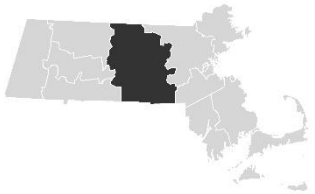
FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 12



WORCESTER COUNTY, MASSACHUSETTS

(ALL JURISDICTIONS)

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
ASHBURNHAM, TOWN OF	250290	NEW BRAINTREE, TOWN OF	250320
ATHOL, TOWN OF	250291	NORTH BROOKFIELD, TOWN OF	250323
AUBURN, TOWN OF	250292	NORTHBOROUGH, TOWN OF	250321
BARRE, TOWN OF	250293	NORTHBRIDGE, TOWN OF	250322
BERLIN, TOWN OF	250294	OAKHAM, TOWN OF	250324
BLACKSTONE, TOWN OF	250295	OXFORD, TOWN OF	250325
BOLTON, TOWN OF	250296	PAXTON, TOWN OF	250326
BOYLSTON, TOWN OF	250297	PETERSHAM, TOWN OF	250327
BROOKFIELD, TOWN OF	250298	PHILLIPSTON, TOWN OF	250328
CHARLTON, TOWN OF	250299	PRINCETON, TOWN OF	250329
CLINTON, TOWN OF	250300	ROYALSTON, TOWN OF	250330
DOUGLAS, TOWN OF	250301	RUTLAND, TOWN OF	250331
DUDLEY, TOWN OF	250302	SHREWSBURY, TOWN OF	250332
EAST BROOKFIELD, TOWN OF	250303	SOUTHBOROUGH, TOWN OF	250333
FITCHBURG, CITY OF	250304	SOUTHBRIDGE, TOWN OF	250334
GARDNER, CITY OF	250305	SPENCER, TOWN OF	250335
GRAFTON, TOWN OF	250306	STERLING, TOWN OF	250336
HARDWICK, TOWN OF	250307	STURBRIDGE, TOWN OF	250337
HARVARD, TOWN OF	250308	SUTTON, TOWN OF	250338
HOLDEN, TOWN OF	250309	TEMPLETON, TOWN OF	250339
HOPEDALE, TOWN OF	250310	UPTON, TOWN OF	250340
HUBBARDSTON, TOWN OF	250311	UXBRIDGE, TOWN OF	250341
LANCASTER, TOWN OF	250312	WARREN, TOWN OF	250342
LEICESTER, TOWN OF	250313	WEBSTER, TOWN OF	250343
LEOMINSTER, CITY OF	250314	WEST BOYLSTON, TOWN OF	250345
LUNENBURG, TOWN OF	250315	WEST BROOKFIELD, TOWN OF	250346
MENDON, TOWN OF	250316	WESTBOROUGH, TOWN OF	250344
MILFORD, TOWN OF	250317	WESTMINSTER, TOWN OF	250347
MILLBURY, TOWN OF	250318	WINCHENDON, TOWN OF	250348
MILLVILLE, TOWN OF	250319	WORCESTER, CITY OF	250349

REVISED:

JULY 8, 2025

FLOOD INSURANCE STUDY NUMBER
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Version Number 2.6.3.6

FEMA

TABLE OF CONTENTS
Volume 1

Figures

Tables

Volume 2

Page

Figures

Page

Tables

Page

Volume 3

Page

Figures

Page

Tables

Volume 4

Tables

Volume 5

Tables

Volume 6

Tables

Volume 7

Exhibits

Volume 8

Exhibits

Volume 9

Exhibits

Volume 10

Exhibits

Volume 11

Exhibits

Volume 12

Exhibits

Published Separately

Flood Insurance Rate Map (FIRM)

FLOOD INSURANCE STUDY REPORT
WORCESTER COUNTY, MASSACHUSETTS

SECTION 1.0 – INTRODUCTION

1.1 The National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a voluntary Federal program that enables property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

For decades, the national response to flood disasters was generally limited to constructing flood-control works such as dams, levees, sea-walls, and the like, and providing disaster relief to flood victims. This approach did not reduce losses nor did it discourage unwise development. In some instances, it may have actually encouraged additional development. To compound the problem, the public generally could not buy flood coverage from insurance companies, and building techniques to reduce flood damage were often overlooked.

In the face of mounting flood losses and escalating costs of disaster relief to the general taxpayers, the U.S. Congress created the NFIP. The intent was to reduce future flood damage through community floodplain management ordinances, and provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for the protection.

The U.S. Congress established the NFIP on August 1, 1968, with the passage of the National Flood Insurance Act of 1968. The NFIP was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Reform Act of 1994 and the Flood Insurance Reform Act of 2004. The NFIP is administered by the Federal Emergency Management Agency (FEMA), which is a component of the Department of Homeland Security (DHS).

Participation in the NFIP is based on an agreement between local communities and the Federal Government. If a community adopts and enforces floodplain management regulations to reduce future flood risks to new construction and substantially improved structures in Special Flood Hazard Areas (SFHAs), the Federal Government will make flood insurance available within the community as a financial protection against flood losses. The community's floodplain management regulations must meet or exceed criteria established in accordance with Title 44 Code of Federal Regulations (CFR) Part 60.3, *Criteria for Land Management and Use*.

SFHAs are delineated on the community's Flood Insurance Rate Maps (FIRMs). Under the NFIP, buildings that were built before the flood hazard was identified on the community's FIRMs are generally referred to as "Pre-FIRM" buildings. When the NFIP was created, the U.S. Congress recognized that insurance for Pre-FIRM buildings would be prohibitively expensive if the premiums were not subsidized by the Federal Government. Congress also recognized that most of these floodprone buildings were built by individuals who did not have sufficient knowledge of the flood hazard to make informed decisions. The NFIP requires that full actuarial rates reflecting the complete flood risk be charged on all buildings constructed or substantially improved on or after

the effective date of the initial FIRM for the community or after December 31, 1974, whichever is later. These buildings are generally referred to as "Post-FIRM" buildings.

1.2 Purpose of this Flood Insurance Study Report

This Flood Insurance Study (FIS) Report revises and updates information on the existence and severity of flood hazards for the study area. The studies described in this report developed flood hazard data that will be used to establish actuarial flood insurance rates and to assist communities in efforts to implement sound floodplain management.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive than the minimum Federal requirements. Contact your State NFIP Coordinator to ensure that any higher State standards are included in the community's regulations.

1.3 Jurisdictions Included in the Flood Insurance Study Project

This FIS Report covers the entire geographic area of Worcester County, Massachusetts.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the 8-digit Hydrologic Unit Codes (HUC-8) sub-basins affecting each, are shown in Table 1. The Flood Insurance Rate Map (FIRM) panel numbers that affect each community are listed. If the flood hazard data for the community is not included in this FIS Report, the location of that data is identified.

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Ashburnham, Town of	250290	01070004, 01070006, 01080202	25027C0080F, 25027C0085F, 25027C0086F, 25027C0088F, 25027C0090F, 25027C0093F, 25027C0094F, 25027C0095F, 25027C0115F, 25027C0226F, 25027C0227F, 25027C0231F, 25027C0232F, 25027C0251F	
Athol, Town of	250291	01080202, 01080204	N/A	Town of Athol FIS Report, 01/19/1982
Auburn, Town of	250292	01090003, 01100001	25027C0784F, 25027C0792F, 25027C0801E, 25027C0802E, 25027C0803E, 25027C0804E, 25027C0806E, 25027C0808E, 25027C0811F, 25027C0812F	
Barre, Town of	250293	01080204	N/A	Town of Barre FIS Report, 12/15/1981
Berlin, Town of	250294	01070004, 01070005	25027C0466G, 25027C0467G, 25027C0468G, 25027C0469F, 25027C0486F, 25027C0488F, 25027C0489F, 25027C0631F, 25027C0632F, 25027C0651F	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Blackstone, Town of	250295	01090003	25027C1030E, 25027C1033E, 25027C1034E, 25027C1037E, 25027C1039E, 25027C1041E, 25027C1042E, 25027C1043E, 25027C1044E, 25027C1055F, 25027C1065E[1]	
Bolton, Town of	250296	01070004, 01070005	25027C0457F, 25027C0459F, 25027C0466G, 25027C0467G, 25027C0476F, 25027C0478G, 25027C0479F, 25027C0483F, 25027C0486F, 25027C0487F, 25027C0488F, 25027C0489F, 25027C0491E[1]	
Boylston, Town of	250297	01070004, 01070005, 01090003	25027C0444F, 25027C0463F, 25027C0464G, 25027C0468G, 25027C0607F, 25027C0610F, 25027C0620E, 25027C0626F, 25027C0627G, 25027C0628G, 25027C0629F, 25027C0631F, 25027C0633F	
Brookfield, Town of	250298	01080204, 01100001	N/A	Town of Brookfield FIS Report, 07/02/1981
Charlton, Town of	250299	01080204, 01100001	25027C0767F, 25027C0768F, 25027C0769F, 25027C0780F, 25027C0783F, 25027C0786F, 25027C0787F, 25027C0788F, 25027C0789F, 25027C0791F, 25027C0793F, 25027C0794F, 25027C0931F, 25027C0932F, 25027C0951F, 25027C0952F, 25027C0953F, 25027C0954F, 25027C0956F, 25027C0957F, 25027C0958F	
Clinton, Town of	250300	01070004, 01070005	25027C0461F, 25027C0462F, 25027C0463F, 25027C0464G, 25027C0466G, 25027C0468G	
Douglas, Town of	250301	01090003, 01100001	25027C0980F, 25027C0982E, 25027C0984E, 25027C0985E, 25027C0987F, 25027C0995F, 25027C1002E, 25027C1003E, 25027C1004E, 25027C1008E, 25027C1015E, 25027C1020E	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Dudley, Town of	250302	01100001	25027C0953F, 25027C0954F, 25027C0957F, 25027C0958F, 25027C0959F, 25027C0961F, 25027C0962F, 25027C0963F[1], 25027C0964F, 25027C0966F, 25027C0967F, 25027C0968F, 25027C0969F	
East Brookfield, Town of	250303	01080204, 01100001	N/A	Town of East Brookfield FIS Report, 12/15/1980
Fitchburg, City of	250304	01070004	25027C0115F, 25027C0120F, 25027C0251F, 25027C0252F, 25027C0253F, 25027C0254F, 25027C0256F, 25027C0257F, 25027C0258F, 25027C0259F, 25027C0261F, 25027C0262F, 25027C0266F, 25027C0267F, 25027C0286F	
Gardner, City of	250305	01070004, 01080202	25027C0088F, 25027C0206F, 25027C0207F, 25027C0208F, 25027C0209F, 25027C0217F, 25027C0226F, 25027C0227F, 25027C0228F, 25027C0229F, 25027C0231F, 25027C0233F, 25027C0236F, 25027C0237F	
Grafton, Town of	250306	01070005, 01090003	25027C0639F, 25027C0643F, 25027C0826E, 25027C0827E, 25027C0828E, 25027C0829E, 25027C0831F, 25027C0832F, 25027C0833E, 25027C0834E, 25027C0836E, 25027C0837E, 25027C0841E, 25027C0842E	
Hardwick, Town of	250307	01080204	N/A	Town of Hardwick FIS Report, 03/16/1981
Harvard, Town of	250308	01070004, 01070005, 01070006	25027C0292F, 25027C0294F, 25027C0311F, 25027C0312F, 25027C0313F, 25027C0314F, 25027C0316F, 25027C0318F, 25027C0319E[1], 25027C0457F, 25027C0476F, 25027C0477G, 25027C0478G, 25027C0479F, 25027C0481G, 25027C0483F	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Holden, Town of	250309	01070004, 01090003	25027C0420F, 25027C0436F, 25027C0437F, 25027C0438F, 25027C0439F, 25027C0585F, 25027C0595F, 25027C0601F, 25027C0602F, 25027C0605F, 25027C0606F, 25027C0610F, 25027C0611E, 25027C0612E	
Hopedale, Town of	250310	01090001, 01090003	25027C0862E, 25027C0864E, 25027C0866F, 25027C0868F, 25027C0869F, 25027C1031E, 25027C1032F, 25027C1055F	
Hubbardston, Town of	250311	01070004, 01080202, 01080204	25027C0215E[1], 25027C0217F, 25027C0220F, 25027C0236F, 25027C0240F, 25027C0243F, 25027C0380F, 25027C0381F, 25027C0383F, 25027C0385F, 25027C0392F, 25027C0395F, 25027C0401F, 25027C0402F, 25027C0403F, 25027C0404F, 25027C0410F, 25027C0411F	
Lancaster, Town of	250312	01070004	25027C0287F, 25027C0288F, 25027C0289F, 25027C0291F, 25027C0293F, 25027C0294F, 25027C0451F, 25027C0452F, 25027C0454F, 25027C0456F, 25027C0457F, 25027C0458F, 25027C0459F, 25027C0462F, 25027C0466G, 25027C0467G	
Leicester, Town of	250313	01080204, 01090003, 01100001	25027C0590F, 25027C0595F, 25027C0613E, 25027C0780F, 25027C0781F, 25027C0782F, 25027C0783F, 25027C0784F, 25027C0801E, 25027C0803E	
Leominster, City of	250314	01070004	25027C0259F, 25027C0262F, 25027C0265F, 25027C0266F, 25027C0267F, 25027C0268F, 25027C0269F, 25027C0278F, 25027C0286F, 25027C0287F, 25027C0288F, 25027C0289F, 25027C0427F, 25027C0431F, 25027C0432F, 25027C0451F	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Lunenburg, Town of	250315	01070004	25027C0120F, 25027C0140F, 25027C0257F, 25027C0259F, 25027C0278F, 25027C0279F, 25027C0280F, 25027C0281F, 25027C0283F, 25027C0286F, 25027C0287F, 25027C0291F, 25027C0293F	
Mendon, Town of	250316	01090001, 01090003	25027C0864E, 25027C0868F, 25027C1030E, 25027C1031E, 25027C1032F, 25027C1033E, 25027C1034E, 25027C1055F	
Milford, Town of	250317	01090001, 01090003	25027C0858E, 25027C0859F, 25027C0862E, 25027C0864E, 25027C0866F, 25027C0867F, 25027C0868F, 25027C0869F, 25027C0886F, 25027C0888F, 25027C1032F, 25027C1055F	
Millbury, Town of	250318	01090003, 01100001	25027C0804E, 25027C0807E, 25027C0808E, 25027C0809E, 25027C0812F, 25027C0814F, 25027C0816E, 25027C0817E, 25027C0820E, 25027C0826E, 25027C0828E, 25027C0836E	
Millville, Town of	250319	01090003	25027C1030E, 25027C1037E, 25027C1039E	
New Braintree, Town of	250320	01080204	N/A	Town of New Braintree FIS Report, 06/15/1984
North Brookfield, Town of	250323	01080204	N/A	Town of North Brookfield FIS Report, 01/05/1982
Northborough, Town of	250321	01070005	25027C0629F, 25027C0631F, 25027C0632F, 25027C0633F, 25027C0634F, 25027C0641F, 25027C0642F, 25027C0643F, 25027C0651F, 25027C0653F, 25027C0654F, 25027C0661F, 25027C0662F	
Northbridge, Town of	250322	01090003	25027C0837E, 25027C0840E, 25027C0841E, 25027C0842E, 25027C0843E, 25027C0844E, 25027C0863E, 25027C1002E, 25027C1006E, 25027C1007E, 25027C1026E, 25027C1030E	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Oakham, Town of	250324	01080204	N/A	Town of Oakham FIS Report, 10/03/1983
Oxford, Town of	250325	01090003, 01100001	25027C0783F, 25027C0784F, 25027C0791F, 25027C0792F, 25027C0793F, 25027C0794F, 25027C0811F, 25027C0812F, 25027C0813F, 25027C0814F, 25027C0956F, 25027C0957F, 25027C0958F, 25027C0959F, 25027C0976F, 25027C0978F, 25027C0980F, 25027C0985E	
Paxton, Town of	250326	01070004, 01080204, 01090003	25027C0580F, 25027C0585F, 25027C0590F, 25027C0595F	
Petersham, Town of	250327	01080202, 01080204	N/A	No FIS Report for Town of Petersham
Phillipston, Town of	250328	01080202, 01080204	N/A	Town of Phillipston FIS Report, 01/16/1984
Princeton, Town of	250329	01070004, 01080204	25027C0244F, 25027C0265F, 25027C0404F, 25027C0410F, 25027C0412F, 25027C0420F, 25027C0426F, 25027C0427F, 25027C0428F, 25027C0429F, 25027C0436F, 25027C0437F, 25027C0438F	
Royalston, Town of	250330	01080201, 01080202	N/A	Town of Royalston FIS Report, 12/15/1982
Rutland, Town of	250331	01070004, 01080204	25027C0392F, 25027C0394F, 25027C0395F, 25027C0403F, 25027C0404F, 25027C0411F, 25027C0412F, 25027C0413F, 25027C0414F, 25027C0420F, 25027C0559E[1], 25027C0560F, 25027C0580F, 25027C0585F	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Shrewsbury, Town of	250332	01070005, 01090003	25027C0610F, 25027C0620E, 25027C0628G, 25027C0629F, 25027C0633F, 25027C0636E, 25027C0637F, 25027C0638E, 25027C0639F, 25027C0641F, 25027C0643F, 25027C0826E, 25027C0827E	
Southborough, Town of	250333	01070005	25027C0654F, 25027C0658F, 25027C0659F, 25027C0662F, 25027C0666F, 25027C0667F, 25027C0668F, 25027C0669F, 25027C0678F, 25027C0686F	
Southbridge, Town of	250334	01100001	25027C0929F, 25027C0931F, 25027C0932F, 25027C0933F, 25027C0934F, 25027C0936F, 25027C0940F, 25027C0941F, 25027C0942F, 25027C0945F, 25027C0951F, 25027C0953F, 25027C0961F, 25027C0963F[1]	
Spencer, Town of	250335	01080204, 01100001	25027C0566E, 25027C0567E, 25027C0568E, 25027C0569E, 25027C0590F, 25027C0757E, 25027C0759E, 25027C0767F, 25027C0780F, 25027C0786F, 25027C0787F	
Sterling, Town of	250336	01070004	25027C0427F, 25027C0429F, 25027C0431F, 25027C0432F, 25027C0433F, 25027C0434F, 25027C0437F, 25027C0439F, 25027C0441F, 25027C0442F, 25027C0443F, 25027C0444F, 25027C0451F, 25027C0452F, 25027C0453F, 25027C0454F, 25027C0461F, 25027C0462F, 25027C0463F	
Sturbridge, Town of	250337	01080204, 01100001, 01100002	25027C0745F, 25027C0761F, 25027C0762F, 25027C0763F, 25027C0764F, 25027C0766F, 25027C0767F, 25027C0768F, 25027C0769F, 25027C0907F, 25027C0909F, 25027C0917F, 25027C0919F, 25027C0926F, 25027C0927F, 25027C0928F, 25027C0929F, 25027C0931F, 25027C0933F, 25027C0936F, 25027C0940F	

