers need, outside of the two exceptions mentioned, not any of these are made in the United States."[20] His explanation for this lack was, as usual, the difficulty of obtaining flax; he went so far as to assert it was impossible to grow suitable flax in the United States, not simply that it was not a paying proposition for farmers, compared to alternatives. Yet in this difficult and competitive environment, which involved importing European flax and competing with linen manufacturers in countries that grew flax and had large linen industries, Stevens Linen Works persevered. It remained in business through the 20th century.

All this is to show that the manufacturing complex that makes up Stevens Linen Works Historic District is exceptional and a unique survivor. It is the sole remaining example of a firm from the linen industry. As such, the resources in the District provide an illuminating perspective on the nation's textile industry: a contrast to the more familiar story of triumphal, corporate cotton manufacturing.

Second, the business was exceptionally long-lived. For a textile manufacturing firm, regardless of the fiber worked, its longevity was remarkable. Stevens's company and its descendents operated continuously from 1846 to about 2003, and always, until the latter decades of the 20th century, making linen.[21] How was this achieved, especially considering the obstacles? That question remains to be answered. But a notable feature of the mill was the personal and familial commitment of its owners and the employees to the company. From 1846 to 1993, Stevens Linen had few owners. Henry H. Stevens operated it until 1877, when he retired and his brother Moses T. Stevens took over. Next, Moses' son Nathaniel Stevens became president, and the mill stayed in the family until 1939. At that point, the Crawford family, members of which had worked in the mill since 1863, and others bought the mill; H. Wadsworth Crawford managed it,

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[19] "The Proposed Duty on Flax," *The Nation* 50 (April 17, 1890): 308-09.
20 Adolph Simon, Baltimore, MD, asks a decrease of duties on linen fabrics, Nov. 17, 1908, *Tariff Hearings, Before the Committee on Ways and Means of the House of Representatives* (Washington: GPO, 1908), 4859
[21] Stevens's linen manufacture in Dudley began in 1846. The company reorganized as Stevens Linen Works and continued under this name until 1939, when it was sold to a group that included employees and renamed Stevens Linen Associates, which was in business until 1993. So the period the company was operated by Stevens, his family, or former Stevens Linen Works employees, was 147 years. The mill continued to operate for about ten more years. Textile production began on the site in 1812, in a mill no longer standing. So textiles were made at this site for about 190 years. The extant stone mill, the centerpiece of the District, was in use from 1865-2003 or 138 years.

and his son Hugh took over until 1993. Meanwhile, successive generations of families worked in the mill. Undoubtedly the personal attention of the owners, and the skills of the workforce that developed in the neighborhood, helped keep the mill in business.

Third, the complex is unusual in its physical integrity. Some historic buildings have been lost, but enough of the original complex remains to allow a visitor to comprehend its historical use. Finally, the mill is an example of a distinctive American construction system found in textile mills: slow-burning construction. Slow-burning construction was a collection of traditional construction methods and safeguards combined in such a way as to make a building more fire-resistive than one of ordinary construction would be. The system was codified in the late 1870s by officials of the Associated Factory Mutual Fire Insurance companies (AFM) of New England, which had been established to insure textile mills. Thus, the mill actually predates the codification of the slow-burning system. Over time Stevens Linen Mill was updated to be compliant with evolving fire-safety standards, and contains the key features of a slow-burning mill. These include joistless floors, with thick plank laid directly on the beams that run transversely across a building (Photo 12); the absence of a ceiling under the beams; plaster directly on the stone walls rather than on wood lath; and stairs in enclosed towers. In 1905, the mill's pitched roof was changed to a flat roof (although sloping enough to drain water), as a fire safety measure that eliminated a hazardous attic. Sprinklers, to extinguish fires, were another feature the AFM companies came to require, and Stevens Linen Works installed automatic sprinklers in the Main Mill by 1893.[22] By 1914, most of the complex was sprinklered, including the Main Mill and East Ell, the towers, East and West Wings, the East Wing Extensions, Storehouse No. 4, Storehouse No. 5, and the Engine House. Thus, the mill was a model industrial building in its day, one that in its original construction anticipated the features of slow-burning construction. Stevens built this way voluntarily, in order to make his factory safe and efficient.

But the mill was more than a substantial plant for producing textiles: it is also a superb work of architecture. High aesthetic values are evident in its overall form and the architectural treatment of structural features (Photos 1, 10). Contemporaries judged it to be one of the finest mills in New England. At a Dudley town meeting in 1865, Rev. Henry Pratt of Dudley "made very complimentary and truthful allusion to the majestic edifice now nearly completed at Mr. Stevens village [Stevens Linen Mill]."[23] A fire insurance survey from 1877 commented that this mill was "of very superior construction and in neat condition."[24]

History of the Stevens Linen Works Historic District

The history of linen manufacturing in Stevens Linen Works Historic District can be divided into four main periods. In the first period, 1846-1867, Henry H. Stevens began manufacturing at the site, and in the 1860s built Stevens Linen Mill and structures for waterpower. The next period, 1867-1939, covers the years the firm, then known as Stevens Linen Works, operated in the mill. In the third period, 1939-1993, the mill was owned by the Crawford family and called Stevens Linen Associates. In 1993, the mill was sold to new owners, who operated it as a textile mill until 2003, when textile manufacturing came to an end in the District.

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[22] *Webster Times* 24 (Aug. 11, 1893).
[23] "Action of Dudley and Webster Upon the Bridge Question." *Webster Times* 31 (Oct. 7, 1865).
[24] Barlow Insurance Survey, No. 5017 (Nov. 1877).

H. H. Stevens's linen manufacturing company in Dudley, Massachusetts, 1846 – 1867

Henry Hale Stevens (1818-1901) was born into a North Andover textile manufacturing family and became involved in the textile industry as a young man. His father Nathaniel Stevens (1786-1865) was an early woolen manufacturer and one of the first in the United States to produce flannels, which, up to that time, had been imported. Nathaniel realized that Americans consumed flannels, but no domestic manufacturer produced them, so he ventured into this line and succeeded. After a period of working with others, Henry went into business on his own and, like his father, he attempted to make something Americans consumed but imported: linen. Linen is an ancient textile and was widely made in American homes in the 18th century. Mechanization of its manufacture proved difficult and lagged behind cotton and wool; but in the early 19th century, European and British manufacturers succeeded in creating machines to handle various steps in the process and linen factories sprouted up there. Americans increasingly substituted factory-made cotton cloth, which New England mills turned out in ever-growing quantities, for traditional linen shirtings and sheetings, or they purchased imported linen goods. In 1845, before beginning his company, Stevens went to Great Britain and Ireland to study the British linen mills and machinery.

Stevens intended to create a business that would make linen cloth from start to finish, yet the difficulties of doing this were daunting. He had to import textile equipment because no American manufacturer made machines for processing and spinning flax, and weaving linen cloth. In addition to machinery, he also had to import skilled workers. The process of bleaching linen in this period, like growing and retting flax, was skilled and complex, while at the same time tedious and unpleasant. Stevens brought Patrick McQuaid, a man experienced in linen bleaching, to his mill in 1846 from Dundee, Scotland – a center of linen manufacture.[25] Stevens even had to import the flax since American farmers did not produce enough of a quality suitable for making fine yarn. Stevens ordered machinery and recruited skilled workers from Ireland and Scotland, and in 1846, started to manufacture linen in North Andover.

Soon he learned that a mill in Dudley, originally built for the Merino Wool Factory Company, was for sale. This 1812 mill was the first textile mill in Dudley and one of the earliest woolen factories in the nation (now demolished). The factory ran into difficulties and was sold at auction in 1818. The Dudley Woollen Manufacturing Company took over, but it too closed after a few years. Stevens bought the property in 1846. In addition to the mills (there were perhaps two others, in addition to the old Merino Mill) and associated buildings, it included a system of reservoirs (called ponds) and rights to flood land to store water.[26] The mill pond nearest to the old Merino mill was called Merino Pond. That same year, Stevens moved his linen machines into the former woolen mills.

Stevens built up a workforce, starting with one employee in January 1846 and ending the year with forty. By September 1846, the mill had for sale the first goods made in Dudley: burlap and bailing twine. A year later, the mill had 46 employees, and it ended 1848 with 63 employees. Meanwhile, the mill expanded its line of products. In 1847, it produced carpet yarn, bagging, diaper, drilling, and crash; the latter, a product that became a mainstay of the mill.

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[25] "A Grand Surprise," Webster Times 34 (Oct. 21, 1892). Patrick McQuaid's son James became overseer after his father.
[26] There were four dams with reservoirs behind them. These were the dam across Powder Horn Brook, which created Merino Pond; the dam at Larned Pond (now Sawmill Pond, which Morris Larned used to power his sawmill); Hayden Pond dam; and Peter Pond dam. (Bates v. Willard, *Reports of Cases Argued … in the Supreme Judicial Court of Massachusetts* vol. 9 (Boston: Little, Brown & Co., 1867), 67-8.) As the ponds are extant, presumably the dams are still functioning.

Derived from the Russian word for colored linen, crash was a loosely woven fabric made of uneven yarns that was used for towels and clothing. (Russia produced a large share of the world's flax and had a linen industry.)

Stevens's company was the first to make domestic-grade linen cloth by machinery in the U. S. His priority was recognized at an early date: in 1849, Henry H. Stevens received the Talmadge gold medal from the America Institute in New York for producing "the first and best piece of American linen spun by machinery and woven on the power-loom."[27] In the following decade he added new products, and while he made a variety, he generally stuck to coarser goods. He sold the products through agents in Boston, New York, and Philadelphia. Business seems to have been good from the start: reports from a credit rating agency covering the years 1849-60 were consistently positive. One credit reporter called Stevens "one of the best businessmen I ever knew."[28] And given the awards he won at exhibitions, his cloth was good quality. At the 1850 Massachusetts Charitable Mechanic Exhibition (MCMA) in Boston, judges awarded his entry (diaper and crash) a gold medal. They wrote, "…for durability, weight, lustre or designs, these articles could be matched against any produced in foreign countries, and must replace at once the imported goods."[29] Again in 1865, Stevens Linen Works displayed its crash at the MCMA exhibition. The judges deemed it "a well manufactured article." The company also sent the judges a sample of a product that it was beginning to manufacture; a piece of fine linen called damask. The judges described it as "highly creditable."[30] All this was produced in the old mills of the Merino and Dudley Woollen companies.

In 1858-1859, Stevens started to improve and expand the complex with "an energy and enterprise hardly equaled by any one."[31] In 1858, he petitioned the town to move a town road that passed by his factory and to construct a stone arch bridge as part of the relocation. In March 1859, Dudley Town Meeting voted in favor of "a stone arched Bridge over Powder Horn Brook near the factory of H. H. Stevens, and the expense not to exceed one hundred dollars"[32] (Photo 38). Stevens built this bridge in connection with a larger project to augment his waterpower. He built a larger dam at Merino Pond to replace one damaged by flooding and added a new dam slightly downstream to create Low Pond.[33] (Photos 40, 41, 42.) An 1860 article in the *Webster Weekly Times* described the Low Pond Dam as being 320 feet long, 27 feet high, and the "…heaviest piece of stonework of the kind we ever saw."[34] This augmented capacity powered a new waterwheel in a new wheelhouse Stevens erected near the Merino Mill, at the time his principal spinning and weaving factory. The enormous breast-wheel he installed in the 1859 wheelhouse, measuring 40 feet in diameter and 15 feet wide, was nearly the maximum size for a wooden waterwheel.[35] It was on this building that he placed the lintel with the enigmatic inscription, "All was others; All will be others." Stevens borrowed this motto from a plaque he saw on an old building in the town of Hawick, Scotland, on the Scottish borders. (The wheelhouse is gone, but the lintel has been incorporated in a tombstone-like monument, now standing at the Black Tavern Historical

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[27] *Manufactures of the United States in* 1860 (Washington: Government Printing Office, 1865), cx.
[28] Massachusetts, v. 94, p. 120, R.G. Dun & Co. Collection, Baker Library, Harvard Business School.
[29] *Sixth Exhibition of the Massachusetts Charitable Mechanic Association* (1850), 35-36.
[30] *The Tenth Exhibition of the Massachusetts Charitable Mechanic Association* (Boston, 1865), 139.
[31] Abijah P. Marvin, *History of Worcester County, Massachusetts* vol. 1 (Boston: C. F. Jewett & Co., 1879), 439.
[32] MassHighway, MassHighway Bridge Department database, bridge No. D-12-037, information provided by Stephen Roper, Structural Historian, April 24, 2008.
[33] Pearle Crawford, "Stevens Linen, Its First Century and a Half," *New England Galaxy* 9 (1968): 35.
[34] "Enterprise in the West Side," *Webster Weekly Times* 1 # 51 (March 1, 1860).
[35] "Enterprise on the West Side," *Webster Times* 5 (March 28, 1863).

Society building [NRIND] on Center Road in Dudley Center.)

The decade of the 1860s opened with the outbreak of the Civil War. The Union blockade of shipping from the Confederate states so disrupted supplies of cotton to mills in Britain that the war period is known there as the Cotton Famine. Cotton mills in New England likewise could not get stock from the South. But the period proved a boon to linen manufacturers in Britain.[36] Some Americans, too, thought domestic manufacturers should replace cotton with linen. Stevens may have intended to expand his mill as part of the improvements he began in 1858. But even if he had planned some expansion, it seems likely that the war-induced demand for linen encouraged him to think big. He built a monumental new mill east of the old Merino Mill, at Village and Mill street; Stevens Linen Mill, the granite complex that stands today. The mill's original form was classical in its symmetry: a central block (Main Mill) with perpendicular wings (although the East Wing was longer and wider than the West Wing). Stone for the mill came from quarries on Stevens's land in Dudley, some from the vicinity of Peter Pond, which is located about two-thirds of a mile northwest of the mill site.[37] Construction began in 1862, with work on a Raceway and a wheelhouse (East Ell) for the new mill. Then in the 1863 building season, the superstructure of the Main Mill started going up.[38] Work on the mill progressed from the Main Mill to the East and West wings. The complex was finished in 1865.

