

**United States Department of the Interior  
Heritage Conservation and Recreation Service**

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

See instructions in *How to Complete National Register Forms*  
Type all entries—complete applicable sections

For HCRS use only

received JUL 6 1982

date entered

## 1. Name

historic Wamesit Canal-Whipple Mill Industrial Complex

and/or common Centennial Island

## 2. Location

street &amp; number 576 Lawrence Street N/A not for publication

city, town Lowell N/A vicinity of congressional district 5th

state MA code 025 county Middlesex code 017

## 3. Classification

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

## 4. Owner of Property

name Stirling-Bay Company

street &amp; number 184 High Street

city, town Boston N/A vicinity of state MA

## 5. Location of Legal Description

courthouse, registry of deeds, etc. Northern Middlesex County Registry of Deeds

street &amp; number 360 Gorham Street

city, town Lowell state MA

## 6. Representation in Existing Surveys

Inventory of the Historic Assets of  
title the Commonwealth has this property been determined eligible?  yes  nodate 1979  federal  state  county  local

depository for survey records Massachusetts Historical Commission

city, town Boston state MA

## 7. Description Wamesit Canal-Whipple Mill Industrial Complex

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

### Describe the present and original (if known) physical appearance

The Wamesit Canal-Whipple Mill Industrial Complex is located in the southeastern portion of Lowell. Most of its structures and surface features are situated on the island formed by the Wamesit Canal and the Concord River-Meadow Brook. Four Whipple and Stirling Mill buildings stand to the northeast of the Wamesit Canal. Situated over River Meadow Brook is the Stirling Mills Bridge which connects the main Stirling Mill with the city of Lowell. The description below begins with the Wamesit Canal and continues with the Whipple and Stirling buildings from south to north.

#1. The Wamesit (formerly Whipple's) Canal was constructed during 1821-1822 under the supervision of Oliver M. Whipple and the consultation of Loammi Baldwin, Jr. Initially the canal was about 1,000 feet in length. It is presently 2,500 feet long, 20 feet wide and 6 to 8 feet deep. It begins at a decrepit dam across the Concord River just north of Lawrence Street Bridge and extends about 1,600 feet parallel to the western bank of the river. There the canal veers westward across Lawrence Street, then northward again to empty into River Meadow Brook.

Extant features related to the canal include several penstock openings, turbines or turbine pits and raceways. A small frame early twentieth century gatehouse and dam are situated at the canal's southern terminus, approximately 1,500 feet from the Whipple-Stirling Complex.

#2. The Whipple Powder Mill stands off Lawrence Street beside the Wamesit Canal. Presently abandoned, it is in poor condition. Built ca. 1821, it is Lowell's oldest industrial structure. Constructed of rubble stone, the main body of the mill is two stories tall. Its gable end faces Lawrence Street. There is a large dormer in the south slope of the roof. A long narrow wing, constructed of brick and rubblestone, extends north from the main block. The addition was built in 1855.

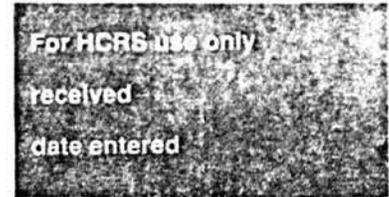
Behind the powder mill, a rivetted sheetmetal penstock off the canal leads to a turbine set below the east end of the mill. A raceway extends away from the turbine along the east side of the powder mill, and empties into River Meadow Brook just west of the Stirling Carbonizing House.

#3. The main building of the Stirling Woolen Mill is located to the northeast of Whipple Mill. It was built in 1880 and enlarged in 1896. Constructed of brick, it is a long, four-story structure with two stair towers on the main (southeastern) end of the facade. It is 240' x 60'. Simple 6/6 windows feature segmental arches and granite lintels; the building's primary ornamentation is located on the towers, where round-arched windows, decorative corbelling, corner pilasters, and a pyramidal slate roof are notable. Attached to the rear of the mill, beside the steep bank that retains the Wamesit Canal, is a power house with a tall smokestack. The Lower Merrimack ...Inventory dates the powerhouse to

(see continuation sheet)

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Continuation sheet Wamesit Canal

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1883. The smokestack was rebuilt in 1890.

To the south of the main Stirling building, adjacent to the power island's central road, are the ruins of an early twentieth century powerhouse. It is square in plan and constructed of brick. Its asphalt covered roof is partially intact.