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Sutton, Town of	250338	01090003, 01100001	25027C0814F, 25027C0816E, 25027C0817E, 25027C0820E, 25027C0828E, 25027C0836E, 25027C0837E, 25027C0840E, 25027C0980F, 25027C0982E, 25027C0984E, 25027C0985E, 25027C1001E, 25027C1002E, 25027C1003E, 25027C1004E, 25027C1006E	
Templeton, Town of	250339	01080202, 01080204	N/A	Town of Templeton FIS Report, 05/17/1982
Upton, Town of	250340	01070005, 01090003	25027C0832F, 25027C0834E, 25027C0842E, 25027C0844E, 25027C0851F, 25027C0855E, 25027C0858E, 25027C0861E, 25027C0862E, 25027C0863E, 25027C0864E, 25027C0866F, 25027C1026E, 25027C1030E	
Uxbridge, Town of	250341	01090003	25027C1002E, 25027C1004E, 25027C1006E, 25027C1007E, 25027C1008E, 25027C1009E, 25027C1020E, 25027C1026E, 25027C1028E, 25027C1030E, 25027C1036E, 25027C1037E, 25027C1038E, 25027C1039E	
Warren, Town of	250342	01080204, 01100001	N/A	Town of Warren FIS Report, 06/01/1981
Webster, Town of	250343	01090003, 01100001	25027C0959F, 25027C0967F, 25027C0969F, 25027C0978F, 25027C0980F, 25027C0986F, 25027C0987F, 25027C0988F, 25027C0989F, 25027C0995F	
West Boylston, Town of	250345	01070004, 01090003	25027C0439F, 25027C0443F, 25027C0444F, 25027C0463F, 25027C0602F, 25027C0606F, 25027C0607F, 25027C0610F, 25027C0620E	
West Brookfield, Town of	250346	01080204, 01100001	N/A	Town of West Brookfield FIS Report, 12/01/1981

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Westborough, Town of	250344	01070005, 01090003	25027C0641F, 25027C0642F, 25027C0643F, 25027C0644F, 25027C0661F, 25027C0662F, 25027C0663F, 25027C0664F, 25027C0666F, 25027C0668F, 25027C0831F, 25027C0832F, 25027C0851F, 25027C0852F	
Westminster, Town of	250347	01070004, 01080202, 01080204	25027C0115F, 25027C0229F, 25027C0231F, 25027C0232F, 25027C0233F, 25027C0234F, 25027C0236F, 25027C0237F, 25027C0240F, 25027C0241F, 25027C0242F, 25027C0243F, 25027C0244F, 25027C0251F, 25027C0253F, 25027C0261F, 25027C0262F, 25027C0265F, 25027C0410F	
Winchendon, Town of	250348	01080202	N/A	Town of Winchendon FIS Report, 06/15/1982
Worcester, City of	250349	01070004, 01090003	25027C0595F, 25027C0605F, 25027C0610F, 25027C0611E, 25027C0612E, 25027C0613E, 25027C0614E, 25027C0616E, 25027C0618E, 25027C0620E, 25027C0638E, 25027C0801E, 25027C0802E, 25027C0806E, 25027C0807E, 25027C0808E, 25027C0809E, 25027C0826E	

[1]Panel not printed

1.4 Considerations for using this Flood Insurance Study Report

The NFIP encourages State and local governments to implement sound floodplain management programs. To assist in this endeavor, each FIS Report provides floodplain data, which may include a combination of the following: 10-, 4-, 2-, 1-, and 0.2-percent annual chance flood elevations (the 1% annual chance flood elevation is also referred to as the Base Flood Elevation (BFE)); delineations of the 1% annual chance and 0.2% annual chance floodplains; and 1% annual chance floodway. This information is presented on the FIRM and/or in many components of the FIS Report, including Flood Profiles, Floodway Data tables, Summary of Non-Coastal Stillwater Elevations tables, and Coastal Transect Parameters tables (not all components may be provided for a specific FIS).

This section presents important considerations for using the information contained in this FIS Report and the FIRM, including changes in format and content. Figures 1, 2, and 3 present information that applies to using the FIRM with the FIS Report.

- Part or all of this FIS Report may be revised and republished at any time. In addition, part of this FIS Report may be revised by a Letter of Map Revision (LOMR), which does not involve republication or redistribution of the FIS Report. Refer to Section 6.5 of this FIS Report for information about the process to revise the FIS Report and/or FIRM.

  It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 30, "Map Repositories," within this FIS Report.

- New FIS Reports are frequently developed for multiple communities, such as entire counties. A countywide FIS Report incorporates previous FIS Reports for individual communities and the unincorporated area of the county (if not jurisdictional) into a single document and supersedes those documents for the purposes of the NFIP.

  The initial Countywide FIS Report for Worcester County became effective on July 4, 2011. Refer to Table 27 for information about subsequent revisions to the FIRMs.

- FEMA does not impose floodplain management requirements or special insurance ratings based on Limit of Moderate Wave Action (LiMWA) delineations at this time. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. If the LiMWA is shown on the FIRM, it is being provided by FEMA as information only. For communities that do adopt Zone VE building standards in the area defined by the LiMWA, additional Community Rating System (CRS) credits are available. Refer to Section 2.5.4 for additional information about the LiMWA.

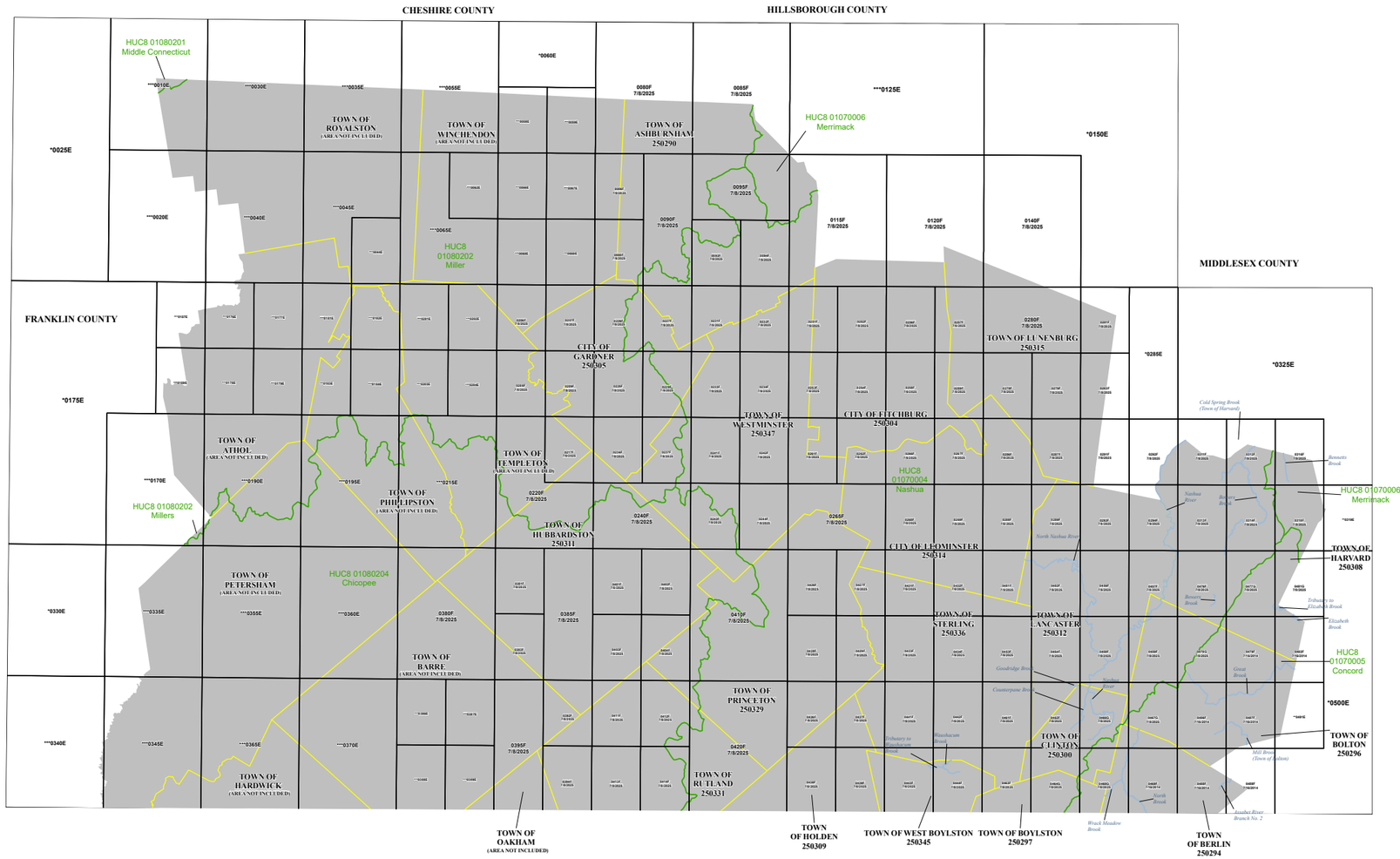
  The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Visit the FEMA Web site at www.fema.gov/national-flood-insurance-program-community-rating-system or contact your appropriate FEMA Regional Office for more information about this program.

- Previous FIS Reports and FIRMs may have included levees that were accredited as reducing the risk associated with the 1% annual chance flood based on the information available and the mapping standards of the NFIP at that time. For FEMA to continue to accredit the identified levees, the levees must meet the criteria of the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10), titled "Mapping of Areas Protected by Levee Systems."

  Since the status of levees is subject to change at any time, the user should contact the appropriate agency for the latest information regarding levees presented in Table 8 of this FIS Report. For levees owned or operated by the U.S. Army Corps of Engineers (USACE), information may be obtained from the USACE national levee database (nld.usace.army.mil). For all other levees, the user is encouraged to contact the appropriate local community.

- FEMA has developed a *Guide to Flood Maps* (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at www.fema.gov/online-tutorials.

The FIRM Index in Figure 1 shows the overall FIRM panel layout within Worcester County, and also displays the panel number and effective date for each FIRM panel in the county. Other information shown on the FIRM Index includes community boundaries, flooding sources, watershed boundaries, and United States Geological Survey (USGS) Hydrologic Unit Code – 8 (HUC-8) codes.



ATTENTION: The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on FIRM panels issued before July 8, 2025.

1 inch = 4 miles 1:274,000

N

feet
0 10,000 20,000 30,000 40,000

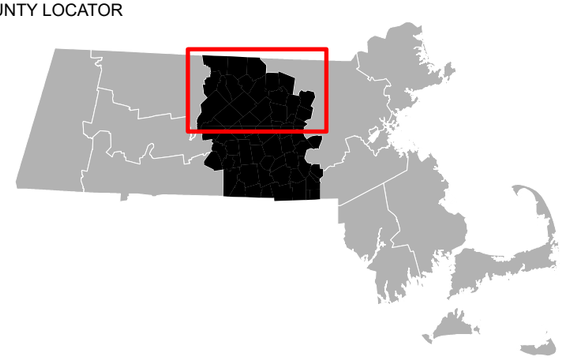
Map Projection:
NAD 1983 State Plane, Massachusetts Mainland, FIPS 2001, Feet;
Western Hemisphere; Vertical Datum: NAVD 88

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
HTTPS://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

* PANEL NOT PRINTED - AREA OUTSIDE COUNTY BOUNDARY
** PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREA
*** PANEL NOT PRINTED - AREA NOT INCLUDED IN PARTIAL COUNTYWIDE STUDY

COUNTY LOCATOR



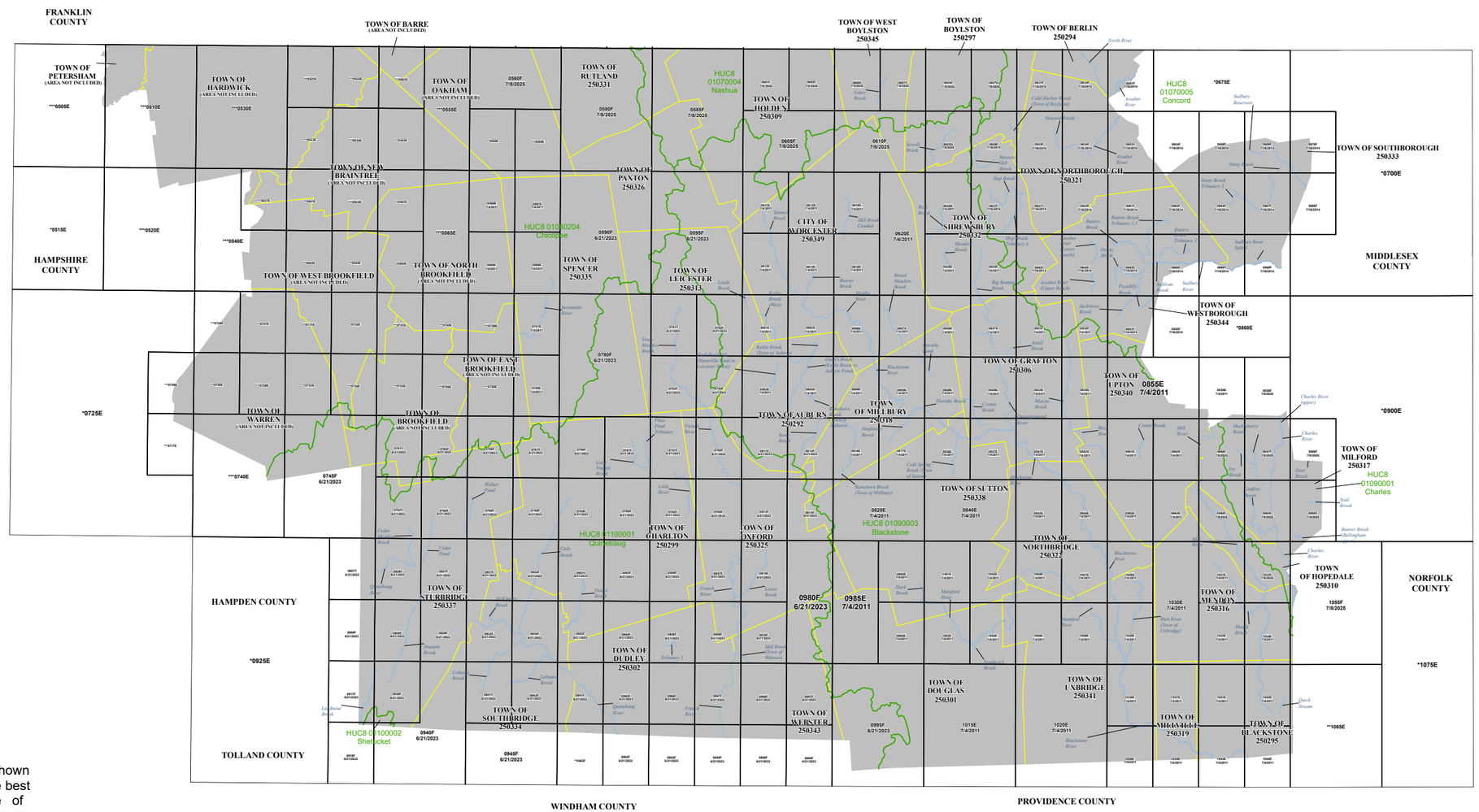
NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP INDEX
(SHEET 1 OF 2)

WORCESTER COUNTY, MASSACHUSETTS (ALL JURISDICTIONS)
PANELS PRINTED:

0080, 0085, 0086, 0088, 0090, 0093, 0094, 0095, 0115, 0120, 0140, 0206, 0207, 0208, 0209, 0217, 0220, 0226, 0227, 0228, 0229, 0231, 0232, 0233, 0234, 0236, 0237, 0240, 0241, 0242, 0243, 0244, 0251, 0252, 0253, 0254, 0256, 0257, 0258, 0259, 0261, 0262, 0265, 0266, 0267, 0268, 0269, 0278, 0279, 0280, 0281, 0283, 0286, 0287, 0288, 0289, 0291, 0292, 0293, 0294, 0311, 0312, 0313, 0314, 0316, 0318, 0380, 0381, 0383, 0385, 0392, 0394, 0395, 0401, 0402, 0403, 0404, 0410, 0411, 0412, 0413, 0414, 0420, 0426, 0427, 0428, 0429, 0431, 0432, 0433, 0434, 0436, 0437, 0438, 0439, 0441, 0442, 0443, 0444, 0451, 0452, 0453, 0454, 0456, 0457, 0458, 0459, 0461, 0462, 0463, 0464, 0466, 0467, 0468, 0469, 0476, 0477, 0478, 0479, 0481, 0483, 0486, 0487, 0488, 0489

FEMA

MAP INDEX
25027CIND1D
MAP REVISED
July 8, 2025



ATTENTION: The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on FIRM panels issued before July 8, 2025.