The new wheelhouse (part of today's East Ell) contained a 20-foot diameter, 17 foot- wide breast-wheel. The two wheels, in the upper 1859 wheelhouse and the new East Ell wheelhouses were intended to work together. Within the new mill, the lower two floors contained looms; the upper floors contained spinning, spooling, winding, and preparing machines. The East Wing had a repair shop, a floor for dressing cloth, and storage. The West Wing, fronting Mill Street, contained offices, a pattern room, and storage (Photos 2, 6). In the East Tower was a bell that rang work hours and curfew (Photo 10). A bridge spanned between Merino Mill and the third story of the new mill. Merino Mill continued to be used, but its role changed over time from manufacturing to storage.

The way the walls of the mill were built was unusual for the region. Usually stone walls were rough with stucco covering, but the stones of Stevens Linen Mill were squared and laid in broken ranges, and stones at architectural features were attractively finished: tooled, cut in curves for the arches over window openings and round bull's-eye window, and so on. This would be the work of stone cutters, perhaps British stonecutters. While the names of the tradesmen involved with the mill are unknown, several British stone workers lived in Dudley in 1865. The state census of that year lists eight masons or stone cutters living in the town. Six of these were not listed in the 1860 U.S. census for Dudley, which suggests they came to the area after 1860, perhaps recruited to work on the mill. Stevens recruited skilled British linen workers for his mill; he may have recruited British stoneworkers too. Among the post-1860 arrivals was a stone cutter from England, John Robinson.[39]

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[36] S. N. D. North, "The Linen Manufacture in New England; Its Possibilities and Its Limitations," *Transactions of the New England Cotton Manufacturers' Association* 65 (1898), 98.

[37] "Peter Pond Ledge," *Webster Times* 6 (May 14, 1864). The stone for the mill came from land near the mill site that H. H. Stevens owned. (Abijah P. Marvin, *History of Worcester County, Massachusetts*, 439.)

[38] "Enterprise on the West Side," *Webster Times* 5 (March 28, 1863).

[39] The other stone cutter in Dudley at the time was from Massachusetts. Of the masons in the town, three came from Ireland, two from Massachusetts, and one from Canada. (Massachusetts State Census, 1865; U.S. Census, 1860 [many thanks to Sara Costa for her research on July 5, 2008]).

In contrast to the unusual treatment of the exterior, the interior framing was typical of New England and the recommended type of the day. It included floors made of flat plank laid on transverse girders, which created a distinctive interior of panel-like ceilings. (Photos 12, 4.) This kind of floor came to be an element in the "slow-burning" construction system. Another feature of the slow-burning system was stairways and lifts enclosed in towers that could be closed off from the mill floors, so they would not act like chimneys in a fire and possibly spread fire from floor to floor. Except for the first floor of the West Wing, Stevens Linen Mill has no interior wall finishes; no hollow spaces such as are formed by furred walls with lath and plaster sheathing, or lath and plaster ceilings under joists.[40] While Stevens Mill has many features of slow-burning construction, it actually was built before the system was codified. It was updated from time to time, to meet the rules for slow-burning construction as these developed and evolved.

There is no documentation on who designed the mill, or what tradesmen or builder constructed it, but based on H. H. Stevens' background and actions in this period, it is very likely that he was the designer. Stevens was both an experienced and hands-on factory master. He came from a textile manufacturing family, worked in the business before establishing his Dudley plant, had traveled abroad to learn more about mill operations, and actually lived across the street from his factory. Undoubtedly he knew as much about mill design and engineering as any contemporary. Moreover, there is definite evidence of his involvement in the construction of the two, stone arch bridges near his mill, Mill Street Bridge and West Main Street Bridge (1868-1872, outside the District). Replacing the narrow and worn-out wooden bridge on West Main Street, across the French River, at the foot of Stevens' mill site, was debated in Dudley and Webster in the 1860s. Many preferred an iron bridge, which would be cheaper than stone but better than wood. Stevens, part of the stone bridge faction, urged the town to build a "substantial stone structure," arguing that it was necessary considering the growth of the area. Townsmen hesitated because of the higher first cost. Stevens won the day by offering to take the contract and build the bridge, and subsidize part of the cost. The Town Meeting unanimously approved, and once the town of Webster agreed, he built the bridge.[41] These two are the only stone arch bridges in Dudley or Webster: they are part of Stevens' legacy to the towns.[42] He had the knowledge and interest in designing the mill, and like other factory owners of the day who designed their plants (e.g., Zachariah Allen and Allendale Mill), he should be recognized as one of the architects.

Next, Stevens constructed a new Dye House and Bleachery at Merino Pond Dam, located about 1,000 feet west of the Main Mill. The original parts of this building went up in 1867 (Photos 28, 29, 30). The dam supplied a head of water that powered a 75-horsepower turbine engine in the Dye House and Bleachery. Fabric was brought here from the mills by wagon, presumably, and later by truck.

Stevens Linen Mill was a substantial building, inside and out, and it needed to be. Linen machinery, most of which was imported from Britain and Ireland, weighed more than American-made cotton and woolen machinery. Linen mills

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[40] In some cases, the walls under the windows have been finished with wood boards. It is unknown when this finish was put in.
[41] "Action of Dudley and Webster Upon the Bridge Question," *Webster Times* 7 (October 7, 1865). But bridge construction awaited the town of Webster agreeing to a stone arch bridge on its side, which it finally did, and work commenced in 1868.
[42] There are other stone arch bridges in nearby towns; 19 survive in six surrounding towns. (Stephen Roper, MassHighway Bridge Department database, April 2008.) Still, they are not common

had to be of heavy construction and, accordingly, were expensive to build.[43] Stevens reportedly spent over $1 million developing his plant. The population of the town boomed during the 1860s, increasing about 40%, to nearly 2,500. No doubt many new arrivals filled positions in Stevens' mill.

Stevens Linen Works 1867 – 1939

In 1867, Henry H. Stevens lost control of his mill. Just as quickly as demand for linen had spiked at the start of the Civil War, it turned down once cotton came back on the market. Meanwhile, European linen manufacturers expanded their mills, as Stevens had in Dudley, so they were able to supply the linen market.[44] In his 1879 *History of Worcester County,* Abijah Marvin suggests that Stevens' decade-long expansion proved to be a fatal financial drain: Stevens's wealth and large income "were not sufficient to carry out his plans."[45] In June 1867, the plant became a stock company called Stevens Linen Works, with stock held by Stevens and his brothers Moses T. (1825-1907) and George.[46] Its charter allowed the company to make woolen, cotton, and silk goods, as well as linen, which suggests that the new owners were hedging their bets with respect to linen manufacture. Nevertheless, the mill continued to turn out linen exclusively. Soon David Nevins, Sr., of Nevins & Co., cloth merchants in Boston, owned a majority stake, and Nathaniel Stevens & Sons the rest. Henry H. Stevens remained the company's agent for another ten years.

The new owners continued to invest in the plant and produce goods that found a market. In 1869, a boiler house and tall chimney were built, adding steam to supplement the existing waterpower (demolished). In 1877, a wooden drying building and tenter building were added to the Dye House and Bleachery complex (demolished). In the 1870s Stevens Linen Works was always busy and made high quality goods. It exhibited its products – plain and twilled crash toweling, diapers, and huckabacks – at the Centennial Exhibition of 1876, for which the company received a commendation.[47]

In 1877, Henry H. Stevens retired from Stevens Linen Works and moved away from Dudley.[48] Nevertheless, he was remembered by members of the community for his industry and contributions. At a banquet at which he was honored after his death, a speaker said of him, "Mr. Stevens was also progressive in many other directions. He was a pioneer for good roads, he championed the movement which led to the stone bridge which connected these two sister towns [Dudley and Webster], and he also was one of the corporators and the first president of our Webster Five Cents Savings bank. As a history maker for this vicinity the late Henry H. Stevens stands, therefore, second only to the elder Slater."[49]

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[43] Nathaniel Stevens, letter, "the character of the machinery is such that mills have to be of very heavy construction, making the plant cost excessive," in *Tariff Hearings* 60th Congress, Nov. 30, 1908 (Washington, DC: GPO, 1908), 2977.
[44] S. N. D. North, "The Linen Manufacture in New England," 98.
[45] Abijah P. Marvin, *History of Worcester County, Massachusetts* vol. 1, 439.
[46] *Acts and Resolves passed by the General Court of Massachusetts in the Year 1867* (Boston, 1867), chap. 325. Apparently this name was being used for the company before 1867, although for how long is unknown.
[47] *Official Catalogue of the U.S. Centennial Exhibition of 1876* (Philadelphia: Centennial Catalogue Co., 1876); U.S. Centennial Commission, *International Exhibition, 1876, Reports and Awards, Group VIII* (Philadelphia: J. B. Lippincott & Co, 1877), 50.
[48] Henry H. Stevens was nearly 60 years old when he retired, but he lived for another 23 years. He lived in Maine and Jacksonville, Florida. His son Eben S. Stevens owned mills in Webster. ("Henry Hale Stevens Dies in Florida," *Webster Times* (March 15, 1901.)
[49] "Webster Mass. Testimonial Banquet," *Webster Times* 54 (April 3, 1913).

In the 1880s, Moses T. Stevens, Henry's younger brother, took over; he served as president of Stevens Linen Works until his death in 1907. Moses expanded the plant at the end of the 19th century and beginning of the 20th, adding a new brick warehouse (Storehouse No. 2, 1890/1904, photos 34, 35) on the west side of Mill Street; a new Engine House (1892, photo 23); an electric light plant (1895); a small, brick storehouse east of the Main Mill (Storehouse No. 5, 1902, photos 19, 20); and an addition to the Storehouse No. 4 on West Main Street (1904, photos 36, 37). In 1900, two floors were added to the East Ell of the Main Mill, designed by the engineering firm of Charles T. Main (Photo 7). The Dye House and Bleachery was expanded with several buildings and additions. (Photo 32.) Inadequate water supply had been a chronic problem for the mill. By 1880, the Dye House and Bleachery used steam power part of the year, and the Main Mill used steam "constantly." After steam replaced waterpower and floors were added, the East Ell was put to new uses. In the early 20th century, it was used for yarn manufacturing.[50] The water in Low Pond was used for mill fire protection rather than for power.

With respect to production, Moses abandoned Henry's efforts to make a variety of goods, such as fine damask, and concentrated on manufacturing crash linen for kitchen towels and coarse goods. Nevertheless, these towels were household favorites. Stevens Linen Works exhibited its crash towels at the World's Columbian Exposition in Chicago in 1893. In his report on exhibits at the Exposition, the Assistant Secretary of Agriculture wrote that these towels were "beautiful examples" of American linen manufacture.[51]

At the opening of the 20th century (ca. 1908), six mills in the U.S wove and spun linen to some extent, but apart from Stevens Linen Works, the others made products that incorporated cotton (called "unions") or waste. Stevens Linen Works was the only one making real linen fabric, with linen warp and weft.[52] Stevens' mill survived in part because of tariffs on competing imports. Still, the tariffs were in place for the benefit of any linen manufacturer. No others were able to succeed as Stevens Linen Works had. The company was able to buy linen machines cheaply from their former competitors.

In 1913, the company completed a large, brick Carding & Hackling Mill bordering Mill Street, north of the Main Mill. Although intended principally for hackling and carding operations, it had extra space to allow for expansion; eventually, part of it was used for weaving. The company put in new machinery, imported from Ireland, which could be operated with less labor than the former machines[53] (Photos 24, 25, 26, 27). The old Merino Mill and its wheelhouse ceased being used for linen manufacture and became storehouses, and the Carding & Hackling Mill took over its name, Mill No. 1. Around this time, the company employed about 640 hands.

Stevens Linen Works continued to invest in and expand the plant in the 1920s. In 1922, two more floors were added to the East Ell (M5), bringing it to the height of the Main Mill (Photo 7). It contained modern equipment and facilities: humidifying equipment, electric lighting, ventilation, and toilets. This addition was built under the direction of John

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[50] "Enlargements and Improvements Completed at Stevens Linen Works," *Webster Evening Times* 2 (Oct. 1, 1924).
[51] Edwin Willitts, "Special Report of the Assistant Secretary, the World's Columbian Exposition," *Report of the Secretary of Agriculture 1893* (Washington: GPO, 1894), 85.
[52] Testimony of George Smith, Smith & Dove Manufacturing Co., *Tariff Hearings, Before the Ways and Means Committee of the House of Representatives, 60th Congress 1908-1909, Schedule J* (Washington: GPO, 1909), 4653. In addition, three companies spun flax yarn but did not do weaving.
[53] *Webster Times* 54 (Oct. 30, 1913).

