

# Massachusetts Cultural Resource Information System

## Scanned Record Cover Page

<b>Inventory No:</b>	SBR.932
<b>Historic Name:</b>	Marlborough Brook Filter Beds
<b>Common Name:</b>	
<b>Address:</b>	Framingham Rd
<b>City/Town:</b>	Southborough
<b>Village/Neighborhood:</b>	
<b>Local No:</b>	6-2
<b>Year Constructed:</b>	c 1895
<b>Architect(s):</b>	Metropolitan Water Board; Stearns, Frederick P.
<b>Architectural Style(s):</b>	
<b>Use(s):</b>	Other Engineering; Utilities Other
<b>Significance:</b>	Engineering
<b>Area(s):</b>	sbr.i: Water Supply System of Metropolitan Boston
<b>Designation(s):</b>	Nat'l Register Individual Property (1/18/1990); Nat'l Register TRA (1/18/1990)
<b>Building Materials(s):</b>	



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Commonwealth of Massachusetts  
Massachusetts Historical Commission  
220 Morrissey Boulevard, Boston, Massachusetts 02125  
[www.sec.state.ma.us/mhc](http://www.sec.state.ma.us/mhc)

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Friday, July 08, 2016 at 12:51 PM

FORM F - STRUCTURE

AREA FORM NO.

	6-2
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MASSACHUSETTS HISTORICAL COMMISSION  
80 BOYLSTON STREET  
BOSTON, MA 02116



Town Marlborough, Southborough

Address Framingham Road

Name Marlborough Brook Filter Beds

Ownership: Metro. Dist. Comm. Public  
Private

Type of Structure (check one):

bridge _____	pound _____
canal _____	powder house _____
dam _____	street _____
fort _____	tower _____
gate _____	tunnel _____
kiln _____	wall _____
lighthouse _____	windmill _____

other gravity filter

Sketch Map: Draw map showing structure's location in relation to nearest cross streets, buildings and/or geographical features. Indicate all buildings between inventoried property and nearest intersection. Indicate north.

*see attached map*

DESCRIPTION

Date 1895-99

Source Metro. Water Board, Annual Report, 1899

Architect Engineer/Designer (if known):  
Metropolitan Water Board

Construction material concrete, granite, sand, tile, gravel

Alterations (with dates) spillway added 1955  
for flood control

Condition fair

Moved NO Date \_\_\_\_\_

Acreage approx. 16 acres

Setting residential

Recorded by Martha Bowers

Organization Louis Berger & Associates

Date March 1984; revised 1989

UTM REFERENCE \_\_\_\_\_

USGS QUADRANGLE Marlborough, Mass.

SCALE 1:25,000

*1 Contributing Structure*

A 19290740/4689690  
B 19291110/4689000  
C 19291310/4689180

**NATIONAL REGISTER CRITERIA STATEMENT (if applicable)**

The Marlborough Brook Filter Beds are significant for their association with the metropolitan Boston water supply system, specifically development of Sudbury Reservoir in the late 1890's. The presence of these beds represents an effort on the part of the Metropolitan Water Board to ensure that water entering the reservoir from Marlborough and Walker brooks would be of good quality. One of two sets of filter beds originally in the system (the 1893 Pegan Brook filters at Lake Cochituate in Natick were damaged during a hurricane and later partly filled in), the Marlborough filters are no longer in service but their original contours and control systems

(see continuation sheet)

**ARCHITECTURAL SIGNIFICANCE Describe important design features and evaluate in terms of other structures within the community.**

The Marlborough filters occupy about 16 acres straddling the town line between Marlborough and Southborough, on the western edge of Sudbury Reservoir. The roads that frame the beds (Maple, Walker, and Framingham roads) are primarily residential in character. The beds consists basically of 28 irregularly -shaped shallow basins, with tile drains beneath layers of sand or gravel. The beds, built in terraces, are delineated by narrow channels formed by low earthen berms, the area between which is lined with gravel. Concrete sluices, controlled by wooden stop planks, are positioned at various points along the channels to control flow. A 30-foot concrete spillway and waste channel, at the lower end of the settling reservoir were constructed in 1955. Near the spillway are three small wood-frame buildings, with clapboarded walls and composition shingle roofs, formerly used for offices and maintenance activities. These non-contributing structures have been excluded from the boundaries.