1 inch = 4 miles 1:274,000

N

feet
0 10,000 20,000 30,000 40,000

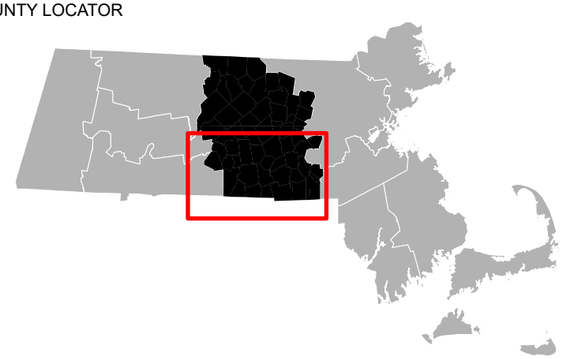
Map Projection:
NAD 1983 State Plane, Massachusetts Mainland, FIPS 2001, Feet;
Western Hemisphere; Vertical Datum: NAVD 88

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
HTTPS://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

* PANEL NOT PRINTED - AREA OUTSIDE COUNTY BOUNDARY
** PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREA
*** PANEL NOT PRINTED - AREA NOT INCLUDED IN PARTIAL COUNTYWIDE STUDY

COUNTY LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP INDEX
(SHEET 2 OF 2)

WORCESTER COUNTY, MASSACHUSETTS (ALL JURISDICTIONS)
PANELS PRINTED:

0560, 0566, 0567, 0568, 0569, 0580, 0585, 0590, 0595, 0601, 0602, 0605, 0606, 0607, 0610, 0611, 0612, 0613, 0614, 0616, 0618, 0620, 0626, 0627, 0628, 0629, 0631, 0632, 0633, 0634, 0636, 0637, 0638, 0639, 0641, 0642, 0643, 0644, 0651, 0653, 0654, 0658, 0659, 0661, 0662, 0663, 0664, 0666, 0667, 0668, 0669, 0678, 0686, 0745, 0757, 0759, 0761, 0762, 0763, 0764, 0766, 0767, 0768, 0769, 0780, 0781, 0782, 0783, 0784, 0786, 0787, 0788, 0789, 0791, 0792, 0793, 0794, 0801, 0802, 0803, 0804, 0806, 0807, 0808, 0809, 0811, 0812, 0813, 0814, 0816, 0817, 0820, 0826, 0827, 0828, 0829, 0831, 0832, 0833, 0834, 0836, 0837, 0840, 0841, 0842, 0843, 0844, 0851, 0852, 0855, 0858, 0859, 0861, 0862, 0863, 0864, 0866, 0867, 0868, 0869, 0886, 0888, 0907, 0909, 0917, 0919, 0926, 0927, 0928, 0929, 0931, 0932, 0933, 0934, 0936, 0940, 0941, 0942, 0945, 0951, 0952, 0953, 0954, 0956, 0957, 0958, 0959, 0961, 0962, 0963, 0964, 0966, 0967, 0968, 0969, 0976, 0978, 0980, 0982, 0984, 0985, 0986, 0987, 0988, 0989, 0995, 1001, 1002, 1003, 1004, 1006, 1007, 1008, 1009, 1015, 1020, 1026, 1028, 1030, 1031, 1032, 1033, 1034, 1036, 1037, 1038, 1039, 1041, 1042, 1043, 1044, 1055

FEMA

MAP INDEX
25027CIND2D
MAP REVISED
July 8, 2025

Each FIRM panel may contain specific notes to the user that provide additional information regarding the flood hazard data shown on that map. However, the FIRM panel does not contain enough space to show all the notes that may be relevant in helping to better understand the information on the panel. Figure 2 contains the full list of these notes.

Figure 2: FIRM Notes to Users

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the FEMA Mapping and Insurance eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Flood Map Service Center website or by calling the FEMA Mapping and Insurance eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 27 in this FIS Report.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

The map is for use in administering the NFIP. It may not identify all areas subject to flooding, particularly from local drainage sources of small size. Consult the community map repository to find updated or additional flood hazard information.

BASE FLOOD ELEVATIONS: For more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, consult the Flood Profiles and Floodway Data and/or Summary of Non-Coastal Stillwater Elevations tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.

FLOODWAY INFORMATION: Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the FIS Report for this jurisdiction.

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 4.3 "Non-Levee Flood Protection Measures" of this FIS Report for information on flood control structures for this jurisdiction.

Figure 2. FIRM Notes to Users

PROJECTION INFORMATION: The projection used in the preparation of the map was Massachusetts State Plane (Mainland Zone), FIPS 2001**.** The horizontal datum was NAD83, GRS1980 spheroid**.** Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

ELEVATION DATUM: Flood elevations on the FIRM are referenced to the North American Vertical Datum of 1988**.** These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988**,** visit the National Geodetic Survey website at www.ngs.noaa.gov.

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 30 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on the FIRM dated July 4, 2011, was provided by Massachusetts Geographic Information System (MassGIS). Orthoimagery is from 2008 and is at a scale of 1:5,000. Vector data are undated but were derived from orthoimagery. Panels dated July 7, 2014, use imagery and vector data unchanged from the previous FIRM. Panels dated July 8, 2025, use imagery from 2019 provided by the U.S. Geological Survey at a resolution of 0.15 meter, transportation data from 2016 provided by the U.S. Census Bureau with undefined scale, and political boundaries from 2017 provided by MassGIS at a scale of 1:5,000. For information about base maps, refer to Section 6.2 “Base Map” in this FIS Report.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map.

Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Worcester County, Massachusetts, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 27 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

The corporate limits shown on the FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on FIRM panels issued before July 8, 2025.

Figure 2. FIRM Notes to Users

SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Worcester County, Massachusetts**,** effective July 8, 2025.

Each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in Worcester County.

Figure 3: Map Legend for FIRM

SPECIAL FLOOD HAZARD AREAS: *The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.*

	Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)
Zone A	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
Zone AE	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone.
Zone AH	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
Zone AO	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
Zone AR	The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
Zone A99	The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
Zone V	The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.
Zone VE	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.

Figure 3: Map Legend for FIRM

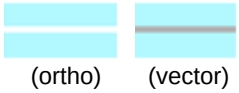
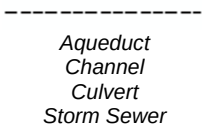
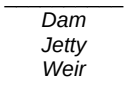
	Regulatory Floodway determined in Zone AE.
OTHER AREAS OF FLOOD HAZARD	
	Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.
	Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.
	Area with Reduced Flood Risk due to Levee: Areas where an accredited levee, dike, or other flood control structure has reduced the flood risk from the 1% annual chance flood. See Notes to Users for important information.
OTHER AREAS	
	Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.
	Unshaded Zone X: Areas of minimal flood hazard.
FLOOD HAZARD AND OTHER BOUNDARY LINES	
	Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)
	Limit of Study
	Jurisdiction Boundary
	Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet
GENERAL STRUCTURES	
	Channel, Culvert, Aqueduct, or Storm Sewer
	Dam, Jetty, Weir

Figure 3: Map Legend for FIRM

	Levee, Dike, or Floodwall
Bridge	Bridge
REFERENCE MARKERS	
22.0	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
B 20.2	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
5280 21.1	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
17.5	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
8	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
513	Base Flood Elevation Line
ZONE AE (EL 16)	Static Base Flood Elevation value (shown under zone label)
ZONE AO (DEPTH 2)	Zone designation with Depth
ZONE AO (DEPTH 2) (VEL 15 FPS)	Zone designation with Depth and Velocity
BASE MAP FEATURES	
Missouri Creek	River, Stream or Other Hydrographic Feature
234	Interstate Highway
234	U.S. Highway
234	State Highway

Figure 3: Map Legend for FIRM

234	County Highway
MAPLE LANE	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
RAILROAD	Railroad
	Horizontal Reference Grid Line
	Horizontal Reference Grid Ticks
+	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
$^{42}76^{000m}E$	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16' 52.5"	Corner Coordinates (Latitude, Longitude)

SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS

2.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1% annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2% annual chance (500-year) flood is employed to indicate additional areas of flood hazard in the community.

Each flooding source included in the project scope has been studied and mapped using professional engineering and mapping methodologies that were agreed upon by FEMA and Worcester County as appropriate to the risk level. Flood risk is evaluated based on factors such as known flood hazards and projected impact on the built environment. Engineering analyses were performed for each studied flooding source to calculate its 1% annual chance flood elevations; elevations corresponding to other floods (e.g. 10-, 4-, 2-, 0.2-percent annual chance, etc.) may have also been computed for certain flooding sources. Engineering models and methods are described in detail in Section 5.0 of this FIS Report. The modeled elevations at cross sections were used to delineate the floodplain boundaries on the FIRM; between cross sections, the boundaries were interpolated using elevation data from various sources. More information on specific mapping methods is provided in Section 6.0 of this FIS Report.

Depending on the accuracy of available topographic data (Table 22), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1% and 0.2% annual chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1% annual chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% annual chance floodplain boundary is shown on the FIRM. Figure 3, "Map Legend for FIRM", describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for each flooding source and each community within Worcester County, Massachusetts, respectively.

Table 2, "Flooding Sources Included in this FIS Report," lists each flooding source, including its study limits, affected communities, mapped zone on the FIRM, and the completion date of its engineering analysis from which the flood elevations on the FIRM and in the FIS Report were derived. Descriptions and dates for the latest hydrologic and hydraulic analyses of the flooding sources are shown in Table 12. Floodplain boundaries for these flooding sources are shown on the FIRM (published separately) using the symbology described in Figure 3. On the map, the 1% annual chance floodplain corresponds to the SFHAs. The 0.2% annual chance floodplain shows areas that, although out of the regulatory floodplain, are still subject to flood hazards.

Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data. The procedures to remove these areas from the SFHA are described in Section 6.5 of this FIS Report.

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Asnebumskit Brook	Holden, Town of	Confluence with Quinapoxet River	Pine Hill Reservoir	01070004	5.6		N	A	7/15/2019
Asnebumskit Brook Tributary A	Holden, Town of	Confluence with Asnebumskit Brook	Stump Pond	01070004	0.6		N	A	7/15/2019
Asnebumskit Brook Tributary B	Holden, Town of	Confluence with Asnebumskit Brook	Kendall Reservoir	01070004	1.2		N	A	7/15/2019
Assabet River	Northborough, Town of	Approximately 2,300 feet below Allen Street	Approximately 240 feet above Main Street	01070005	1.4		Y	AE	11/1/1977
Assabet River	Berlin, Town of; Northborough, Town of	County boundary	Approximately 2,300 feet below Allen Street	01070005	2.3		Y	AE	10/1/2012
Assabet River (Lower Reach)	Westborough, Town of	Approximately 29.6 miles above confluence with Concord River	Assabet River Dam (George Nichols Dam)	01070005	1.1		Y	AE	3/1/1978
Assabet River (Upper Reach)	Westborough, Town of	Mouth at Assabet Reservoir	Approximately 1,800 feet above Nourse Street	01070005	0.9		Y	AE	3/1/1978
Assabet River Branch No. 2	Berlin, Town of	County boundary	Approximately 765 feet above Gates Pond Road	01070005	0.6		Y	AE	11/1/1977
Auburn Pond	Auburn, Town of	Entire shoreline	Entire shoreline	01090003		0.01	Y	AE	1/1/1977
Axtell Brook	Grafton, Town of	Mouth at Lake Ripple	Massachusetts Turnpike	01090003	1.0		Y	AE	11/1/1989
Babcock Brook	Princeton, Town of	Confluence with East Wachusett Brook	Bullard Road	01070004	0.3		Y	AE	7/1/1979
Babcock Brook	Princeton, Town of	Bullard Road	Approximately 3,300 feet below Gregory Hill Road	01070004	2.5		N	A	7/15/2019
Babcock Brook Tributary A	Princeton, Town of	Confluence with Babcock Brook	Approximately 1,300 feet above confluence	01070004	0.3		N	A	7/15/2019
Babcock Brook Tributary B	Princeton, Town of	Confluence with Babcock Brook	Approximately 550 feet above confluence	01070004	0.1		N	A	7/15/2019

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Baker Brook 1	Gardner, City of	Confluence with Mahoney Brook	Approximately 1,000 feet above Boston and Maine Railroad	01080202	1.2		Y	AE	5/1/1978
Baker Brook 2	Fitchburg, City of; Leominster, City of; Lunenburg, Town of	Confluence with North Nashua River	Headwaters at Scott Reservoir	01070004	7.0		Y	AE	7/15/2019
Baker Brook 2 Tributary A	Fitchburg, City of	Confluence with Baker Brook 2	Confluence with unnamed tributary above Ashby West Road	01070004	2.2		N	A	7/15/2019
Baldwin Hill pond	Westminster, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Barrett Pond	Leominster, City of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Bartlett Pond Brook	Leominster, City of; Sterling, Town of	Confluence with Steam Mill Brook	Bartlett Pond	01070004	1.2		N	A	7/15/2019
Beaver Brook	Worcester, City of	Confluence with Middle River	Approximately 1,855 feet above May Street	01090003	1.5		Y	AE	9/6/2001
Beaver Brook (Bellingham)	Milford, Town of	County boundary	Point of one square mile of drainage area	01090001	1.6		N	A	4/30/2018
Beaver Brook 4 Tributary B	Harvard, Town of	County boundary	Headwaters at unnamed pond	01070006	2.0		N	A	7/15/2019
Beaver Brook 4 Tributary B pond	Harvard, Town of	Entire shoreline	Entire shoreline	01070006		0.01	N	A	6/4/2019
Beaver Brook 4 Tributary C	Harvard, Town of	County boundary	Approximately 5,900 feet above confluence	01070006	1.1		N	A	7/15/2019
Beaver Pond Brook	Lunenburg, Town of	County boundary	Headwaters at swamp above Page Street	01070004	1.8		N	A	7/15/2019
Bennetts Brook	Harvard, Town of	County boundary	Shaker Road	01070006	1.0		Y	AE	1/1/1978
Bennetts Brook	Harvard, Town of	Shaker Road	State Route 2	01070006	1.6		N	A	7/15/2019

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Bennetts Brook Tributary H	Harvard, Town of	County boundary	Approximately 3,500 feet above confluence	01070006	0.7		N	A	7/15/2019
Bennetts Brook Tributary I	Harvard, Town of	Confluence with Bennetts Brook	Approximately 2,600 feet above Ann Lees Road	01070006	1.0		N	A	7/15/2019
Bennetts Brook Tributary J	Harvard, Town of	Confluence with Bennetts Brook	Approximately 3,000 feet above confluence	01070006	0.6		N	A	7/15/2019
Big Bummet Brook	Grafton, Town of; Shrewsbury, Town of	Confluence with Quinsigamond River	Approximately 2,140 feet above Gold Street	01090003	4.1		Y	AE	3/1/1978
Blackstone River	Blackstone, Town of; Grafton, Town of; Millbury, Town of; Millville, Town of; Northbridge, Town of; Sutton, Town of; Uxbridge, Town of; Worcester, City of	County boundary	Confluence with Middle River	01090003	29.5		Y	AE	3/30/2007
Blood Hill ponding	Ashburnham, Town of	Entire shoreline	Entire shoreline	01070006		0.01	N	A	6/4/2019
Bow Brook	Lancaster, Town of	County boundary	Approximately 1,200 feet above Shirley Airport runway	01070004	2.3		N	A	7/15/2019
Bow Brook Tributary A	Lancaster, Town of	County boundary	Swamp approximately 2,700 feet above Lunenburg Road	01070004	3.4		N	A	7/15/2019
Bowers Brook	Harvard, Town of	County boundary	Woodside Road	01070004	6.6		Y	AE	1/1/1978
Bowers Brook	Harvard, Town of	Woodside Road	Approximately 1,500 feet above Woodside Road	01070004	0.3		N	A	7/15/2019
Brierly Pond	Millbury, Town of	Entire shoreline	Entire shoreline	01090003		0.04	N	AE	1/1/1978

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Broad Meadow Brook	Worcester, City of	Millbury/ Worcester corporate limits	Approximately 8,630 feet above U.S. Highway 20	01090003	1.8		Y	AE	2/1/2000
Brook to Saima Pond	Fitchburg, City of	Confluence with Falulah Brook	Approximately 1,000 feet above Scripture Road	01070004	1.3		Y	AE	6/1/1980
Brown Brook	Ashburnham, Town of	Confluence with Phillips Brook	Approximately 2,200 feet above Russell Hill Road	01070004	1.9		N	A	7/15/2019
Brown Brook Tributary A	Ashburnham, Town of	Confluence with Brown Brook	Approximately 1,100 feet above Crosby Road	01070004	0.9		N	A	7/15/2019
Bryant Pond	Holden, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Cady Brook	Charlton, Town of	Charlton/ Southbridge corporate limits	Dam approximately 1,200 feet above U.S. Route 20	01100001	4.0		Y	AE	7/1/1980
Cady Brook	Southbridge, Town of	Confluence with Quinebaug River	Charlton/ Southbridge corporate limits	01100001	1.8		Y	AE	8/1/1980
Calamint Hill swamp	Princeton, Town of	Entire shoreline	Entire shoreline	01070004		0.03	N	A	11/1/2019
Canada Mills pond	Holden, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Canesto Brook	Hubbardston, Town of	Barre/ Hubbardston corporate limits	Approximately 2,000 feet above Williamsville Road	01080204	2.6		Y	AE	6/1/1980
Catacoonamug Brook	Lunenburg, Town of	County boundary	Confluence with Tributary to Catacoonamug Brook	01070004	2.6		Y	AE	1/1/1978
Catacoonamug Brook	Lunenburg, Town of	Confluence with Tributary to Catacoonamug Brook	Swamp above West Street	01070004	3.3		N	A	7/15/2019
Catacoonamug Brook Tributary A	Leominster, City of; Lunenburg, Town of	Confluence with Catacoonamug Brook	Outlet of Lake Whalom	01070004	4.2		N	A	7/15/2019
Cedar Meadow Brook	Sturbridge, Town of	Confluence with Quinebaug River	Cooper Road	01100001	1.7		Y	AE	11/1/1980