M. Crawford, agent for the mill, and Warren B. Lewis of Providence, R.I., consulting engineer. Also at this time, the interior of the Dye House and Bleachery was renovated. An enclosed "conveyor," essentially a very long (approximately 1,200 feet) box with a pulley, was constructed between the Main Mill and the bleachery mill. With the conveyor, cloth could be transferred back and forth between the two rather than having to be trucked. Bolt-lengths of linen cloth were sewn together to make a continuous length, then pulled by a scutcher between the two buildings. The Dye House and Bleachery was modernized at this time: the interior was rebuilt to make handling of material more efficient.[54] At the end of the decade (1927-28) a new mill building, the East Mill, was built to designs by Charles T. Main, Inc. (Photos 17, 18.) This new mill gave the company space to install over 100 more looms and allowed it to rearrange mechanical equipment so the plant could operate more efficiently. At the end of the 1920s, Stevens Linen Works had capital of over $1 million, 750 looms, 8,300 spindles, and a modern bleachery. About 500 people worked at the factory.[55]

Charles Thomas Main (1856-1943) founded the engineering company that designed the Carding & Hackling Mill, East Mill, and the addition to the East Ell at Stevens Linen Works. Main was "a mill engineer of national reputation."[56] Born in Marblehead, Massachusetts, he graduated from the department of mechanical engineering at the Massachusetts Institute of Technology (MIT) in 1876. As this was the trough of the economic depression of that decade, Main stayed at MIT for three years to work as an assistant in the mechanical engineering department. He then held several different positions in large New England mills, first as a draftsman, then as an engineer until 1887, when he was promoted to Superintendent of the Worsted Department of Pacific Mills in Lawrence. During this period, Main gained experience with various aspects of mill engineering: from installing water and steam-power plants, to surveying and rebuilding structures and arranging machinery. He began to do consulting work for mills, and in 1891, set himself up as consulting engineer. In 1893, he formed a partnership with F. W. Dean, a steam-power engineer. The firm of Dean & Main was in business until the end of 1906.[57] From this point to 1926, Main's business operated under the name Charles T. Main, when he incorporated as Charles T. Main, Inc. The firm at first specialized in textile mills: in design and construction supervision of mill buildings, and installation of steam and waterpower systems. Mills at this time, like Stevens mill, operated on their own private power. Main's firm also worked on public utilities, other kinds of industrial plants, and hydroelectric power. It provided professional reports for manufacturers on such topics as "reorganizations, valuations, tax problems, damage cases due to diversion of water for domestic purposes from waterpower streams, and related services."[58] During World War I, the U.S. Army consulted with Main on a variety of matters connected with construction, and after the war, he was part of an engineering delegation to France representing the American Society of Mechanical Engineers, which advised French engineers on rebuilding war-damaged regions. He wrote a number of technical articles, and his 1886 lectures at MIT, collected and published as "Notes on Mill Construction," was used as a textbook at MIT for many years. Main was a life member of the MIT Corporation and a member of the MIT Executive Committee. He was elected to the American Society of Mechanical Engineers in 1885, served as an officer of that organization, and was a member of several other engineering societies and associations. The company continued after Main's death in 1943.

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[54] "Conveyor at Stevens Linen," *Webster Times* 64 (Aug. 24, 1922); "Will Remodel Old Bleachery," *Webster Times* 64 (Dec. 7, 1922); "Enlargements and Improvements Completed At Stevens Linen Works," *Webster Evening Times* 2 (Oct. 1, 1924); conversation with Hugh W. Crawford, Jr., June 30, 2008.
[55] Orra Stone, *History of Massachusetts Industries* vol. II, 1906.
[56] "To Rebuild France and Belgium," *The Technology Review* 21 (1919): 48.
[57] "Charles Thomas Main," *Transactions of the American Society of Mechanical Engineers* 40 (1918): 1-2.
[58] William F. Uhl, *Charles T. Main (1856-1943): One of America's Best!* (The Newcomen Society, 1951), 12.

After Moses Stevens died, his son Nathaniel Stevens became president of Stevens Linen Works.[59] Just before Moses died, J. P. Stevens & Co. bought the stock still held by Nevins & Co. At the same time, John M. Crawford became agent for the mill. His parents, Hugh B. and Elizabeth Crawford, came to Dudley from Northern Ireland in 1863 to work in Stevens Linen Mill, and young John began working at the mill himself as an office boy for H. H. Stevens, around 1868.[60] John spent his working life in the mill and held the position of agent when he died in 1929. John's son Hugh Wadsworth Crawford, who began working in the mill around 1906, then became resident manager of Stevens Linen Works. While the economic depression of the 1930s meant hard times for the company, it continued to operate.

Stevens Linen Associates 1939 - 1993

In 1938, when Nathaniel Stevens sought a buyer for the plant, the third and fourth American generations of the Crawford family, along with local interests, joined together to buy it. They called the new company Stevens Linen Associates (SLA). The company's main product continued to be crash towels. The mill celebrated its 100th anniversary in 1946.Most of the flax used at the mill in the early 20th century was imported from Russia.[61] In view of the difficulties of getting raw materials from time to time, the company experimented with growing flax on its own land. A plot on the west side of Mill Street was devoted to this effort. The flax proved satisfactory but ended up costing considerably more than imported flax, so the idea of growing their own was abandoned. Flaxfield Road, which runs along the north sides of Low and Merino ponds (outside the District), commemorates the site of the flax growing experiment.

In the 1950s, as demand for narrow crash towels declined, SLA branched into new product lines. It made cotton duck, twine, and shock absorber cord. Two other new products were fire hoses and auto upholstery fabric. Neither of these ventures succeeded. It was at this time that Hugh Wadsworth Crawford, Jr., who took over the plant when his father died in 1951, thought of printing calendars on the towels. That way, after serving as a calendar, the towel could be put to use. Production of the calendar towels began in 1956. SLA designed the calendars and printed the towels using silk-screens made at the plant.

Up to the 1960s, the mill had mainly added buildings and taken few away, e.g., wooden outbuilding. It continued to use steam power and even a limited amount of waterpower to drive its machinery. In the 1960s, the mill switched exclusively to electricity as a source of power, and to oil for heat. After this, some of the buildings connected with the steam plant on the north side of the Main Mill, including the boiler house with its six vertical tube boilers, coal house, and the tall chimney, were demolished. The Engine House took on its current role as the location of the mill's furnace. The Dye House and Bleachery also was altered by demolitions and modern additions.

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[59] The company in 1911 had issued stock totaling $350,000. The directors were Nathaniel, H. S. Shaw (Treasurer), C. E. Rogerson, J. P. Stevens, and A. D. Gleason. (*The Directory of Directions in the City of Boston and Vicinity* [Boston: The Bankers' Service Co., 1911], 559.)
[60] Pearle Crawford, "Stevens Linen." 36; Sara Costa, Crawford family member, email, June 30, 2008. Hugh Crawford was a machinist at the mill. In Rhode Island-style mills, all members of a family could find work in a mill – the women and children as operatives, the men as machinists, laborers, operatives, or in other capacities.
[61] Testimony of Nathaniel Stevens, *Tariff Hearings, Before the Ways and Means Committee of the House of Representatives, 60th Congress 1908-1909, Schedule J* (Washington: GPO, 1909), 4973.

SLA shifted into upholstery fabric production and stopped weaving crash towels. For calendar towels and kitchen textiles, it was cost effective to use linen and cotton fabric made by others, and so SLA imported plain linen toweling from Poland for the calendar towels.[62] In 1964, SLA expanded off-site for the first time, with the acquisition of the former Packard Mills Company. Located on Lower Schofield Avenue in Dudley, the Ardlock plant, as it was known, housed SLA's Domestics Division.[63] The Main Mill became the Upholstery Division, and production there centered on drapery and furniture upholstery fabrics made on wide looms, blended with synthetic fibers. In 1971, the company celebrated 125 years of continuous operation with an open house.

SLA made several off-site acquisitions and expanded operations at the Main Mill in the 1980s. In 1981, it bought Rindge Industries Inc. of Ware, Massachusetts, a manufacturer of yarn for knitted outerwear. In 1982, it bought Louisville Textiles Weavers, Inc., with plans to expand the upholstery, wall-coverings, and drapery lines of this division.[64] Around this time about 100 people worked at the Ardlock plant during its peak summer season, and average annual employment in both mills was about 300 workers.[65] SLA bought new textile machines in the early 1980s, including high-speed machines to prepare fibers for spinning, high-speed upholstery looms, and a dryer-curing oven for applying a latex backing and Scotchguard to fabrics. To accommodate the new looms, SLA built an addition between the East Wing (M6) and East Mill (M7) in 1983-1984, M7A Infill. (Photo 21.) It was designed by Irwin Regent and built by Cutler Associates of Worcester.[66] SLA made these changes in order to operate more efficiently. A key advantage of the new leveling machines and looms was that they could produce more output per worker. The company also modified the Main Mill around this time, to reduce operating costs. To save on fuel costs, SLA blocked and replaced many windows and installed a new boiler.[67] (Photo 7.)

SLA became known for its unusual, textured upholstery fabrics made with yarns designed and spun at its mill. These fabrics were made on orders from customers. The company also spun yarn for other fabric manufacturers. These products moved Stevens Linen Associates far from its crash towel days.

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[62] Edward Patenaude, "Stevens Linen Adapts to Polish Realities," ? *Gazette* (Jan. 18, 1982) in Stevens Linen Associates historical scrapbooks, Town of Dudley.
[63] "Webster Area Textiles Record Gains for '64," *Worcester Telegram* (Jan. 8, 1965); David Kowal, "Stevens Linen to Hang it Out …" *Worcester Telegram* (1981), 20B; Lorraine Plotczyk, "Stevens Linen marks 135th year of progress, growth" *Webster Times* (April 8, 1981), 22, from Stevens Linen Associates historical scrapbooks, Town of Dudley.
[64] "Stevens Linen Buys Ware Firm," date?; "Stevens Linens purchases all assets of Louisville Textiles Weavers Inc.," April 4, 1983; "Stevens Linen adopts 'Progress by Design' theme," *Webster Times Review and Forecast*, Feb. 1982, in Stevens Linen Associates historical scrapbooks, Town of Dudley.
[65] "Stevens Linen Adapts to Polish Realities," ? *Gazette* (Jan. 18, 1982), in Stevens Linen Associates historical scrapbooks, Town of Dudley; article, section beginning "Stevens Linen Associates…" c 1982, Stevens Linen Associates historical scrapbooks, Town of Dudley.
[66] "Stevens Linen employees have stock in company," *Webster Times Review and Forecast* (Feb. 1983); "Stevens grows into upholstery market," Oct. 17, 1983 in Stevens Linen Associates historical scrapbooks, Town of Dudley.
[67] "Stevens Linen works to cut costs, inform," *Webster Times Review and Forecast* (March 1981), in Stevens Linen Associates historical scrapbooks, Town of Dudley.

Denouement of textile manufacturing, 1993 - 2003

The long history of the Stevens factory as a site for the manufacture of linen fabrics for household use came to an end in 1993, when Guilford of Maine, Inc., a subsidiary of Interface, Inc., acquired the fabric division assets of Stevens Linen Associates. Guilford manufactured fabrics for office cubicles, upholstery, window treatments, and wall and ceiling coverings. The acquisition expanded Guilford's business in seating and decorative upholstery fabrics. Two years later, Interface acquired Toltec Fabrics, Inc., a company that manufactured and marketed upholstery fabrics. In 1998, Toltec Fabrics, Inc. closed its Greensboro, North Carolina plant to move operations to the former Stevens Linen Mill in Dudley.[68] The company built the large steel and glass Weaveshed in the courtyard between the East and West wings in 1998-1999 (Photos 1, 22). The company also demolished the 1812 Merino Mill, after offering it the town of Dudley, which refused to take it, and demolished other buildings connected with the plant on the west side of Mill Street, with the exception of Storehouse No. 2.

Interface obviously expected high demand for the fabrics it would produce at the mill in Dudley, but apparently plans did not work out. The company's fortunes declined after 2000, and it cut its workforce and began to divest. Around the close of 2003, textile production stopped in the Dudley mill, and the following year Interface sold the plant to a developer who intended to convert it to offices. Only then did the site cease to be a place of textile manufacturing, a decade shy of 200 years of almost continuous production at the site on the French River, and after almost 150 years of linen production under the direction of the Stevens and Crawford families.

The current owner of Stevens Linen Mill and adjacent buildings plans to convert the structures to a housing complex that will include 164 rental apartments, a fitness center and swimming pool, 294 parking spaces, and a room with a historical exhibit. These plans cover Stevens Linen Mill, East Mill, M7A Infill, Engine House, Storehouse No. 5, and the Weaveshed. The non-contributing Weaveshed and M7A Infill will be demolished. The Carding & Hackling Mill is occupied by a social service agency; its plans for changes to its property, if any, are unknown. Storehouse No. 2 has been converted to a dog grooming and boarding business. Plans for Storehouse No. 4 are unknown. There are no known plans to alter the Mill St. Bridge, Low Pond, Low Pond Dam, Merino Pond Dam, or the Raceway.

Contribution of Stevens Linen Works Historic District to the industrial history of the United States

Henry H. Stevens was the pioneer linen manufacturer in the U.S. He was to American linen manufacturing what Samuel Slater was to cotton manufacturing and Arthur Schofield was to wool manufacturing: the first in the U.S. to successfully manufacture products from a particular fiber using water-powered machines. Slater launched the American cotton textile industry when he successfully introduced water-powered spinning machines in Rhode Island during the 1790s. The woolen manufacturing industry began in the same decade when Schofield succeeded in putting into operation a water-powered carding machine. No American had spun flax and woven linen cloth by machine before Stevens did in 1846. His achievement was recognized three years later, when he received the Talmadge gold medal from the America Institute in New York for producing "the first and best piece of American linen spun by machinery and woven on the power-loom."[69] He created a business that made linen cloth from start to finish, and this is what the mills he built in Stevens Linen Works Historic District continued to do until the middle of the 20th century.

(continued)

[68] "Hoover's Profile, Interface, Inc.," http://www.answers.com/topic/interface-inc?cat=biz-fin (accessed April 30, 2008).
[69] *Manufactures of the United States in* 1860 (Washington: Government Printing Office, 1865), cx.