**HISTORICAL SIGNIFICANCE Explain historical importance of structure and how the structure relates to the development of the community.**

Sudbury Reservoir was initially begun by the City of Boston in 1893, and was completed by the Metropolitan Water Board, which was created in 1895. Among the numerous streams which fed Sudbury Reservoir were Marlborough and Walker brooks. The quality of water in these streams was below the Board's standards, so the filter beds were constructed to provide purification. The beds were designed by Metropolitan Water Board engineering staff under Frederic P. Stearns. The first contracts were let in 1895, and the beds completed in 1899. The filters operated by gravity, with the general direction of flow from north to south. Passing beneath Walker Street, Marlborough brook entered a 1.5 acre settling reservoir. Water was then diverted over a small concrete and stone weir into the main channel, which extended about 1/2 mile along the eastern perimeter of the beds. At the first main channel dam, water could be diverted into a set of 17 "artificial" beds, occupying about 5.36 acres, where it was filtered through 2 feet of sand set above tile drains. Alternatively, water could continue down the main channel to a second dam, where some could be drawn off into a 1.22 acre storage bed or conveyed further to 10 "natural beds" (so-called because existing gravel constituted the filter medium), from which it drained into the reservoir in a suitably pure condition.

For further information on filter beds in the metropolitan Boston water system, please refer to Overview, Section 8, p.9.

**BIBLIOGRAPHY and/or REFERENCES**

Metropolitan Water Board Annual Reports, 1899, 1900.

INVENTORY FORM CONTINUATION SHEET

MASSACHUSETTS HISTORICAL COMMISSION  
Office of the Secretary, Boston

Community:

Marlborough, Southborough

Form No:

6-2

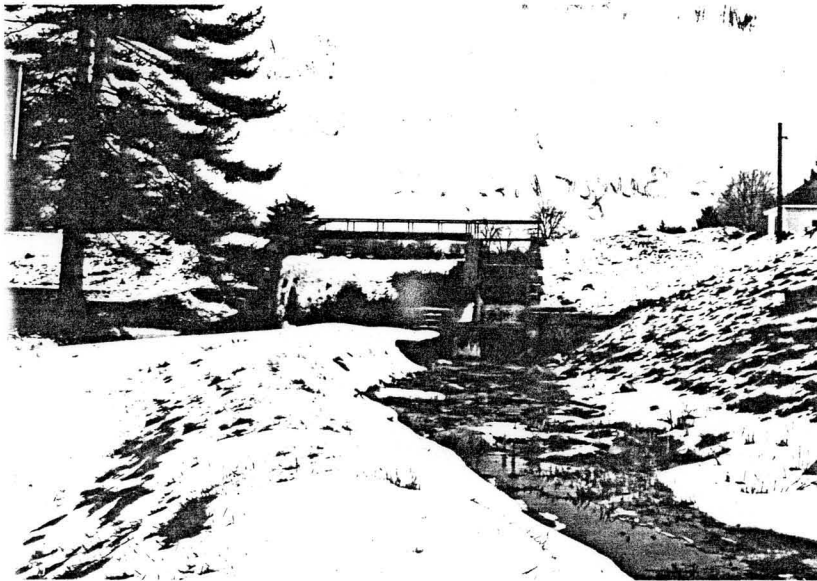
Property Name:

Marlborough Brook  
Filter Beds

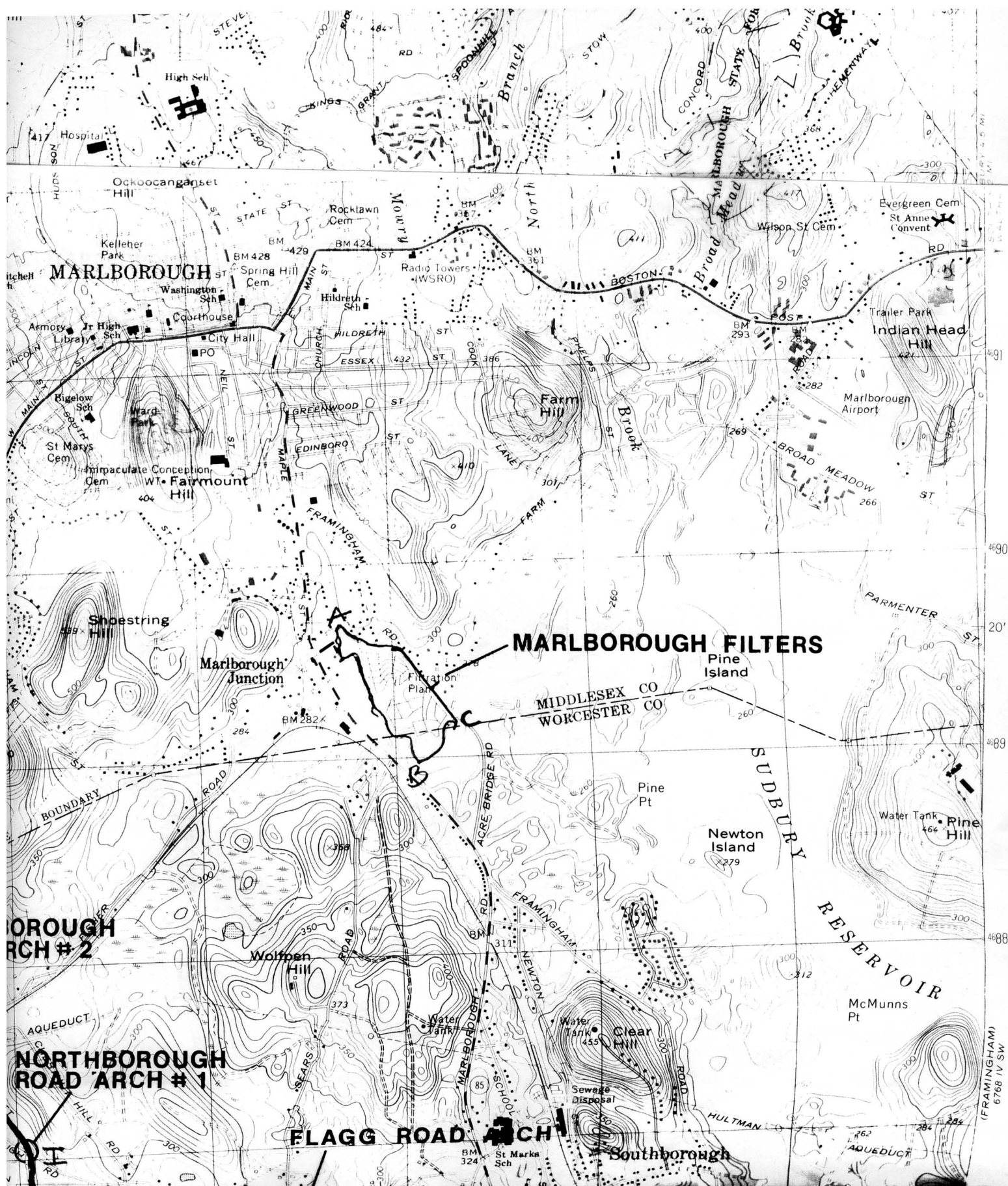
Indicate each item on inventory form which is being continued below.

## NATIONAL REGISTER CRITERIA STATEMENT

remain largely intact, providing the best example of this type of property in the metropolitan Boston water system. The Marlborough Brook Filter Beds possess integrity of location, design, setting (within the resource), materials, workmanship and association. They meet criteria A and C of the NRHP. The boundaries of the resource are outlined in red on the accompanying map entitled "Marlborough Brook Filter Beds", a record plan dated November, 1902 with a scale of 1" = 80'. On the south, the boundaries follow the waterline of Sudbury Reservoir; on the east they follow Framingham Road to the Main Channel which they follow to the Settling Reservoir at the north end of the resource; they follow the contours of the Settling Reservoir to the Marlborough Brook Channel which they follow back to the Sudbury Reservoir. These bounds encompass the filterbeds while excluding later development that has encroached upon them.







## FORM F - STRUCTURE

MASSACHUSETTS HISTORICAL COMMISSION  
Office of the Secretary, State House, Boston

In Area no.