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Cedar Pond	Sturbridge, Town of	Cedar Pond Dam	Approximately 1.6 miles above Cedar Pond Dam	01100001	1.7		Y	AE	11/1/1980
Center Brook	Upton, Town of	Station Street	Pratt Pond Dam	01090003	0.9		Y	AE	8/1/1980
Chace Hill Road swamp	Lancaster, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Chaffin Pond Tributary A	Holden, Town of	Mouth at Chaffin Pond	Approximately 500 feet above Bailey Road	01070004	1.3		N	A	7/15/2019
Chaffin Pond Tributary B	Holden, Town of	Mouth at Chaffin Pond	Approximately 300 feet below Salisbury Street	01070004	0.9		N	A	7/15/2019
Charles River	Hopedale, Town of; Mendon, Town of; Milford, Town of	County boundary	Milford Pond	01090001	4.0		N	AE	7/1/1980
Charles River	Milford, Town of	Milford Pond	County boundary	01090001	1.8		Y	AE	7/1/1980
Cobb Brook	Princeton, Town of	Confluence with South Wachusett Brook	Approximately 1,800 feet above Brooks Station Road	01070004	2.5		N	A	7/15/2019
Cohasse Brook	Southbridge, Town of	Confluence with Quinebaug River	Approximately 500 feet below Cohasse Brook Reservoir	01100001	2.9		Y	AE	10/10/2019
Cold Brook	Holden, Town of	Confluence with Governor Brook	Approximately 5,700 feet above Cournoyer Pond	01070004	1.3		N	A	7/15/2019
Cold Harbor Brook (Lower Reach)	Northborough, Town of	Confluence with Assabet River	Hudson Street	01070005	0.1		Y	AE	11/1/1977
Cold Harbor Brook (Lower Reach)	Northborough, Town of	Hudson Street	Approximately 110 feet below Church Street	01070005	0.4		Y	AE	10/4/2013
Cold Harbor Brook (Lower Reach)	Northborough, Town of	Approximately 110 feet below Church Street	Approximately 1,800 feet above Lincoln Street	01070005	1.2		Y	AE	11/1/1977

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Cold Harbor Brook (Town of Boylston)	Boylston, Town of	Boylston/ Northborough corporate limits	Approximately 1,700 feet above Reservoir Road	01070005	0.7		Y	AE	6/1/1979
Cold Harbor Brook (Upper Reach)	Northborough, Town of	Cherry Street	Approximately 700 feet above Fisher Street	01070005	1.4		Y	AE	11/1/1977
Cold Spring Brook (Town of Harvard)	Harvard, Town of	Confluence with Bowers Brook	Approximately 1,900 feet above Boston and Maine Railroad	01070004	1.1		Y	AE	1/1/1978
Cold Spring Brook (Town of Sutton)	Sutton, Town of	Confluence with Blackstone River	Approximately 5,400 feet above confluence with Blackstone River	01090003	1.8		Y	AE	11/1/1980
Connelly Brook	Sterling, Town of	Mouth at West Waushacum Pond	Approximately 280 feet below State Route 12	01070004	0.7		N	A	7/15/2019
Connelly Brook	Sterling, Town of	Approximately 280 feet below State Route 12	Approximately 80 feet above State Route 62	01070004	1.2		Y	AE	1/1/1978
Connelly Brook	Sterling, Town of	Approximately 80 feet above State Route 62	Approximately 900 feet above Interstate 190	01070004	0.8		N	A	7/15/2019
Counterpane Brook	Clinton, Town of	Confluence with Nashua River	Coachlace Pond	01070004	1.6		Y	AE	5/1/1979
Counterpane Brook	Clinton, Town of; Lancaster, Town of; Sterling, Town of	Coachlace Pond	Fitch Pond	01070004	4.3		N	A	7/15/2019
Cowees Hill swamp	Westminster, Town of	Entire shoreline	Entire shoreline	01070004		0.08	N	A	11/1/2019
Cranberry Pond	Lancaster, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Cronin Brook	Grafton, Town of	Confluence with Blackstone River	Millbury Street	01090003	1.8		Y	AE	11/1/1989
Curtis Pond	Worcester, City of	Entire shoreline	Entire shoreline	01090003		0.07	N	AE	1/1/1978

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Dark Brook	Sutton, Town of	Confluence with Mumford River	Approximately 1,950 feet above Tucker's Pond Dam	01090003	0.7		Y	AE	11/1/1980
Dark Brook No. 1	Auburn, Town of	Mouth at Auburn Pond	Central Street	01090003	1.2		Y	AE	6/1/1989
Dark Brook No. 2	Auburn, Town of	Mouth at Stoneville Pond	Leicester Street	01090003	1.4		N	AE	1/1/1977
Deans Brook	Charlton, Town of	Charlton/ Southbridge corporate limits	Approximately 0.35 mile above McIntyre Road	01100001	2.9		Y	AE	7/1/1980
Deer Brook	Milford, Town of	County boundary	County boundary	01090001	2.5		N	A	4/30/2018
Denny Brook	Westborough, Town of	Confluence with Jackstraw Brook	South Street	01070005	0.7		Y	AE	10/1/2012
Denny Brook	Westborough, Town of	Approximately 700 feet above High School Road	Approximately 2,050 feet above Harvey Lane	01070005	0.6		Y	AE	10/1/2012
Denny Brook	Westborough, Town of	South Street	Approximately 700 feet above High School Road	01070005	0.7		Y	AE	3/1/1978
Denny Brook Tributary 1	Westborough, Town of	Confluence with Denny Brook	Approximately 550 feet above Chestnut Street	01070005	1.0		N	AE	10/1/2012
Dorothy Brook	Millbury, Town of	Confluence with Blackstone River	Approximately 1,030 feet above confluence with Blackstone River	01090003	0.2		Y	AE	1/1/1978
Dorothy Pond	Millbury, Town of	Riverlin Street	Approximately 700 feet above Wheelock Avenue	01090003	1.1		N	AE	6/1/1996
Dunns Brook	Auburn, Town of	Confluence with Kettle Brook	Auburn Pond	01090003	1.1		Y	AE	1/1/1977
East Branch Ware River (Hubbardston)	Hubbardston, Town of	Hubbardston/ Princeton corporate limits	Bickford Pond	01080204	2.6		Y	AE	6/1/1980
East Branch Ware River (Rutland)	Rutland, Town of	Barre/ Rutland corporate limits	Princeton/ Rutland corporate limits	01080204	6.9		Y	AE	6/1/1980

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East Wachusett Brook	Princeton, Town of; Sterling, Town of	Confluence with Stillwater River	Town Farm Road	01070004	1.5		N	A	7/15/2019
East Wachusett Brook	Princeton, Town of	Town Farm Road	Approximately 900 feet above Bullard Road	01070004	1.1		Y	AE	7/1/1979
East Wachusett Brook	Princeton, Town of	Approximately 900 feet above Bullard Road	Confluence with unnamed tributary above Mirick Road	01070004	3.4		N	A	7/15/2019
East Wachusett Brook Tributary A	Princeton, Town of; Sterling, Town of	Confluence with East Wachusett Brook	Approximately 4,500 feet above confluence	01070004	0.9		N	A	7/15/2019
East Waushacum Pond	Sterling, Town of	Entire shoreline	Entire shoreline	01070004		0.28	N	AE	1/1/1978
Easter Brook	Lunenburg, Town of	Mouth at Lake Shirley	Confluence with unnamed tributary above Lancaster Avenue	01070004	2.0		N	A	7/15/2019
Easter Brook Tributary A	Leominster, City of; Lunenburg, Town of	Confluence with Easter Brook	Swamp above last railroad crossing	01070004	2.7		N	A	7/15/2019
Echo Lake	Milford, Town of	Entire shoreline	Entire shoreline	01090001		0.01	N	A	4/30/2018
Elizabeth Brook	Harvard, Town of	Approximately 4,500 feet above Harvard Road	Approximately 1,000 feet above Sherry Road	01070005	1.2		Y	AE	10/1/2012
Fairbanks Street swamp	West Boylston, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Fall Brook	Leominster, City of	Confluence with North Nashua River	Headwaters at Fall Brook Reservoir	01070004	5.3		Y	AE	7/15/2019
Fall Brook Reservoir	Leominster, City of	Entire shoreline	Entire shoreline	01070004		0.14	N	AE	7/15/2019
Fitch Basin	Sterling, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Flagg Brook	Fitchburg, City of; Westminster, Town of	Confluence with Whitman River (Lower Reach)	Confluence with Wyman Pond Brook	01070004	1.3		Y	AE	6/1/1980

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Flagg Brook	Fitchburg, City of; Princeton, Town of; Westminster, Town of	Confluence with Wyman Pond Brook	Crows Hill Pond	01070004	2.6		N	A	7/15/2019
Flagg Brook Tributary A	Fitchburg, City of; Leominster, City of	Confluence with Flagg Brook	Notown Reservoir	01070004	0.8		N	A	7/15/2019
Flagg Street Pond	Worcester, City of	Entire shoreline	Entire shoreline	01090003		0.01	N	AE	1/1/1978
Foster Brook	Gardner, City of	Confluence with Mahoney Brook	Dunn Pond	01080202	2.0		Y	AE	5/1/1978
French Brook	Boylston, Town of	Mouth at Wachusett Reservoir	Approximately 2,300 feet above Cross Street	01070004	2.0		N	A	7/15/2019
French Brook pond	Boylston, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
French River	Dudley, Town of; Oxford, Town of; Webster, Town of	Confluence with Quinebaug River	Approximately 4,000 feet above Charlton Street	01100001	9.1		Y	AE	10/10/2019
French River	Leicester, Town of; Oxford, Town of	Approximately 2,550 feet below Clara Barton Road	Approximately 500 feet above Pleasant Street	01100001	5.1		Y	AE	10/10/2019
Gates Brook	West Boylston, Town of	Mouth at Wachusett Reservoir	Approximately 120 feet below Boston and Maine Railroad	01070004	1.0		N	A	7/15/2019
Gates Brook	West Boylston, Town of	Approximately 120 feet below Boston and Maine Railroad	Approximately 80 feet above Pierce Street	01070004	1.0		Y	AE	5/1/1988
Gates Brook	West Boylston, Town of	Approximately 80 feet above Pierce Street	Lombard Road	01070004	0.7		N	A	7/15/2019
Godfrey Brook	Milford, Town of	Confluence with Charles River	Headwaters at pond at Milford High School	01090001	3.0		Y	AE	6/1/2017

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Goodridge Brook	Clinton, Town of; Lancaster, Town of	Just below Clinton/ Lancaster corporate limits	Approximately 1,000 feet above Parker Road	01070004	0.4		Y	AE	1/1/1978
Goodridge Brook	Lancaster, Town of; Sterling, Town of	Approximately 1,000 feet above Parker Road	Approximately 1,400 feet above State Route 62	01070004	2.5		N	A	7/15/2019
Governor Brook	Holden, Town of	Confluence with Cold Brook	Holden/ Princeton corporate limits	01070004	2.3		N	A	7/15/2019
Governor Brook	Holden, Town of; Princeton, Town of	Holden/ Princeton corporate limits	Approximately 2,100 feet below Coal Kiln Road	01070004	3.1		Y	AE	7/1/1979
Governor Brook Tributary A	Holden, Town of; Princeton, Town of	Confluence with Governor Brook	Approximately 2,600 feet above corporate limits	01070004	1.9		N	A	7/15/2019
Great Brook	Bolton, Town of	County boundary	Nourse Road	01070005	5.3		Y	AE	4/1/1978
Greenwood Brook	Gardner, City of	Confluence with Mahoney Brook	East Broadway	01080202	0.1		Y	AE	5/1/1978
Hamant Brook	Sturbridge, Town of	Access Road	Approximately 0.6 mile above Interstate 84	01100001	3.9		Y	AE	11/1/1980
Haynes Reservoir	Leominster, City of	Entire shoreline	Entire shoreline	01070004		0.09	N	A	11/1/2019
Hop Brook	Shrewsbury, Town of	Confluence with Hop Brook Tributary 4	Approximately 650 feet above Spring Street	01070005	2.2		N	AE	10/1/2012
Hop Brook Tributary 4	Shrewsbury, Town of	Confluence with Hop Brook	Approximately 1,000 feet above Flanagan Drive	01070005	2.8		N	AE	10/1/2012
Hop Brook Tributary 4.1	Shrewsbury, Town of	Confluence with Hop Brook Tributary 4	Approximately 200 feet below Main Street	01070005	0.7		N	AE	10/1/2012
Howard Brook	Northborough, Town of	Whitney Street	Brewer Street	01070005	1.8		Y	AE	11/1/1977
Howard Brook	Northborough, Town of	Confluence with Cold Harbor Brook (Lower Reach)	Whitney Street	01070005	0.1		Y	AE	10/4/2013

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Howard Brook Split Flow	Northborough, Town of	Confluence with Cold Harbor Brook (Lower Reach)	Diversion from Howard Brook	01070005	0.2		Y	AE	10/4/2013
Huckleberry Brook	Milford, Town of	Mouth at Cedar Swamp Pond	Erin Street	01090001	1.7		Y	AE	7/1/1980
Indian Lake	Worcester, City of	Entire shoreline	Entire shoreline	01090003		0.36	N	AE	1/1/1978
Ivy Brook	Milford, Town of	Confluence with Huckleberry Brook	Approximately 1,300 feet above Silver Hill Road	01090001	0.9		Y	AE	7/1/1980
Jackstraw Brook	Westborough, Town of	Confluence with Sullivan Brook	Approximately 650 feet above Garfield Drive	01070005	2.8		Y	AE	10/1/2012
Justice Brook	Princeton, Town of; Sterling, Town of	Confluence with Keyes Brook	Headwaters at confluence of Bartlett Pond Brook and Steam Mill Brook	01070004	1.9		N	A	7/15/2019
Kettle Brook (East)	Worcester, City of	Mouth at Curtis Pond	Leesville Pond	01090003	0.4		N	AE	1/1/1978
Kettle Brook (Town of Auburn)	Auburn, Town of	Mouth at Leesville Pond	Stoneville Pond	01090003	1.6		N	AE	1/1/1977
Kettle Brook (West)	Worcester, City of	Auburn/ Worcester corporate limits	Leicester/ Worcester corporate limits	01090003	1.5		Y	AE	1/1/1978
Keyes Brook	Princeton, Town of	Confluence with Justice Brook	Approximately 2,200 feet below Hobbs Road	01070004	2.2		N	A	7/15/2019
Keyes Brook	Princeton, Town of	Approximately 2,200 feet below Hobbs Road	Paradise Pond	01070004	1.1		Y	AE	7/1/1979
Keyes Brook	Princeton, Town of; Westminster, Town of	Paradise Road	Headwaters swamp above corporate limits	01070004	2.2		N	A	7/15/2019
Keyes Brook Tributary A	Princeton, Town of	Confluence with Keyes Brook	Swamp above Wolf Rock Road	01070004	0.6		N	A	7/15/2019

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Keyes Brook Tributary C	Princeton, Town of	Confluence with Keyes Brook	Approximately 1,600 feet above confluence	01070004	0.3		N	A	7/15/2019
Kilburn Street swamp	Lunenburg, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Lake Shirley	Lunenburg, Town of	Entire shoreline	Entire shoreline	01070004		0.56	N	AE	1/1/1978
Lake Webster	Webster, Town of	Entire shoreline	Entire shoreline	01100001		2.23	N	AE	10/10/2019
Lake Whalom	Leominster, City of; Lunenburg, Town of	Entire shoreline	Entire shoreline	01070004		0.15	N	AE	1/1/1978
Lane Pond	Lunenburg, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Leadmine Brook	Sturbridge, Town of	County boundary	Approximately 3,000 feet above Leadmine Road	01100001	2.5		Y	AE	11/1/1980
Lebanon Brook	Southbridge, Town of	Confluence with Quinebaug River	Approximately 6,500 feet above State Route 169 (North Woodstock Road)	01100001	2.6		Y	AE	8/1/1980
Leesville Pond	Auburn, Town of; Worcester, City of	Entire shoreline	Entire shoreline	01090003		0.05	N	AE	1/1/1977
Lily Ponds	West Boylston, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Linden Street swamp 1	Boylston, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Linden Street swamp 2	Boylston, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Little Mirror Lake	Harvard, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Little Nugget Brook	Charlton, Town of	Pikes Pond	Little Nugget Lake	01100001	1.6		Y	AE	7/1/1980
Little River	Charlton, Town of	Just below Turner Road	Approximately 0.5 mile above Oxbow Road	01100001	2.4		Y	AE	7/1/1980

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Lowes Brook	Oxford, Town of	Confluence with French River	Approximately 0.3 mile above Sutton Avenue	01100001	2.5		Y	AE	3/1/1980
Lynde Brook	Leicester, Town of	State Route 9 (Main Street)	Lynde Brook Reservoir	01090003	0.5		Y	AE	3/1/1980
Mahoney Brook	Gardner, City of	Confluence with Otter River	Just above Partridge Road	01080202	4.7		Y	AE	5/1/1978
Malagasco Brook	Boylston, Town of	Mouth at Wachusett Reservoir	Swamp above School Street	01070004	2.1		N	A	7/15/2019
Malden Brook	West Boylston, Town of	Mouth at Wachusett Reservoir	Swamp above Lee Street	01070004	3.3		N	A	7/15/2019
McGovern Brook	Lancaster, Town of	Confluence with North Nashua River	Headwaters at swamp above trail from State Route 70	01070004	3.1		N	A	7/15/2019
McKinstry Brook	Southbridge, Town of	Confluence with Quinebaug River	Approximately 0.7 mile above confluence with Quinebaug River	01100001	0.7		Y	AE	8/1/1980
Meadow Brook	Shrewsbury, Town of	Approximately 120 feet below Oak Street	Approximately 4,480 feet above Oak Street	01090003	0.9		Y	AE	3/1/1978
Middle River	Worcester, City of	Confluence with Blackstone River	Curtis Pond	01090003	2.5		Y	AE	1/1/1978
Mill Brook (Town of Bolton)	Bolton, Town of	County boundary	Spectacle Hill Road	01070005	2.0		Y	AE	4/1/1978
Mill Brook (Town of Webster)	Webster, Town of	Confluence with French River	Approximately 0.185 mile above Arkwright Road	01100001	0.7		Y	AE	2/1/1980
Mill Brook Conduit	Worcester, City of	Salisbury Pond	Indian Lake	01090003	1.7		N	AE	2/1/2000