Yet linen manufacturing was always a minor industry in the U.S.; it never gained a foothold, although many entrepreneurs tried their hand at it. Before 1850, a few factories produced a small amount of linen cloth and thread. Nine of these mills were located in Massachusetts, and Stevens' was the largest. In the early 1850s, several manufacturers made considerable investments to start linen manufacturing. The American Linen Company, incorporated in 1852, built a complete plant in Fall River, including a large stone mill, hackling house, bleach house, and finishing building, and it imported machinery, flax, and operatives to begin operating. The company intended to produce finer grades of goods, such as tablecloths and napkins. But demand for their products dropped off and in 1858, the company switched to cotton manufacturing.[70] Meanwhile, some mills made part-linen cloth, with cotton warp and linen weft, or spun linen yarn exclusively. For example, the Willimantic Linen Company in Connecticut started spinning linen yarn in 1854, but converted to cotton manufacturing within a few years. By 1860, only three mills manufactured linen in the U.S., one of which was Stevens' mill.[71] Other mills started later in the century, but were not successful.

There were many reasons why linen was difficult to make profitably in America. The main one seems to have been the lack of suitable flax produced in America, which required manufacturers to import their raw material. In addition, American consumers could substitute American-made cotton or wool fabrics for linen for many purposes. Thus, demand for linen, reflected in linen imports, stayed fairly level rather than growing with population increases. Finally, linen manufacture was simply slower, more complex, and required costly inputs, in addition to imported flax. For example, American machine makers, with a few exceptions, did not produce linen machinery, so machines had to be imported from Europe.[72] More labor was required to produce a yard of linen than cotton.

American linen manufacturers had to compete with established, productive European manufacturers, and in a market where consumers could find cheaper alternatives to linen. This was a hard economic environment, but should it inevitably have doomed the industry? Why did one firm, Stevens Linen Works, succeed? Stevens Linen Works Historic District raises interesting questions about how companies and industries succeed and fail, and studying the history of this company and its industry gives fresh perspective on U.S. economic history. This is one of the reasons the District is of national significance.

Architectural and engineering distinction

The mill and associated structures in Stevens Linen Works Historic District comprise an outstanding example of a first-class textile manufacturing complex from the mid-19th century. The physical integrity, quality of workmanship, and architectural value make the District one of great historical significance.

(continued)

[70] Henry H. Earl, *A Centennial History of Fall River, Mass.* (NY: Atlantic Publishing and Engraving Co., 1877), 62-3, 121.
[71] Victor Clark, *History of Manufactures in the United States 1607-1860* (Washington, DC: Carnegie Institution of Washington, 1916), 532.
[72] J. F. C. Hayes, *History of the City of Lawrence* (Lawrence, Mass.: E. D. Green, 1868), 146, advertisement by John N. Peirce, Lowell, made winders for coarse heavy yarn; lists two flax spinning mills as customers.

First, with respect to integrity, the complex is remarkably intact. While some of the buildings that had been part of the complex are gone, most of them remain; indeed, the plant continued to operate as a textile mill until a few years ago. Moreover, the 1862-65 mill was a first-class mill for its time, and an example of slow-burning construction.

Second, Stevens Linen Mill is particularly well-built. The mill complex H. H. Stevens built from 1858-1867 involved an enormous capital investment. His preference for stone reveals his interest in permanence and substantial construction, He built for the future. In urging the Town of Dudley to build the bridge over the French River at West Main Street out of stone rather than iron, Stevens offered moral as well as economic arguments. "It is a narrow minded and shortsighted policy which provides only for the necessities and demands of the present moment," he declared, "and that man is derelict in duty who councils or suffers a disregard for the wants of those who come after him."[73]

The workmanship on Stevens Linen Mill is high quality. The tooling of the stones, which articulate the openings in the walls (i.e., the door jambs, lintels, and window sills, and the cornices), is distinctive and unknown in any other New England building (Photo 9). The stonework of the walls, made of squared blocks of varying sizes laid in broken ranges, is also unusual in a textile mill. Rubble walls and random work were the more common forms, as seen for example in the nearby 1860 Chase Mill, located downstream from Stevens Mill. (See photo in Appendix C.) Because the stonework of Stevens Mill contrasted with the common type, it drew the attention of contemporaries: one explained that Stevens Mill was built of "square or oblong blocks of stone, instead of the chip and cement work of which many mills are constructed."[74] Later additions to the mill complex are also fine examples of design and workmanship of their day, i.e., the pier-and-panel style walls of the Carding & Hackling Mill and the East Mill (Photos 17, 18, 24-27).

Finally, Stevens Linen Mill is architecturally distinguished. Despite its large size, the design of the mill and character of the walls reduce its massiveness, indeed makes it appear almost light. With respect to overall massing, the 1862-1865 mill has classical proportions: a large central block (the Main Mill) that steps down to the lower, projecting wings, which had almost a domestic scale (Photos 1, 2). This design makes the building less forbidding than the usual textile mill. An impression of lightness is enhanced by the mosaic effect of the stonework of the walls. Dudley, Massachusetts was famous for having excellent building stone. The wall blocks vary in size and also in color, in shades ranging from gray to brown, and they are laid in patterns, such as the thinner courses of stone between the window tops and sills. The various sizes and colors of the stones, and the patterns of bands and quoins, give the walls visual interest (Photos 3, 6). Also contributing to the sense of lightness are the vertical elements of the Main Mill: the tall widow openings, capped with segmental arches and filled with triple-hung windows, and of course, the tall towers (Photo 11). There is no other mill in New England quite like it.

Archaeological Significance

Since patterns of ancient Native American settlement in Dudley are poorly understood, any surviving sites could be significant. Site distributions in this area generally reflect underreporting and the lack of systematically investigated sites. Ancient sites in this area may contribute important information related to Native subsistence and settlement

(continued)

[73] "Action of Dudley and Webster Upon the Bridge Question," *Webster Times* 31 (Oct. 7, 1865).
[74] "Peter Pond Ledge," *Webster Times* 6 (May 14, 1864).

patterns for the Central Massachusetts uplands and Worcester Plateau in general. This information may indicate the extent that Native groups in this area were related to similar groups in the Connecticut River Valley to the west, the coastal lowlands to the east, or the Thames River Basin in Connecticut to the south. Many ancient Native American settlement models discuss subsistence and settlement within the framework of river basin drainage boundaries. Ancient sites in this area may contribute important information that helps to test this model, or investigate the extent to which certain patterns, such as trade, cross-cut drainage boundaries.

Historic archaeological resources associated with the Stevens Linen Works Historic District may contribute important information related to the growth of industry in Dudley and the origins of water power in the district. Archaeological resources associated with the Merino and Stevens Mills may contribute important information related to the growth of the textile industry in Massachusetts and the United States, and the machine manufacture of linen cloth. Detailed analysis of the contents of industrial trash deposits associated with the Old Merino Mill may contribute important information related to the manufacture of woolen textiles until 1846, when Stevens occupied the mill and production switched from wool to linen. Similar analysis of trash deposits associated with the Stevens Mill may contribute important information related to the technology and production of linens at the mill where the first and last production of linen textiles occurred in the United States.

Archaeological resources associated with hydraulic structures in the district may contribute important information related to the evolution and allotment of waterpower in the district, especially problems associated with the inadequate water supply and its influence on the transition from direct waterpower supplied by a waterwheel to turbines, steam power, and electricity. Additional historical research, combined with archaeological survey and testing, may contribute important evidence of the technology used to harness waterpower for the Merino mill when it was first constructed for woolen textile manufacture (1812), and when the new dam, wheelhouse, and raceway were constructed by Stevens in 1859. In 1859, a new wheelhouse was also constructed for the Stevens Mill where water was delivered by the same dam and raceway that powered the Merino Mill. Inadequate water supply was a persistent problem for the Stevens Mill. Historical and archaeological research may contribute information that indicates how industrialists dealt with water supply problems. While the mill switched to the exclusive use of electricity for power in the 1960s, the mill continued to use steam power and some water power as a source of energy even after electricity was introduced. Archaeological testing may identify specialized structures used to control water flow in the district. When first constructed in the 1860s, the Dye House and Bleachery used waterpower from the Merino Pond Dam to power their operations. By ca. 1880, the Dye House and Bleachery were still using waterpower part of the year and steam power the remainder of the time. By ca. 1880, the main mill was using steam power constantly. Historical and archaeological resources may contribute information that identifies how waterpower was controlled between the two dams and mill areas.

(end)

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(continued)

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Acknowledgments

Michael Branniff of the Dudley Historical Commission, amateur historian and strong advocate of preservation in Dudley, provided invaluable assistance. Most of the articles from the *Webster Times* from the 19th century cited in the references are ones that he discovered and transcribed. He also was a guide to the town and source of information on its history. His help, hospitality, and dedication to preserving Dudley's history are much appreciated. Thanks too to Sara Costa, niece of Hugh W. Crawford, Jr., who researched the backgrounds of the residents of Dudley in the 1865 state census and identified the stone cutters and masons.

(end)

10. Geographical Data

Verbal Boundary Description

The district is roughly bounded by the French River on the east; Ardlock Place, Curfew Lane, and the southern shore of Low Pond on the south; Merino Pond Dam on the west; and the northern shore of Low Pond and the northern side of the Stevens Linen Mill site on the north. The boundaries follow the lot lines of all parcels listed on the data sheet and shown on the attached assessor's maps 117 and 112. Note that parcel 78 on map 117 has an irregular shape that extends in a narrow strip along the south edge of Low Pond and includes both the Low Pond Dam at the east end of the pond and the Merino Pond Dam at the west end. The parcel also extends to the north and south of the Merino Pond Dam.

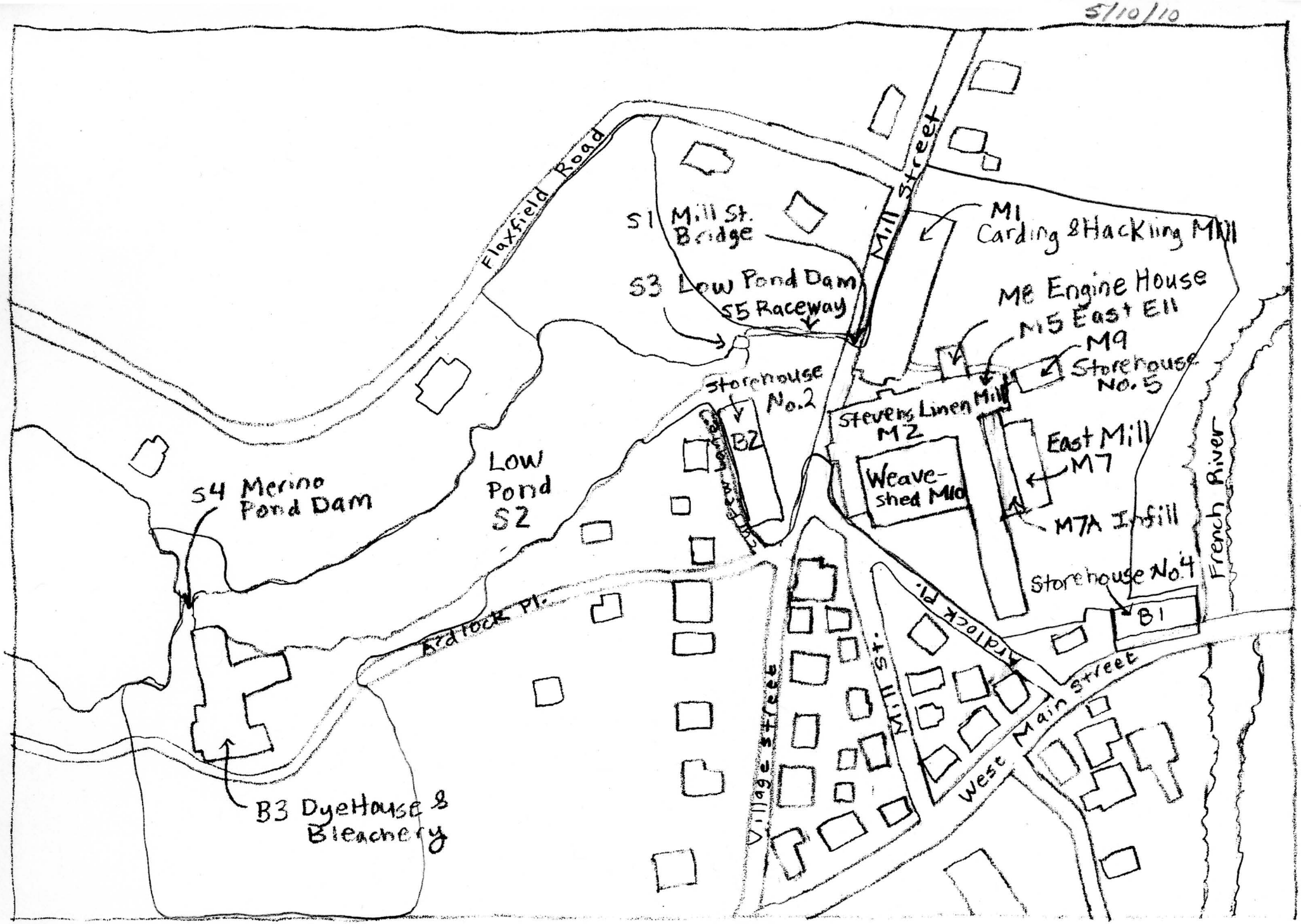
Boundary Justification

The Stevens Mill Historic District includes the buildings and structures historically associated with manufacturing and waterpower supply to the Stevens Linen Works textile mill.