#4. The Stirling Carbonizing House links the main Stirling building with the former Stirling Storage House (now White and Hodges). It is situated over River Meadow Brook. Built in 1907, this one-story brick structure was used to house carbonizing machinery, a process of scouring wool and of removing cellulose fibers by means of an acid bath. Waste water and acid were dumped through the floor into the brook. Stylistically, this building is distinguished by a shallow, asymmetrically pitched roof with dentillated cornice, pilastered bays, and segmentally arched windows with corbelled brackets supporting the projecting frieze.

#5. The Stirling Mills Storehouse abutts the Carbonizing House's northern wall. This four-story brick structure was built in 1907. The small size and wide spacing of this building's round-headed windows reflect its original use as a storehouse. A low pitched roof caps pilastered bays with corbelled and dentillated cornices.

An interior feature of particular interest are the floor beams which "are bolted to the walls, a technique of mill construction that was obsolete by 1880".<sup>1</sup>

#6. The Stirling Mills Bridge across River Meadow Brook connects the main Stirling building with the city of Lowell. It is a wood, Queen-rod truss through bridge, 30 feet long and 10 feet wide. The wooden deck and lower lateral system appear to be original. The bridge dates from about 1880.

Access to the Wamesit Canal-Whipple Mill Complex is gained via a road which runs eastward from Lawrence Street. Open spaces (now paved for parking) exist east and west of the storehouse and northeast of the main mill building. An unpaved road begins to the east of the main Stirling building's office and extends southward approximately 550 feet to land owned by a furniture warehouse.

Footnote

<sup>1</sup>Molloy, Peter M., editor. The Lower Merrimack River Valley: An Inventory of Historic Engineering and Industrial Sites.

# 8. Significance

Wamesit Canal

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

Specific dates ca. 1821, 1880, 1897, 1907 Builder/Architect Loammi Baldwin

**Statement of Significance (in one paragraph)**

The Wamesit Canal-Whipple Mill Industrial Complex retains integrity of design, materials, workmanship, location and setting. The complex is closely associated with the industrial development of Lowell, with the renowned engineer Loammi Baldwin, and with important trends in industrial architecture; the area thus meets Criteria A, B, and C of the National Register.

The Wamesit Canal-Whipple Mill Industrial Complex is tremendously significant to Lowell's history, particularly for the contrast it provides to the main Lowell system of canals and large corporations. From the 1820's until the 1860's, Oliver M. Whipple was hailed by small scale manufacturers as the individual who provided a welcome alternative to the dictatorial, Boston-based outsiders who controlled the large Merrimack River corporations. Situated on the western bank of the Concord River opposite Lawrence Street, the complex contains mill structures and hydropower elements which range in date from the 1820's to the early twentieth century. The Wamesit (formerly Whipple's) Canal is of national significance as an early nineteenth century engineering feat.

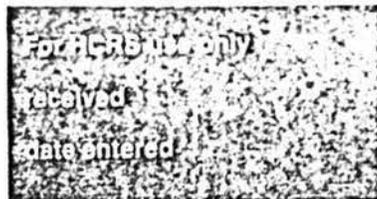
As early as 1790 Moses Hale's fulling or "Clothiers Mill" was operating on River Meadow Brook (later Hale's Brook) just to the west of the present complex. By 1820 Hale's son-in-law and partner in gun powder manufacturing, Oliver M. Whipple, initiated plans to build more mills south of River Meadow Brook. He powered these mills with his own canal, which was taken off the Concord River. It was constructed between 1821 and 1822. The famed engineer Loammi Baldwin was employed by Whipple as a consultant during the canal's planning stages. The Wamesit Canal has been enlarged, lengthened, and elaborated on since its initial construction. The power island on which this complex stands was created when the Wamesit Canal was extended to the River Meadow Brook in 1846. In 1865 the canal and most of the water power sites in the canal were sold to the Wamesit Power Company under the leadership of General Benjamin F. Butler. The canal is presently very similar in appearance to its 1865 state.

Adjacent to the canal on the southwestern portion of this complex is Lowell's oldest industrial structure. Built ca. 1821,

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Continuation sheet Wamesit Canal, Lowell Item number 8

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Whipple's Powder Mill is abandoned and open to the elements. It is one of the few rubble stone industrial structures still extant in the Merrimack River Valley. A major nineteenth century industry, Whipple's gun powder was exported to the Far East and Europe. During the Mexican War, Whipple's gun powder was supplied to American troops. Closer to home it was used by Lowell's militia and for building town roads.