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Mill River	Blackstone, Town of; Hopedale, Town of; Mendon, Town of; Milford, Town of; Upton, Town of	Harris Pond	County boundary	01090003	14.5		Y	AE	7/1/1976
Mirror Lake	Fitchburg, City of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Mirror Lake 2	Harvard, Town of	Entire shoreline	Entire shoreline	01070004		0.04	N	A	11/1/2019
Miscoe Brook	Grafton, Town of	Silver Lake	Adams Road	01090003	2.4		Y	AE	11/1/1989
Monoosnoc Brook	Fitchburg, City of; Leominster, City of	Confluence with North Nashua River	Downstream crossing of State Route 2	01070004	5.5		Y	AE	7/15/2019
Monoosnoc Brook	Fitchburg, City of; Leominster, City of	Downstream crossing of State Route 2	Notown Reservoir	01070004	3.6		N	A	7/15/2019
Morse Reservoir	Leominster, City of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Moulton Pond Brook	Rutland, Town of	Thayer Pond	Moulton Pond	01080204	1.0		Y	AE	6/1/1980
Mountain Laurel Lane swamp	Lancaster, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Muddy Brook	Mendon, Town of	Confluence with Mill River	Approximately 1,000 feet above Milford Street	01090003	3.4		Y	AE	7/1/1980
Muddy Pond	Westminster, Town of	Entire shoreline	Entire shoreline	01070004		0.06	N	A	11/1/2019
Muddy Pond Road swamp	Sterling, Town of	Entire shoreline	Entire shoreline	01070004		0.05	N	A	11/1/2019
Mulpus Brook	Lunenburg, Town of	County boundary	Approximately 450 feet above West Groton Road	01070004	0.3		Y	AE	1/1/1978
Mulpus Brook	Lunenburg, Town of	Approximately 450 feet above West Groton Road	Approximately 5,000 feet above Howard Street	01070004	7.8		N	A	7/15/2019

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Mulpus Brook Tributary A	Lunenburg, Town of	Confluence with Mulpus Brook	Confluence with unnamed tributary below Northfield Road	01070004	0.7		N	A	7/15/2019
Mulpus Brook Tributary B	Lunenburg, Town of	Confluence with Mulpus Brook	Approximately 250 feet below State Route 13	01070004	0.8		N	A	7/15/2019
Mumford River	Douglas, Town of; Northbridge, Town of; Sutton, Town of; Uxbridge, Town of	Confluence with Blackstone River	Manchaug Road	01090003	13.3		Y	AE	11/1/1980
Muschopauge Brook	Holden, Town of; Rutland, Town of	Mouth at Quinapoxet Reservoir	Approximately 4,800 feet above Glenwood Road	01070004	5.5		N	A	7/15/2019
Nashua River	Bolton, Town of; Clinton, Town of; Harvard, Town of; Lancaster, Town of	County boundary	Headwaters at Wachusett Reservoir	01070004	16.9		Y	AE	7/15/2019
Nashua River Tributary G	Bolton, Town of; Clinton, Town of; Lancaster, Town of	Confluence with Nashua River	Headwaters at unnamed ponds	01070004	2.4		N	A	7/15/2019
Nashua River Tributary I	Lancaster, Town of	Confluence with Nashua River	Approximately 1,200 feet above Old Shirley Road	01070004	1.4		N	A	7/15/2019
Newell Road pond	Holden, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
North Brook	Berlin, Town of	Confluence with Assabet River	Berlin/ Bolton corporate limits	01070005	6.4		Y	AE	11/1/1977
North Lancaster pond	Lancaster, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
North Nashua River	Fitchburg, City of; Lancaster, Town of; Leominster, City of	Confluence with Nashua River	Confluence with Phillips Brook	01070004	19.5		Y	AE	7/15/2019

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North Nashua River	Fitchburg, City of	Confluence with Phillips Brook	Headwaters at confluence of Whitman River (Lower Reach) and Flagg Brook	01070004	1.0		Y	AE	6/1/1980
North Nashua River Tributary A	Lancaster, Town of	Confluence with North Nashua River	Goss Lane	01070004	2.1		N	A	7/15/2019
North Nashua River Tributary A1	Lancaster, Town of	Confluence with North Nashua River Tributary A	Headwaters at unnamed ponds	01070004	0.6		N	A	7/15/2019
North Nashua River Tributary A2	Lancaster, Town of	Confluence with North Nashua River Tributary A	Approximately 1,400 feet above drive off Bull Hill Road	01070004	1.0		N	A	7/15/2019
North Nashua River Tributary B	Lancaster, Town of	Confluence with North Nashua River	Approximately 800 feet above Old County Road	01070004	1.3		N	A	7/15/2019
North Nashua River Tributary C	Lancaster, Town of; Leominster, City of	Confluence with North Nashua River	Approximately 500 feet above White Pond Road	01070004	1.1		N	A	7/15/2019
North Nashua River Tributary D	Fitchburg, City of	Confluence with North Nashua River	Williams Road	01070004	1.0		N	A	7/15/2019
O'Brien Brook	Milford, Town of	Confluence with Godfrey Brook	Vincenzo Road	01090001	0.1		Y	AE	7/1/1980
Oak Hill Pond	Lancaster, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Otter River	Gardner, City of	Gardner/ Templeton corporate limits	Gardner/ Templeton corporate limits	01080202	5.8		Y	AE	5/1/1978
Overlook Reservoir	Fitchburg, City of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Overlook Road swamp	Westminster, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Paradise Pond	Princeton, Town of	Entire shoreline	Entire shoreline	01070004		0.10	N	AE	7/1/1979
Partridge Pond	Westminster, Town of	Entire shoreline	Entire shoreline	01070004		0.04	N	AE	1/1/1978

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Patton Road swamp	Harvard, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Pearl Hill Brook	Fitchburg, City of; Lunenburg, Town of	Confluence with Baker Brook 2	Second crossing of Fitchburg/ Lunenburg corporate limits near New West Townsend Road	01070004	2.9		Y	AE	6/1/1980
Pearl Hill Brook 2	Fitchburg, City of; Lunenburg, Town of	County Boundary	Point of one square mile of drainage area	01070004	0.8		N	A	7/15/2019
Pearl Hill Brook 2 Tributary B	Lunenburg, Town of	Confluence with Pearl Hill Brook 2	County Boundary	01070004	0.1		N	A	7/15/2019
Perley Brook	Gardner, City of	Confluence with Otter River	Just below Cowee Pond	01080202	3.5		Y	AE	5/1/1978
Phillips Brook	Ashburnham, Town of; Fitchburg, City of; Westminster, Town of	Confluence with North Nashua River	Winnekeag Lake	01070004	8.4		Y	AE	6/1/1980
Phillips Brook	Ashburnham, Town of	Winnekeag Lake	Approximately 1,200 feet above Stowell Road	01070004	2.2		N	A	7/15/2019
Phillips Brook Tributary A	Westminster, Town of	Confluence with Phillips Brook	Confluence with unnamed tributary below corporate limits	01070004	1.5		N	A	7/15/2019
Phillips Brook Tributary B	Ashburnham, Town of	Confluence with Phillips Brook	Approximately 1,200 feet above River Styx Road	01070004	1.0		N	A	7/15/2019
Phillips Brook Tributary C	Ashburnham, Town of	Confluence with Phillips Brook	Approximately 500 feet above State Route 12	01070004	0.9		N	A	7/15/2019
Phillips Brook Tributary D	Ashburnham, Town of	Confluence with Phillips Brook	Lincoln Pond	01070004	2.0		N	A	7/15/2019
Piccadilly Brook	Westborough, Town of	County boundary	Just above Upton Road	01070005	1.4		Y	AE	3/1/1978

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Pikes Pond Tributary	Charlton, Town of	Pikes Pond	Approximately 900 feet above railroad	01100001	1.3		Y	AE	7/1/1980
Pine Hill Reservoir Tributary A	Holden, Town of; Paxton, Town of	Pine Hill Reservoir	Asnebumskit Pond	01070004	1.8		N	A	7/15/2019
Pine Hill Reservoir Tributary B	Rutland, Town of	Pine Hill Reservoir	Inwood Road	01070004	2.3		N	A	7/15/2019
Pond Brook	Gardner, City of	Confluence with Otter River	Approximately 100 feet below Timpany Boulevard	01080202	1.3		Y	AE	5/1/1978
Pondville Pond	Auburn, Town of; Millbury, Town of	Entire shoreline	Entire shoreline	01090003		0.06	N	AE	1/1/1977
Poor Farm Brook 1	Holden, Town of	Mouth at Chaffin Pond	Swamp above Newell Road	01070004	0.9		N	A	7/15/2019
Quacumquasit Pond	Sturbridge, Town of	Entire shoreline	Entire shoreline	01080204		0.35	N	AE	11/1/1980
Quick Stream	Blackstone, Town of	Harris Pond	Approximately 3,200 feet above Harris Pond	01090003	0.6		Y	AE	7/1/1976
Quinapoxet River	Holden, Town of; West Boylston, Town of	Mouth at Wachusett Reservoir	Approximately 2,000 feet below River Street	01070004	5.4		N	A	7/15/2019
Quinapoxet River	Holden, Town of	Approximately 2,000 feet below River Street	Approximately 1,200 feet above State Route 31	01070004	1.3		Y	AE	6/1/1979
Quinapoxet River	Holden, Town of; Rutland, Town of	Approximately 1,200 feet above State Route 31	Muschopauge Pond	01070004	6.3		N	A	7/15/2019
Quinapoxet River Tributary A	West Boylston, Town of	Confluence with Quinapoxet River	Raymond Huntington Highway	01070004	0.9		N	A	7/15/2019
Quinapoxet River Tributary B	Holden, Town of	Confluence with Quinapoxet River	Swamp above Malden Street	01070004	2.4		N	A	7/15/2019

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Quinapoxet River Tributary C	Holden, Town of	Confluence with Quinapoxet River	Chaffin Pond	01070004	3.3		N	A	7/15/2019
Quinapoxet River Tributary D	Holden, Town of	Confluence with Quinapoxet River	Confluence with unnamed tributary below Cutler Road	01070004	2.2		N	A	7/15/2019
Quinebaug River	Dudley, Town of; Southbridge, Town of; Sturbridge, Town of	Approximately 145 feet above Fabyan Woodstock Road	Approximately 4,200 feet above Main Street	01100001	7.9		Y	AE	10/10/2019
Quinebaug River	Sturbridge, Town of	Stallion Hill Road	Approximately 300 feet below Lond Pond	01100001	2.1		Y	AE	10/10/2019
Quinsigamond River	Grafton, Town of	Confluence with Blackstone River	Hovey Pond Dam	01090003	4.9		Y	AE	11/1/1989
Ramshorn Brook (Town of Auburn)	Auburn, Town of	Auburn Pond	Pondville Pond	01090003	0.9		Y	AE	1/1/1977
Ramshorn Brook (Town of Millbury)	Millbury, Town of	Pondville Pond	Griggs Road	01090003	2.9		Y	AE	6/1/1996
Rawson Hill Brook	Shrewsbury, Town of	Approximately 0.025 mile below Prospect Street	Boylston/ Shrewsbury corporate limits	01070005	1.7		Y	AE	3/1/1978
Rice Meadow Pond	Westminster, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Riverdale Mills Sluice Gates & Tail Race	Northbridge, Town of	Confluence with Blackstone River	Diversion from Blackstone River	01090003	0.4		N	AE	9/1/1999
Robbins Pond	Harvard, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Rocky Brook 2	Sterling, Town of	Confluence with Stillwater River	Hy-Crest Pond	01070004	3.8		N	A	7/15/2019
Rocky Hill swamp	Sterling, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Rocky Pond	Leominster, City of	Entire shoreline	Entire shoreline	01070004		0.03	N	A	11/1/2019

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Round Meadow Pond Brook	Westminster, Town of	Confluence with Whitman River (Lower Reach)	Round Meadow Pond Dam	01070004	1.8		Y	AE	1/1/1978
Rutters Brook	Westborough, Town of	Confluence with Sullivan Brook	Approximately 300 feet above Wessonville Village Way	01070005	2.4		Y	AE	10/1/2012
Rutters Brook Tributary 1	Westborough, Town of	Confluence with Rutters Brook	Approximately 250 feet above Walkup Street	01070005	2.2		N	AE	10/1/2012
Rutters Brook Tributary 1.1	Westborough, Town of	Confluence with Rutters Brook Tributary 1	Approximately 200 feet above Research Drive	01070005	1.9		N	AE	10/1/2012
Salisbury Street pond	Holden, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Scanlon Brook	Sterling, Town of	Confluence with Stillwater River	Fox Fire Road	01070004	0.3		N	A	7/15/2019
Scott Reservoir	Fitchburg, City of	Entire shoreline	Entire shoreline	01070004		0.05	N	AE	7/15/2019
Sevenmile River	Spencer, Town of	East Brookfield/ Spencer corporate limits	Approximately 1,200 feet above State Route 31	01080204	3.7		Y	AE	10/1/1988
Sewall Brook	Boylston, Town of	Approximately 1,400 feet below Sewall Pond	New England Telephone Company culvert below Shrewsbury Street	01090003	1.8		Y	AE	5/1/1984
Shrewsbury Street swamp	West Boylston, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Singletary Brook	Millbury, Town of	Confluence with Blackstone River	Confluence with Unnamed Tributary to Mayo Pond	01090003	1.3		Y	AE	1/1/1978
Singletary Pond	Millbury, Town of; Sutton, Town of	Entire shoreline	Entire shoreline	01090003		0.57	N	AE	1/1/1978
Smith Brook	Westminster, Town of	Wyman Pond	Worcester Road	01070004	0.6		Y	AE	1/1/1978

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Smith Brook	Westminster, Town of	Worcester Road	Meetinghouse Pond	01070004	1.3		N	A	7/15/2019
Snow Pond	Princeton, Town of	Entire shoreline	Entire shoreline	01070004		0.03	N	A	11/1/2019
South Branch Souhegan River	Ashburnham, Town of	County boundary	Stodge Meadow Pond	01070006	6.8		N	A	7/15/2019
South Branch Souhegan River Tributary C	Ashburnham, Town of	Confluence with South Branch Souhegan River	State Route 119	01070006	0.6		N	A	7/15/2019
South Branch Souhegan River Tributary D	Ashburnham, Town of	Confluence with South Branch Souhegan River	Approximately 4,800 feet above confluence	01070006	0.9		N	A	7/15/2019
South Branch Souhegan River Tributary E	Ashburnham, Town of	Confluence with South Branch Souhegan River	Second crossing of Rindge Turnpike	01070006	0.9		N	A	7/15/2019
South Meadow Brook	Lancaster, Town of	Mouth at Coachlace Pond	Approximately 3,700 feet above mouth	01070004	0.7		N	A	7/15/2019
South Wachusett Brook	Princeton, Town of	Mouth at Quinapoxet Reservoir	Approximately 4,600 feet above Thompson Road	01070004	6.5		N	A	7/15/2019
South Wachusett Brook Tributary A	Princeton, Town of	Confluence with South Wachusett Brook	Brooks Station Road	01070004	0.9		N	A	7/15/2019
South Wachusett Brook Tributary B	Princeton, Town of	Confluence with South Wachusett Brook	Approximately 2,800 feet above confluence	01070004	0.5		N	A	7/15/2019
South Wachusett Brook Tributary C	Princeton, Town of	Confluence with South Wachusett Brook	Approximately 1,900 feet above State Route 62	01070004	1.5		N	A	7/15/2019
South Wachusett Brook Tributary D	Princeton, Town of	Confluence with South Wachusett Brook	Approximately 1,900 feet above confluence	01070004	0.4		N	A	7/15/2019
Southwick Brook	Douglas, Town of	Confluence with Mumford River	Weeks Pond	01090003	0.3		Y	AE	11/1/1980

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Spectacle Brook	Lancaster, Town of	Confluence with North Nashua River	Spectacle Pond	01070004	2.5		N	A	7/15/2019
Spring Basin	Sterling, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Springfield Terminal pond	Westminster, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Stall Brook	Milford, Town of	County boundary	Approximately 100 feet above Beaver Street	01090001	0.5		Y	AE	7/1/1980
Steam Mill Brook	Princeton, Town of; Sterling, Town of	Confluence with Bartlett Pond Brook	Bartlett Road	01070004	1.0		N	A	7/15/2019
Steam Mill Brook Tributary A	Princeton, Town of	Confluence with Steam Mill Brook	Approximately 800 feet above confluence	01070004	0.2		N	A	7/15/2019
Steam Mill Brook Tributary B	Princeton, Town of	Confluence with Steam Mill Brook	Approximately 1,600 feet above confluence	01070004	0.3		N	A	7/15/2019
Still River Tributary A	Bolton, Town of	Confluence with Still River	Second crossing of Green Road	01070004	2.6		N	A	7/15/2019
Stillwater River	Sterling, Town of; West Boylston, Town of	Mouth at Wachusett Reservoir	Approximately 360 feet below Muddy Pond Road	01070004	3.0		N	A	7/15/2019
Stillwater River	Princeton, Town of; Sterling, Town of	Approximately 360 feet below Muddy Pond Road	Approximately 1,620 feet above Houghton Road	01070004	4.5		Y	AE	1/1/1978
Stillwater River	Princeton, Town of; Sterling, Town of	Approximately 1,620 feet above Houghton Road	Headwaters at confluence of Justice Brook and Keyes Brook	01070004	2.3		N	A	7/15/2019
Stone Brook	Auburn, Town of	Pondville Pond	South Street	01090003	1.6		Y	AE	1/1/1977
Stoneville Pond	Auburn, Town of	Entire shoreline	Entire shoreline	01090003		0.05	N	AE	1/1/1977
Stony Brook	Southborough, Town of	County boundary	Deerfoot Road	01070005	4.8		N	AE	10/1/2012