(end)

Appendices

A. District Data Sheet
B. Detail of Stevens Linen Mill and adjacent resources
C. Additional Images
    1. Stevens Linen Mill with workforce, n.d., photo
    2. Stevens Linen Works, ca. 1906, postcard
    3. Stevens Linen Works, Barlow Insurance Map, 1877
    4. Dudley, MA, with Stevens Linen Mill, postcard, ca. 1905
    5. Stevens Linen Works, Birds-eye-view, 1892
    6. Detail of Stevens Linen Works mill, 1870 Beers Atlas, map
    7. Survey of Stevens Linen Works, 1914
    8. Survey of Stevens Linen Works, 1914
    9. Stevens Mill seen from Webster [MA] Main Street near Dudley line, ca. 1870-1871 (photo)
    10. Chase Mill, Dudley, MA, 2008 (photo)



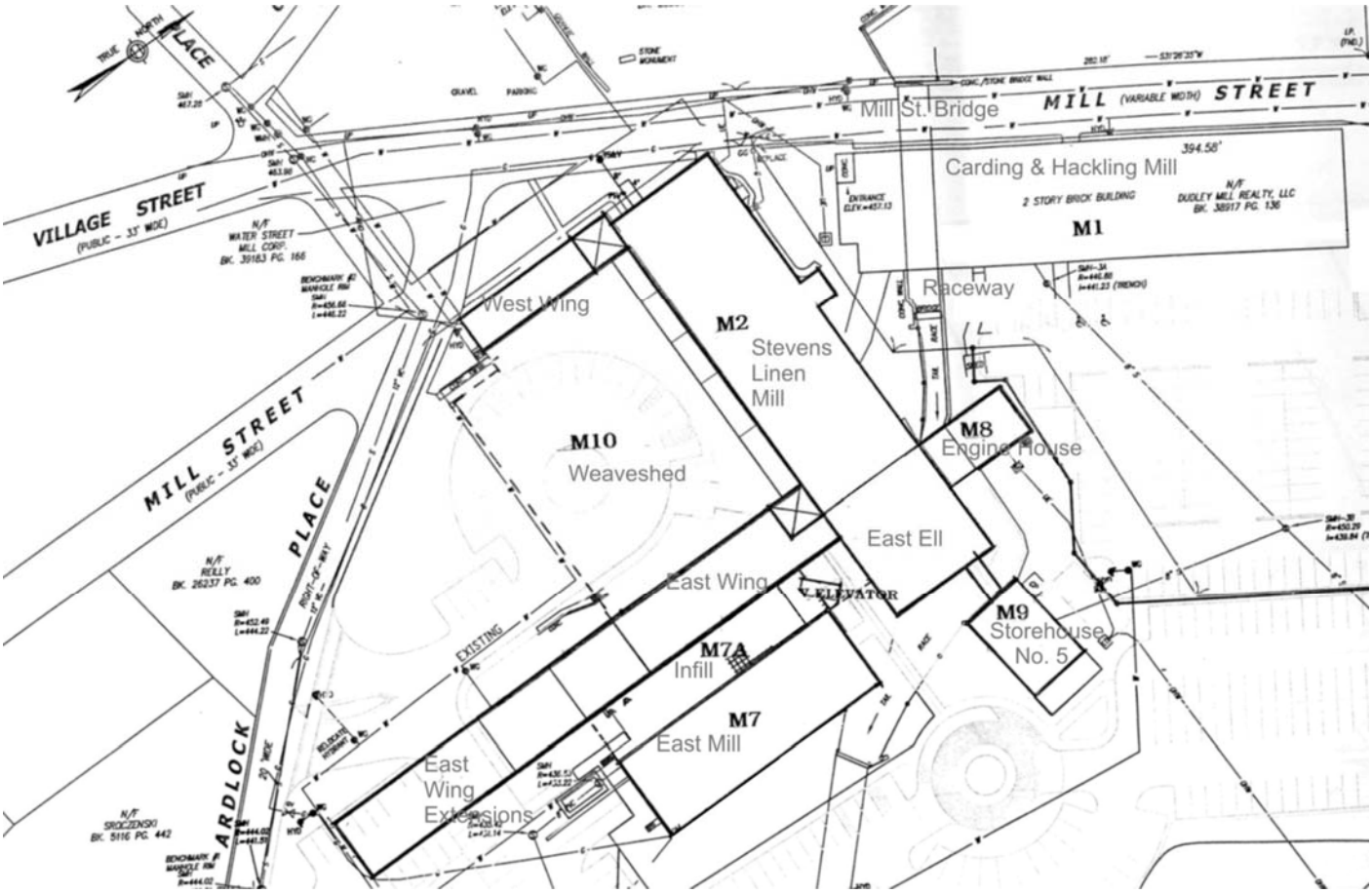
Sketch Map – Stevens Linen Works Historic District, Dudley, MA ↑ **North**

For details of the sections of Stevens Linen Mill (M2), see Appendix B map.

Appendix A. District Data Sheet Stevens Linen Works Historic District

MHC #	Map #	Assessor's #	Address	Historic Name	Date	Resource	Status
DUD.229	M2	117-120	8 Mill St.	Stevens Linen Mill	1862-65, 20th C	Building	C
			Sections of the building:	Main Mill	1862-64, 1905		
	M4			West Wing	1865		
	M5			East Ell	1862, 1900, 1922		
	M6			East Wing	1864, 1905		
	M6A			East Wing Ext.	1878, 20th C		
	M6B			East Wing Ext.	1878, 1891		
	M6C			East Wing Ext.	1891, 20th C		
	M7	117-120	8 Mill St.	East Mill	1927-28	Building	C
	M7A	117-120	8 Mill St.	Infill	1983-84	Building	NC
	M8	117-120	8 Mill St.	Engine House	1892	Building	C
	M9	117-120	8 Mill St.	Storehouse No. 5	1902	Building	C
	M10	117-120	8 Mill St.	Weaveshed	1999	Building	NC
DUD.454	M1	117-120.1	10 Mill St.	Carding & Hackling Mill	1913	Building	C
DUD.451	B3	117-76, 117-78	Ardlock Pl.	Dye House and Bleachery	1867 and later	Building	C
	B2	117-83	9 Mill St.	Storehouse No. 2	1890, 1901	Building	C
	B1	117-128	2 W. Main St.	Storehouse No. 4	1904	Building	C
DUD.926	S1	Town of Dudley	Near 8-10 Mill St.	Mill St. Bridge	1859	Structure	C
DUD.928	S2	117-78	Mill St. at Ardlock Pl.	Low Pond	1859	Structure	C
DUD.927	S3	117-78	Curfew Lane	Low Pond Dam	1859	Structure	C
	S4	117-78	Between Marino and Low Ponds	Merino Pond Dam	ca. 1859	Structure	C
	S5	117-120, 117-120.1	Near 8-10 Mill St.	Raceway	ca. 1859-62	Structure	C

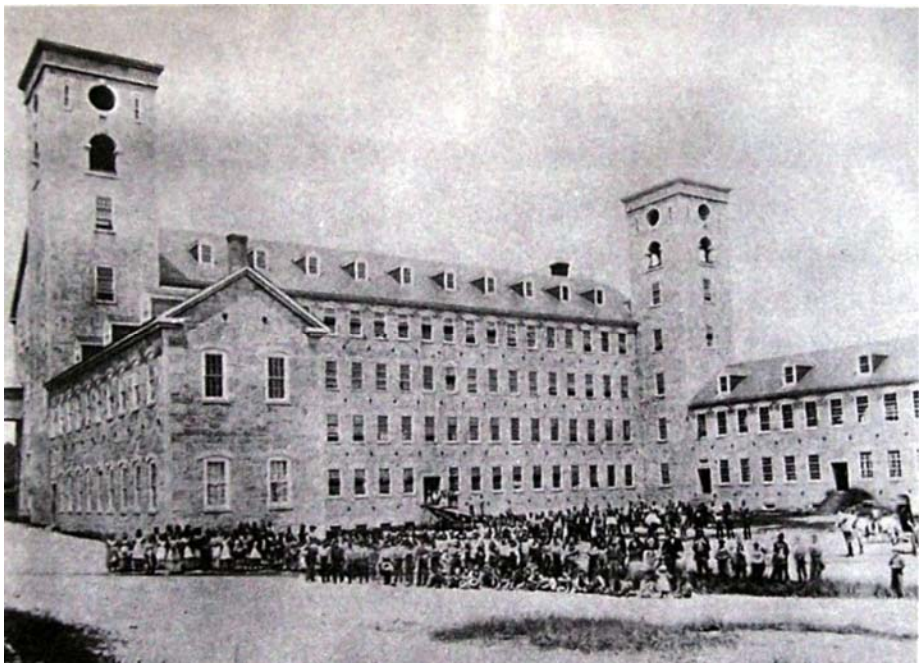
Appendix B. Stevens Linen Works Historic District, detail of Stevens Linen Mill and adjacent resources



Base map source: Patterson Architects

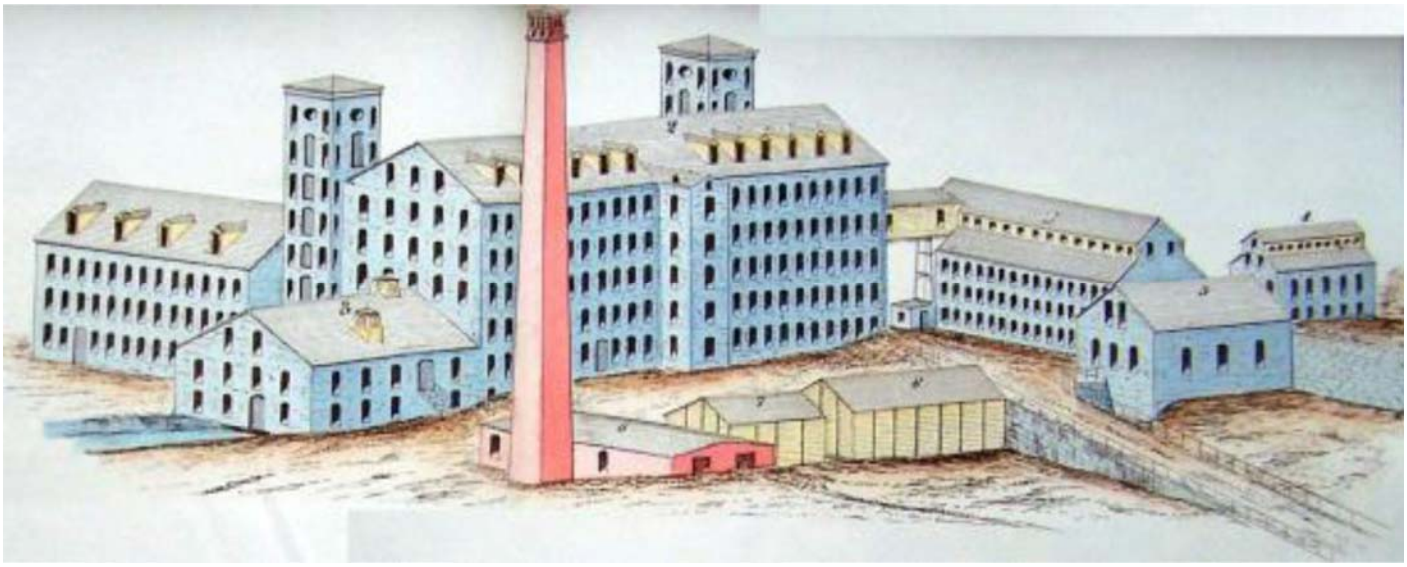
Appendix C. Additional Images

1. Stevens Linen Mill, n.d. (before 1905), with workforce (Pearle Crawford, "Stevens Linen, Its First Century and a Half," *New England Galaxy* 9 [1968])