The Stirling Woolen Mills stand behind the powder mill on the bank of the Concord River, a site of considerable natural beauty. Still extant are three brick structures and the ruins of a powerhouse. Of particular significance is the Carbonizing House which was built over River Meadow Brook in 1907. Few mills employed carbonizing machinery at so early a date.

The Stirling Mills ceased operation in the mid-1930's. Since that time the Stirling Mills have seen a variety of uses which fall within the category of light manufacturing.

The origins of the Wamesit Canal-Whipple Mill Complex lie in the business and mechanical abilities of Moses Hale and Oliver Whipple. This complex's development stands in dramatic contrast to that of the heavily financed, thoroughly planned and integrated textile manufacturing undertaken by the Merrimack River corporations after 1822. The Wamesit Canal, for its entire length, including segments not now included in the Preservation District, is important to the development of the neighboring portion of Lowell. It is a system separate from that of the Locks and Canals Company, and therefore offers a comparative technology.

This complex contains the Whipple Powder Works' structural remains, which represent the oldest extant industrial enterprise in Lowell. The existing stone building remains are significant for their age and archaeological potential. The Stirling Mills occupy part of the general area where Oliver Whipple developed his powder works in the early 1820's, and stand on the specific site of Charles Stotts' ca. 1863 woolen mill. A wooden bridge over River Meadow Brook dating to 1880 retains much of its original fabric.

## 9. Major Bibliographical References

- Coburn, Frederick. History of Lowell and Its People, New York: Lewis Historic Pub. Co., 1920
- Malloy, Peter M. (editor). The Lower Merrimack River Valley: An Inventory of Historic Engineering and Industrial Sites, North Andover: Merrimack Valley Textile Museum and HAER, 1978, (2nd edition).
- Shepley Bulfinch Richardson and Abbott. Lowell Cultural Resources Inventory, 1978

## 10. Geographical Data

Acreeage of nominated property 4 acres

Quadrangle name Lowell, Mass. - N.H.

Quadrangle scale 1:24,000

### UMT References

A 

19	311	180	47	22	470
Zone	Easting				

B 

19	311	340	47	22	530
Zone	Easting				

C 

19	311	490	47	22	260
Zone	Easting				

D 

19	311	440	47	22	230
Zone	Easting				

E 

19	311	390	47	22	380
Zone	Easting				

F 

19	311	210	47	22	30
Zone	Easting				

G 

Zone	Easting				

H 

Zone	Easting				

**Verbal boundary description and justification** The northern boundary of this complex is Centennial Lane. The eastern boundary is the Concord River. The southern boundary line is adjacent to land belonging to a furniture warehouse. The southwestern boundary is the Wamesit Canal and includes the Canal Gatehouse. (See attached sketch map.)

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

state	code	county	code
N/A			

state	code	county	code

## 11. Form Prepared By

name/title Wendy Frontiero, Preservation Planner, with Edward W. Gordon, consultant

organization Mass. Historical Commission

date April 30, 1982

street & number 294 Washington Street

telephone (617) 727-8470

city or town Boston

state MA

## 12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national  state  local

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

State Historic Preservation Officer signature Acting Valerie Ann Talmage

title Executive Director, Mass. Historical Commission

date June 28, 1982

For HCRS use only

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

Delores Byrne  
Keeper of the National Register

Entered in the  
National Register

date 8/11/82

Attest:

date

Chief of Registration

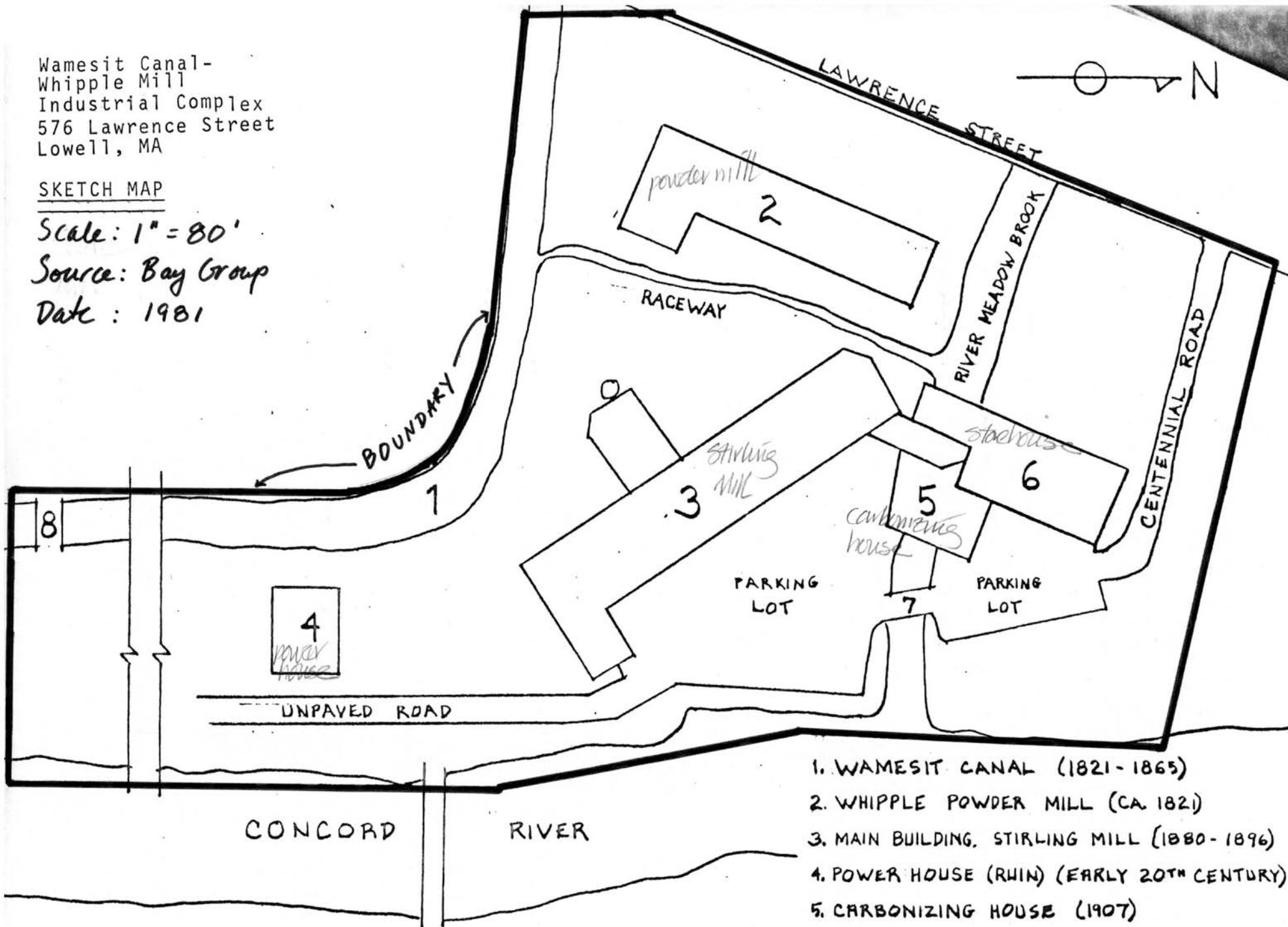
Wamesit Canal-  
Whipple Mill  
Industrial Complex  
576 Lawrence Street  
Lowell, MA

SKETCH MAP

Scale: 1" = 80'