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Stony Brook Tributary 2	Southborough, Town of	Mouth at Sudbury Reservoir	Approximately 4,400 feet above mouth	01070005	0.8		Y	AE	11/1/1979
Sudbury River	Southborough, Town of; Westborough, Town of	County boundary	Confluence of Sullivan Brook	01070005	2.7		Y	AE	10/1/2012
Sudbury River Split 1	Southborough, Town of	Confluence with Sudbury River	Diversion from Sudbury River	01070005	0.1		Y	AE	10/1/2012
Sudbury River Tributary 12	Southborough, Town of	Confluence with Sudbury River	Approximately 80 feet above Cordaville Road	01070005	0.2		Y	AE	11/1/1979
Sullivan Brook	Westborough, Town of	Confluence with Sudbury River	Headwaters at confluence of Jackstraw Brook and Rutters Brook	01070005	1.9		Y	AE	10/1/2012
Tatnuck Brook	Worcester, City of	Confluence with Beaver Brook	Holden/ Worcester corporate limits	01090003	4.2		Y	AE	1/1/1978
Thompson Road swamp	Princeton, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Town Meadow Brook	Leicester, Town of	Confluence with French River	Sargent Pond	01100001	3.6		Y	AE	3/1/1980
Tributary 1	Dudley, Town of	New Pond	Approximately 1,000 feet above Mason Road	01100001	0.7		Y	AE	2/1/1980
Tributary A Dam Pond	Leominster, City of	Entire shoreline	Entire shoreline	01070004		0.01	N	AE	5/1/1980
Tributary A to Fall Brook	Leominster, City of	Confluence with Fall Brook	Approximately 750 feet above Union Street	01070004	2.0		Y	AE	5/1/1980
Tributary B to Fall Brook	Leominster, City of	Confluence with Fall Brook	Anthony Road	01070004	1.3		Y	AE	5/1/1980
Tributary C to Fall Brook	Leominster, City of	Confluence with Fall Brook	Anthony Road	01070004	1.1		Y	AE	5/1/1980

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Tributary to Catacoonamug Brook	Lunenburg, Town of	Confluence with Catacoonamug Brook	Page Street	01070004	1.0		Y	AE	1/1/1978
Tributary to Catacoonamug Brook	Lunenburg, Town of	Page Street	Approximately 600 feet below State Route 2	01070004	1.6		N	A	7/15/2019
Tributary to Elizabeth Brook	Harvard, Town of	Confluence with Elizabeth Brook	Stow Road	01070005	0.6		Y	AE	1/1/1978
Tributary to Monoosnoc Brook	Leominster, City of	Confluence with Monoosnoc Brook	Exchange Street	01070004	0.5		Y	AE	5/1/1980
Tributary to Monoosnoc Brook	Leominster, City of	Exchange Street	Confluence with unnamed tributary from Morse Reservoir	01070004	1.1		N	A	7/15/2019
Tributary to Pearl Hill Brook	Lunenburg, Town of	Confluence with Pearl Hill Brook	Approximately 3,500 feet above confluence with Pearl Hill Brook	01070004	0.7		Y	AE	1/1/1978
Tributary to Round Meadow Pond	Westminster, Town of	Confluence with Round Meadow Pond Brook	Ellis Road	01070004	3.3		Y	AE	1/1/1978
Tributary to Round Meadow Pond Tributary A	Westminster, Town of	Confluence with Tributary to Round Meadow Pond	State Route 2A	01070004	0.9		N	A	7/15/2019
Tributary to Waushacum Brook	West Boylston, Town of	Confluence with Waushacum Brook	Approximately 50 feet below Fairbanks Street	01070004	0.7		Y	AE	5/1/1988
Tributary to Wyman Pond	Westminster, Town of	Wyman Pond	Approximately 1,000 feet above Wyman Pond	01070004	0.2		Y	AE	1/1/1978
Tributary to Wyman Pond	Westminster, Town of	Approximately 1,000 feet above Wyman Pond	Headwaters at unnamed ponds	01070004	0.6		N	A	7/15/2019

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Trout Brook	Holden, Town of	Confluence with Quinapoxet River	Headwaters at confluence of Cold Brook and Governor Brook	01070004	2.0		N	A	7/15/2019
Turkey Brook	Paxton, Town of; Rutland, Town of	Pine Hill Reservoir	Headwaters at unnamed pond below State Route 56	01070004	1.4		N	A	7/15/2019
Turkey Hill Pond	Lunenburg, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Turner Pond	Lancaster, Town of; Lunenburg, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
Unnamed Tributary	Auburn, Town of	Leesville Pond	Rockland Road	01090003	0.6		Y	AE	1/1/1977
Unnamed Tributary to Mayo Pond	Millbury, Town of	Confluence with Singletary Brook	Millbury/ Sutton corporate limits	01090003	0.4		Y	AE	1/1/1978
Upper Crocker Pond	Ashburnham, Town of; Westminster, Town of	Entire shoreline	Entire shoreline	01070004		0.17	N	AE	1/1/1978
Wachusett Reservoir	Boylston, Town of; Clinton, Town of; Sterling, Town of; West Boylston, Town of	Entire shoreline	Entire shoreline	01070004		6.20	N	AE	7/15/2019
Walker Pond	Sturbridge, Town of	Walker Pond Dam	Approximately 1.38 miles above Walker Pond Dam	01100001	1.5		Y	AE	11/1/1980
Warren Tannery Brook	Holden, Town of	Confluence with Asnebumskit Brook	Confluence with unnamed tributary in swamp below railroad	01070004	1.2		N	A	7/15/2019
Waushacum Brook	West Boylston, Town of	Approximately 150 feet above Wachusett Reservoir	Boylston/ Sterling corporate limits	01070004	1.0		Y	AE	5/1/1988

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Waushacum Brook	Sterling, Town of	Boylston/ Sterling corporate limits	Approximately 1,700 feet above Wyman Way	01070004	2.3		N	A	7/15/2019
Weasel Brook	Worcester, City of	Boston and Maine Railroad	Brooks Street	01090003	1.2		N	AE, AH, AO	1/1/1978
Wekepeke Brook	Lancaster, Town of; Sterling, Town of	Confluence with North Nashua River	Approximately 70 feet below Pratt Junction Road	01070004	3.4		N	A	7/15/2019
Wekepeke Brook	Sterling, Town of	Approximately 70 feet below Pratt Junction Road	Approximately 50 feet above Boston and Maine Railroad	01070004	0.4		Y	AE	1/1/1978
Wekepeke Brook	Sterling, Town of	Approximately 50 feet above Boston and Maine Railroad	Confluence with unnamed tributary below State Route 12	01070004	0.8		N	A	7/15/2019
Wekepeke Brook Tributary A	Lancaster, Town of	Confluence with Wekepeke Brook	Approximately 5,000 feet above Brockelman Road	01070004	2.1		N	A	7/15/2019
Wekepeke Brook Tributary A1	Lancaster, Town of	Confluence with Wekepeke Brook Tributary A	Approximately 400 feet above confluence	01070004	0.1		N	A	7/15/2019
Wekepeke Brook Tributary B	Lancaster, Town of; Leominster, City of; Sterling, Town of	Confluence with Wekepeke Brook	Approximately 600 feet above Legate Hill Road	01070004	2.5		N	A	7/15/2019
Wekepeke Brook Tributary C	Lancaster, Town of; Sterling, Town of	Confluence with Wekepeke Brook	Approximately 1,000 feet above Hilltop Road	01070004	1.8		N	A	7/15/2019
Wekepeke Brook Tributary D	Sterling, Town of	Confluence with Wekepeke Brook	Heywood Reservoir	01070004	3.9		N	A	7/15/2019
Wekepeke Brook Tributary D1	Sterling, Town of	Confluence with Wekepeke Brook Tributary D	Approximately 2,500 feet above Pratt Junction Road	01070004	0.8		N	A	7/15/2019

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Wekepeke Brook Tributary D2	Sterling, Town of	Confluence with Wekepeke Brook Tributary D	Approximately 1,200 feet above confluence	01070004	0.2		N	A	7/15/2019
Wekepeke Brook Tributary D3	Sterling, Town of	Confluence with Wekepeke Brook Tributary D	Lynde Basins	01070004	0.6		N	A	7/15/2019
West Boylston Road ponding	Clinton, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
West Brook	Shrewsbury, Town of	Culvert entrance below Oregon Avenue	Approximately 1,000 feet above Main Street	01090003	1.5		Y	AE	3/1/1978
West Princeton Road swamp	Westminster, Town of	Entire shoreline	Entire shoreline	01070004		0.02	N	A	11/1/2019
West River (Town of Uxbridge)	Uxbridge, Town of	Confluence with Blackstone River	West Hill Dam	01090003	4.3		Y	AE	8/1/1980
West River	Grafton, Town of; Upton, Town of	Hartford Avenue	Silver Lake	01090003	3.4		Y	AE	8/1/1980
Whitins Pond	Northbridge, Town of; Sutton, Town of	Entire shoreline	Entire shoreline	01090003		0.29	N	AE	11/1/1980
Whitman River (Lower Reach)	Fitchburg, City of	Confluence with Flagg Brook	Fitchburg/ Westminster corporate limits	01070004	1.1		Y	AE	6/1/1980
Whitman River (Middle)	Westminster, Town of	Fitchburg/ Westminster corporate limits	Ashburnham/ Westminster corporate limits	01070004	4.5		N	A	7/15/2019
Whitman River (Upper Reach)	Ashburnham, Town of	Ashburnham/ Westminster corporate limits	Whitney Pond	01070004	1.8		Y	AE	6/1/1980
Whitman River	Ashburnham, Town of; Gardner, City of	Whitney Pond	Approximately 3,700 feet above State Route 140	01070004	3.9		N	A	7/15/2019
Whitman River Tributary A	Westminster, Town of	Confluence with Whitman River (Middle Reach)	Approximately 3,000 feet above railroad	01070004	0.8		N	A	7/15/2019

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Whitman River Tributary B	Gardner, City of; Westminster, Town of	Confluence with Whitman River (Middle Reach)	Confluence with unnamed tributary approximately 2,100 feet above railroad	01070004	3.0		N	A	7/15/2019
Whitman River Tributary B1	Westminster, Town of	Confluence with Whitman River Tributary B	Unnamed pond above Beech Hill Road	01070004	2.0		N	A	7/15/2019
Whitman River Tributary C	Ashburnham, Town of	Confluence with Whitman River (Upper Reach)	Headwaters at unnamed swamp above State Route 12	01070004	2.8		N	A	7/15/2019
Whitman River Tributary C1	Ashburnham, Town of	Confluence with Whitman River Tributary C	Approximately 1,200 feet above Williams Road	01070004	0.5		N	A	7/15/2019
Whitman River Tributary C2	Ashburnham, Town of	Confluence with Whitman River Tributary C	Oldtown Road	01070004	1.4		N	A	7/15/2019
Whitman River Tributary C3	Ashburnham, Town of	Confluence with Whitman River Tributary C	Approximately 2,900 feet above confluence	01070004	0.6		N	A	7/15/2019
Whitman River Tributary C4	Ashburnham, Town of	Confluence with Whitman River Tributary C	Approximately 1,900 feet above confluence	01070004	0.4		N	A	7/15/2019
Whitman River Tributary D	Ashburnham, Town of; Gardner, City of	Confluence with Whitman River	Headwaters at swamp above Hosley Road	01070004	1.1		N	A	7/15/2019
Wilder Brook	Gardner, City of	Confluence with Perley Brook	Approximately 750 feet above Clark Street	01080202	1.2		Y	AE	5/1/1978
Willard Brook Tributary E	Ashburnham, Town of	County Boundary	Point of one square mile of drainage area	1070004	0.6		N	A	7/15/2019
Willow Brook Road pond	Holden, Town of	Entire shoreline	Entire shoreline	01070004		0.01	N	A	11/1/2019
Winnekeag Lake	Ashburnham, Town of	Entire shoreline	Entire shoreline	01070004		0.18	N	AE	6/1/1980
Worcester Brook	Holden, Town of	Pine Hill Reservoir	Swamp above trail from Claire Lane	01070004	1.0		N	A	7/15/2019

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Worcester Brook Diversion	Holden, Town of	Confluence with Worcester Brook	Confluence with Worcester Brook	1070004			N	A	7/15/2019
Wrack Meadow Brook	Berlin, Town of	Confluence with North Brook	Berlin/ Boylston corporate limits	01070005	0.9		Y	AE	11/1/1977
Wyman Pond	Princeton, Town of; Westminster, Town of	Entire shoreline	Entire shoreline	01070004		0.20	N	AE	6/1/1980
Wyman Pond Brook	Fitchburg, City of; Westminster, Town of	Confluence with Flagg Brook	Worcester Road	01070004	4.7		Y	AE	6/1/1980
Wyman Pond Brook	Princeton, Town of; Westminster, Town of	Worcester Road	Swamp approximately 1,800 feet above inlet to Wyman Pond	01070004	1.6		N	A	7/15/2019
Zone A flooding sources (Concord River HUC8 Watershed)	Berlin, Town of; Bolton, Town of; Boylston, Town of; Clinton, Town of; Harvard, Town of; Northborough, Town of; Shrewsbury, Town of; Southborough, Town of; Westborough, Town of	See FIRMs	See FIRMs	01070005	63		N	A	10/1/2012

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Zone A flooding sources (miscellaneous streams and ponds)	Ashburnham, Town of; Auburn, Town of; Blackstone, Town of; Boylston, Town of; Douglas, Town of; Gardner, City of; Grafton, Town of; Hubbardston, Town of; Leicester, Town of; Mendon, Town of; Milford, Town of; Millbury, Town of; Northbridge, Town of; Paxton, Town of; Princeton, Town of; Rutland, Town of; Shrewsbury, Town of; Spencer, Town of; Sutton, Town of; Upton, Town of; Uxbridge, Town of; Westminster, Town of; Worcester, City of	See FIRMs	See FIRMs	01080202, 01080204, 01090003		21	N	A	1977-2003
Zone A flooding sources (French River, Mill Brook, Quinebaug River)	Oxford, Town of; Southbridge, Town of; Sturbridge, Town of; Webster, Town of	See FIRMs	See FIRMs	01100001	10.2		N	A	10/10/2019

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Zone A flooding sources (Quinebaug River HUC8 Watershed)	Auburn, Town of; Charlton, Town of; Douglas, Town of; Dudley, Town of; Leicester, Town of; Oxford, Town of; Southbridge, Town of; Spencer, Town of; Sturbridge, Town of; Webster, Town of	See FIRMs	See FIRMs	01100001	105.8		N	A	10/10/2019

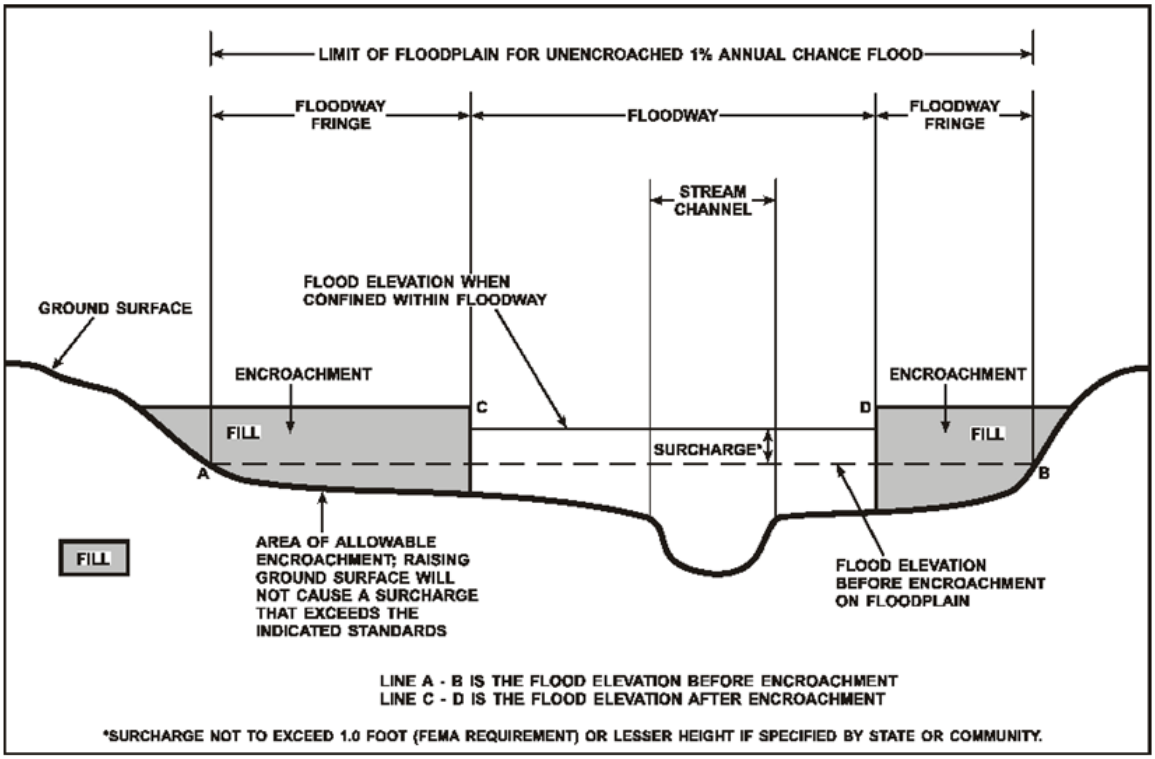
2.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard.

For purposes of the NFIP, a floodway is used as a tool to assist local communities in balancing floodplain development against increasing flood hazard. With this approach, the area of the 1% annual chance floodplain on a river is divided into a floodway and a floodway fringe based on hydraulic modeling. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment in order to carry the 1% annual chance flood. The floodway fringe is the area between the floodway and the 1% annual chance floodplain boundaries where encroachment is permitted. The floodway must be wide enough so that the floodway fringe could be completely obstructed without increasing the water surface elevation of the 1% annual chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 4.

To participate in the NFIP, Federal regulations require communities to limit increases caused by encroachment to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this project are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway projects.

Figure 4: Floodway Schematic



Floodway widths presented in this FIS Report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. For certain stream segments, floodways were adjusted so that the amount of floodwaters conveyed on each side of the floodplain would be reduced equally. The results of the floodway computations have been tabulated for selected cross sections and are shown in Table 23, "Floodway Data."