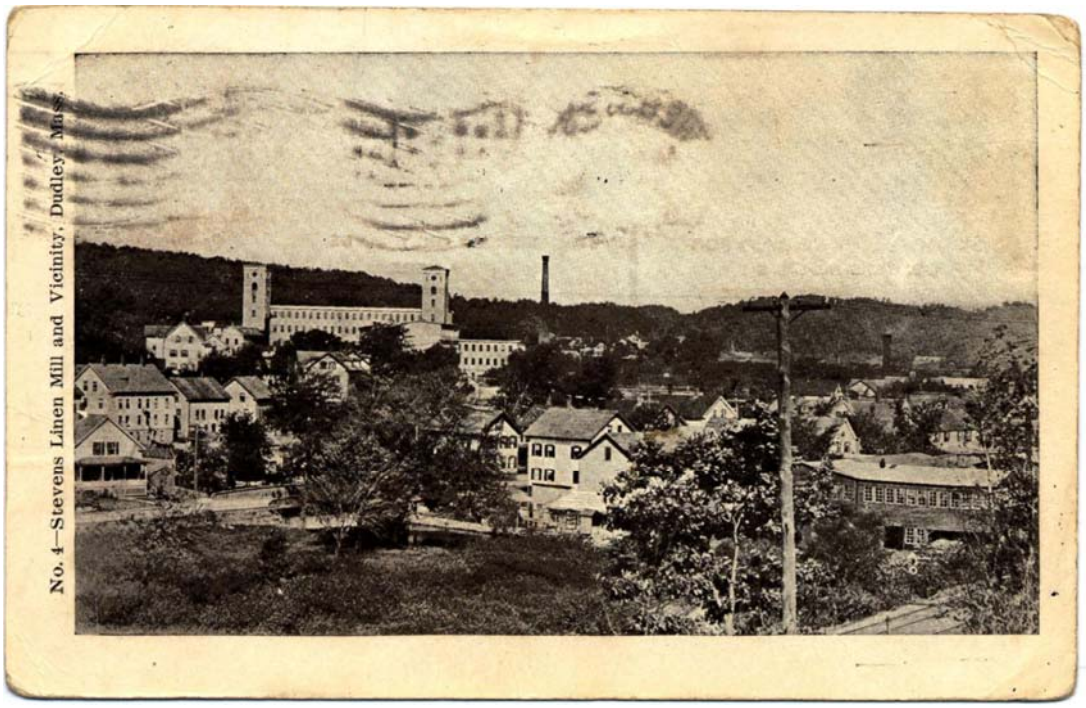


2. Stevens Linen Works, postcard, c 1906 (Private collection)

3. Stevens Linen Works, Barlow Insurance Map, 1877 (American Textile History Museum)

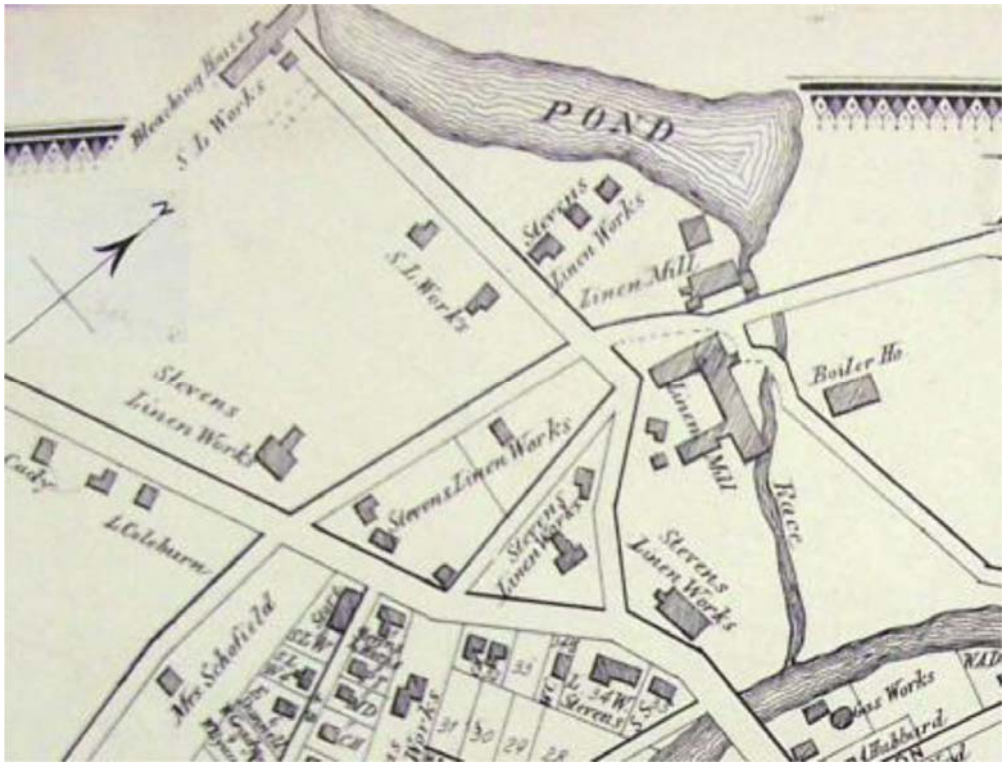


4. Dudley, Massachusetts, with Stevens Linen Mill on the left side of the postcard, c 1905 (Private collection)

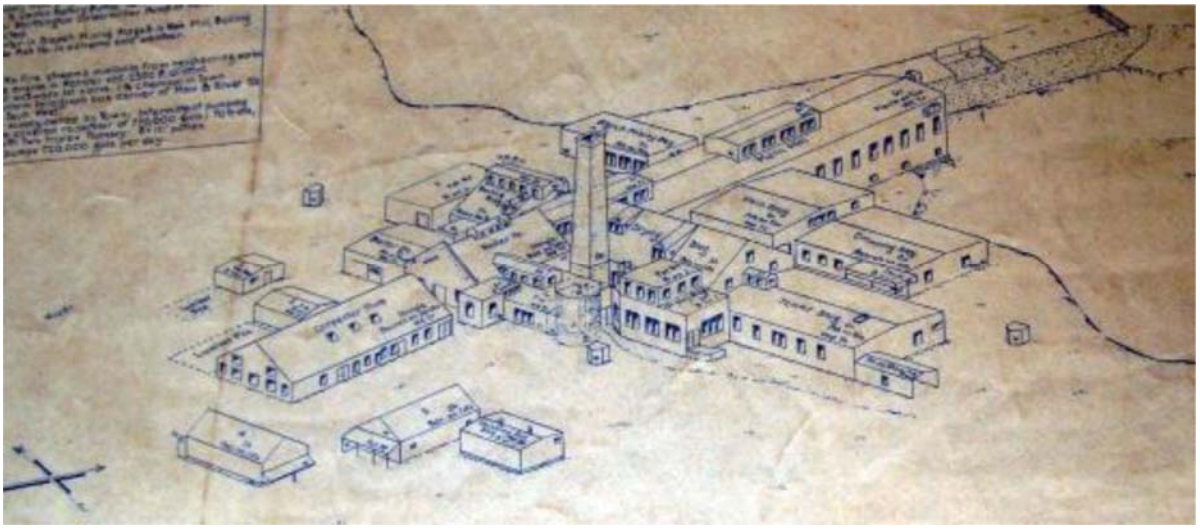


5. Stevens Linen Works, Bird's-eye-view, 1892, detail from Webster, Massachusetts 1892. O.H. Bailey & Co., Boston. Perspective map not drawn to scale. (Library of Congress Geography and Map Division, Washington, D.C.)

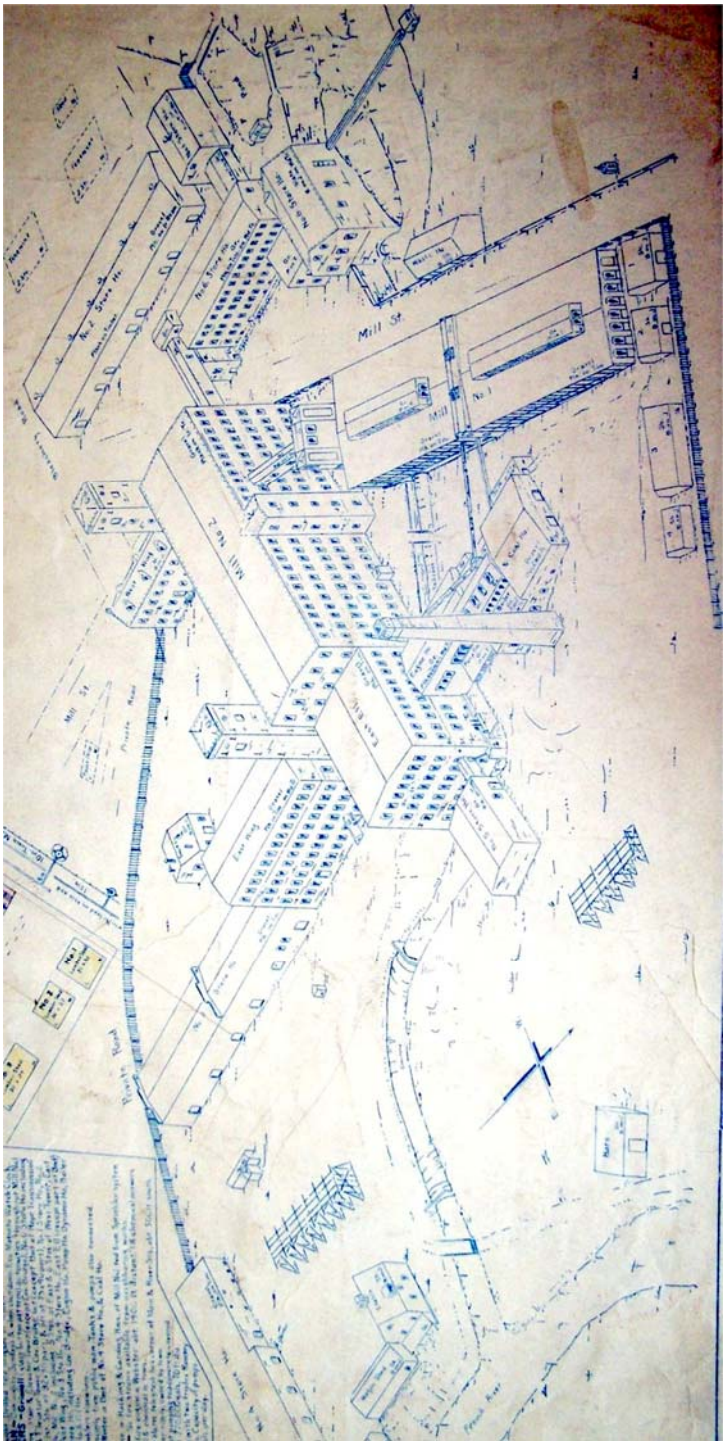
6. Detail of Stevens Linen Works mill, 1870 Beers Atlas of Worcester County, Webster & Merino Village (Boston Public Library)



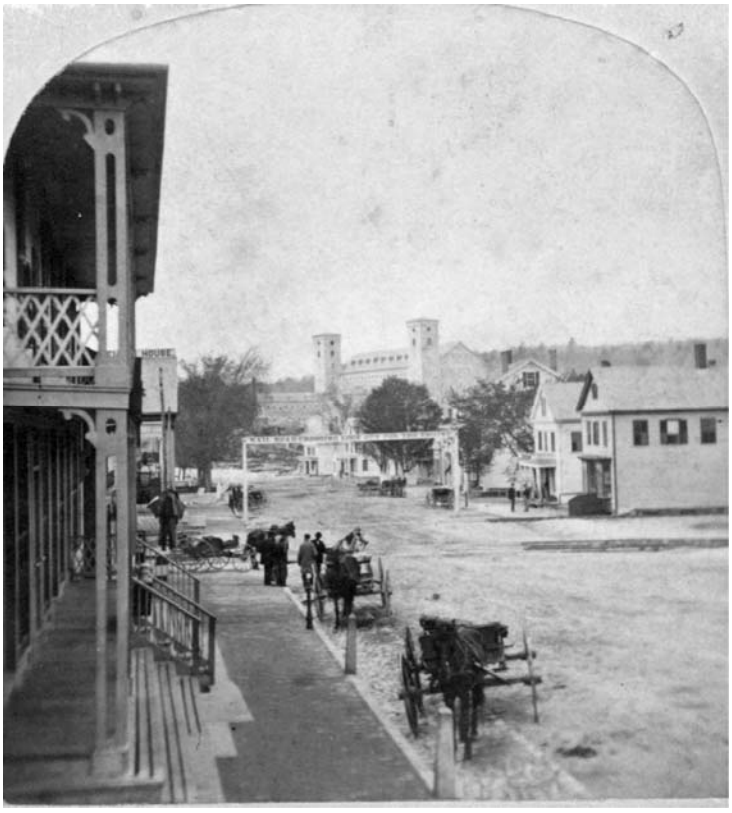
7. Survey of Stevens Linen Works, 1914, Associated Factory Mutual Fire Insurance Companies Inspection Dept. (American Textile History Museum)



8. Survey of Stevens Linen Works, 1914, Associated Factory Mutual Fire Insurance Companies Inspection Dept. (American Textile History Museum)



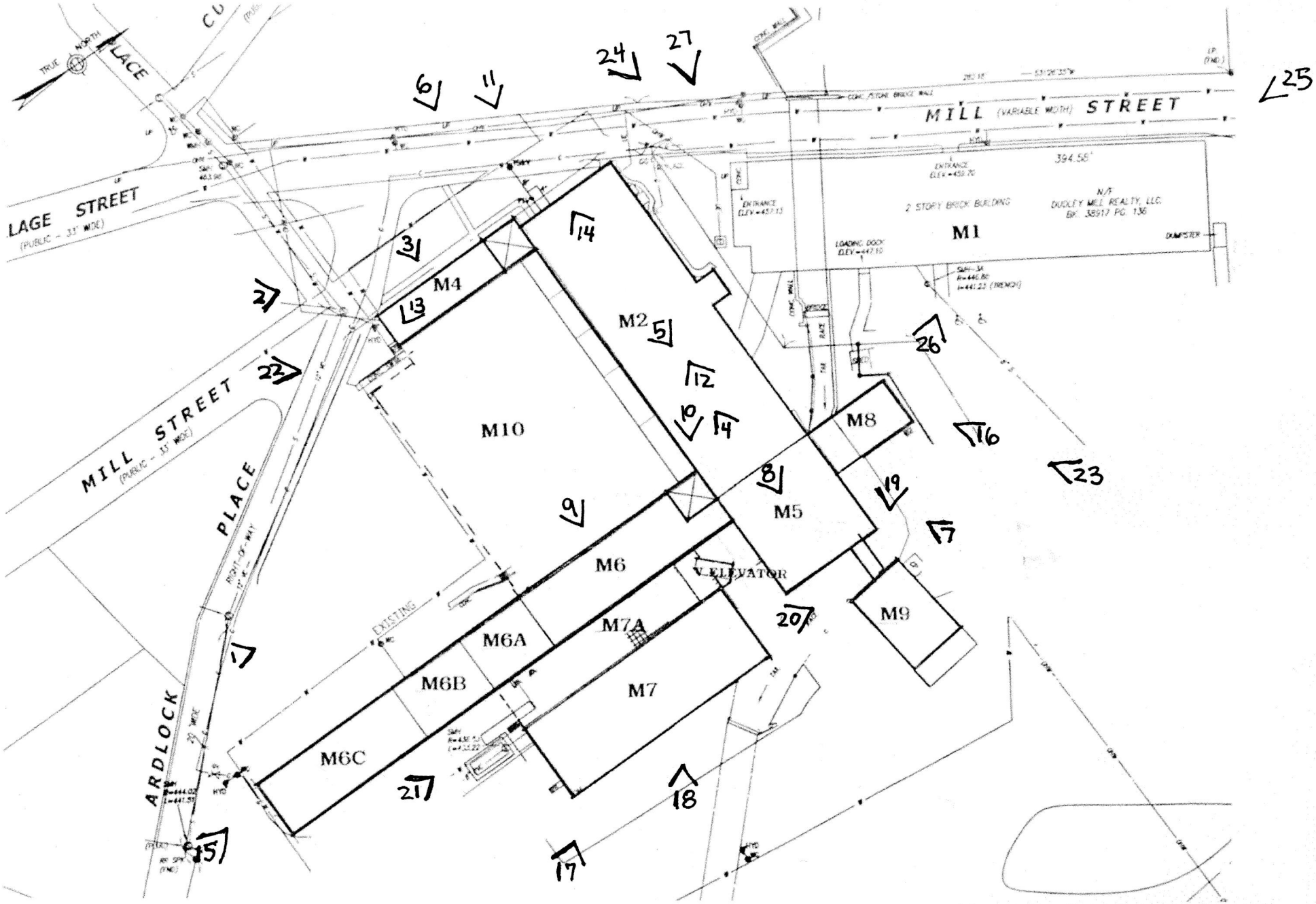
9. Stevens Mill seen from Webster, Main Street near Dudley line, looking west, c1870-71, George Bennett, photographer (Michael Branniff, private collection)