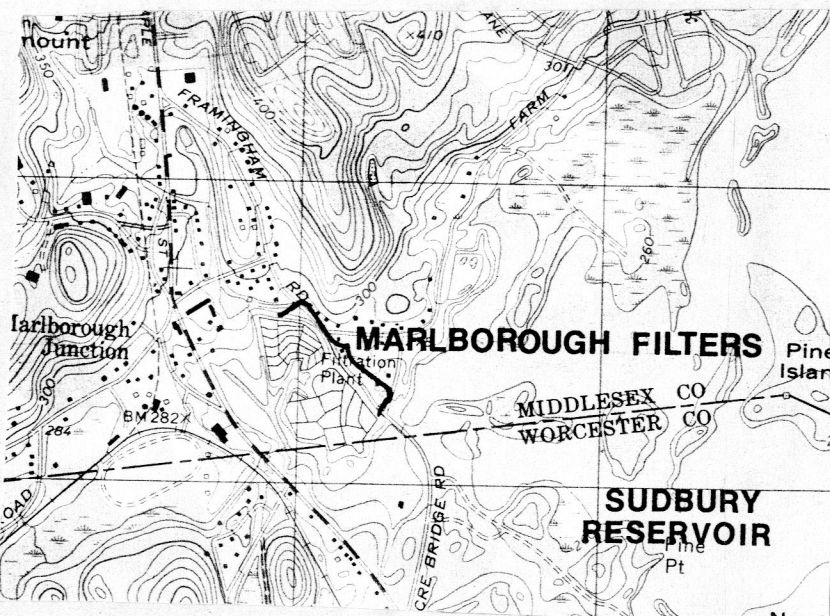
6-1

Form no.

6-2

2. Photo (3x3" or 3x5")  
Staple to left side of form  
Photo number MB3-13-18

4. Map. Draw sketch of structure location in relation to nearest cross streets, buildings, other structures, natural features. Indicate north.



DO NOT WRITE IN THIS SPACE  
USGS Quadrant \_\_\_\_\_

MHC Photo no. \_\_\_\_\_

1. Town Marlborough

Address Framingham Road

Name Marlborough Filter Beds

Present use not in use

Present owner MDC-Boston

3. Type of structure (check one)

bridge	_____	pound	_____
canal	_____	powder house	_____
dam	_____	street	_____
fort	_____	tower	_____
gate	_____	tunnel	_____
kiln	_____	wall	_____
lighthouse	_____	windmill	_____
other	<u>filter beds</u>		

5. Description

Date 1895-99

Source Metro. Water Board, 4th

Annual Report (1899): 95

Construction material concrete, granite,

sand, tile, gravel

Dimensions approx. 16 acres

Setting scattered residential, between

Marlborough Center and reser-  
Condition deteriorated voir

6. Recorded by M. H. Bowers

Organization Louis Berger & Assoc.

Date March 1984

(over)



7. Original owner (if known) Metropolitan Water BoardOriginal use To filter water from Walker and Marlborough Brooks

Subsequent uses (if any) and dates \_\_\_\_\_

## 8. Historical significance

These filter beds were built to purify water from two small streams that flowed through Marlborough into Sudbury Reservoir. Along with swamp drainage in areas around the reservoir, construction of the beds helped to ensure that the quality of water in the reservoir remained high.

The filtration system includes a 1.5 acre settling reservoir, 6' deep, which holds approximately 2.7 million gallons. The regulating dam above the beds is of concrete and granite masonry, with an 8' spillway controlled by wood stop planks.

Water flows from the dam into a supply channel leading to the holding reservoir, or can be drawn off at intervals by means of feeder channels into 5.36 acres of artificial beds (with a 2' layer of sand set on tile drains) or 8.63 acres of natural beds (in which existing gravel is used as the filter medium) before percolating or being channeled into Sudbury Reservoir. Flow of water throughout the system is controlled by wooden stop planks set into low concrete sluices. Although the beds are no longer used, they retain original contours and control systems. A 30' concrete spillway and waste channel were added following the flooding of 1955.

Contractors for the Marlborough filter beds were John Berry, Auguste Saucier, and Mignault and McGrain.

## 9. Bibliography and/or references such as local histories, deeds, assessor's records, early maps, etc.

Metro. Water Board, 4th Annual Report (1899):95; 5th Annual Report (1900):14-16

MWB Contracts with John Berry, 4 April 1895  
Auguste Saucier, 17 May 1899  
Mignault and McGrain, 23 June 1898

MDC Drawing Files, Case 19, Drawer 101