All floodways that were developed for this Flood Risk Project are shown on the FIRM using the symbology described in Figure 3. In cases where the floodway and l% annual chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

2.3 Base Flood Elevations

The hydraulic characteristics of flooding sources were analyzed to provide estimates of the elevations of floods of the selected recurrence intervals. The Base Flood Elevation (BFE) is the elevation of the 1% annual chance flood. These BFEs are most commonly rounded to the whole foot, as shown on the FIRM, but in certain circumstances or locations they may be rounded to 0.1 foot. Cross section lines shown on the FIRM may also be labeled with the BFE rounded to 0.1 foot. Whole-foot BFEs derived from engineering analyses that apply to coastal areas, areas of ponding, or other static areas with little elevation change may also be shown at selected intervals on the FIRM.

Cross sections with BFEs shown on the FIRM correspond to the cross sections shown in the Floodway Data table and Flood Profiles in this FIS Report. BFEs are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM.

2.4 Non-Encroachment Zones

This section is not applicable to this Flood Risk Project.

2.5 Coastal Flood Hazard Areas

This section is not applicable to this Flood Risk Project.

2.5.1 Water Elevations and the Effects of Waves

This section is not applicable to this Flood Risk Project.

Figure 5: Wave Runup Transect Schematic

[Not Applicable to this Flood Risk Project]

2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this Flood Risk Project.

2.5.3 Coastal High Hazard Areas

This section is not applicable to this Flood Risk Project.

Figure 6: Coastal Transect Schematic

[Not Applicable to this Flood Risk Project]

2.5.4 Limit of Moderate Wave Action

This section is not applicable to this Flood Risk Project.

SECTION 3.0 – INSURANCE APPLICATIONS

3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones as described in Figure 3, "Map Legend for FIRM." Flood insurance zone designations are assigned to flooding sources based on the results of the hydraulic or coastal analyses. Insurance agents use the zones shown on the FIRM and depths and base flood elevations in this FIS Report in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

The 1% annual chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (e.g. Zones A, AE, V, VE, etc.), and the 0.2% annual chance floodplain boundary corresponds to the boundary of areas of additional flood hazards.

Table 3 lists the flood insurance zones in Worcester County.

Table 3: Flood Zone Designations by Community

Community	Flood Zone(s)
Ashburnham, Town of	A, AE, X
Auburn, Town of	A, AE, X
Berlin, Town of	A, AE, X
Blackstone, Town of	A, AE, X
Bolton, Town of	A, AE, X
Boylston, Town of	A, AE, X
Charlton, Town of	A, AE, X
Clinton, Town of	A, AE, X
Douglas, Town of	A, AE, X
Dudley, Town of	A, AE, X
Fitchburg, City of	A, AE, X
Gardner, City of	A, AE, X
Grafton, Town of	A, AE, X

Table 3: Flood Zone Designations by Community

Community	Flood Zone(s)
Harvard, Town of	A, AE, X
Holden, Town of	A, AE, X
Hopedale, Town of	AE, X
Hubbardston, Town of	A, AE, X
Lancaster, Town of	A, AE, X
Leicester, Town of	A, AE, X
Leominster, City of	A, AE, X
Lunenburg, Town of	A, AE, X
Mendon, Town of	A, AE, X
Milford, Town of	A, AE, X
Millbury, Town of	A, AE, X
Millville, Town of	AE, X
Northborough, Town of	A, AE, X
Northbridge, Town of	A, AE, X
Oxford, Town of	A, AE, X
Paxton, Town of	A, X
Princeton, Town of	A, AE, X
Rutland, Town of	A, AE, X
Shrewsbury, Town of	A, AE, X
Southborough, Town of	A, AE, X
Southbridge, Town of	A, AE, AO, X
Spencer, Town of	A, AE, X
Sterling, Town of	A, AE, X
Sturbridge, Town of	A, AE, X
Sutton, Town of	A, AE, X
Upton, Town of	A, AE, X
Uxbridge, Town of	A, AE, X
Webster, Town of	A, AE, X
West Boylston, Town of	A, AE, X
Westborough, Town of	A, AE, X
Westminster, Town of	A, AE, X
Worcester, City of	A, AE, AH, AO, X

SECTION 4.0 – AREA STUDIED

4.1 Basin Description

Table 4 contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its drainage area.

Table 4: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Ashuelot River-Connecticut River Watershed	01080201	Connecticut River	Inland basins draining to Connecticut River from confluence with Westfield River to Vernon Dam, not including basins of Millers River, Deerfield River, and Chicopee River	1,018
Blackstone River Watershed	01090003	Blackstone River	Inland basins draining to Blackstone River	474
Charles Watershed	01090001	Atlantic Ocean	Coastal land along Massachusetts Bay drained by Charles River and other small coastal rivers and streams between the mouth of Merrimack River to the north and Cape Cod Bay drainages to the south	1,013
Chicopee River Watershed	01080204	Chicopee River	Inland basins draining to Chicopee River	723
Concord River Watershed	01070005	Concord River	Inland basins draining to Concord River	400
Merrimack River Watershed	01070006	Merrimack River	Inland basins draining to Merrimack River from mouth at Atlantic Ocean to headwaters at confluence of Pemigewasset River and Winnipesaukee River, not including basins of Contoocook River, Nashua River, and Concord River	1,801
Millers River Watershed	01080202	Millers River	Inland basins draining to Millers River	389
Nashua River Watershed	01070004	Nashua River	Inland basins draining to Nashua River	532

Table 4: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Quinebaug River Watershed	01100001	Quinebaug River	Inland basins draining to Quinebaug River	739
Shetucket River Watershed	01100002	Shetucket River	Inland basins draining to Shetucket River	526

4.2 Principal Flood Problems

Table 5 contains a description of the principal flood problems that have been noted for Worcester County by flooding source.

Table 5: Principal Flood Problems

Flooding Source	Description of Flood Problems
All within Worcester County	Past flooding on the streams within Worcester County indicates that flooding can occur during any season of the year. Most major floods have occurred during the spring, fall and winter seasons. Floods occurring in early spring are usually a result of snowmelt and heavy rains. Floods occurring during midsummer and fall are often associated with tropical storms moving up the Atlantic coastline. "Northeaster" storms generate very strong winds and heavy rain or snow and are one of the frequent causes of flooding. The most significant floods in the 20th century were caused by the hurricanes of September 1938, August 1955, and September 1960, and the storms of November 1927, March 1936, November 1953, March 1963, and March 1968. Severe flooding in Worcester County generally occurs as a result of hurricanes or melting snows and spring rains, with more localized flooding caused by summer thunderstorms. Heavy thunderstorms can result in rapid runoff and flooding in the downstream portions of the small streams. Flood elevations in this region can also be raised by ice jams or by the accumulation of uprooted trees and other debris at bridges. Severe effects from the August 1955 flood were felt in many Worcester County communities. During the August 1955 flood, the flood of record was measured at USGS streamgage 01109500, on Kettle Brook (East) in the City of Worcester. This flood had an approximately 1% annual chance flood. The Blackstone River attained a discharge of approximately 29,500 cfs.

Table 5: Principal Flood Problems

Flooding Source	Description of Flood Problems
Charles River	Charles River has caused flooding issues in Worcester County over the years as a result of hurricanes, snow melt combined with spring rains, and summer thunderstorms. The notable flood events along Charles River were the March 1936 snow melt and rainfall event, July 1938 rainfall event, August 1955 hurricanes (two successive storms in a one week span), March 1968 snow melt and rainfall event, and spring 2010 which involved three large rainfall events over a five week period. Some bridges were overtopped and numerous roads in low-lying areas along the river were flooded. The July 1938, August 1955, and March 1968 flood events were about a 2-percent annual chance flood, and the spring 2010 event was about a 4-percent annual chance flood, based on peak-flow data at the USGS Charles River at Dover streamgage (01103500). At the USGS Charles River at Waltham streamgage (01104500) further downstream, the spring 2010 event was about a 1-percent annual chance flood, and the 1938, 1955, and 1968 events were between a 20- and 10-percent annual chance flood.
French River	The maximum recorded discharge on French River near Dudley occurred on August 19, 1955, when a flow of 14,400 cfs produced a flood elevation of 432.09 feet. The maximum recorded discharge since the operation of two USACE dams occurred on April 2, 1960, when a flow of 1,020 cfs produced a flood elevation of 413.60 feet.
Quinebaug River	The maximum recorded discharge near Dudley occurred on August 19, 1955, when a flow of 49,300 cfs produced a flood elevation of 359.78 feet.

Table 6 contains information about historic flood elevations in the communities within Worcester County.

Table 6: Historic Flooding Elevations

Flooding Source	Location	Historic Peak (Feet NAVD88)	Event Date	Approximate Recurrence Interval (years)	Source of Data
French River	Town of Dudley	432.09	1955	N/A	USGS 1979
French River	Town of Dudley	413.6	1960	N/A	USGS 1979
Coachlace Pond	Town of Clinton	331.98	1876	N/A	FEMA 2014
Quinebaug River	Town of Dudley	359.78	1955	N/A	USGS 1979
Lake Webster	Town of Webster	479.48	1968	N/A	Duszlak 1989, Cranston 1987

Table 6: Historic Flooding Elevations

Flooding Source	Location	Historic Peak (Feet NAVD88)	Event Date	Approximate Recurrence Interval (years)	Source of Data
Lake Webster	Town of Webster	478.6	1975	N/A	Duszlak 1989, Cranston 1987
Lake Webster	Town of Webster	478.8	1976	N/A	Duszlak 1989, Cranston 1987
Lake Webster	Town of Webster	478.9	1977	N/A	Duszlak 1989, Cranston 1987
Lake Webster	Town of Webster	478.8	1978	N/A	Duszlak 1989, Cranston 1987
Lake Webster	Town of Webster	480.15	1979	N/A	Duszlak 1989, Cranston 1987
Lake Webster	Town of Webster	479.4	1987	N/A	Duszlak 1989, Cranston 1987
Lake Webster	Lake Webster outlet to Mill Brook (Town of Webster)	479.8	N/A	N/A	FEMA 2014
Lake Webster	Lake Webster outlet to Mill Brook (Town of Webster)	480.3	N/A	N/A	FEMA 2014
Lake Webster	Lake Webster outlet to Mill Brook (Town of Webster)	480.4	N/A	N/A	FEMA 2014
Lake Webster	Lake Webster outlet to Mill Brook (Town of Webster)	481.1	N/A	N/A	FEMA 2014

4.3 Non-Levee Flood Protection Measures

Table 7 contains information about non-levee flood protection measures within Worcester County such as dams, jetties, and or dikes. Levees are addressed in Section 4.4 of this FIS Report.

Table 7: Non-Levee Flood Protection Measures

Flooding Source	Structure Name	Type of Measure	Location	Description of Measure
Cady Brook, Cedar Meadow Brook, Cedar Pond, Cohasse Brook, Deans Brook, French River, Hamant Brook, Lake Webster, Lebanon Brook, Little Nugget Brook, Lowes Brook, Quinebaug River, Town Meadow Brook, Walker Pond	N/A	Dam	Various locations	These structures do not provide significant flood protection.

4.4 Levee Systems

For purposes of the NFIP, FEMA only recognizes levee systems that meet, and continue to meet, minimum design, operation, and maintenance standards that are consistent with comprehensive floodplain management criteria. The Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10) describes the information needed for FEMA to determine if a levee system reduces the risk from the 1% annual chance flood. This information must be supplied to FEMA by the community or other party when a flood risk study or restudy is conducted, when FIRMs are revised, or upon FEMA request. FEMA reviews the information for the purpose of establishing the appropriate FIRM flood zone.

Levee systems that are determined to reduce the risk from the 1% annual chance flood are accredited by FEMA. FEMA can also grant provisional accreditation to a levee system that was previously accredited on an effective FIRM and for which FEMA is awaiting data and/or documentation to demonstrate compliance with Section 65.10. These levee systems are referred to as Provisionally Accredited Levees, or PALs. Provisional accreditation provides communities and levee owners with a specified timeframe to obtain the necessary data to confirm the levee's certification status. Accredited levee systems and PALs are shown on the FIRM using the symbology shown in Figure 3 and in Table 8. If the required information for a PAL is not submitted within the required timeframe, or if information indicates that a levee system not longer meets Section 65.10, FEMA will de-accredit the levee system and issue an effective FIRM showing the levee-impacted area as a SFHA.

FEMA coordinates its programs with USACE, who may inspect, maintain, and repair levee systems. The USACE has authority under Public Law 84-99 to supplement local efforts to repair flood control projects that are damaged by floods. Like FEMA, the USACE provides a program to allow public sponsors or operators to address levee system maintenance deficiencies. Failure to do so within the required timeframe results in the levee system being placed in an inactive status in the USACE Rehabilitation and Inspection Program. Levee systems in an inactive status are ineligible for rehabilitation assistance under Public Law 84-99.

FEMA coordinated with the USACE, the local communities, and other organizations to compile a list of levees that exist within Worcester County. Table 8, "Levees," lists all accredited levees, PALs, and de-accredited levees shown on the FIRM for this FIS Report. Other categories of levees may also be included in the table. The Levee ID shown in this table may not match numbers based on other identification systems that were listed in previous FIS Reports. Levees identified as PALs in the table are labeled on the FIRM to indicate their provisional status.

Please note that the information presented in Table 8 is subject to change at any time. For that reason, the latest information regarding any USACE structure presented in the table should be obtained by contacting USACE and accessing the USACE national levee database. For levees owned and/or operated by someone other than the USACE, contact the local community shown in Table 30.

Table 8: Levees

Community	Flooding Source(s)	NLD Levee System ID	NLD Levee System Name	Levee System Status on Effective FIRM	FIRM Panel(s)	Levee Owner(s) / Sponsor(s)
Southbridge, Town of	Quinebaug River	1105000092	Southbridge, MA Levee	Non-Accredited	25027C0934F	Town of Southbridge

SECTION 5.0 – ENGINEERING METHODS

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2% annual chance, respectively, of being equaled or exceeded during any year.

Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

In addition to these flood events, the "1-percent-plus", or "1%+", annual chance flood elevation has been modeled and included on the flood profile for certain flooding sources in this FIS Report. While not used for regulatory or insurance purposes, this flood event has been calculated to help illustrate the variability range that exists between the regulatory 1-percent-annual-chance flood elevation and a 1-percent-annual-chance elevation that has taken into account an additional amount of uncertainty in the flood discharges (thus, the 1% "plus"). For flooding sources whose discharges were estimated using regression equations, the 1%+ flood elevations are derived by taking the 1-percent-annual-chance flood discharges and increasing the modeled discharges by a percentage equal to the average predictive error for the regression equation. For flooding sources with gage- or rainfall-runoff-based discharge estimates, the upper 84-percent confidence limit of the discharges is used to compute the 1%+ flood elevations.

The engineering analyses described here incorporate the results of previously issued Letters of Map Change (LOMCs) listed in Table 26, "Incorporated Letters of Map Change", which include Letters of Map Revision (LOMRs). For more information about LOMRs, refer to Section 6.5, "FIRM Revisions."

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for each stream is provided in Table 12. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 9. Frequency Discharge-Drainage Area Curves used to develop the hydrologic models may also be shown in Figure 7 for selected flooding sources. A summary of stillwater elevations developed for non-coastal flooding sources is provided in Table 10. (Coastal stillwater elevations are discussed in Section 5.3 and shown in Table 16.) Stream gage information is provided in Table 11.

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Assabet River	Approximately 400 feet below Interstate 495	59.0	1,370	*	2,020	2,380	3,130
Assabet River	Approximately 250 feet below Bridge Road	57.4	1,350	*	1,990	2,350	3,080
Assabet River	Above confluence with North Brook	40.2	380	*	560	660	870
Assabet River	Approximately 100 feet below Interstate 290	40.1	350	*	520	620	810
Assabet River	Approximately 375 feet above Robin Hill Street	39.5	1,650	*	2,420	2,860	3,760
Assabet River	Approximately 900 feet below Boundary Street	35.3	1,500	*	2,210	2,610	3,440
Assabet River	Approximately 400 feet above Boundary Street	35.2	1,500	*	2,210	2,610	3,430
Assabet River	Approximately 2,550 feet above Boundary Street	29.9	1,260	*	1,870	2,210	2,920
Assabet River	Below Cold Harbor Brook (Lower Reach)	29.66	860	*	1,490	1,850	2,970
Assabet River	Below Hop Brook	16.83	631	*	1,070	1,321	2,090

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Assabet River	At Northborough/ Westborough corporate limits	8.8	532	*	882	1,077	1,667
Assabet River (Lower Reach)	Below Dam	6.86	368	*	605	736	1,130
Assabet River (Upper Reach)	At Assabet Reservoir	1.3	54	*	86	114	178
Assabet River Branch No. 2	Northeast Berlin corporate limit	2.02	92	*	138	159	220
Axtell Brook	At confluence with Lake Ripple	2.0	99	*	150	176	397
Axtell Brook	At downstream side of Massachusetts Turnpike	1.3	72	*	108	126	247
Babcock Brook	At confluence with East Wachusett Brook	2.20	183	*	316	383	612
Baker Brook 1	At confluence with Mahoney Brook at Ramsdall Pond	1.22	60	*	100	120	185
Baker Brook 2	At confluence with North Nashua River	15.9	1,050	1,420	1,730	2,060	2,950
Baker Brook 2	Above confluence with Pearl Hill Brook	10.5	801	1,090	1,330	1,590	2,300

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Baker Brook 2	Above confluence with unnamed tributary approximately 100 feet below Pearl Hill Road	8.85	710	969	1,190	1,420	2,060
Baker Brook 2	Above Greenes Pond	7.30	623	852	1,050	1,250	1,820
Baker Brook 2	Above confluence with unnamed tributary approximately 800 feet below Scott Road	5.15	477	655	806	969	1,410
Baker Brook 2	Above confluence with tributary from Lovell Reservoir	1.00	131	181	225	272	401
Baker Brook 2	At outlet of Scott Reservoir	0.76	103	144	178	216	319
Beaver Brook	At confluence with Curtis Pond Outflow and Middle River	61.5	2,390	*	3,560	4,140	5,360
Beaver Brook	At Main Street	10.8	1,430	*	2,330	2,700	3,450
Beaver Brook	At Maywood Street	3.86	448	*	597	676	916
Beaver Brook	At May Street	3.58	409	*	546	619	840
Beaver Brook	At Chandler Street	3.11	337	*	453	513	700
Bennetts Brook	At downstream Harvard corporate limits	2.6	120	*	180	210	280