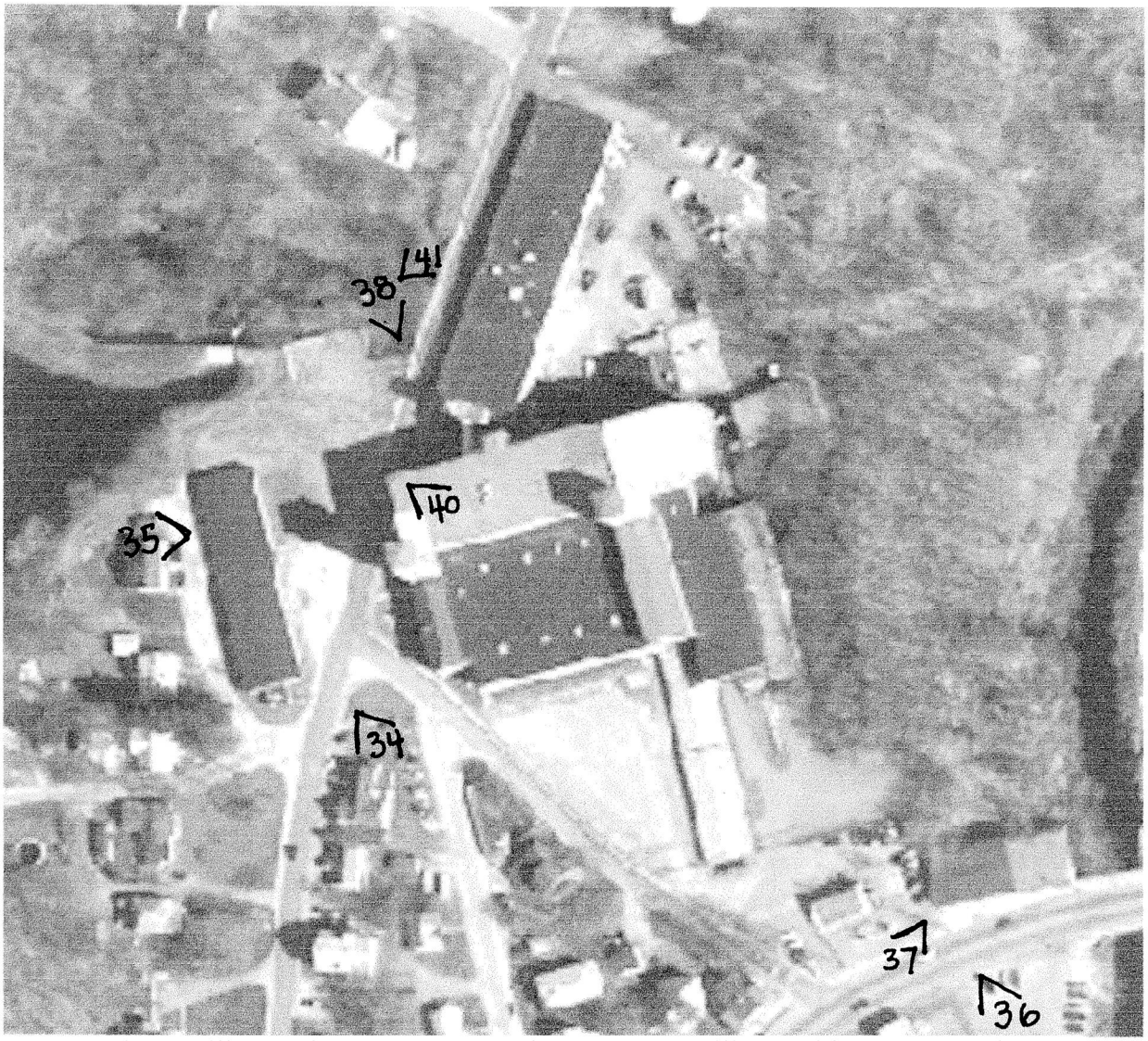
10. Chase Mill, Dudley, Massachusetts, 1860 (Photo April 24, 2008, by Sara E. Wermiel)

Steven Linen Works Historic District Photograph Log

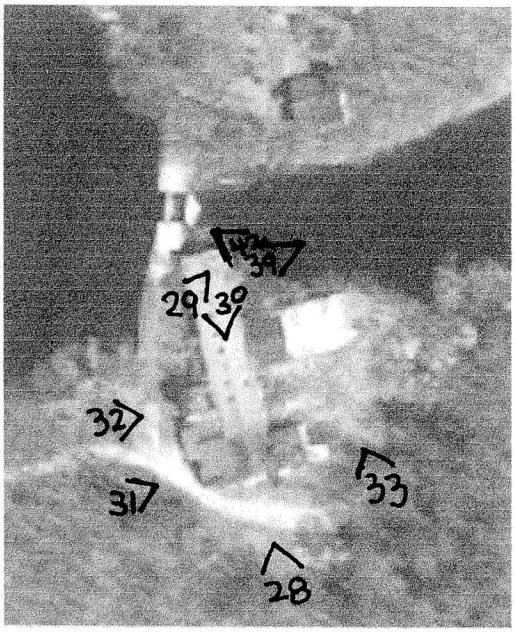
#	Photo Number	Name of building	City, County, State	Photographer	Date of photo	View: direction photographer is looking
1	MA_Worcester County_Stevens Linen Works Historic District_0001	Stevens Mill	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	northwest from W. Main St.
2	MA_Worcester County_Stevens Linen Works Historic District_0002	Stevens Mill	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	northeast from Village St.
3	MA_Worcester County_Stevens Linen Works Historic District_0003	Stevens Mill, West Wing	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	east from Village St.
4	MA_Worcester County_Stevens Linen Works Historic District_0004	Stevens Mill, Main Mill	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	interior Main Mill, west
5	MA_Worcester County_Stevens Linen Works Historic District_0005	Stevens Mill, Main Mill	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	interior Main Mill, east
6	MA_Worcester County_Stevens Linen Works Historic District_0006	Stevens Mill, West Wing	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	east
7	MA_Worcester County_Stevens Linen Works Historic District_0007	Stevens Mill, East Ell	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	southwest
8	MA_Worcester County_Stevens Linen Works Historic District_0008	Stevens Mill, East Ell interior	Dudley, Worcester, MA	Sara Wermiel	8/15/2006	northeast
9	MA_Worcester County_Stevens Linen Works Historic District_0009	Stevens Mill, East Wing	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	east
10	MA_Worcester County_Stevens Linen Works Historic District_0010	Stevens Mill, east tower	Dudley, Worcester, MA	Sara Wermiel	8/15/2006	southeast
11	MA_Worcester County_Stevens Linen Works Historic District_0011	Stevens Mill, west tower	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	east from Mill St.
12	MA_Worcester County_Stevens Linen Works Historic District_0012	Stevens Mill, Main Mill	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	interior Main Mill, northwest
13	MA_Worcester County_Stevens Linen Works Historic District_0013	Stevens Mill, West Wing	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	interior, southeast
14	MA_Worcester County_Stevens Linen Works Historic District_0014	Stevens Mill, Main Mill	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	interior Main Mill, west
15	MA_Worcester County_Stevens Linen Works Historic District_0015	Stevens Mill, M6	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	north
16	MA_Worcester County_Stevens Linen Works Historic District_0016	Stevens Mill, engine house	Dudley, Worcester, MA	Sara Wermiel	8/15/2006	west
17	MA_Worcester County_Stevens Linen Works Historic District_0017	Stevens Mill, East Mill	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	northwest
18	MA_Worcester County_Stevens Linen Works Historic District_0018	East Mill & East Ell	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	northwest
19	MA_Worcester County_Stevens Linen Works Historic District_0019	Stevens Mill, storehouse M9	Dudley, Worcester, MA	Sara Wermiel	8/15/2006	southeast
20	MA_Worcester County_Stevens Linen Works Historic District_0020	Stevens Mill, storehouse M9	Dudley, Worcester, MA	Sara Wermiel	8/15/2006	norhteast
21	MA_Worcester County_Stevens Linen Works Historic District_0021	Stevens Mill, M7A & East Mill	Dudley, Worcester, MA	Sara Wermiel	8/15/2006	north
22	MA_Worcester County_Stevens Linen Works Historic District_0022	Stevens Mill, M10 infill bldg.	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	east
23	MA_Worcester County_Stevens Linen Works Historic District_0023	Stevens Mill, north side	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	west
24	MA_Worcester County_Stevens Linen Works Historic District_0024	Carding & Hackling Mill	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	northeast
25	MA_Worcester County_Stevens Linen Works Historic District_0025	Carding & Hackling Mill	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	south
26	MA_Worcester County_Stevens Linen Works Historic District_0026	Carding & Hackling Mill	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	northwest
27	MA_Worcester County_Stevens Linen Works Historic District_0027	Carding & Hackling Mill	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	east
28	MA_Worcester County_Stevens Linen Works Historic District_0028	Dye House and Bleachery	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	north
29	MA_Worcester County_Stevens Linen Works Historic District_0029	Dye House and Bleachery	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	interior west
30	MA_Worcester County_Stevens Linen Works Historic District_0030	Dye House and Bleachery	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	interior south
31	MA_Worcester County_Stevens Linen Works Historic District_0031	Dye House and Bleachery	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	east
32	MA_Worcester County_Stevens Linen Works Historic District_0032	Dye House and Bleachery	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	east
33	MA_Worcester County_Stevens Linen Works Historic District_0033	Dye House and Bleachery	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	north
34	MA_Worcester County_Stevens Linen Works Historic District_0034	Storehouse No. 2	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	northwest
35	MA_Worcester County_Stevens Linen Works Historic District_0035	Storehouse No. 2	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	southeast
36	MA_Worcester County_Stevens Linen Works Historic District_0036	Storehouse No. 4	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	north
37	MA_Worcester County_Stevens Linen Works Historic District_0037	Storehouse No. 4	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	northeast
38	MA_Worcester County_Stevens Linen Works Historic District_0038	Mill Street Bridge	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	southeast
39	MA_Worcester County_Stevens Linen Works Historic District_0039	Low Pond	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	east
40	MA_Worcester County_Stevens Linen Works Historic District_0040	Low Pond Dam	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	west from roof of Main Mill
41	MA_Worcester County_Stevens Linen Works Historic District_0041	Low Pond Dam & Raceway	Dudley, Worcester, MA	Sara Wermiel	2/19/2008	southwest
42	MA_Worcester County_Stevens Linen Works Historic District_0042	Merino Pond Dam	Dudley, Worcester, MA	Sara Wermiel	4/24/2008	west



Key map for photographs 1
Stevens Linen Works Historic District

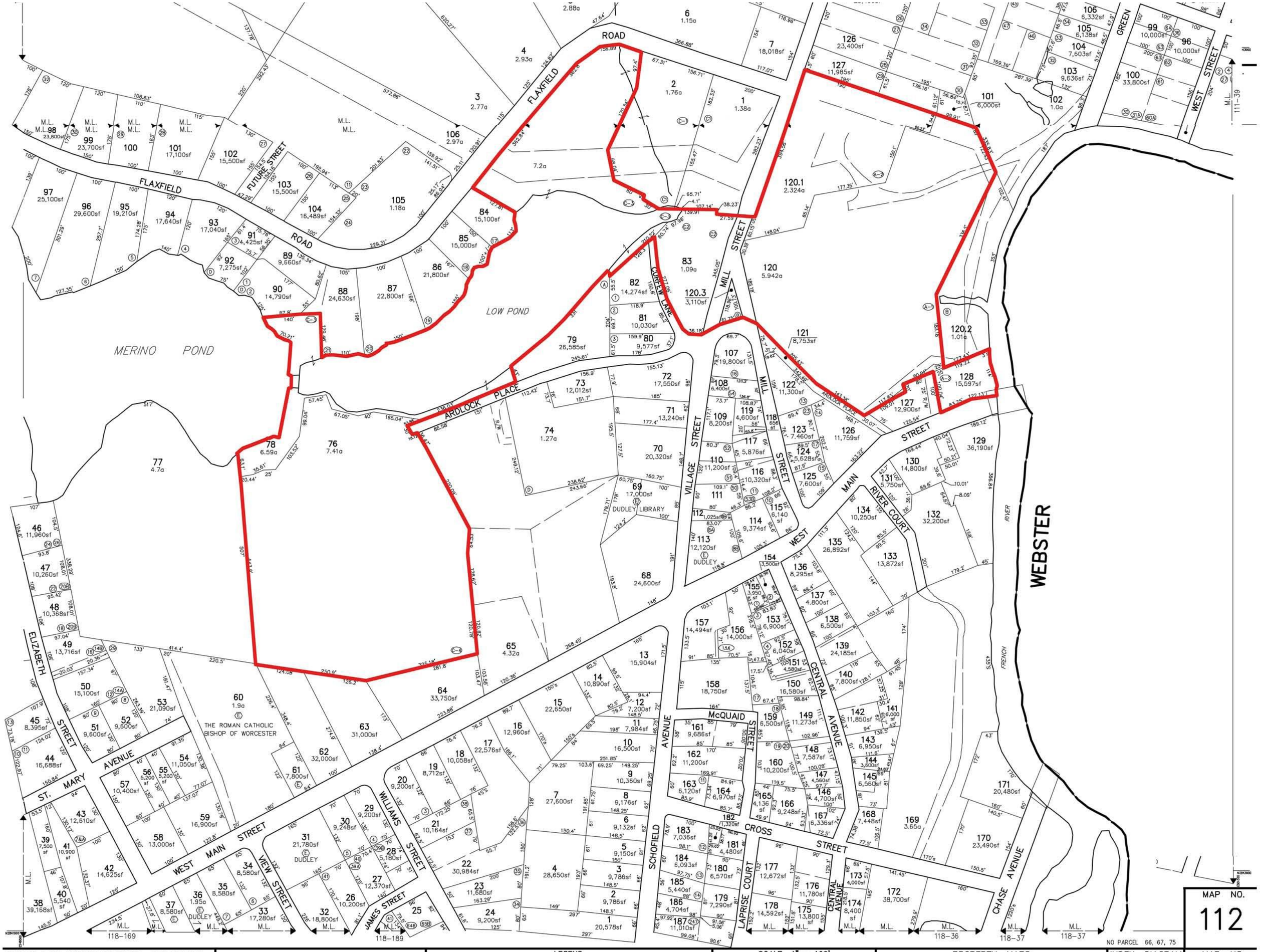


Stevens Linen Mill, Storehouse No. 2, Storehouse No. 4, Mill St. Bridge, Low Pond Dam



Dye House and Bleachery, Merino Pond Dam, Low Pond

Key map for photographs 2
Stevens Linen Works Historic District



NO PARCEL 66, 67, 75

THIS MAP IS FOR ASSESSMENT PURPOSES. IT IS NOT VALID FOR LEGAL DESCRIPTION OR CONVEYANCE.