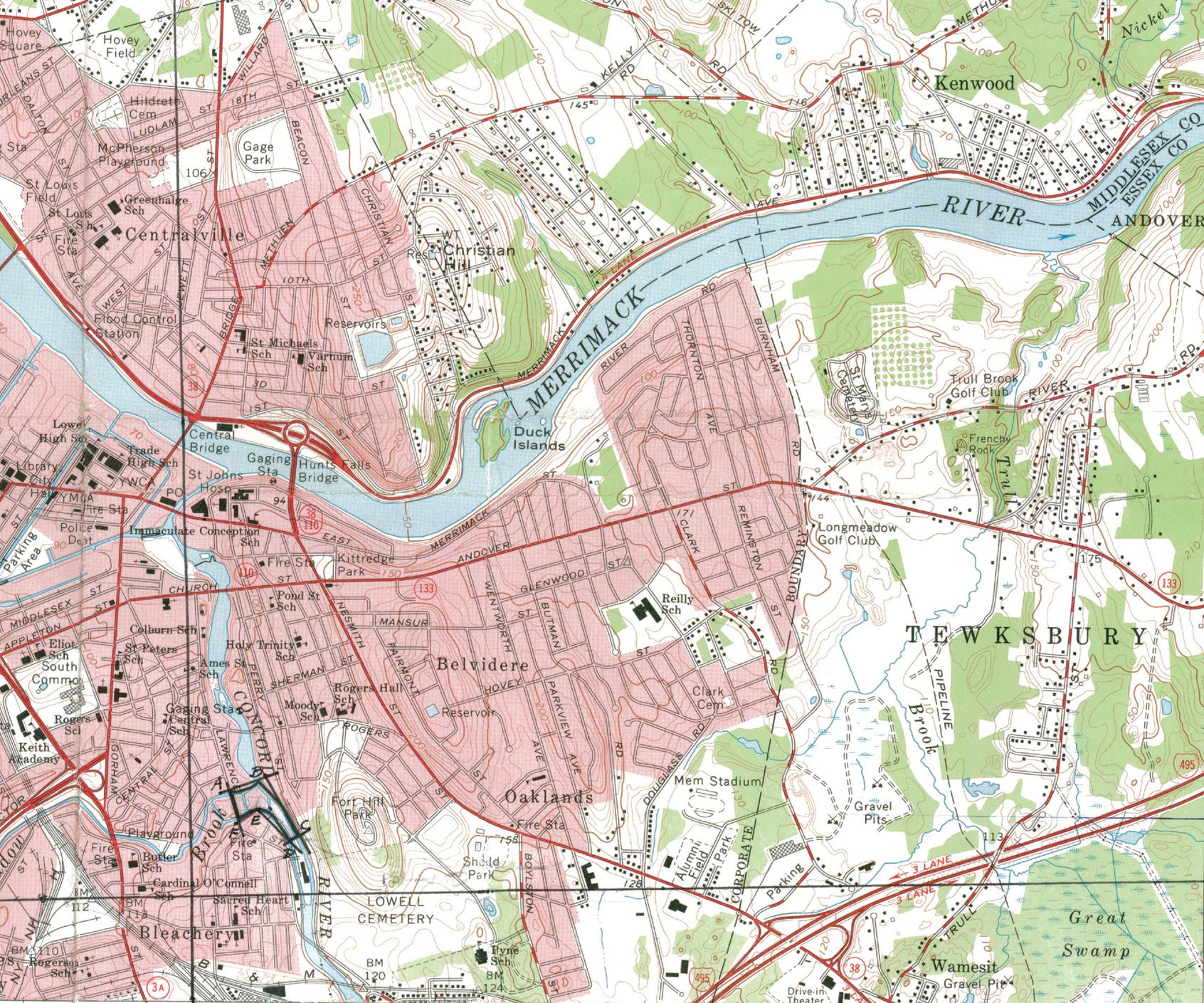
Source: Bay Group

Date: 1981



1. WAMESIT CANAL (1821-1865)
2. WHIPPLE POWDER MILL (CA. 1821)
3. MAIN BUILDING, STIRLING MILL (1880-1896)
4. POWER HOUSE (RUIN) (EARLY 20<sup>TH</sup> CENTURY)
5. CARBONIZING HOUSE (1907)
6. STIRLING STOREHOUSE (1897)
7. STIRLING MILL BRIDGE (1880)
8. WAMESIT CANAL GATEHOUSE (EARLY 20<sup>TH</sup> CENTURY)

1" = 80' - 0" E



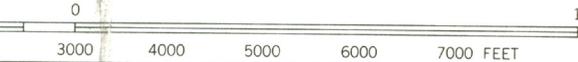
3.8 MI. TO INTERSTATE 93  
LAWRENCE (P.O.) 7 MI.

4726  
4724  
4723000m N.

LOWELL, MASS.  
Wamesit Canal-Whipple Mill  
Industrial Complex

- UTM References:
- A: 19/311180/4722470
  - B: 19/311340/4722530
  - C: 19/311490/4722260
  - D: 19/311440/4722230
  - E: 19/311300/4722380
  - F: 19/311210/4722330

(BILLERICA)  
6769 III E  
SCALE 1:24000



17°30"  
3 MI. TO U.S. 3  
34 MI. TO INT. 90

610 000 FEET (N.H.)  
315000m E

42°37'30"  
71°15'

ROAD CLASSIFICATION

(WILMIN)  
6769



1. Wamesit Canal, constructed 1821-1822, extended 1846, modernized 1865. Photo taken from south. (Photograph: Edward W. Gordon, September 1980)



2. View from southeast: foreground: Carbonizing House (#5); rear: Stirling Store House (#6); far right: Stirling Mill Bridge.  
(Photograph: Edward W. Gordon, September 1980)



3. Southeast elevation of main Stirling Mill. Carbonizing House in foreground. (Photograph: Edward W. Gordon, September 1980)



4. View of western gable, Whipple Powder Mill (ca. 1821), view from northeast. Note rubble stone and brick extension to left of gable (1856).  
(Photograph: Edward W. Gordon, September 1980)