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Bennetts Brook	2,800 feet above Harvard/ Ayer corporate limits	1.86	80	*	130	150	200
Big Bummet Brook	Above confluence with Quinsigamond River	4.3	260	*	440	540	840
Big Bummet Brook	Above Westborough Road	2.6	180	*	310	380	590
Big Bummet Brook	At State Route 140	1.22	110	*	191	236	372
Big Bummet Brook	At Shrewsbury corporate limits	2.51	169	*	289	355	556
Blackstone River	At downstream end of Tupperware Mill Canal	358.0	9,520	*	14,900	17,600	24,900
Blackstone River	Just above Saranac Dam	358.0	9,920	*	15,500	18,300	25,900
Blackstone River	Just above confluence with Branch River	269.2	7,600	*	11,900	14,100	19,900
Blackstone River	Just above Tupperware Mill Dam	269.0	8,000	*	12,500	14,800	20,900
Blackstone River	Just below Millville/ Blackstone corporate limits	260.2	7,810	*	12,200	14,400	20,400
Blackstone River	Just above Uxbridge/ Millville corporate limits	256.0	7,710	*	12,100	14,200	20,100

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Blackstone River	Just above confluence with Bacon Brook	253.6	7,660	*	12,000	14,100	20,000
Blackstone River	Just above confluence with Emerson Brook	244.0	7,440	*	11,700	13,700	19,400
Blackstone River	Just above confluence with West River	205.3	6,540	*	10,200	12,100	17,100
Blackstone River	Just above confluence with Mumford River	148.3	4,220	*	6,540	7,730	11,000
Blackstone River	Approximately 3,800 feet above Northbridge/ Uxbridge corporate limit	146.0	4,170	*	6,470	7,640	10,900
Blackstone River	At confluence with Riverdale Mills sluice gates and tail race	*	4,080	*	6,330	7,480	10,700
Blackstone River	At divergence from Riverdale Mills sluice gates and tail race	*	3,535	*	5,215	6,213	9,212
Blackstone River	Just above Riverdale Mills sluice gates and tail race	142.0	4,080	*	6,330	7,480	10,700
Blackstone River	Just above Main Street (State Route 122)	139.0	4,020	*	6,230	7,360	10,500

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Blackstone River	Approximately 600 feet below Grafton/ Northbridge corporate limits	137.0	3,970	*	6,170	7,280	10,400
Blackstone River	Just above confluence with Quinsigamond River	96.0	3,050	*	5,660	7,220	12,300
Blackstone River	Just above Pleasant Street and confluence with Cronin Brook	94.0	3,010	*	5,580	7,110	12,100
Blackstone River	Just above confluence with Cold Spring Brook	86.0	2,810	*	5,220	6,650	11,300
Blackstone River	At Millbury/ Sutton coporate limits	85.0	2,790	*	5,170	6,590	11,200
Blackstone River	Just above confluence with Dorothy Brook	77.8	2,610	*	4,840	6,170	10,500
Blackstone River	Just above confluence with Singletary Brook	71.4	2,450	*	4,540	5,780	9,830
Blackstone River	At Worcester/ Millbury corporate limits	63.4	2,240	*	4,150	5,290	9,010
Bowers Brook	At downstream Harvard corporate limits	10.7	370	*	980	1,120	2,230
Bowers Brook	At confluence with Cold Spring Brook	9.07	290	*	720	810	1,530

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Bowers Brook	Above Old Mill Road	8.55	430	*	1,120	1,250	2,240
Bowers Brook	At Cruft Lane	7.45	330	*	870	980	1,750
Bowers Brook	Below Ayer Road	5.15	130	*	380	440	810
Bowers Brook	At confluence with Bare Hill Pond	1.2	70	*	100	110	150
Broad Meadow Brook	At Worcester/ Millbury corporate limits	2.11	246	*	333	378	523
Broad Meadow Brook	At U.S. Route 20	2.08	246	*	332	377	520
Broad Meadow Brook	At upstream end of culvert near Woodcliff Avenue	1.48	225	*	302	341	464
Broad Meadow Brook	At intersection of Indiana Street and Everton Avenue	0.78	174	*	231	260	349
Broad Meadow Brook	At Worcester/ Millbury corporate limits	2.11	246	*	333	378	523
Brook to Saima Pond	At confluence with Baker Brook 2	1.92	140	*	210	250	340
Cady Brook	At confluence with Quinebaug River	12.9	1,130	*	3,000	4,200	8,400
Cady Brook	At downstream Charlton corporate limits	11.1	1,015	*	2,690	3,765	7,530

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Cady Brook	Above confluence with stream from Prindle Lake	9.8	925	*	2,450	3,435	6,865
Cady Brook	Above confluence with stream from Sibley Ponds	4.9	550	*	1,455	2,035	4,075
Canesto Brook	At Hubbardston/ Templeton corporate limits	12.0	613	*	987	1,210	1,900
Canesto Brook	Above confluence with Natty Pond Brook	5.95	358	*	605	740	1,150
Canesto Brook	Approximately 1,000 feet above Williamsville Road	3.96	246	*	413	503	780
Catacoonamug Brook	At Lake Shirley inlet	8.81	380	*	640	770	1,140
Cedar Meadow Brook	Above Westville Reservoir easement	1.7	135	*	233	287	452
Cedar Pond	Above Westville Reservoir easement	3.4	181	*	307	376	583
Center Brook	At Grove Street	4.7	180	*	300	360	560
Charles River	At Box Pond	12.9	430	*	820	1,130	1,720
Charles River	At Hopedale/ Mendon corporate limits	11.9	430	*	800	1,130	1,670
Charles River	At Hopedale/ Milford corporate limits	11.9	430	*	800	1,130	1,670

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Charles River	At confluence with Godfrey Brook	9.0	340	*	640	870	1,330
Charles River	At Depot Street	8.6	330	*	620	850	1,290
Charles River	At head of Cedar Swamp Pond	3.0	180	*	360	500	770
Cohasse Brook	At Chestnut Street	4.3	168	291	409	537	1,084
Cohasse Brook	At Lebanon Hill Road	3.7	141	248	353	469	974
Cohasse Brook	At outlet of Wells Pond	2.8	107	190	270	362	767
Cold Harbor Brook (Lower Reach)	At Hudson Street	9.69	387	*	719	919	1,474
Cold Harbor Brook (Lower Reach)	At Church Street	6.79	216	*	347	410	569
Cold Harbor Brook (Lower Reach)	At Lincoln Street	6.31	144	*	202	231	303
Cold Harbor Brook (Town of Boylston)	At downstream Boylston corporate limits	3.9	535	*	710	820	1,120
Cold Harbor Brook (Town of Boylston)	Above Reservoir Road	1.3	385	*	615	725	1,000
Cold Harbor Broook (Upper Reach)	At Cherry Street	5.25	550	*	687	821	1,155
Cold Harbor Broook (Upper Reach)	At West Street	5.15	540	*	674	805	1,133

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Cold Harbor Broook (Upper Reach)	At Crawford Street	4.48	493	*	624	740	1,034
Cold Harbor Broook (Upper Reach)	At Reservoir	4.37	504	*	645	759	1,055
Cold Spring Brook (Town of Harvard)	At confluence with Bowers Brook	1.23	160	*	440	490	920
Cold Spring Brook (Town of Sutton)	Above confluence with Blackstone River	7.5	360	*	620	760	1,170
Connelly Brook	At State Route 122	1.93	110	*	180	200	280
Counterpane Brook	At confluence with Nashua River	5.7	280	*	480	585	900
Cronin Brook	At confluence with Blackstone River	2.9	127	*	191	224	508
Cronin Brook	At southernmost crossing of Fitzpatrick Road	2.5	111	*	166	194	446
Cronin Brook	At northernmost crossing of Fitzpatrick Road	2.1	96	*	142	165	400
Cronin Brook	At Millbury Street	1.7	80	*	117	136	363
Dark Brook	Above confluence with Mumford River	3.6	230	*	440	570	1,030
Dark Brook No. 1	At Swanson Road	2.1	450	*	670	840	1,450
Dark Brook No. 1	At Water Street	1.0	240	*	360	450	780

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Dark Brook No. 2	At Stoneville Pond	2.8	230	*	320	400	740
Deans Brook	At downstream Charlton corporate limits	7.3	357	*	603	737	1,137
Deans Brook	At Blood Road	5.9	333	*	565	692	1,073
Deans Brook	Below Wabash Brook	5.6	346	*	591	724	1,126
Deans Brook	Above Wabash Brook	3.0	207	*	356	437	684
Deans Brook	At McIntyre Pond outlet	2.6	190	*	326	401	628
Denny Brook	At confluence with Jackstraw Brook	1.1	140	*	210	250	330
Denny Brook	Approximately 1,250 feet below South Street	0.6	100	*	160	180	240
Denny Brook	At South Street	0.6	54	*	95	117	187
Denny Brook Tributary 1	At confluence with Denny Brook	0.4	70	*	100	120	160
Dorothy Brook	At confluence with Blackstone River	4.1	255	*	460	520	640
Dorothy Pond	At outflow structure	3.4	155	*	405	565	1,334
Dunns Brook	At confluence with Kettle Brook	11.4	1,025	*	1,500	1,900	3,300

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
East Branch Ware River (Hubbardston)	At downstream Hubbardston/ Princeton corporate limits	10.6	452	*	762	931	1,457
East Branch Ware River (Hubbardston)	At upstream Hubbardston/ Princeton corporate limits	6.5	356	*	602	737	1,142
East Branch Ware River (Rutland)	At Barre/ Rutland corporate limits	36	991	*	1,684	2,067	3,279
East Branch Ware River (Rutland)	Above confluence with Longmeadow Brook	23	769	*	1,304	1,599	2,524
East Branch Ware River (Rutland)	At Princeton/ Rutland corporate limits	15	554	*	935	1,144	1,797
East Wachusett Brook	Approximately 4,900 feet below Bullard Road	7.72	492	*	841	1,029	1,603
East Wachusett Brook	Approximately 2,400 feet below Bullard Road	7.08	463	*	793	972	1,513
East Wachusett Brook	At confluence with Babcock Brook	4.68	333	*	571	701	1,096
East Wachusett Brook	At confluence with stream from Snow Pond	4.00	295	*	507	622	974

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Elizabeth Brook	At downstream Harvard corporate limits	6.52	110	*	210	220	590
Elizabeth Brook	At Eldridge Road	4.6	210	*	340	400	560
Elizabeth Brook	At Interstate 495	4.42	230	*	380	450	620
Elizabeth Brook	At upstream Harvard corporate limits	1.11	90	*	160	190	260
Fall Brook	At confluence with North Nashua River	7.17	473	639	778	926	1,320
Fall Brook	Above confluence with unnamed tributary approximately 2,800 feet above mouth	6.01	415	561	684	815	1,170
Fall Brook	Above confluence with unnamed tributary approximately 200 feet above Litchfield Street	3.98	297	404	494	591	849
Fall Brook	Above confluence with unnamed tributary approximately 150 feet above Litchfield Street at Fournier Park	3.08	238	324	397	475	685
Fall Brook	Above Lake Samoset at Lakeview Drive	2.12	188	258	317	381	552

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Fall Brook	Above confluence with unnamed tributary approximately 300 feet below Hardy Drive	1.47	133	183	226	271	394
Flagg Brook	At Fifth Street	10.35	1,280	*	2,490	2,700	4,140
Foster Brook	At confluence with Mahoney Brook	2.3	90	*	145	175	270
Foster Brook	At Murdock Pond	1.4	50	*	80	100	150
French River	Approximately 120 feet above Perryville Road	93.5	1,600	2,334	2,966	3,682	6,739
French River	At State Route 122	90.5	1,446	2,096	2,670	3,267	5,611
French River	Approximately 690 feet below North Main Street	82.9	1,079	1,576	2,012	2,468	3,967
French River	At confluence with French River Trib2	68.3	872	1,347	1,713	2,068	3,237
French River	At confluence with Little River	58.3	236	339	426	518	859
French River	At Hodges Village Dam	30.9	60	65	68	70	77
French River	At Interstate 90/ Massachusetts Turnpike	20.6	909	1,367	1,757	2,253	4,138

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
French River	At Stafford Street	19.5	857	1,221	1,575	2,044	3,749
French River	At outlet of Greenville Pond	14.6	356	572	767	979	1,852
Gates Brook	At Boston and Maine Railroad	1.9	211	*	325	384	556
Gates Brook	At State Route 140	1.6	191	*	294	347	503
Gates Brook	Above intersection of Worcester Road and Howard Avenue	1.2	159	*	241	282	404
Godfrey Brook	At confluence with Charles River	2.06	484	598	712	830	1,080
Godfrey Brook	At Vine Street	1.51	94	111	127	143	176
Godfrey Brook	At Main Street	1.43	78	91	104	116	142
Godfrey Brook	At Orrin Slip	0.92	23	24	25	26	29
Godfrey Brook	At Water Street	0.64	195	240	289	337	438
Goodridge Brook	At Main Street (State Route 110)	2.76	148	*	229	266	360
Governor Brook	At Holden/ Princeton corporate limits	1.53	134	*	233	287	452
Governor Brook	Approximately 3,200 feet above corporate limits	1.08	109	*	188	233	369
Great Brook	Below East Bolton Dam	8.1	138	*	152	156	166

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Great Brook	Above East Bolton Dam	8.0	292	*	478	573	861
Great Brook	At East End Road	5.2	206	*	330	391	575
Great Brook	At State Route 117	4.1	167	*	264	310	450
Great Brook	At Interstate 495 exit ramp	1.8	86	*	130	151	212
Great Brook	At third crossing of Main Street	1.0	56	*	83	95	131
Greenwood Brook	At confluence with Mahoney Brook	3.0	50	*	55	60	70
Hamant Brook	Approximately 1,000 feet below Hamant Pond	1.6	81	*	137	168	261
Hamant Brook	Above Westville Reservoir easement	3.8	191	*	322	394	610
Harris Pond	Spillway discharge	*	1,470	*	2,590	3,100	4,600
Hop Brook	Approximately 80 feet below Main Street	1.2	150	*	230	280	370
Hop Brook	Approximately 350 feet below Brookway Drive	0.3	60	*	100	110	150
Hop Brook Tributary 4	At confluence with Hop Brook	1.8	240	*	360	430	560

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Hop Brook Tributary 4	Approximately 380 feet above Walnut Street	1.3	190	*	290	340	450
Hop Brook Tributary 4	Approximately 500 feet below Old Brook Road	0.3	70	*	110	130	170
Hop Brook Tributary 4.1	At confluence with Hop Brook Tributary 4	0.3	60	*	100	120	150
Howard Brook	At Whitney Road	2.68	249	*	436	527	846
Howard Brook	At Howard Street	2.48	295	*	490	585	882
Howard Brook	At Church Street	1.92	261	*	425	505	738
Huckleberry Brook	At confluence with Charles River at Cedar Swamp Pond	3.5	214	*	369	485	664
Huckleberry Brook	At confluence with Ivy Brook	1.4	115	*	210	270	380
Ivy Brook	At confluence with Huckleberry Brook	1.5	110	*	190	230	360
Ivy Brook	2,000 feet above confluence with Huckleberry Brook	1.2	100	*	160	200	310
Jackstraw Brook	At confluence with Sullivan Brook	2.9	280	*	420	490	660

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Jackstraw Brook	Approximately 270 feet below Hopkinton Road	1.7	190	*	290	340	460
Jackstraw Brook	Approximately 1,900 feet above Warren Street	0.7	100	*	160	190	250
Kettle Brook (East)	At Curtis Pond Outlet	32.8	400	*	570	780	1,250
Kettle Brook (East)	At USGS gage station No. 01109500	31.3	260	*	310	330	1,670
Kettle Brook (Town of Auburn)	At Interstate 290	30.1	950	*	2,100	2,850	5,500
Kettle Brook (West)	Between Auburn and Paxton	18.1	930	*	2,050	2,770	5,380
Keyes Brook	Approximately 2,200 feet below Hobbs Road	3.03	208	*	356	437	684
Keyes Brook	At Hobbs Road	2.84	202	*	347	426	666
Keyes Brook	At Jeep Trail	2.12	174	*	300	369	581
Leadmine Brook	Above Leadmine Road	1.4	110	*	189	232	366
Leadmine Brook	Above state boundary	2.9	173	*	295	361	562
Lebanon Brook	At confluence with Quinebaug River	10.0	440	*	740	905	1,390

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Lebanon Brook	At Old North Woodstock Road	9.4	410	*	685	835	1,285
Lebanon Brook	800 feet below Lebanon Hill Road	8.4	365	*	615	750	1,150
Little Nugget Brook	At Pikes Pond outlet	7.0	382	*	817	1,097	2,079
Little Nugget Brook	At Pikes Pond inlet	5.2	305	*	653	877	1,663
Little Nugget Brook	At Massachusetts Turnpike	4.1	254	*	543	729	1,383
Little Nugget Brook	At Northside Turnpike	3.2	213	*	457	613	1,163
Little River	About 400 feet below Turner Road	10.5	514	*	1,101	1,478	2,803
Little River	At U. S. Route 20	8.6	445	*	952	1,278	2,423
Lowes Brook	At French River	8.8	446	*	754	922	1,423
Lowes Brook	At Huguenot Road	8.0	430	*	730	892	1,380
Lowes Brook	At Sutton Brook	2.4	173	*	298	366	574
Lynde Brook	Above State Route 9 (Main Street)	3.0	200	*	343	422	660
Mahoney Brook	At confluence with Otter River	9.4	290	*	485	590	925
Mahoney Brook	At Ramsdall Pond	8.9	275	*	460	560	875
Mahoney Brook	At West Broadway Bridge	7.6	245	*	410	500	775