THE HORIZONTAL DATUM IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, NAD 83.

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11 PLEASANT STREET, LITTLETON, NEW HAMPSHIRE 03561
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LEGEND

AREA SURVEYED	a	EXEMPT PROPERTY	(E)
AREA CALCULATED	a calc	SUBDIVISION LOT NO.	(2)
SCALED DIMENSION	100's	RIGHT OF WAY/ACCESS	674
RECORD DIMENSION	100'	COMMON OWNERSHIP	
WATER	-W-	WETLANDS	

SCALE 1" = 100'
FEET 50 0 100 200 300
METERS 25 0 25 50 75

REVISED TO :

PROPERTY MAPS
DUDLEY
MASSACHUSETTS

INDEX DIAGRAM

113	112	111
116		224
119	118	225

GN

MAP NO. 112

MAP NO. 117

BM 163.4
New Pond
Mosquito Pond
Wallis Pond
Larner Pond
Peter Pond
158.5
Boulder Dudley
Sand and Gravel Pit
Pumping Sta
Calvary Cem
Sunnyside
North
CHARLTON
SAWMILL
OXFORD
MASON
CORBIN
HAYDEN
Corbin Cem
Easterbrook Pond
Shepherd Hill Regional Sch
Dudley Intermediate Sch
St Anne Sch
Merino Pond
149.0
174.0
Low Pond
Gaging Sta
PO
Library
BM 138.2
BM 139
Middle Sch
St Louis Sch
Village Cem
Golf Course
Bates Hill
Reservoir
Dudley
Potash
Mason Rd Sch
Dudley Sch
Townhall
WEBSTER
Historical Society
Nichols College
Conant Pond
Chaseville
MAIN
WEST
INDIAN
Brook
Slater Playground
Sewage Disposal
LYON
HALL
BM 187.7
Courthouse
Wielock Pond
BM 194.0
Pumping Sta
FRENCH
Holy Trinity Cem
BOSTON
NEW
Packard Pond
Sand and Gravel Pit
Perryville
Sand and Gravel Pit
MASSACHUSETTS
CONNECTICUT
BM 124.4
Perry Pond
RIVER
TUFT
PROVIDENCE
LAPORTE
139.0
Whitkowski Ponds
Sand and Gravel Pit
Quarry
WORCESTER
Langers Pond
Quarry
BM 118.1
T H O M P S
Brook

Stevens Linen Works Historic District
Dudley, Worcester County, MA

1. Stevens Mill. View northwest from W. Main St.

2. Stevens Mill. View northeast from Village St.

Photos: Sara Wermiel, February 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

3. Stevens Mill, West Wing. View east from Village St.

4. Stevens Mill, Interior, Main Mill looking west

Photos: Sara Wermiel, February, April 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

5. Stevens Mill, Interior, Main Mill looking east.

6. Stevens Mill, West Wing, looking east.

Photos: Sara Wermiel, February, 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

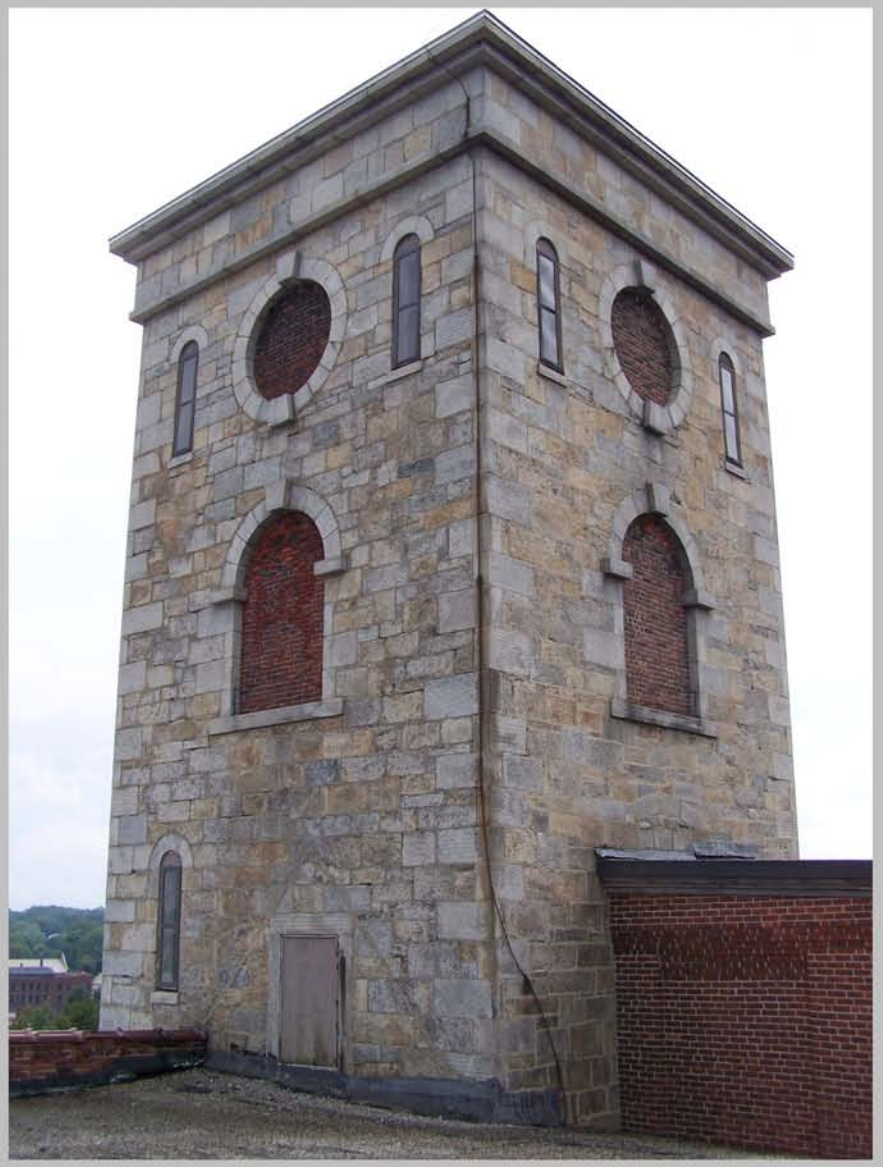
7. Stevens Mill, East Ell, looking southwest

8. Stevens Mill, East Eill interior, looking northeast

Photos: Sara Wermiel, February 2008, August 2006

Stevens Linen Works Historic District
Dudley, Worcester County, MA

9. Stevens Mill, East Wing, looking east



10. Stevens Mill, east tower, looking southeast

Photos: Sara Wermiel, April 2008, August 2006

Stevens Linen Works Historic District

Dudley, Worcester County, MA

11. Stevens Mill, west tower. View east from Main St.

12. Stevens Mill, Interior, Main Mill looking northwest

Photos: Sara Wermiel, February, April 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

13. Stevens Mill, Interior, West Wing, looking southeast

14. Stevens Mill, Interior, Main Mill looking west

Photos: Sara Wermiel, February 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

15. Stevens Mill, M6 looking north

16. Stevens Mill, engine house looking west

Photos: Sara Wermiel, February 2008, August 2006

Stevens Linen Works Historic District
Dudley, Worcester County, MA

17. Stevens Mill, East Mill, view looking northwest

18. East Mill & East Ell, view looking northwest

Photos: Sara Wermiel, February 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

19. Stevens Mill, storehouse M9, looking southeast

20. Stevens Mill, Storehouse M9, looking northeast

Photos: Sara Wermiel, August 2006

Stevens Linen Works Historic District
Dudley, Worcester County, MA

21. Stevens Mill, M7A & East Mill, looking north

22. Stevens Mill, M10 infill bldg., looking east

Photos: Sara Wermiel, August 2006, February 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

23. Stevens Mill, north side, looking west

24. Carding & Hackling Mill, view northeast

Photos: Sara Wermiel, February 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

25. Carding & Hackling Mill, view south

26. Carding & Hackling Mill, view northwest

Photos: Sara Wermiel, February, April 2008

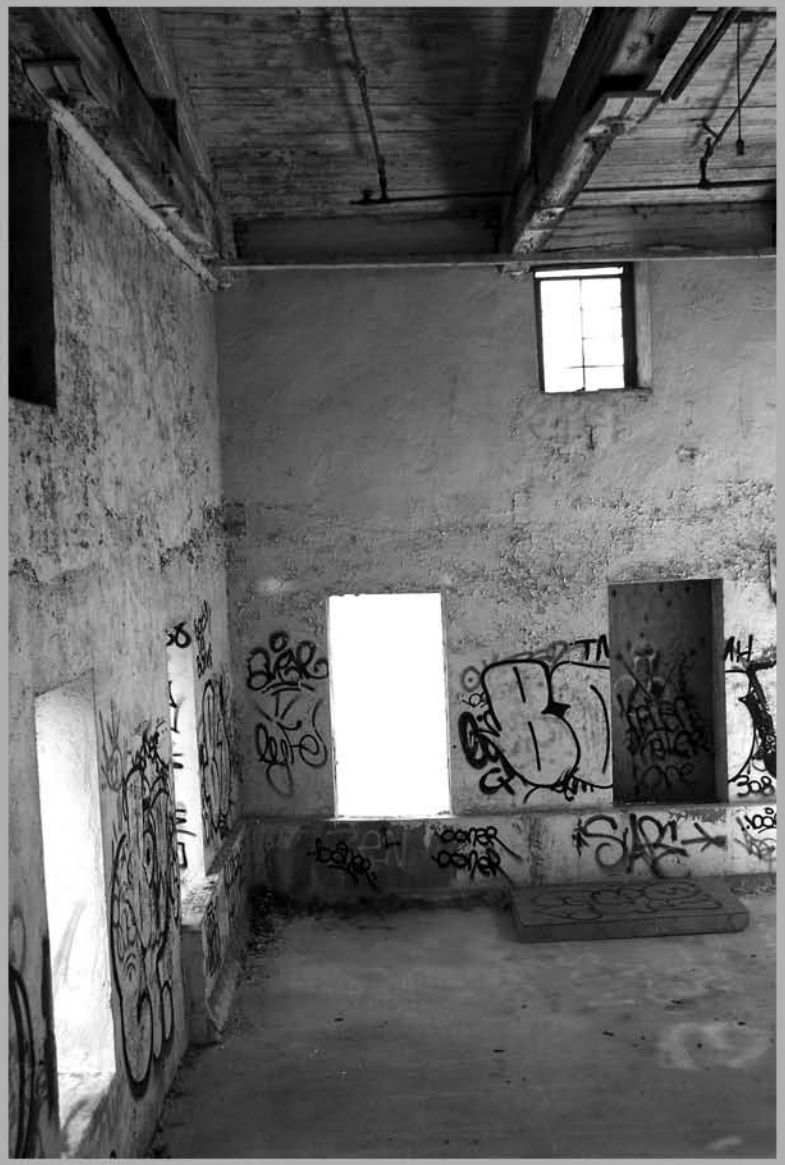
Stevens Linen Works Historic District
Dudley, Worcester County, MA

27. Carding & Hackling Mill, view east

28. Dye House and Bleachery, view north

Photos: Sara Wermiel, April 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA



29. Interior, Dye House and Bleachery, looking west

30. Interior, Dye House and Bleachery, looking south

Photos: Sara Wermiel, April 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

31. Dye House and Bleachery, looking east

32. Dye House and Bleachery, looking east

Photos: Sara Wermiel, February 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

33. Dye House and Bleachery, looking north

34. Storehouse No. 2, view northwest

Photos: Sara Wermiel, February, April 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

35. Storehouse No. 2, view southeast

36. Storehouse No. 4, view north

Photos: Sara Wermiel, April, February 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

37. Storehouse No. 4, view northeast

40. Low Pond Dam, looking west from roof of Main Mill

Photos: Sara Wermiel, February 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

38. Mill Street Bridge, view southeast

39. Low Pond, view east

Photos: Sara Wermiel, February, April 2008

Stevens Linen Works Historic District
Dudley, Worcester County, MA

41. Low Pond Dam, looking southwest

42. Merino Pond Dam, looking west

Photos: Sara Wermiel, February, April 2008